



Detailed Site Investigation

487 Raymond Terrace Road, Chisholm, NSW

Prepared for: Avid Property Group Pty Ltd
EP1995.002 19 August 2021



QMS Certification Services



QMS Certification Services



QMS Certification Services



Detailed Site Investigation

487 Raymond Terrace Road, Chisholm, NSW

Avid Property Group Pty Ltd
Level 5, 7 Macquarie Place
Sydney NSW 2000

19 August 2021

Our Ref: EP1995.002

LIMITATIONS

This Detailed Site Investigation was conducted on the behalf of Avid Property Group Pty Ltd for the purpose/s stated in **Section 1**.

EP Risk has prepared this document in good faith but is unable to provide certification outside of areas over which EP Risk had some control or were reasonably able to check. The report also relies upon information provided by third parties. EP Risk has undertaken all practical steps to confirm the reliability of the information provided by third parties and do not accept any liability for false or misleading information provided by these parties.

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

Users of this document should satisfy themselves concerning its application to, and where necessary seek expert advice in respect to, their situation.

All work conducted and reports produced by EP Risk are based on a specific scope and have been prepared for Avid Property Group Pty Ltd and therefore cannot be relied upon by any other third parties unless agreed in writing by EP Risk.

The report(s) and/or information produced by EP Risk should not be reproduced and/or presented/reviewed except in full.

QUALITY CONTROL

Version	Author	Date	Reviewer	Date	Quality Review	Date
v1	L Kerry	11.08.2021	P. Simpson	11.08.2021	J. Young	11.08.2021

DOCUMENT CONTROL

Version	Date	Reference	Submitted to
v1	19.08.2021	EP1955.002 Avid_Chisholm_DSI	Avid Property Group Pty Ltd

Executive Summary

Introduction

EP Risk Management Pty Ltd (EP Risk) was engaged by Avid Property Group Pty Ltd (Avid) to undertake a Detailed Site Investigation (DSI) for a property located at 487 Raymond Terrace Road, Chisholm, New South Wales (NSW) (the Site). It is understood that the Site is proposed to be redeveloped into a low-density residential housing development (Proposed Development) and that the DSI is required for due diligence purposes.

Objective

The objective of the DSI was to assess whether any contaminating activities are likely to have occurred at the Site which may present a risk to the Proposed Development.

Site Condition and Surrounding Environment

The Site comprises of a large rectangular shaped allotment located on the northern side of Raymond Terrace Road, with surrounding land consisting of a mix of residential and rural land use. Topography at the Site comprises of a gently sloping (6°) gradient facing the north with an approximate elevation of 38 m Australia Height Datum (m AHD) in the southern portion of the Site and an elevation of 4 m AHD in the northern eastern corner of the Site with drainage following the topography via ephemeral drainage lines to the north east of the Site. An old quarry void is located in the northern portion of the Site and dominates the landscape of the Site. The quarried materials were historically used to manufacture brick and tiles which has been utilised as fill across the Site predominantly within the access tracks.

The Site is underlain by Palaeozoic aged Mulbring Siltstone geological units comprising of salty siltstone, claystone and minor fine-grained sandstone and the Site is predominantly located within any Class 5 acid sulfate soil (ASS) area, with a Class 3 ASS area and high risk of dryland salinity in north eastern corner of the Site.

No registered groundwater bores are located on-site, however, two registered groundwater bores were located within 2 km of the Site used for monitoring with depths 6-9 m below ground level (m BGL). Fractured or fissured, extensive aquifers of low to moderated productivity were identified to be present at the Site. Regional groundwater flow direction is expected to be to the north west towards the Hunter River.

No records of underground coal mining areas were found at the Site or within the surrounding area. However, historical mining and exploration titles were identified to be onsite. Based on discussions with Subsidence Advisory, there are no records of coal mining on the Site.

Site History Review and Site Inspection

Based on the Site inspection and review of historical records, the following activities have occurred at the Site which may have resulted in the potential for contamination: clearing of land with potential use of herbicides and pesticides; construction and demolition of temporary structures in the south east corner; historical quarry activities and stockpiling of anthropogenic materials; dumping of brick and coal waste on the eastern portion of the property; and isolated fly tipping of building a demolition waste.

Fieldwork

Fieldwork comprised of a site walkover and collection of soil samples from 142 test pits, and 25 boreholes at grid and targeted based sampling locations across the Site to a maximum depth of 2.0 m BGL and three water and sediment samples from the dam and drainage lines. The subsurface profile generally comprised of fill / topsoil overlying residual sandy clay/clayey sand overlying bedrock comprising of extremely weathered sandstone and siltstone. Stockpiled anthropogenic material were observed at multiple locations across the Site, including the access tracks and quarry. There was no visual or olfactory evidence of hydrocarbon or other contamination.

Results of Analytical Testing

Results of analytical testing of soil samples reported total or 95% upper confidence level (UCL) concentration of the COPC below laboratory limit of reporting (LOR) or adopted health and/or ecological based criteria in all samples collected except for three soil sampling locations. The exceedances to the adopted soil criteria are summarised below:

- Exceedance of the adopted assessment criteria (NEPM 2013 ecological screening level (ESL) for urban residential, coarse and fine soils) for the analyte total recoverable hydrocarbon (TRH) F2 fraction was observed in soil sample TP121_0.1.
- Exceedance of the adopted assessment criteria (NEPM 2013 health screening levels (HSL) for residential A/B, sand soil < 1 m BGL) for the TRH F2 fraction was observed in the soil sample TP121_0.1.
- Exceedance of the adopted assessment criteria (NEPM 2013 ESL for urban residential, coarse soils) for the TRH F3 fraction was observed in the soil samples TP121_0.1, TP06_0.1 and TP165_0.1.

The results from these three soil samples exceed 250% of the adopted criteria and are considered hotspots. No bonded or friable asbestos was observed in any of the samples collected from test pits or boreholes across the Site. Elevated net acidity concentrations for the chromium reducible sulfur suite analysis were reported more than the adopted action criteria requiring the development and implementation of an acid sulfate soil management plan during future development.

An elevated nickel concentration was reported in the upstream water sample (the dam) but was below the adopted criteria in all downstream samples. As the dam is to be dewatered and filled in the Proposed Development, the elevated concentration is unlikely to present a future ecological risk at the Site.

Conclusion and Recommendations

Based on the results of the site history, site inspection, and analytical testing, EP Risk considers that the Site can be made suitable for the proposed residential land use subject to the following:

- Management / removal of anthropogenic materials from the Site.
- Preparation and implementation of a Remediation Action Plan to address identified TRH in soil hotspots.
- Preparation and implementation of an Acid Sulfate Soil Management Plan to address the identified acid sulfate soil at the Site.
- Preparation and implementation of an unexpected finds protocol during construction of the proposed development to address any unidentified contamination that may be identified during the proposed redevelopment works.

Table of Contents

1	Introduction	1
1.1	Objective	1
1.2	Scope of Work	1
1.3	Site Identification	2
2	Technical Framework	3
3	Site Condition and Surrounding Environment	4
3.1	Land Use and Layout	4
3.2	Surrounding Land Use	5
3.3	Topography and Drainage	6
3.4	Geology	6
3.5	Soil Landscapes	6
3.6	Natural Occurring Asbestos Potential	6
3.7	Acid Sulfate Soils	6
3.8	Hydrology and Hydrogeology	6
3.9	Dry Land Salinity	7
3.10	Mine Subsidence District	7
3.11	Mining Exploration Titles	7
3.12	Underground Coal Mining Areas	7
3.13	Regulatory Searches	7
3.14	Licensed Activities Under the Protection of the Environment Operations Act 1997	8
3.15	Delicensed Activities Still Regulated by the NSW EPA	8
3.16	Former Licensed Activities under the POEO Act, now Surrendered	8
4	Site History	10
4.1	Review of Historical Aerial Photos	10
4.2	Historical Title Information	11
4.3	Business Directory Search	11
4.4	Summary of Site History	11
5	Sampling and Analysis	12
5.1	Data Quality Objectives	12
5.2	Data Quality Indicators	16
5.3	Sampling and Analysis Methodology	18
5.3.1	Soil Sampling Methodology	18
5.3.2	Sediment Sampling Methodology	18
5.3.3	Surface Water Sampling Methodology	18
5.4	Laboratory Testing	19
5.5	Field and Laboratory Quality Assurance and Quality Control (QA/QC)	20
6	Environmental Quality Criteria	22
6.1	Soil Criteria	22
6.2	Sediment Criteria	23
6.3	Surface Water Criteria	23
7	Results	24
7.1	Subsurface Conditions	24
7.2	Anthropogenic material	24
7.3	Soil Vapour Screening	25
7.4	Analytical Testing – Soil	25
7.4.1	TRH	25
7.4.2	BTEXN/PAH/OCP/OPP/PCB/Heavy Metals	26
7.4.3	Asbestos	26
7.4.4	Acid Sulfate Soil	26
7.5	Analytical Testing – Sediment	26
7.6	Analytical Testing – Surface Water	26
8	Discussion	27
9	Conceptual Site Model	30
9.1	Potential Contaminating Activities and Chemicals of Concern	30
9.2	Affected Media	30

9.3	Summary of Contamination	31
9.4	Human and Ecological Receptors.....	31
9.5	Potential and Complete Exposure Pathways	32
10	Conclusion.....	35

List of Tables in Body of Report

Table 1 – Site Identification	2
Table 2 – Historical Mining Exploration Titles	7
Table 3 – Regulatory Searches.....	8
Table 4 – Licensed activities under the POEO Act	8
Table 5 – Former licensed activities under the POEO Act, now surrendered	9
Table 6 – Historical Aerial Photograph Review.....	10
Table 7 – Summary of Historical Business Directories at the Site	11
Table 8 – Summary of Decision Rules.....	13
Table 9 – DQO, Requirements and Indicators	16
Table 10 – Analytical Testing of Primary Samples	19
Table 11 – DQI Results Summary.....	20
Table 12 – Adopted Soil Criteria	22
Table 13 – Geotechnical Units	24
Table 14 – Assessment of Decision Rules	27
Table 15 – Contaminants of Potential Concern	30
Table 16 – Summary of Soil Exceedances.....	31
Table 17 – Summary of Water Exceedances	31
Table 18 – Source-Pathway-Receptor Linkages.....	32

List of Attached Figures

Figure 1	Site Location
Figure 2	Site Layout
Figure 3a	Northern Site Features
Figure 3b	Central Site Features
Figure 3c	Southern Site Features
Figure 4a	Soil Sampling Locations
Figure 4b	Soil Sampling Locations
Figure 4C	Soil Sampling Locations
Figure 5a	Soil Exceedances
Figure 5b	Soil Exceedances
Figure 6	Surface Water Sampling Locations and Exceedances
Figure 7	Sediment Sampling Locations
Figure 8a	Acid Sulfate Soil Exceedances
Figure 8b	Acid Sulfate Soil Exceedances
Figure 9a	Stockpile Locations
Figure 9b	Stockpile Locations
Figure 10a	Brick and Tile Fill Areas
Figure 10b	Brick and Tile Fill Areas

List of Appendices

Appendix A	Lot Search Environmental Report (2021)
Appendix B	Site Photographs
Appendix C	Historical Title Information
Appendix D	Soil Logs
Appendix E	NATA Accredited Laboratory Reports
Appendix F	Calibration Certificates
Appendix G	Summary of subsurface conditions
Appendix H	Summary of stockpiled material
Appendix I	Ecological Investigation Level Calculations
Appendix J	95% UCL Calculations

1 Introduction

EP Risk Management Pty Ltd (EP Risk) was engaged by Avid Property Group Pty Ltd (Avid) to undertake a Detailed Site Investigation (DSI) a for a property located at 478 Raymond Terrace Road, Chisholm, New South Wales (NSW) (the Site). It is understood that the Site is proposed to be redeveloped into a low-density residential housing development (Proposed Development) and that the DSI is required for due diligence purposes.

1.1 Objective

The objective of the DSI is to assess whether any contaminating activities are likely to have occurred at the Site which may present a risk to the Proposed Development.

1.2 Scope of Work

The scope of work completed to achieve the objective was:

- Undertake a desktop study for a Site history review, based upon:
 - Aerial photographs.
 - Regulatory searches, including NSW Environment Protection Authority (EPA) Notified Contaminated and Investigation Sites.
 - Geological and hydrogeological information.
- Undertake a Site visit to observe onsite and offsite conditions.
- Identify potentially contaminating activities that have occurred at the Site and develop a site conceptual model (CSM).
- Advance 82 test pits in the location of the former Quarry at the Site; 38 test pits across the remaining R1 – Residential zoned portion of the Site; and 52 test pits across the E3 – Environmental Management Zoned portion of the Site on a grid-based and targeted sampling pattern.
- Test pits were advanced to a maximum depth of 2.0 m below ground level (m BGL) or to a depth of natural residual soil profile to determine the extent of anthropogenic fill material across the Site. If areas of fill were encountered to a greater depth than 2.0 m BGL then the test pits were advanced until the natural soil profile was encountered (if practicable).
- Collect soil samples from the fill and natural soil profiles for submission to a National Association of testing Authorities (NATA) laboratory for analytical testing.
- Collect three co-located sediment and surface water samples from the onsite dam and adjoining watercourses located in the north west portion of the Site and submit these samples to a NATA laboratory for analytical testing.
- Preparation of a DSI report in accordance with the NSW Environment Protection Authority (NSW EPA) (2020) *Guideline for Consultants Reporting on Contaminated Land* and the National Environment Protection (Assessment of Site Contamination) Measure 1999 (ASC NEPM 2013).

1.3 Site Identification

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

Table 1 – Site Identification	
Item	Description
Address	487 Raymond Terrace Road, Chisholm, NSW (Figure 1)
Legal description	Lot 4 in Deposited Plan (DP) 1145348
Area	38.7733 hectares (ha)
Municipality	Maitland City Council (Council)
Zoning	The Maitland local environment plan (LEP) 2011 identifies the Site as R1 – General Residential and E3 Environmental Management.

2 Technical Framework

DSI 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)*.
- Sullivan, L, Ward, N, Toppler, N and Lancaster, G 2018, *National Acid Sulfate Soils guidance: National acid sulfate soils sampling and identification methods manual*, Department of Agriculture and Water Resources, Canberra ACT. CC BY 4.0 (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 (2019) *How to Manage and Control Asbestos in the Workplace*.

3 Site Condition and Surrounding Environment

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

3.1 Land Use and Layout

The Site comprises of a large rectangular shaped allotment located on the northern side of Raymond Terrace Road. A Principal Geotechnical Scientist, from EP Risk, attended the Site on 2 March 2021 to undertake a site walkover and visual inspection. General site features observed are summarised below:

- The Site lies on the northern side of Raymond Terrace Road.
- The topography is generally flat at the front of the Site falling gently from Raymond Terrace Road to the north and west along the western boundary adjacent the Waterford residential development to a broad ephemeral water course that is located within Waterford. The watercourse re-enters the Site north of the former quarry where it traverses the northern E3 zoned portion of the in Site in the north east corner.
- The entrance to the Site is from the south east corner where concrete access is located off Raymond Terrace Road and becomes a spray sealed access for a 100m or so before becoming an unsealed access which has been filled with broken brick and some terracotta. **(Plate 1 and 5)**
- There are numerous areas at the front of the Site where dumped broken brick, refractory material and coal chitter was observed. No other material was noted on the surface. Many of the bricks have a charred appearance possibly being from old brick kiln linings along with reject bricks. **(Plates 3, 4, 5, 6, 7, 21)**
- The front of the Site comprised of open woodland with juvenile to semi mature native vegetation with sparse ground cover and leaf litter on the western access track and thicker scrubby ground cover to the east of the site. **(Plates 2, 6 and 7)**
- There is some evidence of fly tipping at the Site which has been partially removed.
- The former quarry is in the central western portion of the Site and has not been active for some time. There is a small stockpile that remains in the quarry which has been progressively removed over time. **(Plates 14, 15 and 16)**
- Little has been done in the form of quarry rehabilitation with some batters flattened and what appears to be filling on the southern border of the quarry. **(Plate 28)**
- There is a large stockpile of brick and clay along the north western portion of the quarry near the access point.
- Scour is noted in the batter and quarry floor where hard clay and ironstone was exposed.
- An E3 vegetated corridor extends along the eastern boundary of the quarry and is approximately 35-40m wide.
- A deep scour was located outside the norther edge of the quarry where an access track concentrated water flow.
- The northern E3 portion of the property is heavily vegetated with mature native vegetation and regrowth. There is a very dense understory with patches of dense Lantana which is classified a weed of national significance (WoNS). Other native and exotic scrub and vines were also evident.

- The wet area (ephemeral water course) is in the northern portion of the Site which was largely clear of vegetation other than grasses and contained shallow water (generally less than 100mm at the time of inspection). (**Plates 11 and 43**)
- A small pond was located just north of the former quarry. (**Plates 9, 44 and 45**)
- No evidence of dumping of disturbance was noted in the northern portion of the Site.
- Exposed soils did not appear highly dispersive or highly reactive based on moderate scour, absence of desiccation cracking and low turbidity in ponded water.
- No evidence of gross slope instability was observed, with minor soil creep on steeper slopes.
- Site drainage was via surface contours and along several ephemeral drainage lines that drain to the north and north east corner of the Site.
- Lower lying areas are located along the western and northern boundary of the Site and other isolated areas.
- The Site comprises a combination of dense to open woodland with a dense regrowth understory and cleared /disturbed area in the in the central portion of the Site.
- There is evidence of water ponding at lower elevations across the northern portion of the Site and poor trafficability would be expected following heavy rain. This area is outside the Proposed Development footprint.
- The Site was devoid of any permanent structures, with the remnants of a number of small temporary structures (demolished) located in the southern eastern corner of the Site near the current concrete access entry point off Raymond Terrace Road.
- There was no evidence of gross contamination on the Site except for the numerous brick and coal ash deposits observed in the front and central western portion of the Site. (**Plates 3, 4, 5, 6, 7, 21, 36, 37, 39, 41, 42, 46 and 47**).
- No fuel or oils were stored on the Site and oil and fuel containers were not observed.
- There are several older access tracks across the front portion of the property and to the rear of the quarry which are overgrown and visible from aerial photography.
- The property is currently managed by Catalyst who indicated that fly tipping has occurred on the property and has historically been disposed offsite to an appropriately licensed waste facility.
- There were 18 major stockpiles that were identified during the investigation, predominantly consisting of topsoil or quarried material. Some stockpiles contained brick and tile anthropogenic waste. (**Plates 24, 25, 26, 27, 28, 29, 30, 31, 32, 34, 35, 38, 39, 40, 42, and 48**)

Photographs of the Site are attached as **Appendix B**.

3.2 Surrounding Land Use

As of 2 March 2021, surrounding land uses comprised:

- **North:** Undeveloped residential zoned land with existing stages of the Waterford residential estate under development beyond.
- **South:** Raymond Terrace Road adjacent with rural landscape zoned land and the township of Thornton beyond.
- **East:** Residential zoned land adjacent with the Sophia Waters residential development beyond.

- **West:** Existing stages of the Waterford Estate residential development adjacent with the Harvest Estate beyond.

3.3 Topography and Drainage

The Site has a gently sloping (6°) gradient facing the north with an approximate elevation of 38 m Australian Height Datum (m AHD) in the southern portion of the Site and an elevation of 4 m AHD in the northern portion of the Site. Site drainage is considered to consist of surface runoff migrating across the Site following surface contours as overland flow and drainage to an ephemeral drainage line that drains to the north along the western boundary to the north east corner of the Site beyond the quarry. Onsite drainage is considered to discharge into Saltwater Gully located to the north west of the Site.

A plan showing the topographical contours of the Site is provided within the Lotsearch (2021) Report in **Appendix A**.

3.4 Geology

Based on the geological data sourced from the NSW Department of Industry, Resources and Energy (Lotsearch, 2021) the Site is underlain by Palaeozoic aged Mulbring Siltstone (**Pmm**) geological units comprising of salty siltstone, claystone and minor fine-grained sandstone.

3.5 Soil Landscapes

Based on the soil landscape data sourced from the NSW OEH (Lotsearch, 2021) the Site is located within Beresfield (majority of the Site), and Hunter (far north east corner) soil landscapes.

Based upon data from the Atlas of Australian Soils map, soil in the area of Site was found as Kurosol (**Tb40**) consisting of 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 soils are: (Gn2.2) and (Dd1), 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.

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

Based upon a review of the Maitland LEP (2012), the majority of the Site is located within any Class 5 acid sulfate soil (ASS) area. Works within 500 m of adjacent Class 1, 2, 3 or 4 land that is below 5 m AHD and by which the watertable is likely to be lowered below 1 m AHD on adjacent Class 1, 2, 3, or 4 land, present a potential environmental risk. It is noted that a Class 3 ASS land covers a small portion of the north eastern corner of the Site.

Additionally, the Atlas of Australian ASS identifies the majority of the Site to be within a Class C category which has an extremely low probability (1%-5%) of occurrence. It is noted that the far north eastern corner of the Site is identified to be within a Class A category which has a high probability (>70%) of occurrence.

3.8 Hydrology and Hydrogeology

A search of the NSW Department of Primary Industries - Office of Water / Water Administration Ministerial Corporation undertaken by Lotsearch (2021) indicated that there were no registered groundwater bores located

on-site. However, two registered groundwater bores were located within 2 km of the Site. The authorised purpose of the bores was identified to be monitoring bores. Depth of the bores ranged from 6-9 meters below ground level (m BGL). No standing water levels were measured.

Review of the Hydrogeology Map of Australia, Lotsearch (2021) identified fractured or fissured, extensive aquifers of low to moderated productivity present at the Site. Regional groundwater flow direction is expected to be to the north west towards Hunter River. There is a low potential for groundwater dependent ecosystems to be present at the Site.

3.9 Dry Land Salinity

A search of the National Land and Water Resources Audit, undertaken by Lotsearch (2021) identifies the north eastern corner of the Site to be in a high hazard or risk for dryland salinity.

3.10 Mine Subsidence District

With reference to the Mining Subsidence District Data Source (2016), the Site is not located within a mining subsidence district and no underground mining is shown on the NSW Planning Portal.

3.11 Mining Exploration Titles

With reference to the NSW Department of Industry no current mining and exploration titles were identified within 1 km of the Site. However, the following historical mining and exploration titles were identified within 1 km of the Site.

Holder	Start Date	End Date	Resource – Mineral	Distance from Site
Planet Exploration Company Pty Ltd	-	-	Petroleum	Onsite
NSW Oil and Gas Company	-	-	Petroleum	Onsite
Sydney Oil Co. (NSW)	20/01/1984	06/07/2015	Petroleum	Onsite
AGL Upstream Investments Pty Ltd	-	-	Minerals	Onsite
Monier PGH Holdings Limited	05/08/1997	04/08/1999	Minerals – Brick clay	191 m south west
CSR Building Products Limited	-	-	Minerals	267 m south

The historical mining exploration titles identified in **Table 2** are considered to present a low to medium risk of contamination based upon the nature of the activities.

3.12 Underground Coal Mining Areas

No records of underground coal mining areas were found within the surrounding area of the Site in a search undertaken on the NSW Government ePlanning Spatial Viewer.

3.13 Regulatory Searches

A summary of the regulatory searches performed by Lotsearch (2021) are summarised in **Table 3**.

Table 3 – Regulatory Searches	
Search	Results
State Environmental Planning Policy (SEPP) Protected Areas	No SEPP State Significant Precincts have been identified at or within 1 km of the Site.
Contaminated Sites Notified to the NSW EPA	As of 14 January 2021, there is no record 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 records of National Liquid Fuel Facilities were reported at or within 1 km of the Site.

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

Licensed activities under the *Protection of the Environment Operations Act 1997* (POEO Act) were reported being undertaken at or within 1 km of the Site are provided in **Table 4**.

Table 4 – Licensed activities under the POEO Act				
Licence No.	Organisation	Location	Activity	Distance from Site
10393	Maitland City Council	All waterbodies in the Maitland Local Government Area (LGA)	Other activities	Onsite

3.15 Delicensed Activities Still Regulated by the NSW EPA

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

3.16 Former Licensed Activities under the POEO Act, now Surrendered

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

Table 5 – Former licensed activities under the POEO Act, now surrendered				
Licence No.	Organisation	Location	Activity	Distance from Site
4653	Luhrmann Environment Management Pty Ltd	Waterways throughout NSW	Other activities - Application of herbicides	Onsite
4838	Robert Orchard			
6630	Sydney Weed and Pest Management Pty Ltd			

The current and former licensed activities in **Table 4** and **Table 5** are considered to present a low risk of contamination based upon the nature of the activities.

4 Site History

The Site history sources utilised during the review included:

- Historical aerial photography.
- Historical title information.
- Historical business directories.

4.1 Review of Historical Aerial Photos

Aerial photographs from 1954, 1965, 1977, 1984, 1993, 2007, 2010, 2015 and 2020 were reviewed to identify past land uses of the Site and surroundings. **Table 6** provides a summary of the review.

Year	Description
1954	<p>Site: The Site is vacant and comprises of native vegetation.</p> <p>Surroundings: Surrounding land comprises of vacant bushland. McFarlanes Road to the north and Raymond Terrace Road to the south are visible in the image.</p>
1965	<p>Site: Several structures are visible in the south eastern corner of the Site. An access track has been constructed through the central portion of the Site running north/south. Vegetation has increased.</p> <p>Surroundings: Significant clearing has occurred to adjacent land to the west. A residential dwelling with associated detached farming sheds have been constructed in the southern portion of adjacent land to the west.</p>
1977	<p>Site: A small area in the central portion of the Site, adjacent to the western site boundary, has been cleared for the operation of a quarry, with significant disturbance to the ground surface evident. An additional access track has been constructed connecting this area to Raymond Terrace Road. One of the structures in the south eastern corner of the Site has been removed and two small structures remain.</p> <p>Surroundings: Several poultry sheds with associated buildings have been constructed on adjacent land to the west. Minor development has occurred to land to the east.</p>
1984	<p>Site: No significant change. Further disturbance to the area in the central portion of the Site, however, the area appears to have not increased in size. Vegetation had increased in north and east of site.</p> <p>Surroundings: Further development of poultry infrastructure has occurred on adjacent land to the west and rural/residential land to the east.</p>
1993	<p>Site: The footprint of the quarry in the central portion of the Site has increased in size. The two small structures remaining in the south eastern corner have been removed.</p> <p>Surroundings: Adjacent land to the east has now been developed into rural/residential land. A number of farm dams have been constructed on adjacent land.</p>
2007	<p>Site: The disturbed area in the central portion of the Site has slightly increased in size to the east. Some portions of the quarry have begun to revegetate.</p> <p>Surroundings: Poultry infrastructure to the west has been removed. No other significant changes.</p>
2010	<p>Site: No significant changes. Vegetation denser in north and eastern parts of site.</p> <p>Surroundings: Land to the west has begun to be redeveloped for low density residential purposes.</p>
2015	<p>Site: Additional clearing has been undertaken in the central portion of the Site around the quarry. Small stockpiles of material appear to be located also in this area. Quarry appears inactive.</p> <p>Surroundings: Land to the west continues to be redeveloped for low density residential purposes.</p>
2020	<p>Site: No significant changes. Quarry inactive.</p>

Table 6 – Historical Aerial Photograph Review

Year	Description
	Surroundings: Land to the west continues to be redeveloped for low density residential purposes.

The aerial photographs reviewed are provided in the Lotsearch (2021) report provided as **Appendix A**.

4.2 Historical Title Information

Historical certificates of title details were reviewed and it was reported that the title was created in 1912, with Mr John O’Brien (farmer) identified as the proprietor. The title was transferred to the siblings of Mr John O’Brien in 1935 and was held until 1973 when PGH Industries Limited (now Acmil Industries Pty Limited) purchased the Site. The title was transferred two more times and is identified to be currently held by Monier PGH Holdings Limited (now identified as CSR Building Products Limited). Certificates of title, plans of subdivision/title plans and title history search documents are attached as **Appendix C**.

4.3 Business Directory Search

Based upon a review of 1950 to 1991 historical business directories provided by Lotsearch (2021), a summary of the business directory records within 1 km of the Site is presented in **Table 7**.

Table 7 – Summary of Historical Business Directories at the Site

Business Activity	Premise	Year of Record	Distance to Road Corridor of Area
Brick manufactures and/or distributors	Thornton Fire and Building Brick Co. Pty Ltd, Raymond Terrace Road, Thornton Maitland	1982	1km to the south west from the Site
Fire Clay manufactures		1970	
Brick, pipe and tile manufactures		1961	
Refractory materials manufactures and/or distributors		1970	

The historical business activities identified in **Table 7** are considered to present a low to medium risk of contamination based upon the nature of the activities and separation distance. No dry cleaners, motor garages and/or service station business activities were recorded within 1 km of the Site.

4.4 Summary of Site History

Based on the review of the historical information, the Site comprised of native mostly bushland up until circa 1973 when the land was purchased by PGH Industries and an area in the central portion of the Site was cleared and use for the quarrying of clay materials for the brick manufacturing business located 1km to the south west of the Site. This footprint of the quarry continued to increase in size over time until further clearing of the surrounding vegetation was undertaken sometime between 2010 and 2015. Stockpiled materials were evident in the central portion of the Site in the 2015 aerial image, which may have been associated with quarry restoration activities.

Surrounding land use comprised of native bushland or rural land with minimal farming infrastructure up until sometime between 1965 and 1977 when poultry sheds were constructed on adjacent land to the west. Minor developments to surrounding land occurred from this time with the next major change occurring between 2007 and 2010 when redevelopment of land to the west into low density residential land use commenced.

5 Sampling and Analysis

5.1 Data Quality Objectives

To assess whether an appropriate sampling strategy was adopted for the DSI, 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 DSI was required to assess whether any contaminating activities are likely to have occurred at the Site which may present a human health or ecological risk to the proposed development of the Site for the proposed residential and recreational land use.

Identify the Decision

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

1. Does the assessment follow all applicable guidelines?
2. Have any aesthetic issues relating to site soils been adequately addressed?
3. Has soil been assessed against relevant health-based investigation levels and potential for migration of contamination from soil to groundwater been considered? Are there no potential for human health risks to the identified receptors?
4. Has groundwater been assessed against relevant investigation levels?
5. Have hazardous ground gases (where relevant) been assessed against relevant health-based investigation levels and screening values?
6. Are there no impacts of chemical mixtures?
7. Are there no potential ecological risks to the identified receptors?
8. Is there no evidence of, or potential for, migration of contaminants off-site?
9. Is a site management strategy 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 development of the Site for residential and recreational land use and project objectives, as defined by the Tier 1 assessment criteria nominated in **Section 6**.

- Confirmation that data generated by sampling and analysis are of an acceptable quality to allow reliable comparison to adopted assessment criteria as undertaken by assessment of quality assurance / quality control (QA/QC) as per the data quality indicators (DQIs) established in **Section 5.2**.

Define the Boundaries of the Study

The spatial boundaries of the DSI comprised Lot 4 in Deposited Plan (DP) 1145348, with the maximum proposed depth for the investigation has been set at 2.0 m BGL and the approximate boundaries identified in **Figure 1**.

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

Develop a Decision Rule to Identify the Decision

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

Decision	Rule
1. Does the assessment follow all applicable guidelines?	If the assessment follows all applicable guidelines, then the decision is Yes; otherwise, the decision is No.
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> <ul style="list-style-type: none"> - The reported concentrations are all below the adopted physical and aesthetic management limits; and - There were no chemically discoloured or stained soils, odorous soil, chemical residues, putrescible refuse, anthropogenic materials, hydrocarbon odour of staining identified? <p>If the criteria stated above are satisfied, and an assessment of risk indicates no unacceptable risks, the decision is Yes.</p> <p>Otherwise, the decision is No</p>
3. Has soil been assessed against relevant health-based investigation levels and potential for migration of contamination from soil to groundwater been considered? Are there no potential for human health risks to the identified receptors?	<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 groundwater where Tier 1 criteria have been exceeded or a high risk of migration of contamination from soil to groundwater has been identified.</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>

Table 8 – Summary of Decision Rules	
Decision	Rule
	<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 Yes.</p> <p>Otherwise, the decision is No.</p>
4. 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 Yes.</p> <p>Otherwise, the decision is No.</p>
5. 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 Yes.</p> <p>Otherwise, the decision is No.</p>
6. Are there no 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 Yes.</p> <p>Otherwise, the decision is No.</p>

Table 8 – Summary of Decision Rules	
Decision	Rule
7. Are there no potential risks to the identified receptors?	Are the statistical criteria stated above satisfied, and has an assessment of risk indicated no unacceptable risks? If yes, the decision is Yes. Otherwise, the decision is No.
8. Is there no evidence of, or potential for, migration of contaminants off-site?	Were soil and groundwater concentrations below the adopted health and ecological criteria identified near the site boundary and found off-site. If so, the decision is Yes. Otherwise the decision is No.
9. Is a site management strategy required?	Is the answer to any of the above decisions No? If so, further Tier 2 and / or Tier 3 assessment and / or a site management strategy may be required. If all the answers to the above is yes, 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 and targeted-based sampling pattern was adopted based upon the review of historical information and site inspection. A comprehensive suite of COPC was selectively adopted for the assessment to provide characterisation of the status of soil, sediment and surface water at the Site. The adopted sampling approach is consistent with AS4482.1 (2005).

5.2 Data Quality Indicators

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

Table 9 – DQO, Requirements and Indicators		
DQO	Requirement	DQI
Precision		
Standard operating procedures appropriate and complied with	The sampling methods comply with industry standards and guidelines	Meet requirement
Intra-laboratory duplicates	1 per 20 samples	RPDs < 30%
Inter-laboratory duplicates	1 per 20 samples	RPDs < 30%
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		

Table 9 – DQO, Requirements and Indicators		
DQO	Requirement	DQI
Sampling methodology - preservation	Appropriate for the sample type and analytes	Meet requirement
Samples extracted and analysed within holding times	Specific to each analyte	Meet requirement
Laboratory method blanks	At least 1 per batch per analyte tested for	Result < laboratory reporting limit
Trip blanks	1 per lab batch for volatile analytes	Result < laboratory reporting limit
Trip spikes	1 per lab batch for volatile analytes	Recoveries 60-100%
Rinsate	1 per lab batch for volatile analytes	Result < laboratory reporting limit
Comparability		
Sampling approach	Consistent for each sample	Meet requirement
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 142 test pit and 25 bore hole locations.
- 2 Test pits were advanced via a 5-tonne excavator fitted with a 400 mm bucket to a maximum depth of 2.0 m BGL or terminated prior to this depth when residual soil was encountered.
- 3 Boreholes were advanced via hand auger to a maximum depth of 1.0 m BGL or prior to this depth when residual soil was encountered.
- 4 Soils were logged for type, colour, texture, other characteristics and indications of contamination as presented in the soil logs attached as **Appendix D**.
- 5 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.
- 6 Sufficient soil samples were collected and placed into laboratory prepared sampling jars with a unique sample ID added to the label on each jar.
- 7 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 dam located northwest of the quarry and downstream within the watercourses connecting to the dam.
- 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:

- 5 Three surface water samples were collected from the dam located northwest of the quarry and downstream within the watercourses connecting to the dam using a grab sampler.
- 6 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.
- 7 Surface water samples were collected in preserved bottles specific to each analyte with a unique sample ID added to the label on each bottle.

- 8 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 Laboratory Testing

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

Media	Area of Site	Sampling Locations	Number of Analysis
Soil	R1 – Residential (Previous Quarry)	82	<ul style="list-style-type: none"> • Organochlorine Pesticides (OCP), Organophosphate pesticides (OPP) and Heavy metals (As, Cd, Cr, Cu, Pb, Hg, Ni, Zn, Fe) - 34 • Total Recoverable Hydrocarbons (TRH), BTEXN (Benzene, Toluene, ethylbenzene, xylene, naphthalene), Polycyclic aromatic Hydrocarbons (PAH), polychlorinated biphenyls (PCBs) – 34 • Acid sulfate soil field screening (pH_f and pH_{fox}) - 12 • Chromium reducible sulfur suite - 6 • Asbestos w/w % – 39 • Asbestos presence / absence (If encountered) – 0 • NEPM Screen for Soil Classification – 1
	R1 – Residential	38	<ul style="list-style-type: none"> • OCP, OPP and Heavy metals - 17 • TRH, BTEXN, PAH and PCBs – 12 • Acid sulfate soil field screening (pH_f and pH_{fox}) - 37 • Chromium reducible sulfur suite - 6 • Asbestos w/w % – 11 • Asbestos presence / absence (If encountered) – 0
	E3 – Environmental Management	52	<ul style="list-style-type: none"> • OCP, OPP and Heavy metals - 15 • TRH, BTEXN, PAH and PCBs – 15 • Acid sulfate soil field screening (pH_f and pH_{fox}) - 50 • Chromium reducible sulfur suite - 16 • Asbestos w/w % – 15 • Asbestos presence / absence (If encountered) – 0
Sediment	-	3	<ul style="list-style-type: none"> • Heavy metals (low level Hg) / TRH / BTEXN / PAH (trace) / OCP (trace) / OPP (Trace) / PCB – 3
Water	-	3	<ul style="list-style-type: none"> • Heavy metals / TRH / BTEXN / PAH (ultra-trace) / OCP / OPP – 3
Duplicates and Triplicates	-	10	<p>Soil:</p> <ul style="list-style-type: none"> • Duplicate: TRH, BTEXN, PAH, Heavy Metals, OCP, OPP and PCBs - 8 • Triplicate: TRH, BTEXN, PAH, Heavy Metals, OCP, OPP and PCBs - 8

			<p>Water:</p> <ul style="list-style-type: none"> • Duplicate: TRH, BTEXN, PAH (Ultra trace), Heavy Metals, OCP, OPP and PCBs - 1 • Triplicate: TRH, BTEXN, PAH (Ultra trace), Heavy Metals, OCP, OPP and PCBs - 1 <p>Sediment:</p> <ul style="list-style-type: none"> • Duplicate: TPH, PAH (Trace), Heavy Metals (low level Hg), OCP (trace), OPP (trace), OPP (trace) and PCBs - 1 • Triplicate: TPH, PAH (Trace), Heavy Metals (low level Hg), OCP (trace), OPP (trace), OPP (trace) and PCBs - 1
Rinsate blank	-	-	<p>Soil:</p> <ul style="list-style-type: none"> • Heavy metals / TRH / BTEXN / PAH / OCP / OPP – 3 <p>Water:</p> <ul style="list-style-type: none"> • Heavy metals / TRH / BTEXN / PAH / OCP / OPP – 1 <p>Sediment:</p> <ul style="list-style-type: none"> • Heavy metals / TRH / BTEXN / PAH / OCP / OPP – 1
Trip blank Trip spike	-	-	<p>Soil:</p> <ul style="list-style-type: none"> • TRH (F1), BTEXN – 2 <p>Water:</p> <ul style="list-style-type: none"> • TRH (F1), BTEXN – 2

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

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

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 < 30%. 	Yes Yes ¹
Field triplicates	<ul style="list-style-type: none"> • 1 per 20 samples; and • RPDs < 30%. 	Yes Yes ²

¹ 10 analyte exceedances of the adopted RPD criteria were observed within the soil duplicate samples which were attributed to the low concentrations observed and / or the heterogeneous distribution of contaminants within the soil. Two exceedances of the adopted RPD criteria were observed within the sediment duplicate samples which were attributed to the low concentration observed and / or the heterogeneous distribution of contaminants within the sediment.

² Nine analyte exceedances of the adopted RPD criteria were observed within the soil triplicate samples which were attributed to the low concentrations observed and / or the heterogeneous distribution of contaminants within the soil. Five exceedances of the adopted RPD criteria were observed within the sediment duplicate samples which were attributed to the low concentration observed and / or the heterogeneous distribution of contaminants within the sediment. Two exceedances of the adopted RPD criteria were observed within the water samples which were attributed to the low concentrations of contaminants within the samples.

Table 11 – DQI Results Summary		
Parameter	Requirement	Objective Met
Laboratory duplicates	<ul style="list-style-type: none"> Minimum of 1 per batch per analyte; RPDs < 50%; and >10%, laboratory specified. 	Yes Yes Yes
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
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

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

6 Environmental Quality Criteria

6.1 Soil Criteria

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

- ASC NEPM (2013).
- NSW EPA Auditor Guidelines (2017).
- CRC CARE (2011).
- National Acid Sulfate Soils Guidance (2018)

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

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

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

Guidelines	COPC	Adopted Criteria
ASC NEPM 2013	Heavy metals/OCP/PCB /asbestos	HIL A/B (Residential) HIL C (Recreational)
	Heavy metals/OCP/PAH	EIL (Urban Residential and Public Open Space); < 2 m
	TRH (F1 and F2) and BTEXN	Vapour intrusion HSL A/B (Residential); 0-<1m; sand 0-<1m; silt 0-<1 m; Clay ESLs fine and coarse soil (Urban residential); <2m
	TRH	Management limits (Residential/parkland); fine/coarse soil

Table 12 – Adopted Soil Criteria		
Guidelines	COPC	Adopted Criteria
Friebel, E & Nadebaum, 2011	TRH (F3 and F4)	Direct contact pathways (dermal contact, incidental ingestion and inhalation of soil particles) and intrusive maintenance workers HSLs Vapour Intrusion HSLs for Intrusive Maintenance Workers (Shallow Trench)
National ASS Guidance (2018)	Net Acidity	Net Acidity criteria for coarse and fine textured soil >1000 tonnes

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

6.2 Sediment Criteria

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

- ANZG (2018) Toxicant Default Guideline Values for sediment quality.

The adopted criteria for initial screening of sediments were the default guideline values (DGV) and guideline values (GV)-High. 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); and
- ADWG (2011).

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

7 Results

7.1 Subsurface Conditions

The subsurface conditions encountered in the test pits advanced across the Site are detailed on the report log sheets, attached in **Appendix D** with locations shown on **Figure 4a**, **Figure 4b** and **Figure 4c**. A summary of subsurface conditions is presented in **Table 13** and **Appendix G**

Unit	Material	Description / Depth Encountered	Comment
1a	Topsoil	Silty clayey SAND / Silty SAND / Sandy SILT from 0.0 to 0.3 m BGL	-
1b	Fill (Stockpiles)	Sandy gravelly CLAY / Silty SAND with gravel, stockpiles range from 0.1 m to 3.0 m in height.	Anthropogenic material (Brick and tiles) within SP08, SP09, SP12, SP13, SP15, SP17 and SP18.
1c	Fill	Silty SAND with gravel / Silty clayey SAND, encountered across the entire Site containing brick, tiles and other anthropogenic materials.	Maximum depth encountered of 0.5 m BGL within TP125.
2a	Residual	Sandy CLAY/sandy silty CLAY from 0.1 to greater than 1.5 m BGL.	Medium to high plasticity residual clay, predominantly stiff to very stiff.
3a	XW Sandstone	Encountered in the R1 zoned area of the site.	Extremely weathered of very low strength to low strength. Encountered from 0.8 m BGL to greater than 1.0 m BGL.
3b	XW Siltstone	Encountered in the Quarry area of the Site.	Extremely weathered, of very low strength to low strength, encountered from 0 m BGL to 0.5 m BGL from the level of the quarry.

A general summary of the subsurface conditions encountered across the site is presented in **Appendix G**.

There were 18 stockpiles of soil material identified across the Site, predominantly located within the quarry and along the quarry embankments. A summary of the stockpiles encountered across the Site is provided in **Appendix H** and shown in **Figures 9** attached.

7.2 Anthropogenic material

Anthropogenic fill material was encountered across the entire Site within stockpiles and test pits. The anthropogenic material encountered across the Site was predominantly brick and tiles located in the southern portion of the site within the R1 zoned area within existing access tracks and along the embankments of the western edge of the quarry.

Seven of the 18 stockpiles encountered were observed to consist of brick and tile anthropogenic waste material and has been estimated to have an approximate volume of 850 m³ of material³. The stockpiles identified to contain anthropogenic material are summarised in **Appendix H** and are shown in **Figure 9**.

³ The volume of the anthropogenic waste material has been approximated by tacking the total surface area of the stockpile footprint and multiplying this with the deepest point that the anthropogenic material was observed at in the stockpile. This depth has been assumed to be consistent across the entire footprint of the stockpile.

The total volume of brick and tile anthropogenic material encountered across the Site within the test pits and boreholes has been approximated to be equivalent to 10,600 cubic meters⁴. The extent of the brick and tile across the site is summarised in **Appendix G** and shown in **Figure 10**.

There were some stockpiles of anthropogenic waste material identified across the site consisting of concrete, old pipes and demolished structures. The locations of these stockpiles of anthropogenic waste are shown in **Figure 11**.

7.3 Soil Vapour Screening

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

7.4 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**.

7.4.1 TRH

TRH concentrations of the soil samples analysed were reported below the adopted criteria, except for the following analytes:

- Exceedance of the adopted assessment criteria (NEPM 2013 HSL for residential A/B, sand soil < 1 m BGL) for the analyte TRH F2 was observed in the soil samples TP121_0.1, TP06_0.1 and TP165_0.1. By applying the statistical criteria provided in the DQOs, only TP121_0.1 was identified as a hotspot that exceeded the adopted criteria by greater than 250%. The 95% UCL TRH F2 concentration was reported at 63.33 mg/kg which was less than the adopted criteria.
- Exceedance of the adopted assessment criteria (NEPM 2013 ESL for urban residential, coarse and fine soils) for the analyte TRH F2 was observed in the soil samples TP06_0.1, TP121_0.1 and TP165_0.1. Statistical analysis was completed on the data set to determine which of these samples are hotspots. By applying the statistical criteria provided in the DQOs, only TP121_0.1 was identified as a hotspot that exceeded the adopted criteria by greater than 250%. The 95% UCL TRH F2 concentration was reported at 63.33 mg/kg which was less than the adopted criteria.
- Exceedance of the adopted assessment criteria (NEPM 2013 ESL for urban residential, coarse soils) for the analyte TRH F3 was observed in the soil samples TP06_0.1, TP43_0.1, BH64_0.1, BH78_0.1 and TP165_0.1. By applying the statistical criteria provided in the DQOs, only TP06_0.1 and TP165_0.1 were identified as hotspots that exceeded the adopted criteria by greater than 250%. The 95% UCL TRH F3 concentration was reported at 138 mg/kg which was less than the adopted criteria.
- Exceedance of the adopted assessment criteria (NEPM 2013 ESL for urban residential fine soils) for the analyte >C16-C34 Fraction (F3) was observed in the soil sample TP121_0.1, which was less than 250% of the adopted criteria. The 95% UCL TRH F3 concentration was reported at 138 mg/kg, which was less than the adopted criteria.

All soil exceedance locations are shown in **Figure 5**.

⁴ The volume of anthropogenic waste material was estimated by taking an average depth of all the test pits where brick and tiles were encountered and multiplying this with the surface area of the brick and tile footprint. The surface area was determined by encompassing the test pits where brick and tiles were observed and extending the perimeter of these areas halfway between clean test pits and test pits observed to have brick and tiles.

7.4.2 BTEXN/PAH/OCP/OPP/PCB/Heavy Metals

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

7.4.3 Asbestos

No asbestos fragments were identified in any of the samples collected from test pits and boreholes advanced across the Site. Respirable (free) fibres were not reported in any asbestos sample collected.

7.4.4 Acid Sulfate Soil

- The majority of ASS screening samples had a change in field pH to oxidised pH greater than 1 pH unit which are potential indicators of the presence of PASS on the Site.
- High reaction rates were observed during screening which are potential indicators of the presence of PASS on the Site.
- All samples analysed reported net acidity concentrations greater than the National Acid Sulfate Soils Guidance (2018) for >1,000 tonnes disturbed for coarse and fine textured soils.

All Acid sulfate soil exceedance locations are shown in **Figure 8**.

7.5 Analytical Testing – Sediment

PAH/OCP/PCB and heavy metal concentrations were reported below the adopted ANZG 2018 Sediment Default DGVs criteria in all samples. 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**. All the sediment sampling locations are shown in **Figure 7**.

7.6 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 F**.

TRH/BTEXN/PAH/OCP and OPP concentrations were reported below the adopted assessment criteria in all samples. Heavy metal concentrations were reported below the adopted assessment criteria in all samples except for elevated nickel concentrations exceeded the ANZECC 2000 Fresh Water 95% species protection criteria and the ANZG (2018) Freshwater 95% LOSP Toxicant DGVs in the water sample SW01.

All surface water sampling and exceedance locations are shown in **Figure 6**.

8 Discussion

An assessment of the decision-making process for assessing urban redevelopment sites detailed in EPA (2017) and provided as **Table 8** has been undertaken to assess suitability of the Site for the Proposed Development, as detailed in **Table 14**.

Table 14 – Assessment of Decision Rules	
Decision	Rule
1. Does the assessment follow all applicable guidelines?	The assessment has been undertaken in accordance with all applicable guidelines and criteria as provided in Section 6 . Therefore, the decision is Yes .
2. Have any aesthetic issues relating to site soils been adequately addressed?	Assessment of aesthetic issues has been undertaken at the Site. All soil concentrations were reported below the aesthetic management limits; however, stockpiles of anthropogenic materials have been identified at the Site and there is extensive amount of anthropogenic fill material across the Site, therefore the decision is No, therefore a remediation action plan will be required to manage these areas affected by anthropogenic waste; therefore, the decision is Yes
3. Has soil been assessed against relevant health-based investigation levels and potential for migration of contamination from soil to groundwater been considered? Are there no potential for human health risks to the identified receptors?	Soil has been assessed against the relevant health-based investigation levels provided as Section 6 and all the results were below the adopted criteria except for one exceedance of the adopted assessment criteria (NEPM 2013 HSL for residential A/B, sand soil <1 m BGL) for the soil sample TP121_0.1 for the analyte C10 – C16 Fraction (F2 minus Naphthalene). There is considered to be no complete pathways between the identified contaminants within the soil and the groundwater at the Site. Therefore, the decision is Yes . The exceedance of the TRH analyte is considered to be an isolated hotspot associated with historic uses of the Site. Based on the exceedance to the adopted health-based criteria, there is potential for an unacceptable risk to human health and the decision is No .
4. Groundwater (where relevant) has been assessed against relevant health-based investigation levels and, if required, any potential impacts to buildings and structures from the presence of contaminants considered?	The majority of concentrations of COPC in the natural soil profile were reported below adopted ecological criteria. The groundwater level within the area is deep with aquifer formations of low permeability present. Also, all exceedances of the ecological criteria for soils were observed in the top 0.1 m BGL and therefore assessment of groundwater was not considered to be warranted since pathways linking soil contamination to groundwater were not considered to be complete. Three surface water samples were collected from the onsite dam and connecting waterways. All analytical testing was reported below the adopted criteria with the exception of SW01 which contained elevated nickel concentrations above the ANZECC 2000 Fresh Water 95% and the ANZG (2018) Freshwater 95% LOSP Toxicant DGVs criteria. The elevated nickel reported in all the upstream water sample (the dam) was considered unlikely to be representative of background concentrations but due to the concentrations of downstream samples

Table 14 – Assessment of Decision Rules	
Decision	Rule
	<p>not exceeding the adopted criteria it is unlikely to present a human health or ecological risk to users of these water bodies.</p> <p>The elevated nickel concentrations reported in the dam sample do not appear to be representative of a larger contamination issue at the Site and with the dams from which these samples were collected are likely to be dewatered and filled in the Proposed Development and therefore unlikely to present a future ecological risk at the Site.</p>
5. Hazardous ground gases (where relevant) have been assessed against relevant health-based investigation levels and screening values.	As volatile COPC in soil were not reported above the adopted criteria, assessment of hazardous ground gases was not considered relevant and no further ecological risk assessment is required; therefore, the decision is Yes .
6. Issues relating to local area background soil concentrations that exceed relevant investigation levels have been adequately addressed in the site assessment report(s).	Concentrations of natural soils have been reported below the adopted criteria. There were some exceedances to the soil within fill layers in three locations on the Site, but these are attributed to historical use of the Site and not related to local area background soil concentrations; therefore, the decision is Yes .
6. Are there any impacts of chemical mixtures?	The impacts of chemical mixtures have been considered and are not present; therefore, the decision is No .
7. Any ecological risks to the identified receptors	<p>Soil has been assessed against the relevant ecological-based investigation levels provided as Section 6 and all the results were below the adopted criteria except for three locations that exceeded the adopted NEPM 2013 ecological screening levels (ESLs) for fine and coarse soil. Therefore, a remediation action plan will be required to address the ecological risks associated with these three hotspots shown in Figure 5.</p> <p>The elevated TAA concentrations reported above the action criteria for >1,000 tonnes of disturbed coarse and fine textured soils in all of the chromium reducible sulfur samples.</p> <p>Considering the following acid sulfate soil indicators:</p> <ul style="list-style-type: none"> All samples analysed reported net acidity concentrations greater than the National Acid Sulfate Soils Guidance (2018) for >1,000 tonnes disturbed for coarse and fine textured soils. <p>It is considered that PASS is present across the site within the residual sandy CLAY material. Therefore, an acid sulfate soil management plan is required if any of the residual soils on the Site are planned to be excavated; therefore, the decision is Yes.</p>

Table 14 – Assessment of Decision Rules	
Decision	Rule
8. Is there no evidence of, or potential for, migration of contaminants off-site?	<p>Based upon the low concentrations of COPC in natural soil there is a low likelihood of leaching of contaminants from the Site to groundwater and subsequent off-site migration. All exceedances to the adopted criteria have been identified as isolated hotspots contained to the top 0.1 m of soil.</p> <p>Based upon the discussion above, the decision is Yes.</p>
9. Is a remediation action plan required?	<p>The site history review and soil, sediment and surface water sampling program identified a low risk of contamination in soil at the Site.</p> <p>Some soil exceedances were observed when compared against the adopted ecological and health-based criteria, these hotspots should be addressed by implementing a remediation action plan.</p> <p>The presence of ASS has been confirmed across the Site, therefore an acid sulfate soil management plan will need to be implemented if any of the residual soils are to be excavated during future development earthworks.</p> <p>There are extensive amounts of anthropogenic material (brick and tiles) located across the Site. These materials will require a remediation action plan to assist in the management of these materials during future works at the Site.</p> <p>Therefore, a remediation action plan and an acid sulfate soil management plan is required for this Site.</p>

9 Conceptual Site Model

A conceptual site model (CSM) has been developed based upon the information provided in previous sections of this report.

9.1 Potential Contaminating Activities and Chemicals of Concern

Based on the Site inspection and review of historical records, the following activities have occurred at the Site which may have resulted in the potential for contamination. These activities are summarised as follows:

- Clearing of land with potential use of herbicides and pesticides.
- Construction and demolition of structures in the south eastern corner of the Site.
- Historical quarry operations in the central portion of the Site.
- Stockpiling of anthropogenic materials and importing anthropogenic material as fill.

The contaminants of potential concern (COPC) associated with the activities listed above are presented in **Table 15**.

Table 15 – Contaminants of Potential Concern			
Historical Activity/Site Infrastructure	Area of Site	Evidence	COPC
Clearing of land with potential use of herbicides and pesticides	Central	Aerial photographs and site inspection	Heavy metals, organochlorine pesticides (OCP) and organophosphorus pesticides (OPP).
Construction and demolition of structures	South eastern corner	Aerial photographs	Heavy metals, asbestos, OCPs and OPPs.
Operation of a Quarry	Central	Aerial photographs and site inspection	Total recoverable hydrocarbons (TRH), benzene, toluene, ethylbenzene and xylene (BTEX), polycyclic aromatic hydrocarbons (PAH), polychlorinated biphenyls (PCBs), phenols and heavy metals.
Stockpiling of anthropogenic materials and fly tipping	Central and isolated areas	Aerial photographs and site inspection	TRH, BTEX, PAH, heavy metals and asbestos.

9.2 Affected Media

Based on the site inspection and review of historical records the media potentially impacted would be soil, sediment and water. The sediment and water in the northwest portion of the site may have been impacted from runoff from the quarry during and post operation.

9.3 Summary of Contamination

A summary of the exceedances of the adopted criteria for soil, and groundwater are provided in **Table 16** and **Table 17** respectively.

Analyte	No. of Samples	Depth Range (m BGS)	Concentration Range (mg/kg)		Number of Exceedances	Number of hot spots (>250% of criteria)	95% UCL > criteria ⁵	Guidelines Exceeded
			Min.	Max.				
TRH F2	61	0.1 – 2.0	<50	360 ⁶	HSL – 3 ESL – 3	HSL – 1 ESL – 1	63 (<HSL and ESL)	HSL A/B (vapour intrusion) - 3 ESL (<2m) - 3
TRH F3	60	0.1 – 2.0	<100	2,140	HSL – 1 ESL – 6	ESL – 1	138 (<HSL and ESL)	HSL A/B (vapour intrusion) – 1 ESL (<2m) - 3
Net Acidity	28	0.1 – 0.5	30 mol H ⁺ /t	118 mol H ⁺ /t	28	-	-	Sullivan et. al. (2018).

COPC	Number of Samples	Concentration Range (mg/L)		Number of Exceedances of Drinking Water GIL	Number of Exceedances of 95% species protection fresh water DGV
		Minimum	Maximum		
Nickel	3	0.001	0.015	0	1

9.4 Human and Ecological Receptors

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

- 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)).
- Future residents at the Site (ASC NEPM 2013 HIL A and HSL A – residential).
- Recreational users of the E3 Environmental Management Area.
- Residents of surrounding residential properties to 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 dependant on ephemeral drainage line that drain to the north and north west corner of the Site (ANZG 2018).

⁵ Excludes hotspots.

⁶ The triplicate sample for TP121_0.1 reported at TRH F2 concentration of 390 mg/kg.

9.5 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 18**.

Table 18 – Source-Pathway-Receptor Linkages								
Sources				Pathways	Receptors	Linkages	Comments	
Primary	Secondary	Contaminants	Affected Media	Exposure Pathways				
Clearing of land	Potential use of herbicides and pesticides	OCP, OPP and heavy metals	Soil	<u>Human Health</u> <ul style="list-style-type: none"> • Dermal contact • Incidental ingestion 	<ul style="list-style-type: none"> • Future construction and sub-surface maintenance workers. • Future residents. • Residents of surrounding residential properties. 	Not complete.	Based on soil analytical results there were no exceedances of the adopted criteria. Therefore, the pathways were not considered to be complete.	
				<u>Ecological:</u> <ul style="list-style-type: none"> • Uptake by flora and fauna 	<ul style="list-style-type: none"> • Terrestrial fauna and flora at the Site and on adjoining land. • Ecosystems dependant on ephemeral creek onsite. 			
Construction and demolition of structures in the south eastern corner	Potential use of hazardous building materials	Asbestos, heavy metals, OCPs and OPPs		<u>Human Health</u> <ul style="list-style-type: none"> • Dermal contact • Incidental ingestion 	<ul style="list-style-type: none"> • Future construction and sub-surface maintenance workers. • Future residents. • Recreational users of the E3 Environmental Management Area • Residents of surrounding residential properties. 	Not complete.		Based on soil analytical results there were no exceedances of the adopted criteria for OCP, OPP, heavy metals of asbestos. Therefore, the pathways were considered to not be complete.
				<u>Ecological:</u> <ul style="list-style-type: none"> • Uptake by flora and fauna 	<ul style="list-style-type: none"> • Terrestrial fauna and flora at the Site and on adjoining land. • Ecosystems dependant on ephemeral creek onsite. 			

Table 18 – Source-Pathway-Receptor Linkages

Sources				Pathways	Receptors	Linkages	Comments
Primary	Secondary	Contaminants	Affected Media	Exposure Pathways			
Historical operation of a quarry	Use of heavy machinery.	TRH, BTEX, PAH, PCB, phenols, heavy metals, OCP and OPP.	Soil	<u>Human Health</u> <ul style="list-style-type: none"> • Dermal contact • Incidental ingestion 	<ul style="list-style-type: none"> • Future construction and sub-surface maintenance workers. • Future residents. • Residents of surrounding residential properties. 	Potentially complete.	Based on soil analytical results there were no exceedances of the adopted criteria for OCP, OPP, Heavy metals, PCB, PAH, BTEXN and phenols. Exceedances to Tier 1 health and ecological based criteria were observed in the top 0.1 m of soil for TRH. Therefore, the pathways were considered to be complete.
				<u>Ecological:</u> <ul style="list-style-type: none"> • Uptake by flora and fauna 			
Stockpiling of anthropogenic materials and fly tipping	Potential storage of hazardous materials	TRH, BTEX, PAH, heavy metals and asbestos.	Soil	<u>Human Health</u> <ul style="list-style-type: none"> • Dermal contact • Incidental ingestion 	<ul style="list-style-type: none"> • Future construction and sub-surface maintenance workers. • Future residents. • Residents of surrounding residential properties. 	Potentially complete.	Based on soil analytical results there were no exceedances of the adopted criteria for Heavy metals, PAH, BTEXN and phenols. Exceedances to the Tier 1 ecological based criteria were observed in the top 0.1 m of soil for TRH. Therefore, the pathways were considered to be complete.
				<u>Ecological:</u> <ul style="list-style-type: none"> • Uptake by flora and fauna 			

Table 18 – Source-Pathway-Receptor Linkages

Sources				Pathways	Receptors	Linkages	Comments
Primary	Secondary	Contaminants	Affected Media	Exposure Pathways			
Historical operation of a quarry	Surface runoff into the dam from the walls of the quarry.	TRH, BTEX, PAH, PCB, phenols, heavy metals, OCP and OPP.	Surface Water	<u>Human Health</u> <ul style="list-style-type: none"> • Dermal contact • Incidental ingestion 	<ul style="list-style-type: none"> • Future construction and sub-surface maintenance workers. • Future residents. • Residents of surrounding residential properties. 	Not Complete	There was an exceedance observed in the surface water sampled within the dam for nickel but the downstream samples did not have an exceedance to nickel. Since the dam is expected to be dewatered and the quarry area filled during future development works, any potential linkages and pathways are considered not to be complete.
				<u>Ecological:</u> Uptake by flora and fauna			
Historical operation of a quarry	Surface runoff into the dam from the walls of the quarry.	TRH, BTEX, PAH, PCB, phenols, heavy metals, OCP and OPP.	Sediment	<u>Human Health</u> <ul style="list-style-type: none"> • Dermal contact • Incidental ingestion 	<ul style="list-style-type: none"> • Future construction and sub-surface maintenance workers. • Future residents. • Residents of surrounding residential properties. 	Not Complete	Since no exceedances of the adopted criteria were observed for the sediment samples. Therefore, the pathways were considered to not be complete.
				<u>Ecological:</u> Uptake by flora and fauna			

10 Conclusion

This report presents the findings of a DSI undertaken for the property located at 487 Raymond Terrace Road, Chisholm, NSW. It is understood that the Site is to be redeveloped for low density residential purposes and that the DSI was required for due diligence purposes. The Site comprises of a large rectangular shaped allotment located on the northern side of Raymond Terrace Road, with surrounding land consisting of a mix of residential and rural land use.

The Site comprises of a large rectangular shaped allotment located on the northern side of Raymond Terrace Road, with surrounding land consisting of a mix of residential and rural land use. Topography at the Site comprises of a gently sloping (6°) gradient facing the north with an approximate elevation of 38 m Australia Height Datum (m AHD) in the southern portion of the Site and an elevation of 4 m AHD in the northern eastern corner of the Site with drainage following the topography via ephemeral drainage lines to the north east of the Site. An old quarry void is located in the northern portion of the Site and dominates the landscape of the Site. The quarried materials were historically used to manufacture brick and tiles which has been utilised as fill across the Site predominantly within the access tracks.

The Site is underlain by Palaeozoic aged Mulbring Siltstone geological units comprising of salty siltstone, claystone and minor fine-grained sandstone and the Site is predominantly located within any Class 5 acid sulfate soil (ASS) area, with a Class 3 ASS area and high risk of dryland salinity in north eastern corner of the Site.

No registered groundwater bores are located on-site, however, two registered groundwater bores were located within 2 km of the Site used for monitoring with depths 6-9 m below ground level (m BGL). Fractured or fissured, extensive aquifers of low to moderated productivity were identified to be present at the Site. Regional groundwater flow direction is expected to be to the north west towards the Hunter River.

No records of underground coal mining areas were found at the Site or within the surrounding area. However, historical mining and exploration titles were identified to be onsite. Based on discussions with Subsidence Advisory, there are no records of coal mining on the Site.

Based on the Site inspection and review of historical records, the following activities have occurred at the Site which may have resulted in the potential for contamination: clearing of land with potential use of herbicides and pesticides; construction and demolition of temporary structures in the south east corner; historical quarry activities and stockpiling of anthropogenic materials; dumping of brick and coal waste on the eastern portion of the property; and isolated fly tipping of building a demolition waste.

Fieldwork comprised of a site walkover and collection of soil samples from 142 test pits, and 25 boreholes at grid and targeted based sampling locations across the Site to a maximum depth of 2.0 m BGL and three water and sediment samples from the dam and drainage lines. The subsurface profile generally comprised of fill / topsoil overlying residual sandy clay/clayey sand overlying bedrock comprising of extremely weathered sandstone and siltstone. Stockpiled anthropogenic material were observed at multiple locations across the Site, including the access tracks and quarry. There was no visual or olfactory evidence of hydrocarbon or other contamination.

Results of analytical testing of soil samples reported total or 95% upper confidence level (UCL) concentration of the COPC below laboratory limit of reporting (LOR) or adopted health and/or ecological based criteria in all samples collected except for three soil sampling locations. The exceedances to the adopted soil criteria are summarised below:

- Exceedance of the adopted assessment criteria (NEPM 2013 ecological screening level (ESL) for urban residential, coarse and fine soils) for the analyte >C10 – C16 Fraction (F2) was observed in the soil sample TP121_0.1.

- Exceedance of the adopted assessment criteria (NEPM 2013 ESL for urban residential, coarse and fine soils) for the analyte >C10 – C16 Fraction (F2 minus Naphthalene) was observed in the soil sample TP121_0.1.
- Exceedance of the adopted assessment criteria (NEPM 2013 health screening levels (HSL) for residential A/B, sand soil < 1 m BGL) for the analyte >C10 – C16 Fraction (F2 minus Naphthalene) was observed in the soil sample TP121_0.1.
- Exceedance of the adopted assessment criteria (NEPM 2013 ESL for urban residential, coarse soils) for the analyte >C16-C34 Fraction (F3) was observed in the soil samples TP121_0.1, TP06_0.1 and TP165_0.1.

The results from these three soil samples exceed 250% of the adopted criteria and are considered hotspots. No bonded or friable asbestos was observed in any of the samples collected from test pits or boreholes across the Site. Elevated net acidity concentrations for the chromium reducible sulfur suite analysis were reported more than the adopted action criteria requiring the development and implementation of an acid sulfate soil management plan during future development.

An elevated nickel concentration was reported in the upstream water sample (the dam) but was below the adopted criteria in all downstream samples. As the dam is to be dewatered and filled in the Proposed Development, the elevated concentration is unlikely to present a future ecological risk at the Site.

Based on the results of the site history, site inspection, and analytical testing, EP Risk considers that the Site can be made suitable for the proposed residential land use subject to the following:

- Management / removal of anthropogenic materials from the Site.
- Preparation and implementation of a Remediation Action Plan to address identified TRH in soil hotspots.
- Preparation and implementation of an Acid Sulfate Soil Management Plan to address the identified ASS on the Site.
- Preparation and implementation of an unexpected finds protocol during construction of the proposed development to address any unidentified contamination that may be identified during the proposed redevelopment works.

Figures



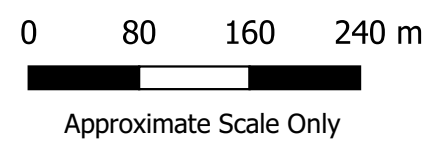
Figure 1 - Site Location



www.eprisk.com.au

**Detailed Site Investigation
478 Raymond Terrace Road, Chisholm, NSW**

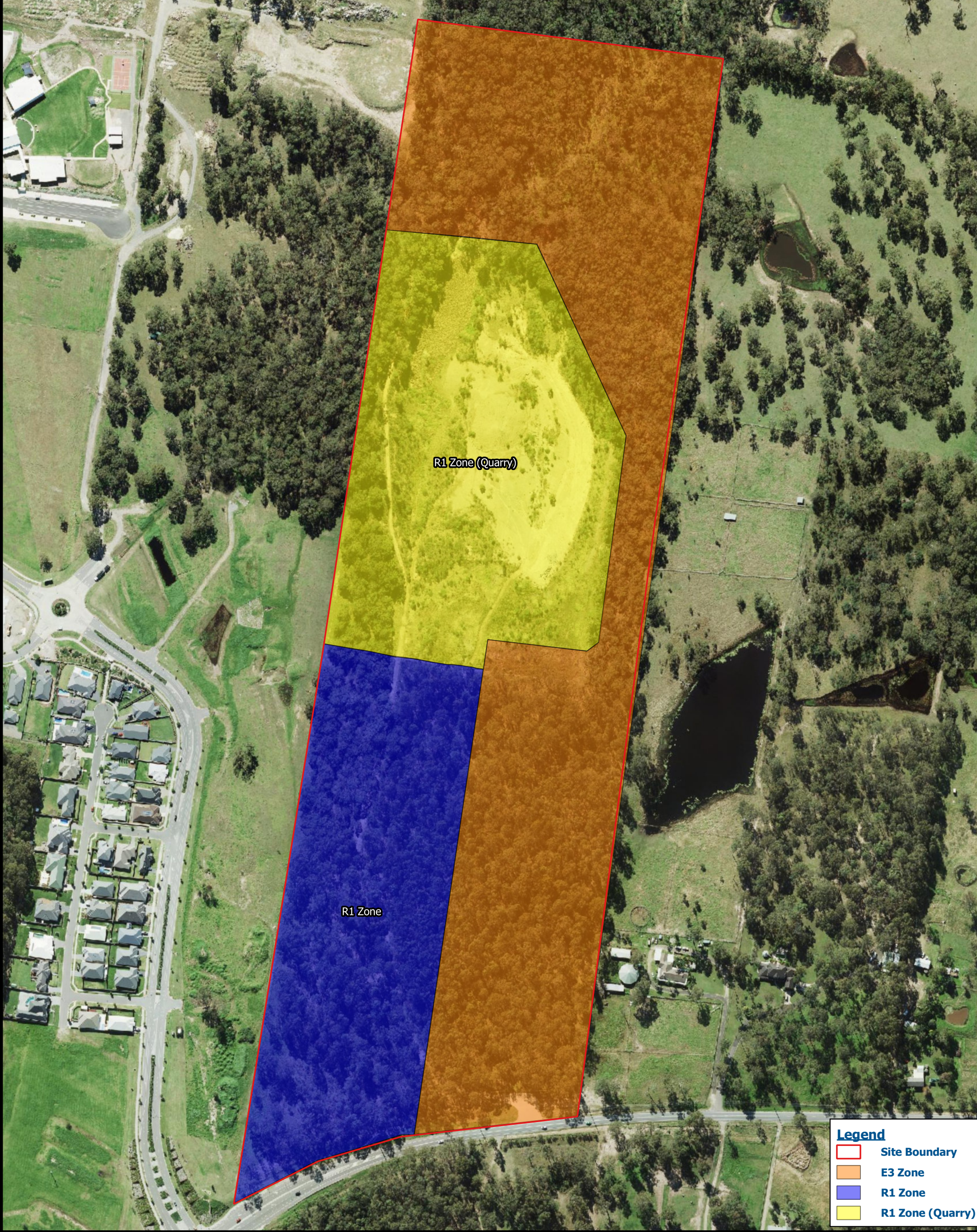
Job No:
EP1995.002
Date: 14/07/2021
Drawing Ref:
Figure 1



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



QHS Certification Services QHS Certification Services QHS Certification Services



Legend

- Site Boundary
- E3 Zone
- R1 Zone
- R1 Zone (Quarry)

Figure 2 - Site Layout



Figure 3a - Northern Site Features



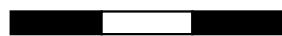
www.eprisk.com.au

Detailed Site Investigation
478 Raymond Terrace Road, Chisholm, NSW

Job No:
 EP1995.002
 Date: 14/07/2021
 Drawing Ref:
 Figure 3a



0 20 40 60 m



Approximate Scale Only

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

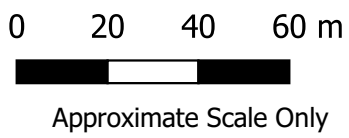


QHS Certification Services QHS Certification Services QHS Certification Services



Legend

- Site Boundary
- Onsite dam
- Anthropogenic Material Stockpiles
- Access tracks
- Waterways





Legend

- Site Boundary
- Access tracks

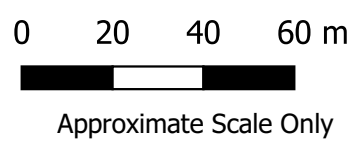


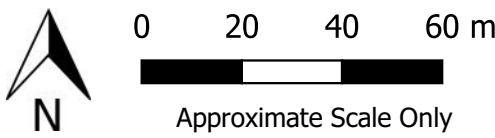


Figure 4a - Sampling Locations



Detailed Site Investigation
478 Raymond Terrace Road, Chisholm, NSW

Job No:
 EP1995.002
 Date: 14/07/2021
 Drawing Ref:
 Figure 4a



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





Legend

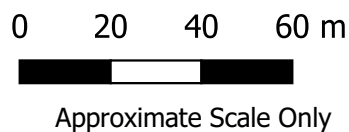
- Site Boundary
- X Sampling Locations



www.eprisk.com.au

Detailed Site Investigation
478 Raymond Terrace Road, Chisholm, NSW

Job No:
 EP1995.002
 Date: 14/07/2021
 Drawing Ref:
 Figure 4b

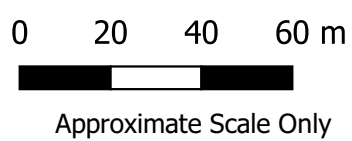


Coordinate System: MGA 56
 Drawn by: LK Checked by: PS
 Scale of regional map not shown
 Source: Near Maps

Figure 4b - Sampling Locations



QMS Certification Services QMS Certification Services QMS Certification Services





TP121_0.1:
 2140 mg/kg for analyte >C16-C34 Fraction (F3) exceeds 300 mg/kg (NEPM 2013 ESL for Urban Residential, coarse soils 0m -2m)
 360 mg/kg for analyte >C10-C16 Fraction (F2 minus Naphthalene) exceeds (NEPM 2013 ESL for Urban Residential, coarse and fine soils 0m -2m and NEPM 2013 HSL Res A/B for vapour intrusion - sand)
 360 mg/kg for analyte >C10-C16 Fraction (F2) exceeds (NEPM 2013 ESL for Urban Residential, coarse and fine soils 0m -2m)

Legend

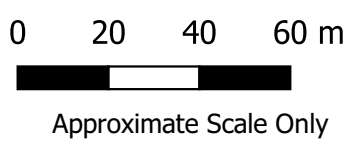
- Site Boundary
- X Sampling Locations
- Soil Exceedence Locations

Figure 5a - Soil Exceedences



Detailed Site Investigation
478 Raymond Terrace Road, Chisholm, NSW

Job No:
 EP1995.002
 Date: 14/07/2021
 Drawing Ref:
 Figure 5b



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





Figure 5b - Soil Exceedences



SW01:
 Nickel 0.015 mg/L exceeds (ANZG 2018 Freshwater
 95% LOSP Toxicant DGVs and ANZECC 2000 FW
 95%)

Legend

- Site Boundary
- ⊗ Surface Water Sampling Locations
- Onsite Dam
- Waterway
- Water Exceedence Locations



Legend

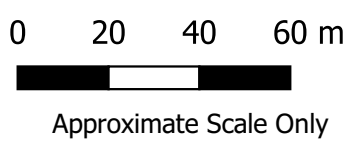
- Site Boundary
- Onsite Dam
- Waterway
- ⊗ Sediment Sampling Locations





Legend

- Site Boundary
- ⊗ Sampling Locations
- National Acid Sulfate Soil guidance 2018 Exceedences





Legend

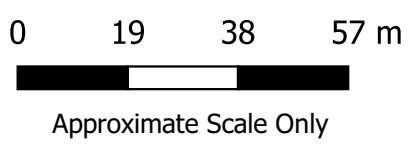
- Site Boundary
- Stockpiles

Figure 9a - Stockpile Locations



Detailed Site Investigation
478 Raymond Terrace Road, Chisholm, NSW

Job No:
 EP1995.002
 Date: 14/07/2021
 Drawing Ref:
 Figure 9a



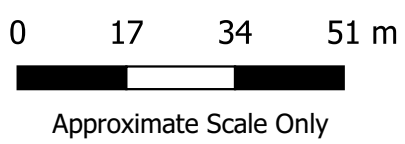
Coordinate System: MGA 56
 Drawn by: LK Checked by: PS
 Scale of regional map not shown
 Source: Near Maps





Legend

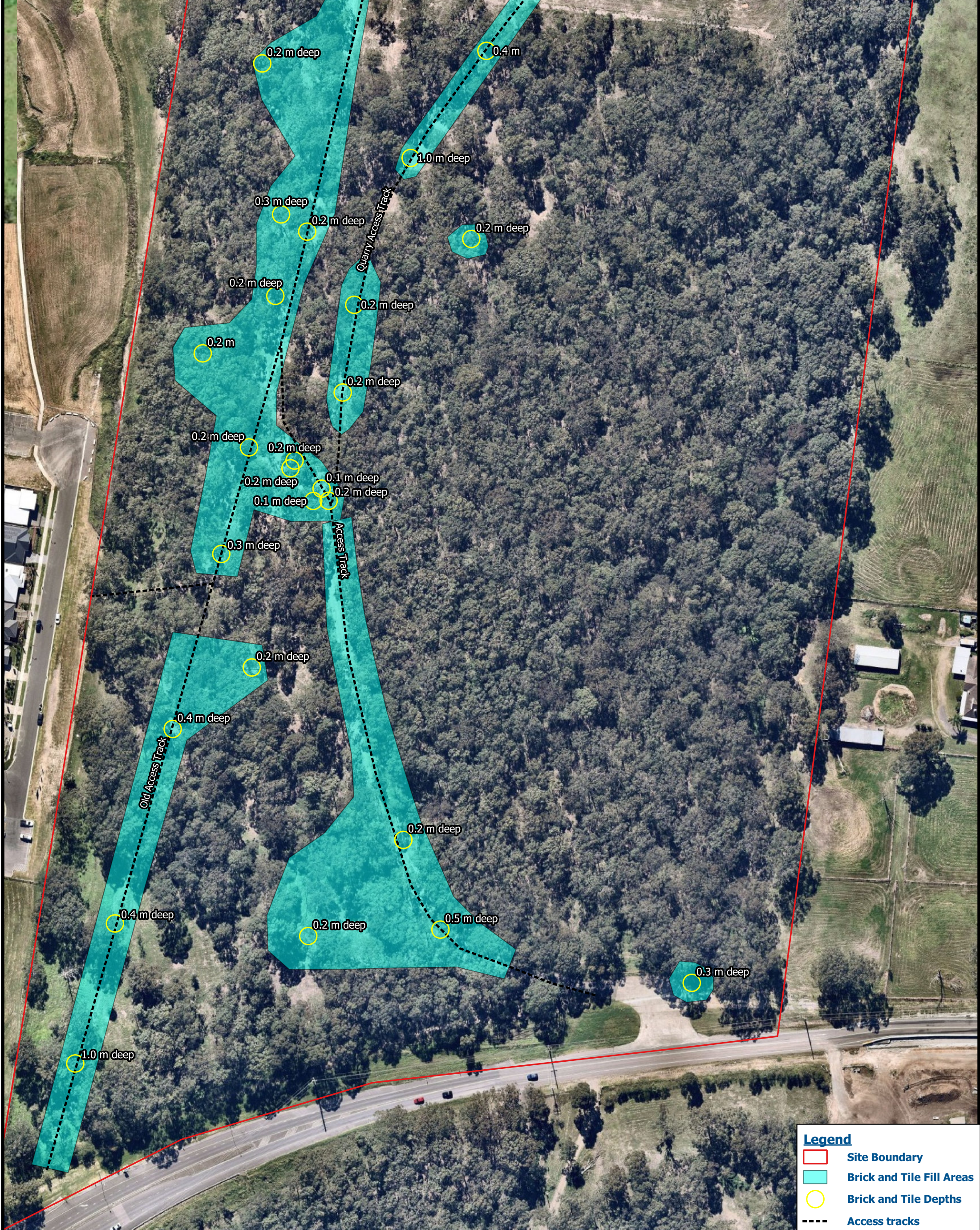
- Site Boundary
- Stockpiles





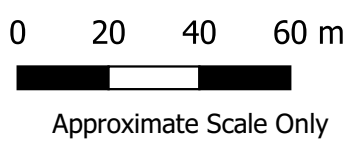
Legend

- Site Boundary
- Brick and Tile Fill Areas
- Brick and Tile Depths
- Access tracks



Legend

- Site Boundary
- Brick and Tile Fill Areas
- Brick and Tile Depths
- Access tracks



Analytical Tables

Table with 32 columns (Field ID, Date, 31 pesticide concentrations) and 43 rows. Columns include: 4-DEE, 4-BHC, Aldrin, Aldrin + Dieldrin, 4-BHC, Chlordane, Chlordane (G), Chlordane (trans), 4-BHC, DDD, DDT, DDT+DDD+DDT, Dieldrin, Endosulfan, Endosulfan I, Endosulfan II, Endosulfan sulphate, Endrin, Endrin aldehyde, Endrin ketone, 4-BHC (Urdane), Heptachlor, Heptachlor epoxide, Mephosfolan, Monochloro-methyl, Monochloro-ethyl, Carbamathion, Chlorfenvinphos, Chlorpyrifos, Chlorpyrifos-methyl, Diazinon, Dithionon, Dimethoate, Ethion, Fenitrothion, Malathion, Methyl parathion, Monocrotophos, Permethrin, Dimeton-methyl, Mepaniphos, Parathion, Fenprophos-ethyl. Rows include various field IDs (e.g., TP01_0.1, TP02_0.5) and dates (e.g., 8/03/2021, 6/04/2021).

Concentration	Organophosphorous Pesticides										PAH																		PCBs (Sum of Total)	Pesticides				TPH										
	Azinphos methyl	Imidacloprid	Carbaryl	Chlorpyrifos	Chlorpyrifos methyl	Diazinon	Dibromos	Dimethoate	Ethion	Fenitrothion	Fenitrothion	Methyl parathion	Monocrotophos	Phosphorofos	2-methylphthalane	3-methylphthalane	7,12-dimethylphthalanthrene	Acenaphthene	Acenaphthylene	Anthracene	Coronene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene		Fluorene	Indeno(1,2,3-cd)pyrene	Naphthalene	Phenanthrene	Perylene	Pyrene	PHS (Sum of Total)	PCBs (Sum of Total)	Demeton S methyl	Fenamiphos	Parathion	Phosphor-ethyl	C9 Fraction	C10-C14 Fraction	C15-C18 Fraction
0.00001	0.5	0.5	0.5	0.5	0.0005	0.5	0.5	0.5	0.5	0.5	2	2	0.5	1	1	0.1	0.1	0.1	0.1	0.1	0.05	0.0001	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.05	1	0.5	0.5	0.5	20	50	100	50	50	
	30	10	0.5	2	10	4	5	7	4	7	70	2	0.5								0.01															0.004								
<0.000010	<0.5	<0.5	<0.5	<0.5	<0.0005	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<2.0	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<0.0001	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<1	<0.5	<0.5	<2.0	<0.5	<20	<50	<100	<50	<50	
<0.000010	<0.5	<0.5	<0.5	<0.5	<0.0005	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<2.0	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<0.0001	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<1	<0.5	<0.5	<2.0	<0.5	<20	<50	<100	<200	<510	
<0.000010	<0.5	<0.5	<0.5	<0.5	<0.0005	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<2.0	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<0.0001	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<1	<0.5	<0.5	<2.0	<0.5	<20	<50	<100	<50	<50		



Inorganics										Organic
Exchangeable Sodium Percent	Moisture Content	Exchangeable Calcium	Exchangeable Magnesium	Exchangeable Potassium	Exchangeable Sodium	Cation Exchange Capacity	Electrical Conductivity (Lab)	pH (Lab)	Iron	Total Organic Carbon
%	%	meq/100g	meq/100g	meq/100g	meq/100g	meq/100g	µS/cm	-	%	%

TP15_0.1	8/03/2021	11.6	16.1	2.2	8.5	0.7	1.5	12.9	116	4.8	1.97	0.6
----------	-----------	------	------	-----	-----	-----	-----	------	-----	-----	------	-----

Table with columns for Field ID, Date, and various chemical groups (BTEX, TRH, Halogenated Benzenes, Inorganics, Metals, Organochlorine Pesticides) with corresponding concentration values in mg/kg.

mg/L	Organophosphorous Pesticides															PAH															PCBS (sum of total)	Pesticides				TPH												
	Azinphos methyl	Diisopropyl phosphorothioate	Carbofenthothion	Chlorfenvinphos	Chlorpyrifos	Chlorpyrifos-methyl	Diazinon	Dichlorvos	Dimethoate	Ethion	Fenitrothion	Malathion	Methyl parathion	Monocrotophos	Prothiofos	2-methylnaphthalene	2-methylcholanthrene	7,12-dimethylbenz[a]anthracene	Acenaphthene	Acenaphthylene	Anthracene	Coronene	Benzo[a]anthracene	Benzo[a]pyrene	Benzo[b]fluoranthene	Benzo[a]pyrene	Benzo[e]pyrene	Benzo[k]fluoranthene	Chrysene	Benzo[a,h]anthracene		Fluoranthene	Fluorene	Indeno[1,2,3-cd]pyrene	Naphthalene	Phenanthrene	Pyrene	Pyrene	PAHs (sum of total)	PCBs (sum of total)	Demeton-S-methyl	Fenamiphos	Parathion	Triphos-ethyl	C6-C9 Fraction	C10-C14 Fraction	C15-C28 Fraction	C29-C36 Fraction
0.00001	0.5	0.5	0.5	0.5	0.5	0.0005	0.5	0.5	0.5	0.5	0.5	0.5	2	2	0.5	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.05	0.0001	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.05	1	0.5	0.5	2	0.5	20	50	100	50	50
<0.000010	<0.5	<0.5	<0.5	<0.5	<0.5	<0.0005	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<2.0	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<0.0001	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<1	<0.5	<0.5	<2.0	<0.5	<20	<50	<100	<50	<200	
<0.000010	0%	0%	0%	0%	0%	<0.0005	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
<0.000010	<1	<1	<1	<1	<1	<0.001	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<0.0001	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<1	-	-	-	-	<20	70	200	<100	270		
0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	33%	67%	0%	30%		

	Acid Sulphate Soils			Acid Sulphate Soils - Acid Base Accounting				Acid Sulphate Soils - Acidity Trail		Acid Sulphate Soils - Field		Acid Sulphate Soils - Liming Rate		Acid Sulphate Soils - Potential Acidity		Acid Sulphate Soils - Retained Acidity				Acid Sulphate Soils - Sulfur Trail
	Reaction Rate	s-Net Acidity without ANCE	pH (KCl)	a-Net Acidity without ANCE	ANC Fineness Factor	Net Acidity (acidity units)	Net Acidity (sulfur units)	Titrateable Actual Acidity (sulfur units)	Titrateable Actual Acidity	pHF	pHFox	Liming Rate	Liming Rate excluding ANC	Chromium Reducible Sulphur (acidity units)	Chromium Reducible Sulfur	Net Acid Soluble Sulfur (acidity units)	HCl Extractable Sulfur	Net Acid Soluble Sulfur	Net Acid Soluble Sulfur (sulfur units)	KCl Extractable Sulfur
	% S		moles H+/t		moles H+/t	%S	%S	mole H+/t			kg CaCO3/t	kg CaCO3/t	mole H+/t	%S	mole H+/t	%S	%S	%S	%S	%
EQL	1	0.02	0.1	10	0.5	10	0.02	0.02	2	0.1	0.1	1	1	10	0.005	10	0.02	0.02	0.02	0.02

Field ID	Date	Reaction Rate	s-Net Acidity without ANCE	pH (KCl)	a-Net Acidity without ANCE	ANC Fineness Factor	Net Acidity (acidity units)	Net Acidity (sulfur units)	Titrateable Actual Acidity (sulfur units)	Titrateable Actual Acidity	pHF	pHFox	Liming Rate	Liming Rate excluding ANC	Chromium Reducible Sulphur (acidity units)	Chromium Reducible Sulfur	Net Acid Soluble Sulfur (acidity units)	HCl Extractable Sulfur	Net Acid Soluble Sulfur	Net Acid Soluble Sulfur (sulfur units)	KCl Extractable Sulfur
ASS_TP57	12/04/2021	1	0.10	4.2	64	1.5	64	0.10	0.07	46	5.4	4.0	5	5	<10	0.013	<10	0.04	0.02	<0.02	0.02
QC25	14/04/2021	1	0.11	4.4	66	1.5	66	0.11	0.08	53	5.5	4.0	5	5	10	0.016	<10	0.03	<0.02	<0.02	0.02
RPD %			4.65%		3.08%	0.00%	3.08%	9.52%	13.33%	14.14%	1.83%	0.00%	0.00%	0.00%	-	20.69%	-	28.57%	-	-	0.00%

	BTEX							TRH		PAH	TPH
	Benzene	Toluene	Ethylbenzene	Xylene (m & p)	Xylene (o)	Xylene Total	Total BTEX	C6-C10 Fraction (F1)	C6-C10 (F1 minus BTEX)	Naphthalene	C6-C9 Fraction
	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL	1	2	2	2	2	2	1	20	20	0.1	20

Field ID	Date	Benzene	Toluene	Ethylbenzene	Xylene (m & p)	Xylene (o)	Xylene Total	Total BTEX	C6-C10 Fraction (F1)	C6-C10 (F1 minus BTEX)	Naphthalene	C6-C9 Fraction
TB_W	31/03/2021	<1	<2	<2	<2	<2	<2	<1	<20	<20	<5	<20
TS_W	26/03/2021	14	15	14	14	15	29	72	140	70	17	140

	BETX							TRH		PAH	TPH
	Benzene	Toluene	Ethylbenzene	Xylene (m & p)	Xylene (o)	Xylene Total	Total BTEX	C6-C10 Fraction (F1)	C6-C10 (F1 minus BTEX)	Naphthalene	C6-C9 Fraction
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL	0.2	0.2	0.2	0.2	0.2	0.5	0.2	3	3	0.005	3

Field ID	Date	Benzene	Toluene	Ethylbenzene	Xylene (m & p)	Xylene (o)	Xylene Total	Total BTEX	C6-C10 Fraction (F1)	C6-C10 (F1 minus BTEX)	Naphthalene	C6-C9 Fraction
TB_S	31/03/2021	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<10	<10	<1	<10
TS_S	29/03/2021	<0.2	7.7	1.5	8.6	3.8	12.4	21.6	41	19	<1	31
TSC_S	29/03/2021	<0.2	10.8	1.7	9.5	3.8	13.3	25.8	48	22	<1	38
TB	8/03/2021	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<10	<10	<1	<10
TS	8/03/2021	<0.2	13.4	2.3	11.9	4.9	16.8	32.5	63	30	<1	53
TSC	8/03/2021	0.2	15.5	2.7	13.0	5.3	18.3	36.7	65	28	<1	58

Appendix A

LOT SEARCH ENVIRONMENTAL REPORT (2021)



LOTSEARCH

LOTSEARCH ENVIRO PROFESSIONAL

Date: 03 Mar 2021 09:44:45

Reference: LS018328 EP

Address: 487 Raymond Terrace 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	26/02/2021	26/02/2021	Quarterly	-	-	-	-
Topographic Data	NSW Department of Finance, Services & Innovation	25/06/2019	25/06/2019	As required	-	-	-	-
List of NSW contaminated sites notified to EPA	Environment Protection Authority	14/01/2021	14/01/2021	Monthly	1000	0	0	0
Contaminated Land Records of Notice	Environment Protection Authority	05/02/2021	05/02/2021	Monthly	1000	0	0	0
Former Gasworks	Environment Protection Authority	09/02/2021	11/10/2017	Monthly	1000	0	0	0
National Waste Management Facilities Database	Geoscience Australia	11/02/2021	07/03/2017	Quarterly	1000	0	0	0
National Liquid Fuel Facilities	Geoscience Australia	15/02/2021	13/07/2012	Quarterly	1000	0	0	0
EPA PFAS Investigation Program	Environment Protection Authority	15/02/2021	23/11/2020	Monthly	2000	0	0	0
Defence PFAS Investigation & Management Program - Investigation Sites	Department of Defence	05/02/2021	05/02/2021	Monthly	2000	0	0	0
Defence PFAS Investigation & Management Program - Management Sites	Department of Defence	05/02/2021	05/02/2021	Monthly	2000	0	0	0
Airservices Australia National PFAS Management Program	Airservices Australia	01/03/2021	01/03/2021	Monthly	2000	0	0	0
Defence 3 Year Regional Contamination Investigation Program	Department of Defence	15/02/2021	15/02/2021	Monthly	2000	0	0	0
EPA Other Sites with Contamination Issues	Environment Protection Authority	02/02/2021	13/12/2018	Annually	1000	0	0	0
Licensed Activities under the POEO Act 1997	Environment Protection Authority	08/02/2021	08/02/2021	Monthly	1000	1	1	1
Delicensed POEO Activities still regulated by the EPA	Environment Protection Authority	08/02/2021	08/02/2021	Monthly	1000	0	0	0
Former POEO Licensed Activities now revoked or surrendered	Environment Protection Authority	08/02/2021	08/02/2021	Monthly	1000	3	3	3
UBD Business Directories (Premise & Intersection Matches)	Hardie Grant			Not required	150	0	0	0
UBD Business Directories (Road & Area Matches)	Hardie Grant			Not required	150	-	4	4
UBD Business Directory Dry Cleaners & Motor Garages/Service Stations (Premise & Intersection Matches)	Hardie Grant			Not required	500	0	0	0
UBD Business Directory Dry Cleaners & Motor Garages/Service Stations (Road & Area Matches)	Hardie Grant			Not required	500	-	0	0
Points of Interest	NSW Department of Finance, Services & Innovation	18/02/2021	18/02/2021	Quarterly	1000	0	0	7
Tanks (Areas)	NSW Department of Customer Service - Spatial Services	16/02/2021	16/02/2021	Quarterly	1000	0	0	0
Tanks (Points)	NSW Department of Customer Service - Spatial Services	16/02/2021	16/02/2021	Quarterly	1000	0	0	0
Major Easements	NSW Department of Finance, Services & Innovation	17/02/2021	17/02/2021	Quarterly	1000	0	0	2
State Forest	Forestry Corporation of NSW	25/02/2021	14/02/2021	Annually	1000	0	0	0
NSW National Parks and Wildlife Service Reserves	NSW Office of Environment & Heritage	22/01/2021	11/12/2020	Annually	1000	0	0	0
Hydrogeology Map of Australia	Commonwealth of Australia (Geoscience Australia)	08/10/2014	17/03/2000	As required	1000	2	2	2
Temporary Water Restriction (Botany Sands Groundwater Source) Order 2018	NSW Department of Planning, Industry and Environment	26/10/2020	21/02/2018	Annually	1000	0	0	0

Dataset Name	Custodian	Supply Date	Currency Date	Update Frequency	Dataset Buffer (m)	No. Features Onsite	No. Features within 100m	No. Features within Buffer
Groundwater Boreholes	NSW Dept. of Primary Industries - Water NSW; Commonwealth of Australia (Bureau of Meteorology)	24/07/2018	23/07/2018	Annually	2000	0	0	2
Geological Units 1:250,000	NSW Department of Planning, Industry and Environment	20/08/2014		Annually	1000	1	-	5
Geological Structures 1:250,000	NSW Department of Planning, Industry and Environment	20/08/2014		Annually	1000	0	-	6
Naturally Occurring Asbestos Potential	NSW Dept. of Industry, Resources & Energy	04/12/2015	24/09/2015	Unknown	1000	0	0	0
Atlas of Australian Soils	Australian Bureau of Agriculture and Resource Economics and Sciences (ABARES)	19/05/2017	17/02/2011	As required	1000	1	1	2
Soil Landscapes of Central and Eastern NSW	NSW Department of Planning, Industry and Environment	14/10/2020	27/07/2020	Annually	1000	2	-	5
Environmental Planning Instrument Acid Sulfate Soils	NSW Department of Planning, Industry and Environment	22/02/2021	12/02/2021	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	16/02/2021	16/02/2021	Quarterly	1000	0	0	0
Current Mining Titles	NSW Department of Industry	05/02/2021	05/02/2021	Monthly	1000	0	0	0
Mining Title Applications	NSW Department of Industry	05/02/2021	05/02/2021	Monthly	1000	0	0	0
Historic Mining Titles	NSW Department of Industry	05/02/2021	05/02/2021	Monthly	1000	4	4	6
Environmental Planning Instrument SEPP State Significant Precincts	NSW Department of Planning, Industry and Environment	22/02/2021	07/12/2018	Monthly	1000	0	0	0
Environmental Planning Instrument Land Zoning	NSW Department of Planning, Industry and Environment	22/02/2021	12/02/2021	Monthly	1000	2	3	26
Commonwealth Heritage List	Australian Government Department of the Agriculture, Water and the Environment	23/02/2021	20/11/2019	Quarterly	1000	0	0	0
National Heritage List	Australian Government Department of the Agriculture, Water and the Environment	23/02/2021	20/11/2019	Quarterly	1000	0	0	0
State Heritage Register - Curtilages	NSW Department of Planning, Industry and Environment	15/02/2021	30/11/2020	Quarterly	1000	0	0	0
Environmental Planning Instrument Heritage	NSW Department of Planning, Industry and Environment	22/02/2021	12/02/2021	Monthly	1000	0	0	0
Bush Fire Prone Land	NSW Rural Fire Service	01/03/2021	11/02/2021	Weekly	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	2	4	12
Ramsar Wetlands of Australia	Australian Government Department of Agriculture, Water and the Environment	24/02/2021	19/03/2020	Annually	1000	0	0	0
Groundwater Dependent Ecosystems	Bureau of Meteorology	14/08/2017	15/05/2017	Annually	1000	1	1	3
Inflow Dependent Ecosystems Likelihood	Bureau of Meteorology	14/08/2017	15/05/2017	Unknown	1000	6	8	9
NSW BioNet Species Sightings	NSW Office of Environment & Heritage	01/03/2021	01/03/2021	Weekly	10000	-	-	-

Site Diagram

487 Raymond Terrace Road, Chisholm, NSW 2322



Legend  Site Boundary  Internal Parcel Boundaries	Total Area: 387733m ² Total Perimeter: 3375m	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

487 Raymond Terrace Road, Chisholm, NSW 2322

List of NSW contaminated sites notified to EPA

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

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

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

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

NSW EPA Contaminated Land List Data Source: Environment Protection Authority
 © State of New South Wales through the Environment Protection Authority

Contaminated Land

487 Raymond Terrace Road, Chisholm, NSW 2322

Contaminated Land: Records of Notice

Record of Notices within the dataset buffer:

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

Contaminated Land Records of Notice Data Source: Environment Protection Authority
© 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

487 Raymond Terrace Road, Chisholm, NSW 2322

National Waste Management Site Database

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

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

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

487 Raymond Terrace Road, Chisholm, NSW 2322

EPA PFAS Investigation Program

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

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

EPA PFAS Investigation Program: Environment Protection Authority
© 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

487 Raymond Terrace Road, Chisholm, NSW 2322

Defence 3 Year Regional Contamination Investigation Program

Sites which have been assessed as part of the Defence 3 Year Regional Contamination Investigation Program within the dataset buffer:

Property ID	Base Name	Address	Known Contamination	Loc Conf	Dist	Dir
N/A	No records in buffer					

Defence 3 Year Regional Contamination Investigation Program, Data Custodian: Department of Defence, Australian Government

EPA Other Sites with Contamination Issues

487 Raymond Terrace Road, Chisholm, NSW 2322

EPA Other Sites with Contamination Issues

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

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

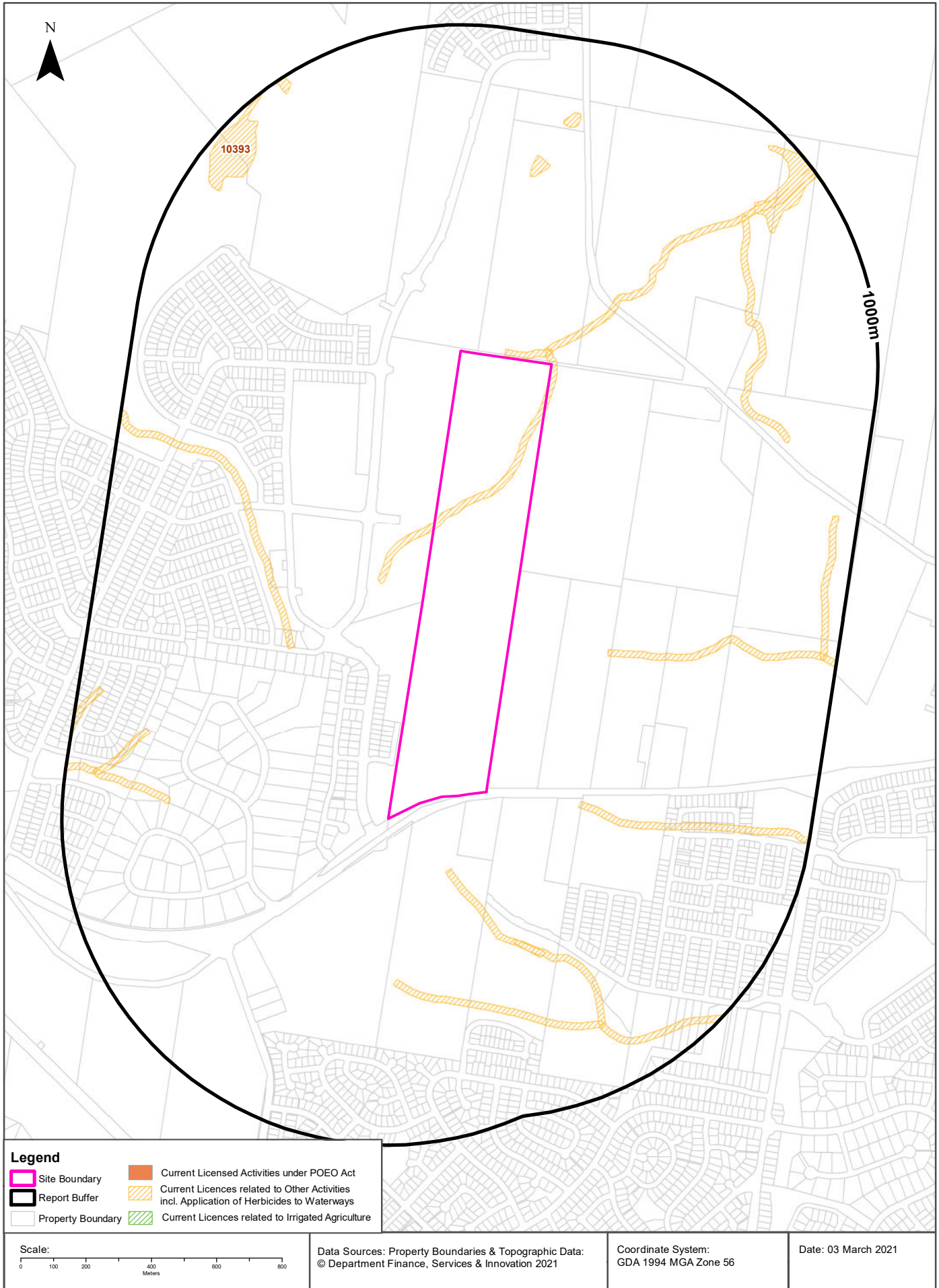
Sites within the dataset buffer:

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

487 Raymond Terrace Road, Chisholm, NSW 2322



EPA Activities

487 Raymond Terrace Road, Chisholm, NSW 2322

Licensed Activities under the POEO Act 1997

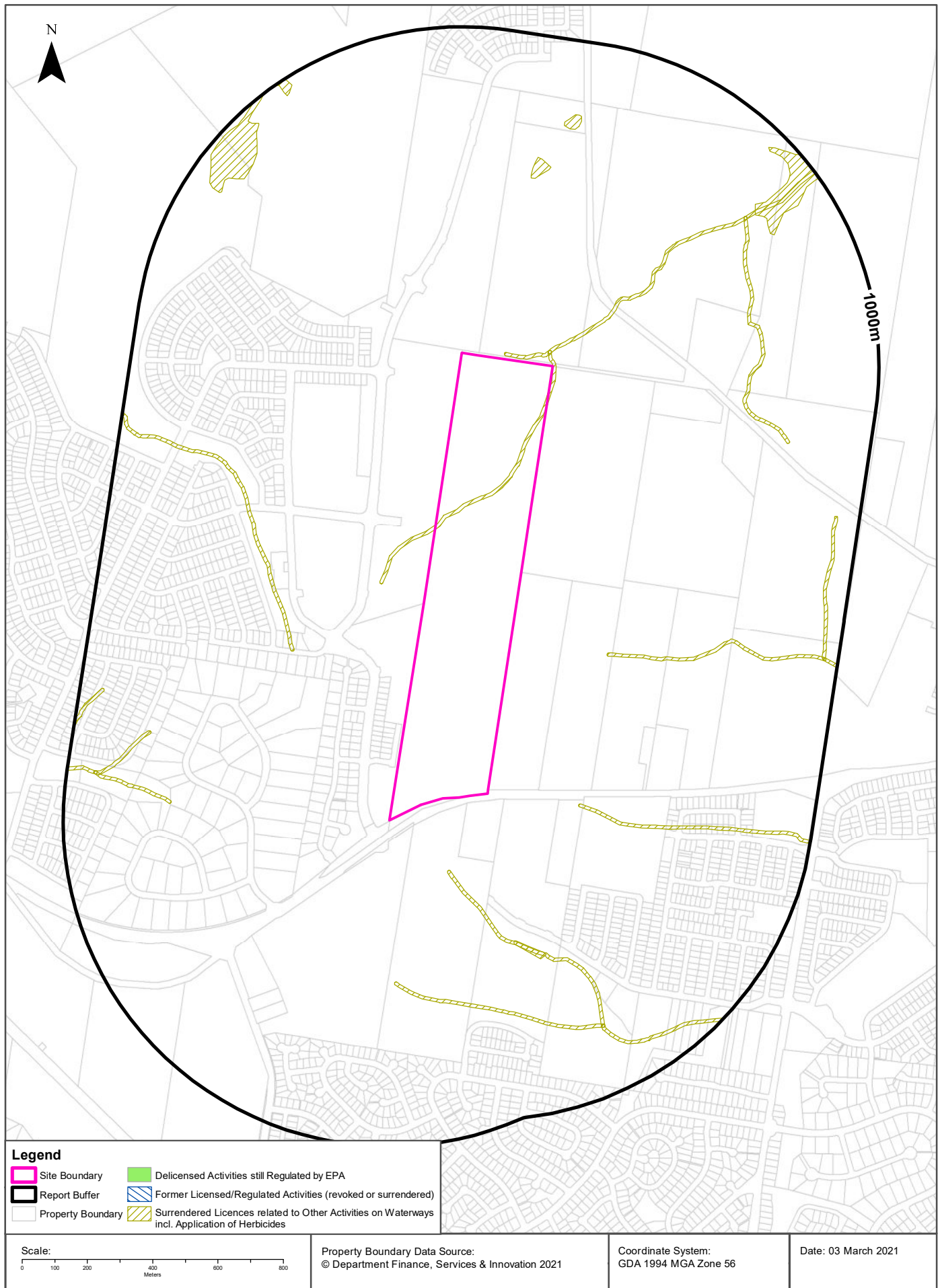
Licensed activities under the Protection of the Environment Operations Act 1997, within the dataset buffer:

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

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

Delicensed & Former Licensed EPA Activities

487 Raymond Terrace Road, Chisholm, NSW 2322



EPA Activities

487 Raymond Terrace Road, Chisholm, NSW 2322

Delicensed Activities still regulated by the EPA

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

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

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

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

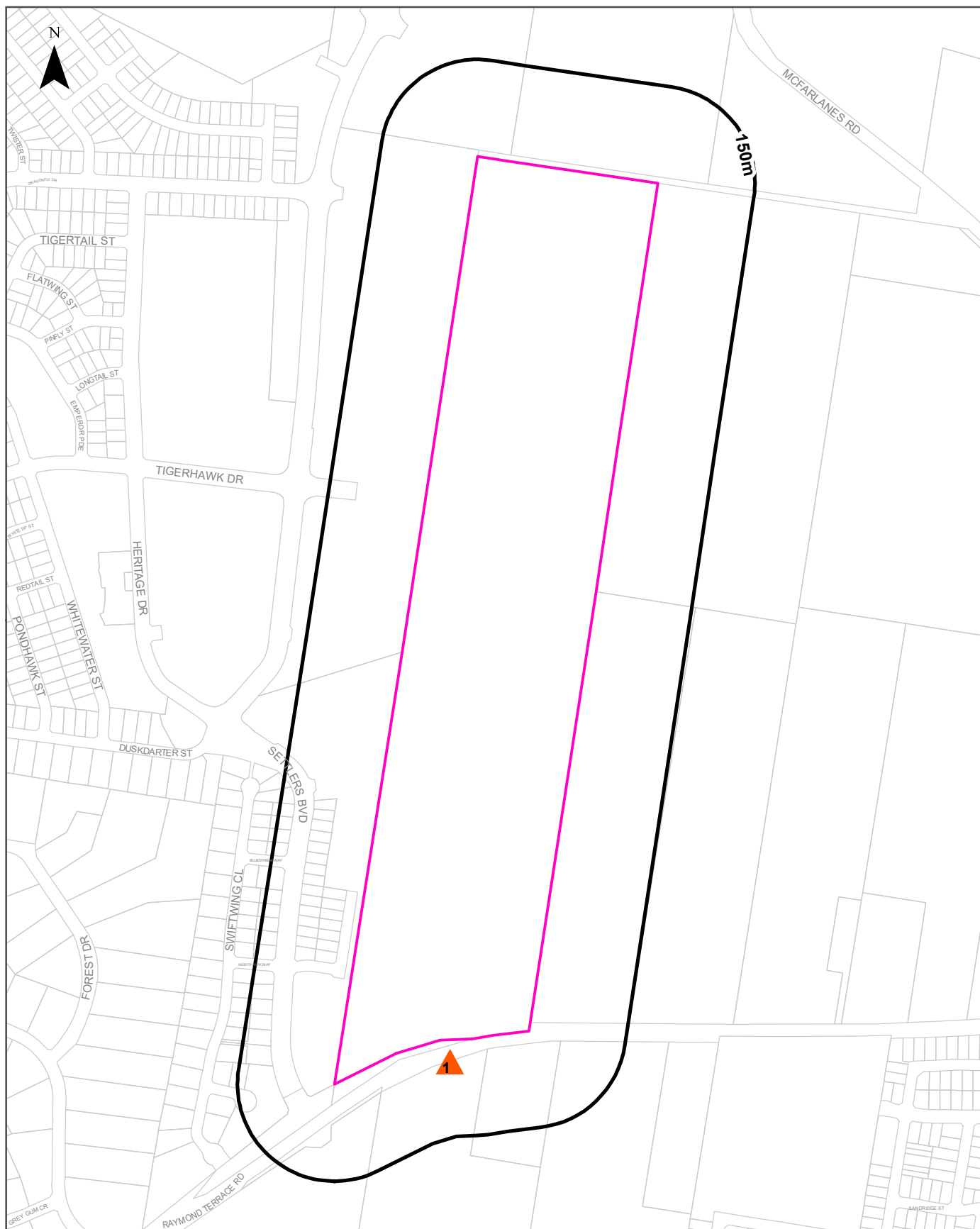
Former Licensed activities under the Protection of the Environment Operations Act 1997, now revoked or surrendered, within the dataset buffer:

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

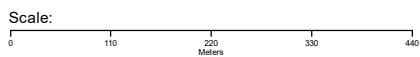
Historical Business Directories

487 Raymond Terrace Road, Chisholm, NSW 2322



Legend

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



Coordinate System:
GDA 1994 MGA Zone 56

Date: 03 March 2021

Data Sources: Reproduced with permission of UBD and Hardie Grant Media Pty Ltd DD 01/08/2018
Property Boundaries © NSW Department Finance, Services & Innovation 2021

Historical Business Directories

487 Raymond Terrace Road, Chisholm, NSW 2322

Business Directory Records 1950-1991 Premise or Road Intersection Matches

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

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

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

Business Directory Records 1950-1991 Road or Area Matches

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

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

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

Historical Business Directories

487 Raymond Terrace Road, Chisholm, NSW 2322

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

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

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

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

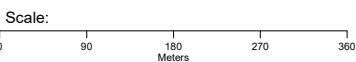
Aerial Imagery 2020

487 Raymond Terrace Road, Chisholm, NSW 2322



Legend

-  Site Boundary
-  Buffer 150m



Data Sources: Aerial Imagery © Aerometrex Pty Ltd

Coordinate System:
GDA 1994 MGA Zone 56

Date: 03 March 2021

Aerial Imagery 2015

487 Raymond Terrace Road, Chisholm, NSW 2322



Aerial Imagery 2010

487 Raymond Terrace Road, Chisholm, NSW 2322



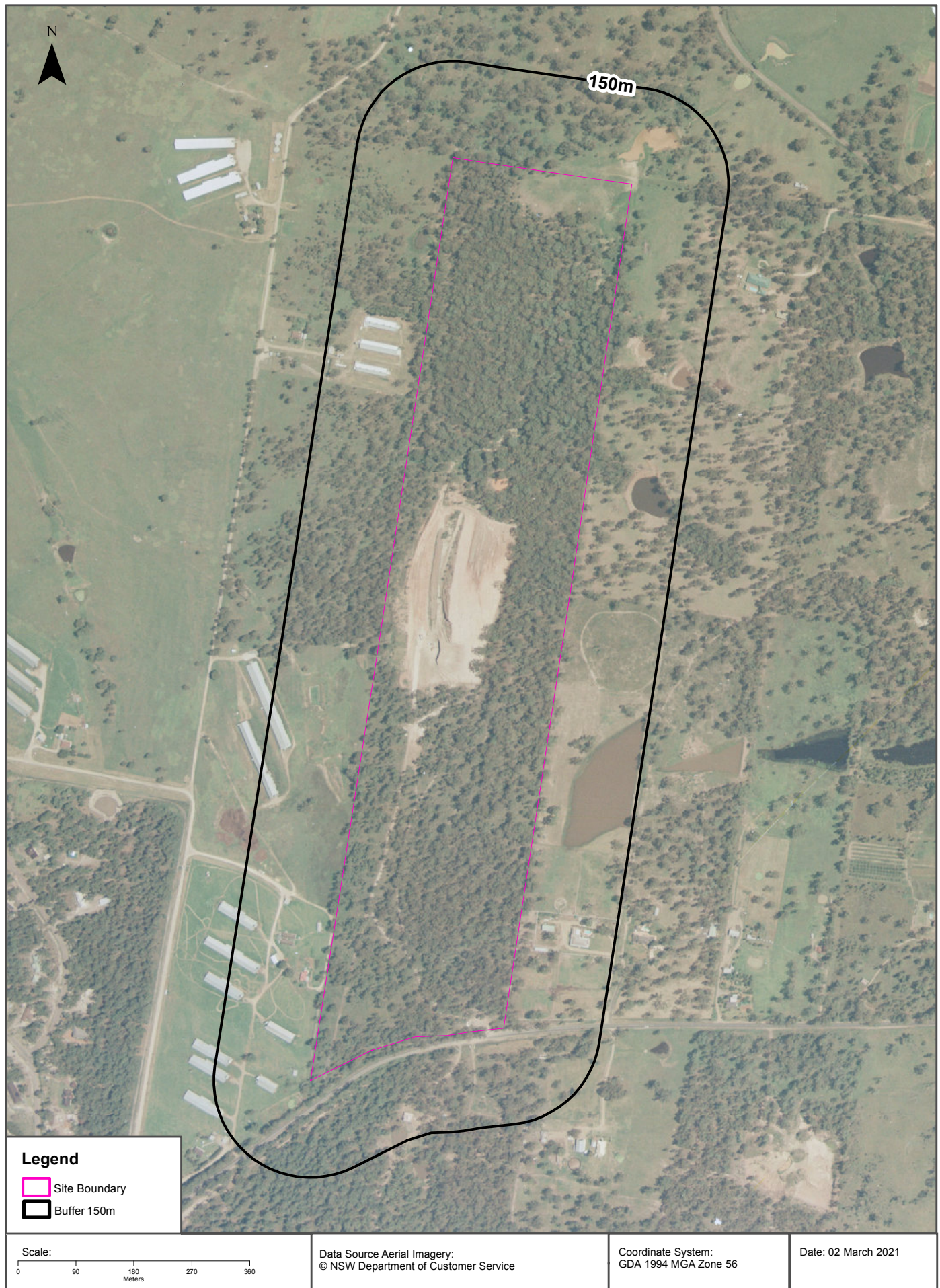
Aerial Imagery 2007

487 Raymond Terrace Road, Chisholm, NSW 2322



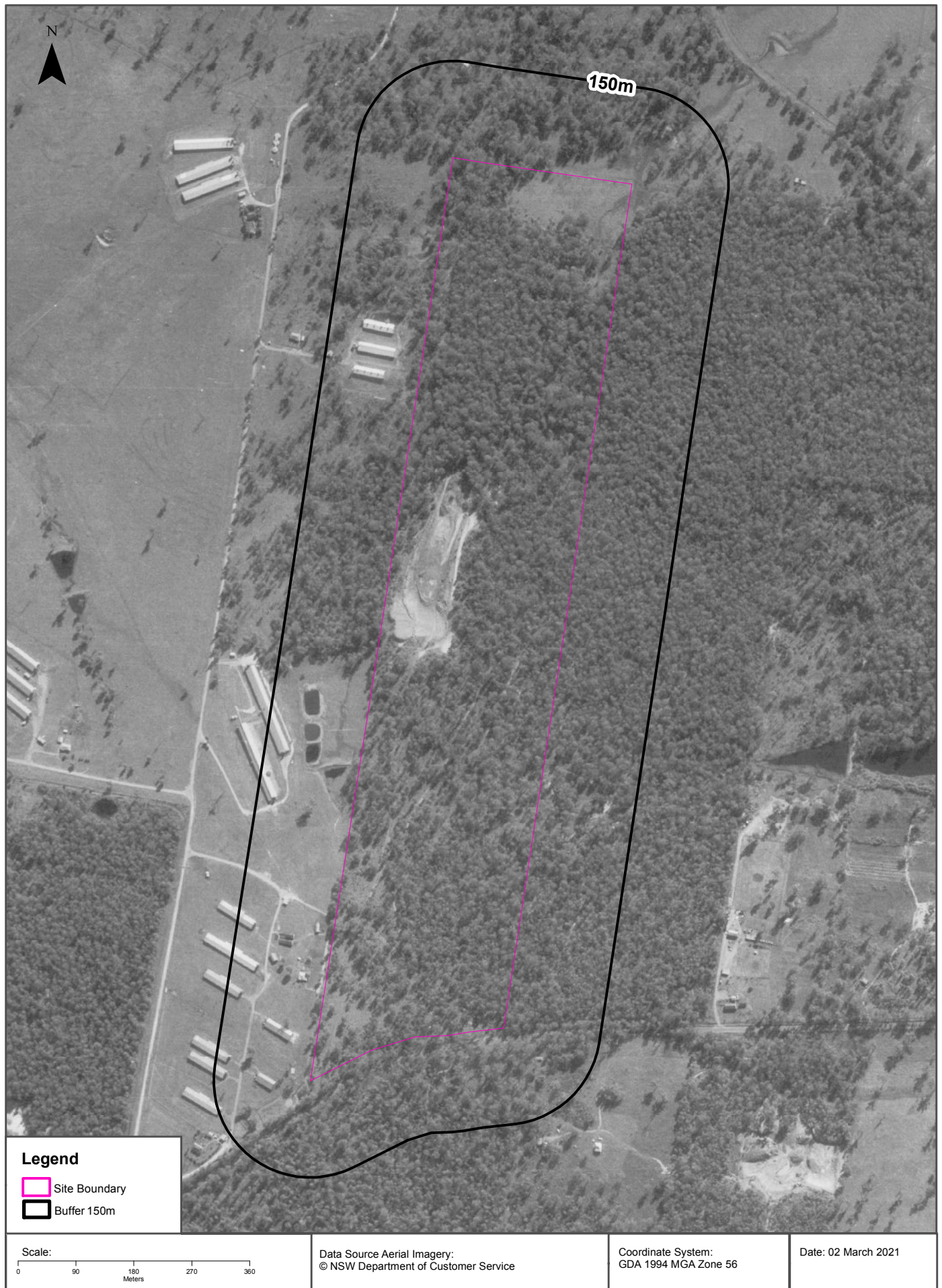
Aerial Imagery 1993

487 Raymond Terrace Road, Chisholm, NSW 2322



Aerial Imagery 1984

487 Raymond Terrace Road, Chisholm, NSW 2322



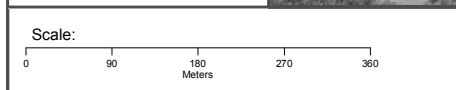
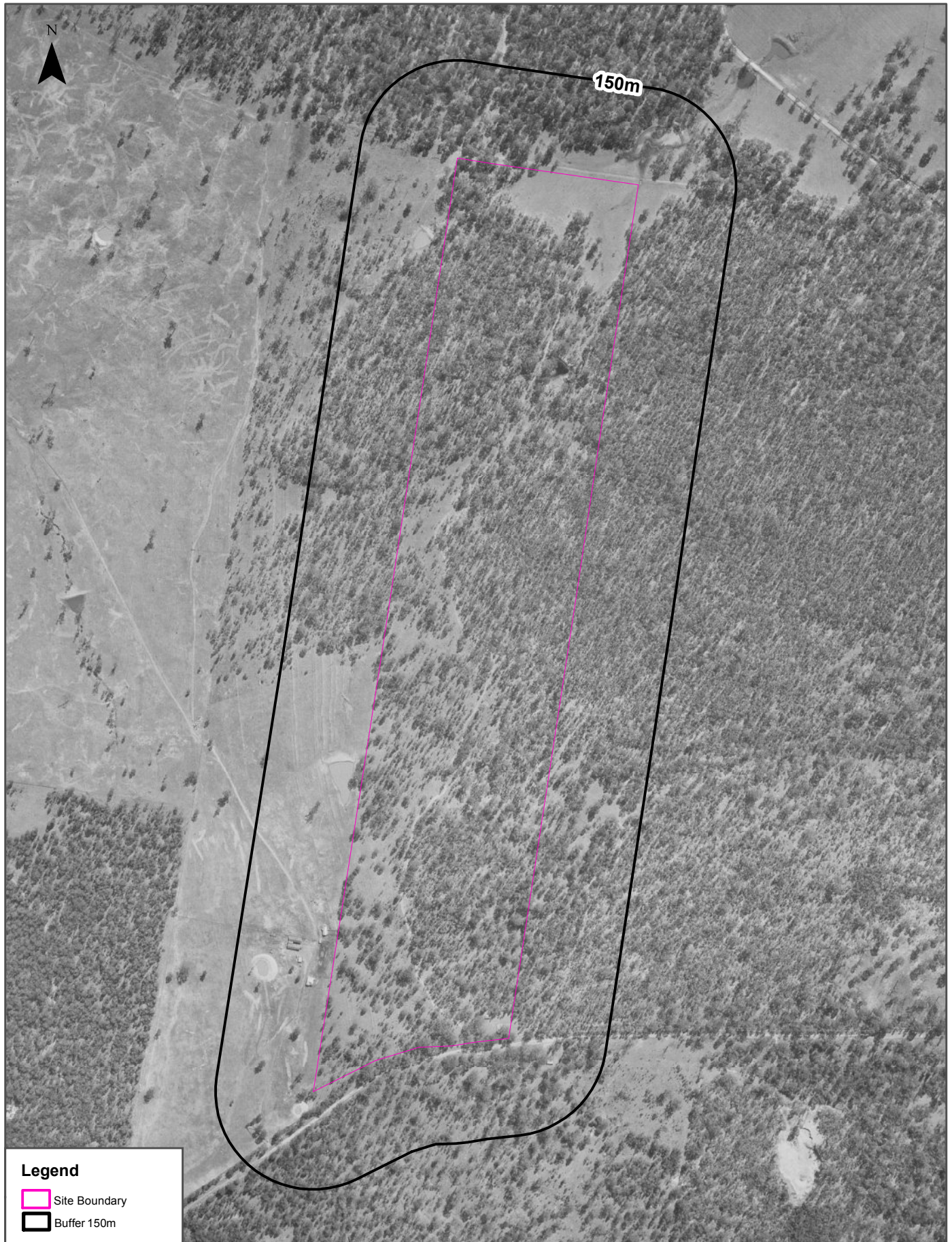
Aerial Imagery 1977

487 Raymond Terrace Road, Chisholm, NSW 2322



Aerial Imagery 1965

487 Raymond Terrace Road, Chisholm, NSW 2322



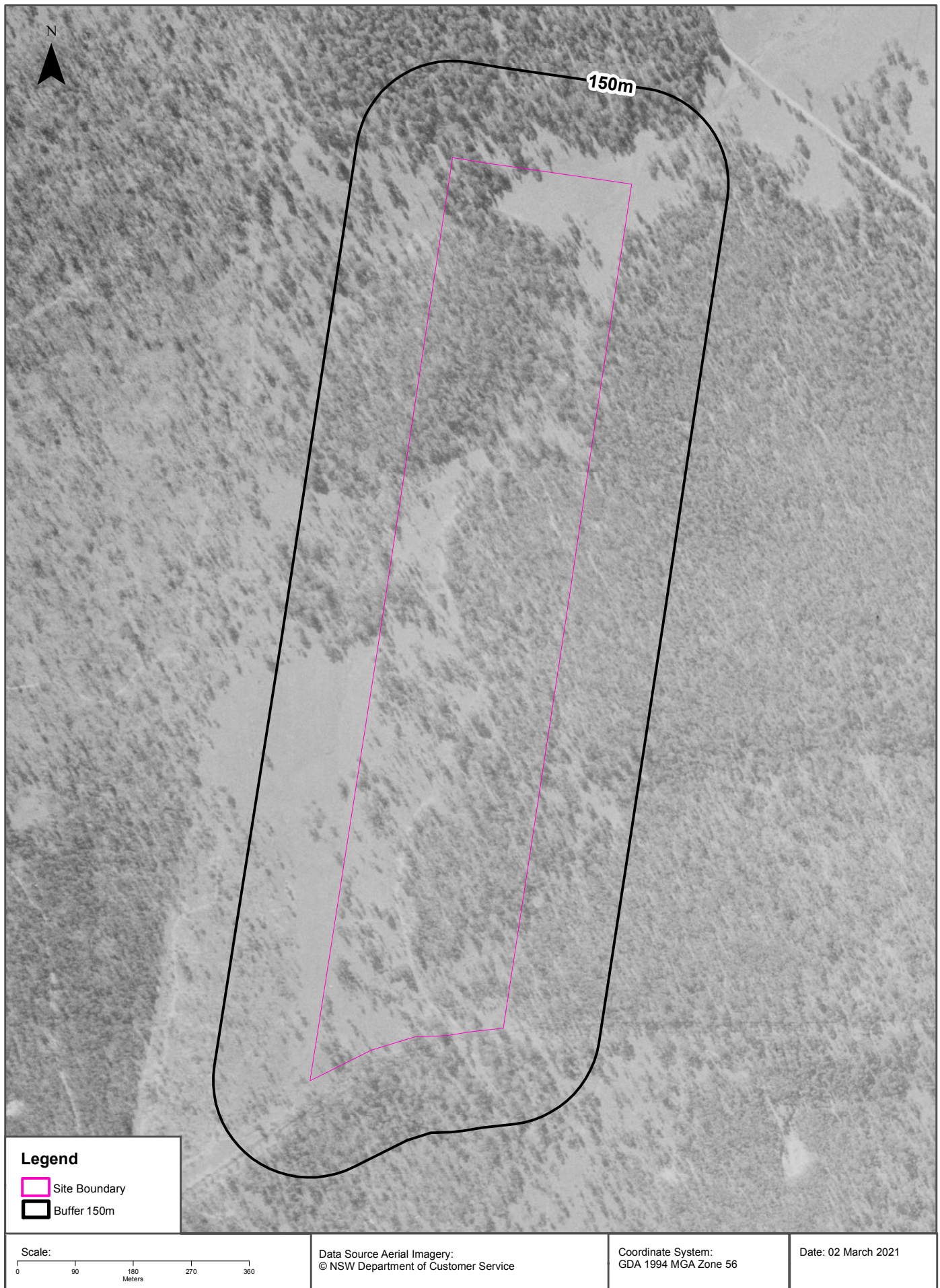
Data Source Aerial Imagery:
© NSW Department of Customer Service

Coordinate System:
GDA 1994 MGA Zone 56

Date: 02 March 2021

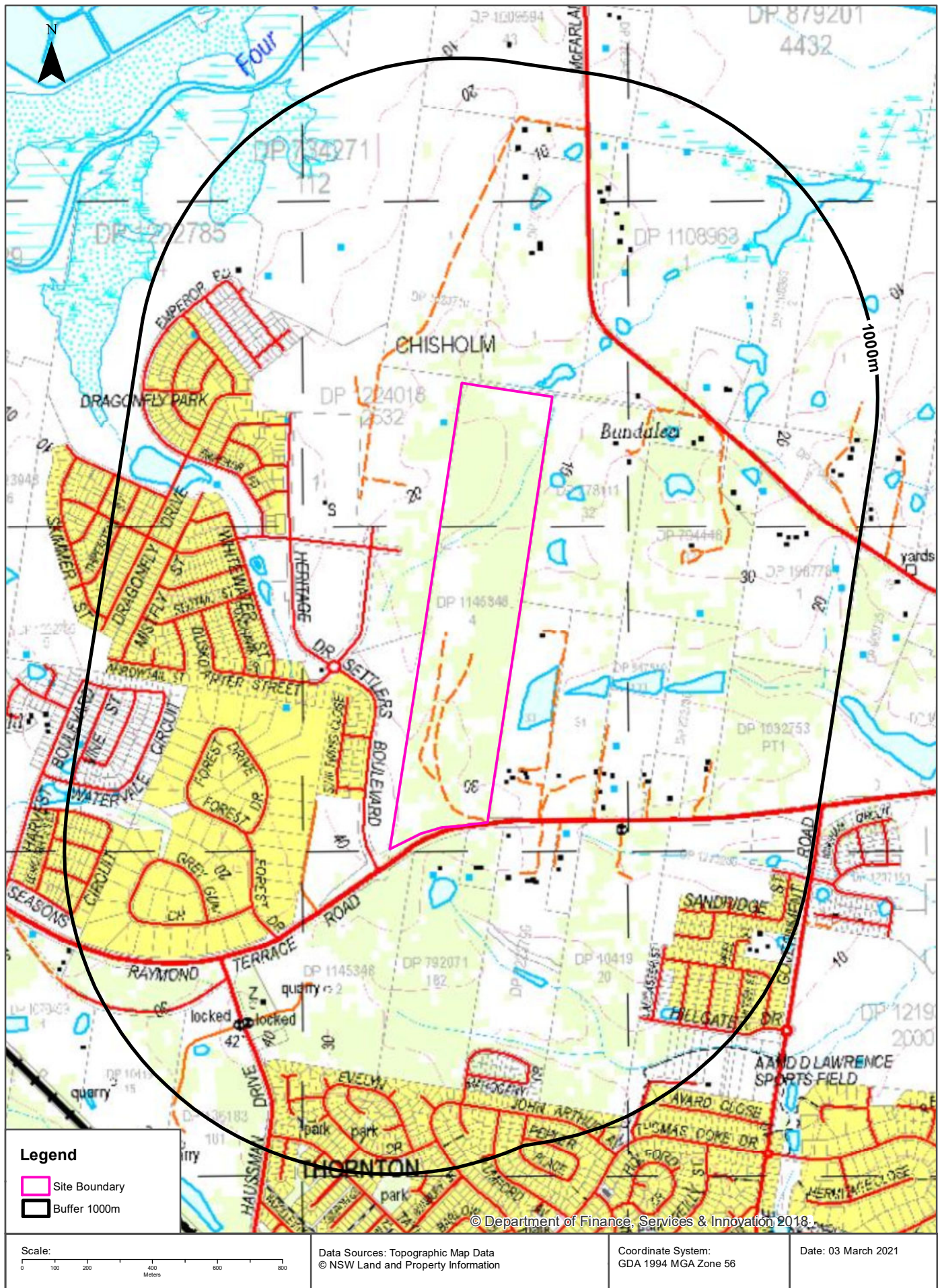
Aerial Imagery 1954

487 Raymond Terrace Road, Chisholm, NSW 2322



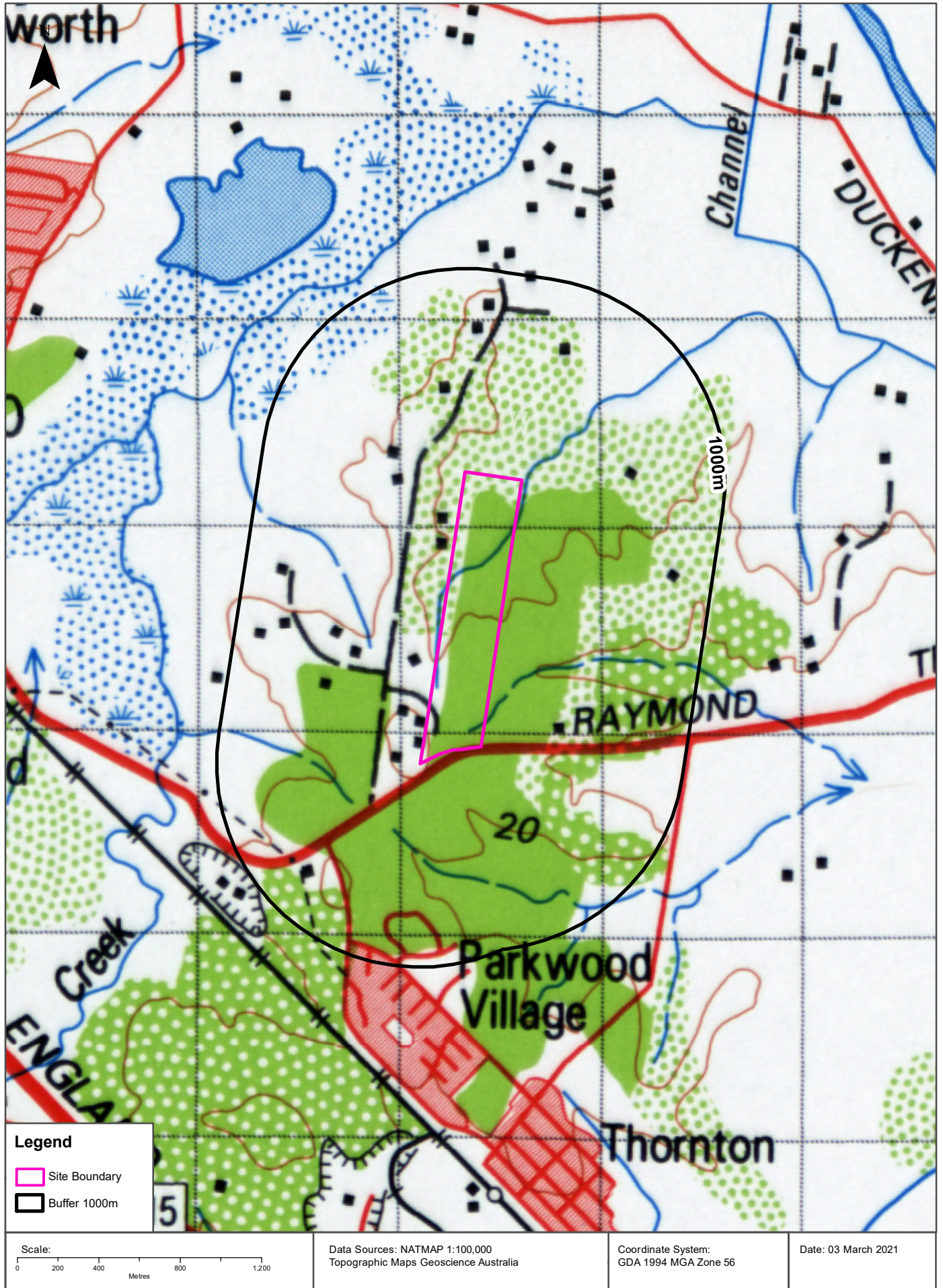
Topographic Map 2015

487 Raymond Terrace Road, Chisholm, NSW 2322



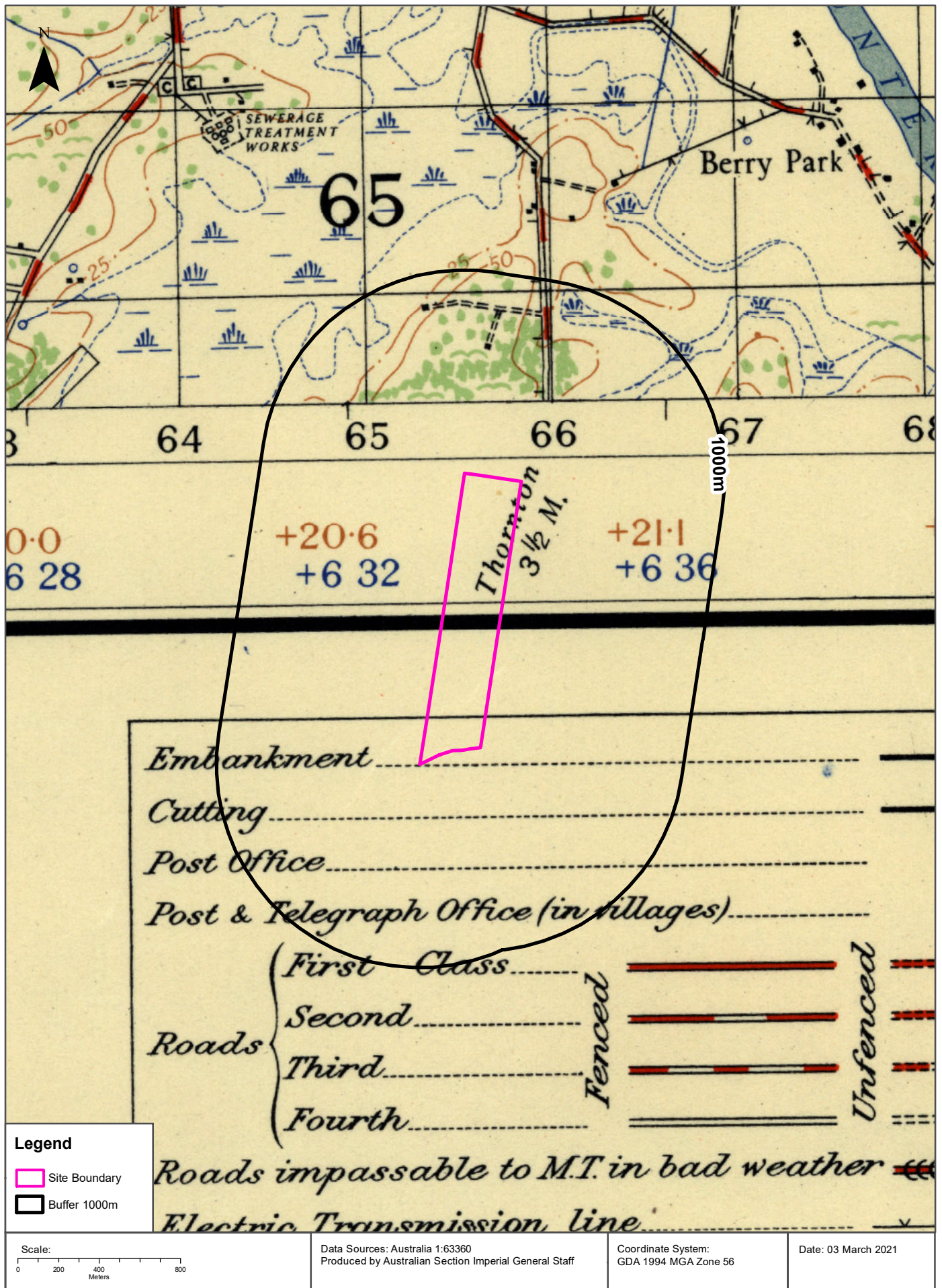
Historical Map 1981

487 Raymond Terrace Road, Chisholm, NSW 2322



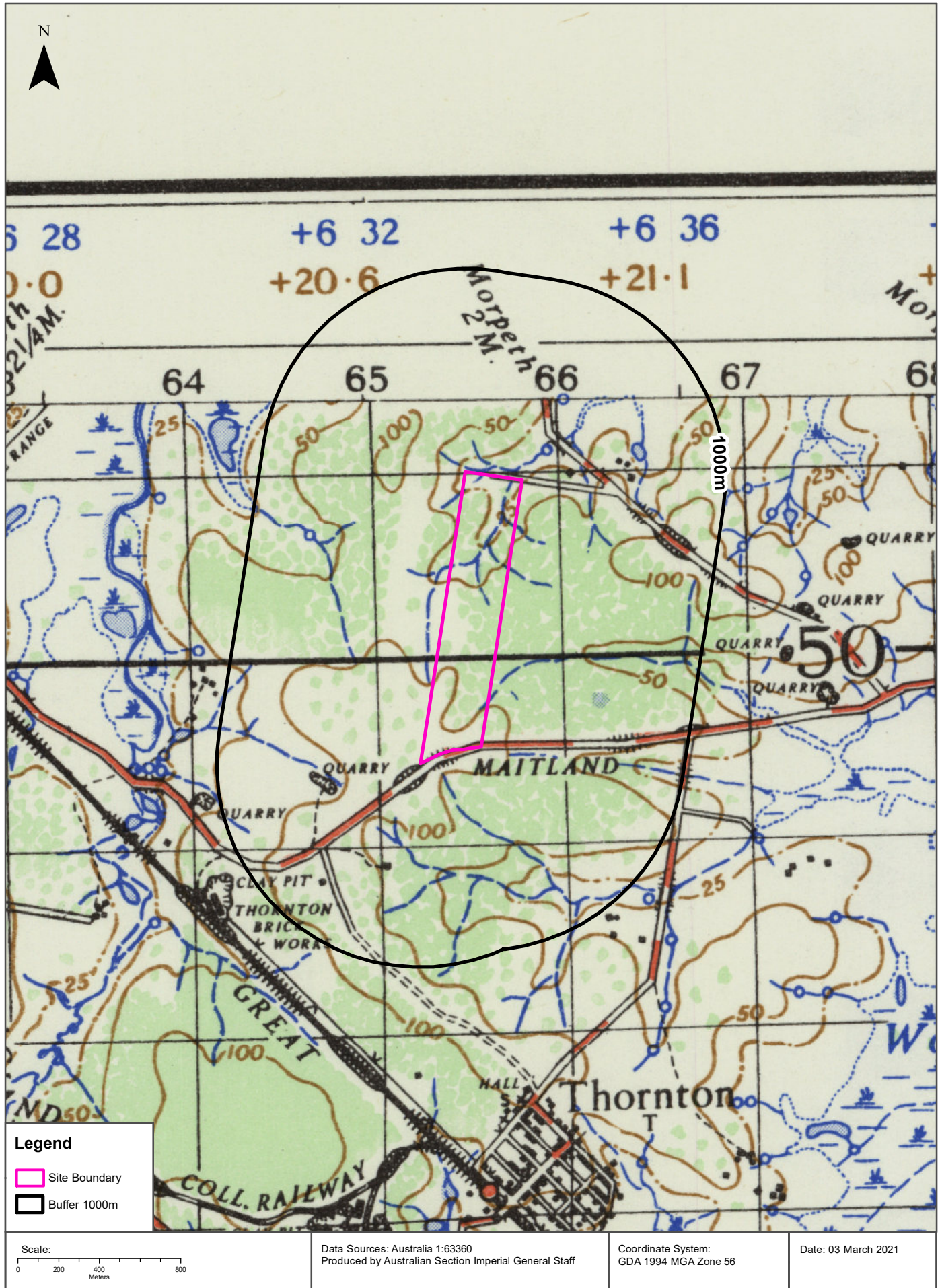
Historical Map c.1942

487 Raymond Terrace Road, Chisholm, NSW 2322



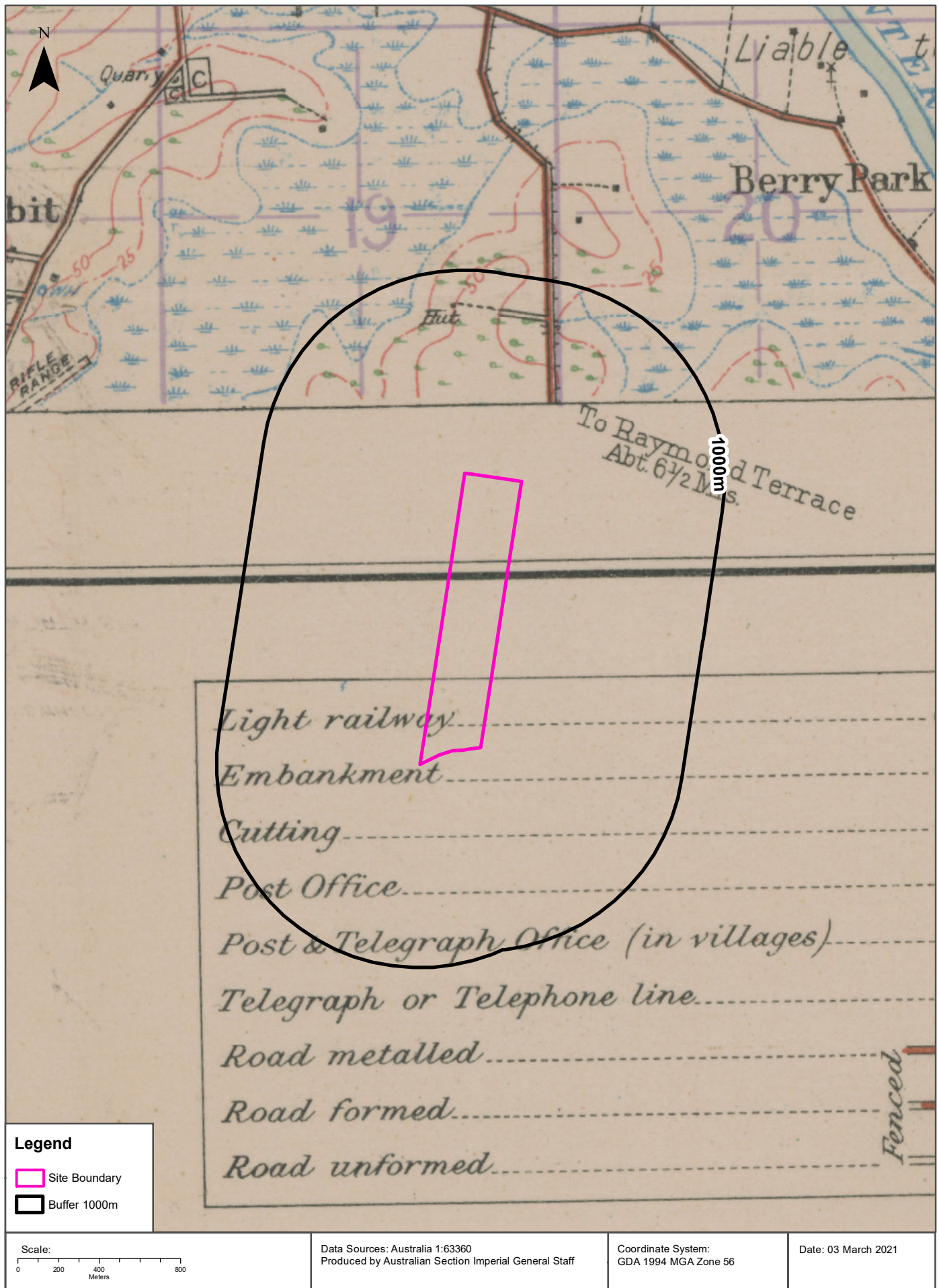
Historical Map c.1941

487 Raymond Terrace Road, Chisholm, NSW 2322



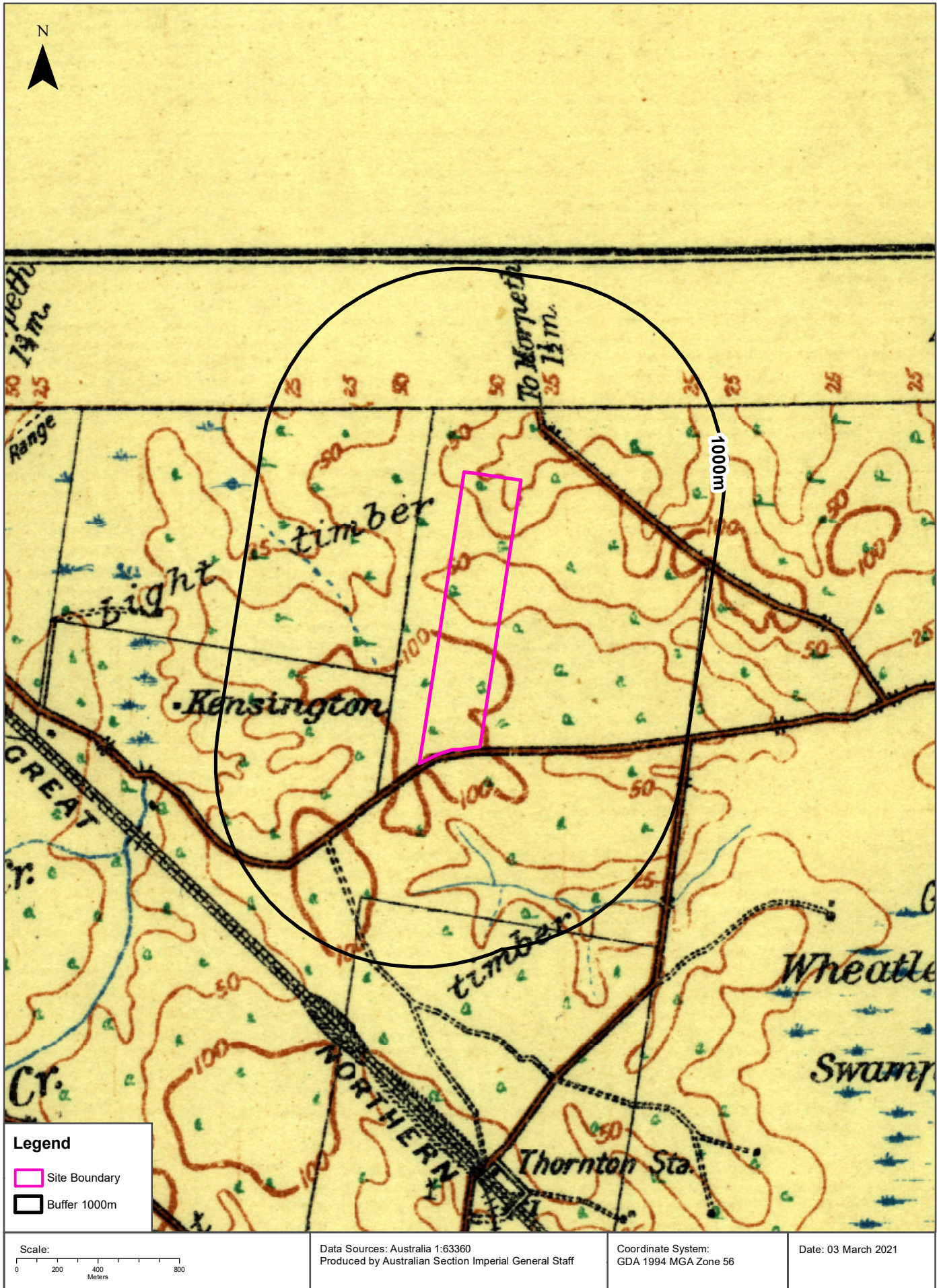
Historical Map c.1925

487 Raymond Terrace Road, Chisholm, NSW 2322



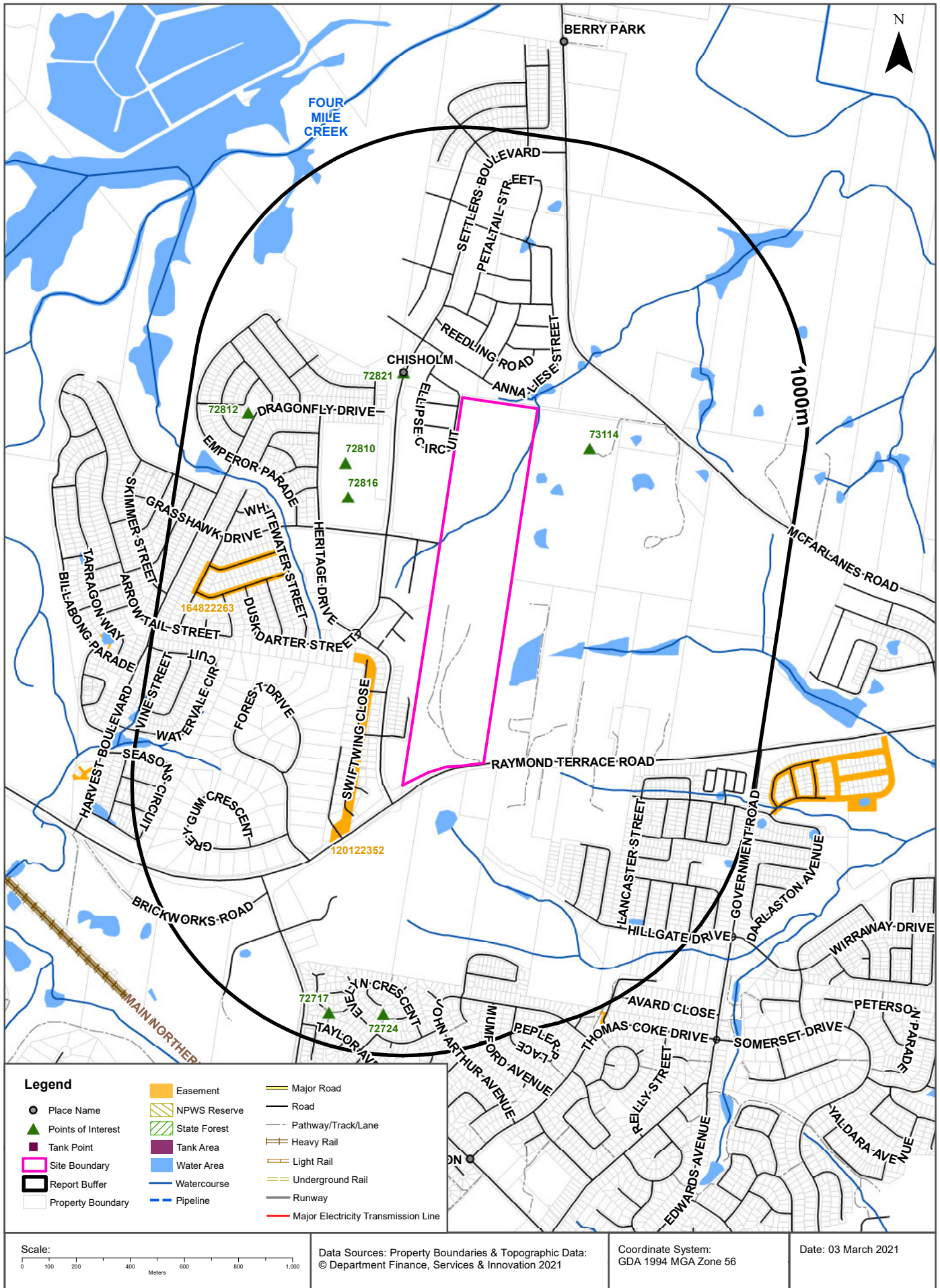
Historical Map c.1913

487 Raymond Terrace Road, Chisholm, NSW 2322



Topographic Features

487 Raymond Terrace Road, Chisholm, NSW 2322



Topographic Features

487 Raymond Terrace Road, Chisholm, NSW 2322

Points of Interest

What Points of Interest exist within the dataset buffer?

Map Id	Feature Type	Label	Distance	Direction
73114	Homestead	BUNDALEER	212m	North East
72821	Suburb	CHISHOLM	237m	North
72816	Primary School	ST ALOYSIUS CATHOLIC PRIMARY SCHOOL	362m	North West
72810	High School	ST BEDE'S CATHOLIC COLLEGE	390m	North West
72812	Park	DRAGONFLY PARK	774m	North West
72724	Park	Park	848m	South
72717	Park	Park	883m	South

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

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

Topographic Features

487 Raymond Terrace Road, Chisholm, NSW 2322

Tanks (Areas)

What are the Tank Areas located within the dataset buffer?

Note. The large majority of tank features provided by LPI are derived from aerial imagery & are therefore primarily above ground tanks.

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

Tanks (Points)

What are the Tank Points located within the dataset buffer?

Note. The large majority of tank features provided by LPI are derived from aerial imagery & are therefore primarily above ground tanks.

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

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

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

Major Easements

What Major Easements exist within the dataset buffer?

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

Map Id	Easement Class	Easement Type	Easement Width	Distance	Direction
120122352	Primary	Undefined		165m	South West
164822263	Primary	Right of way		539m	West

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

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

Topographic Features

487 Raymond Terrace Road, Chisholm, NSW 2322

State Forest

What State Forest exist within the dataset buffer?

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

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

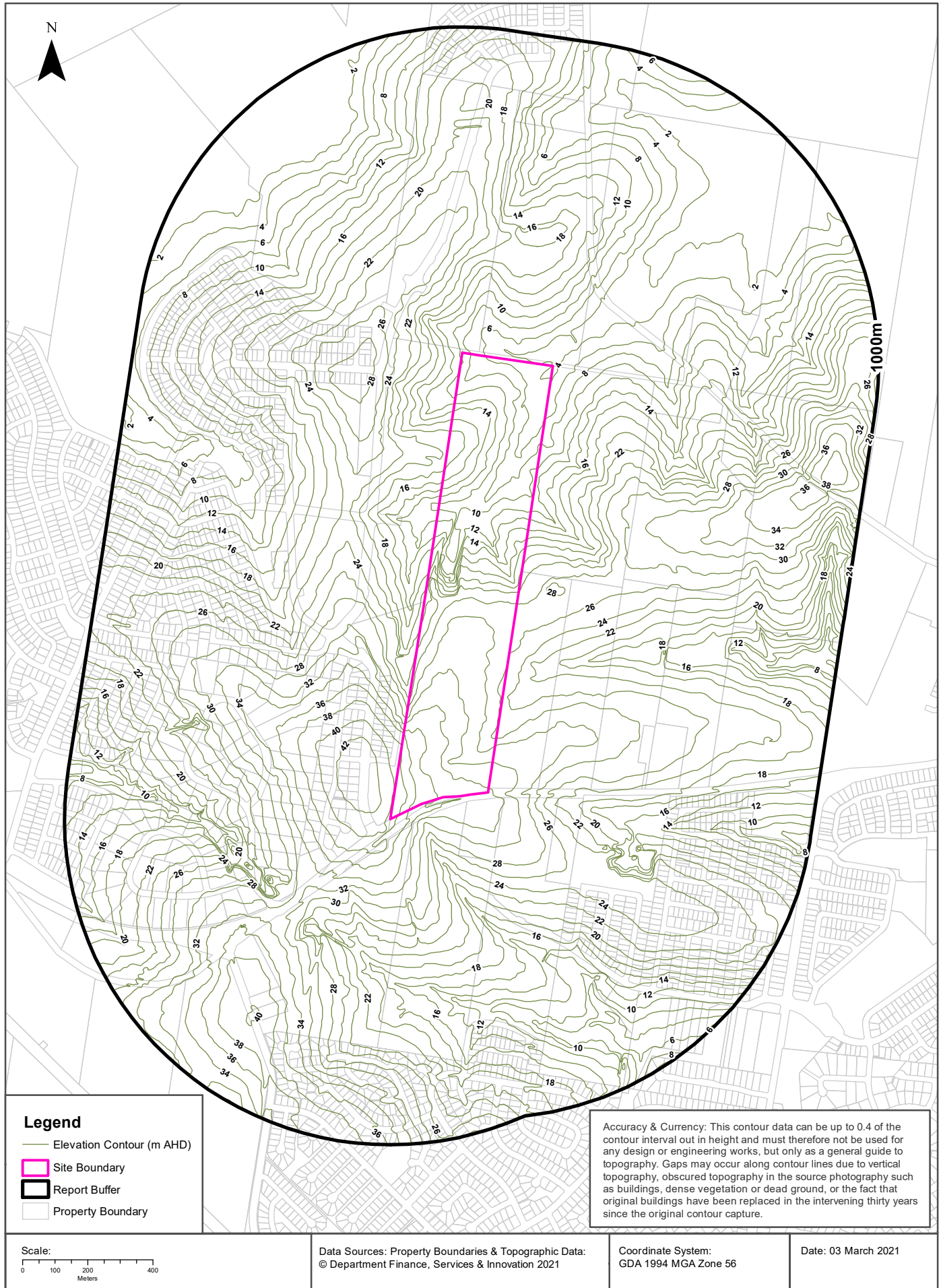
What NPWS Reserves exist within the dataset buffer?

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

Elevation Contours (m AHD)

487 Raymond Terrace Road, Chisholm, NSW 2322



Hydrogeology & Groundwater

487 Raymond Terrace 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>

Temporary Water Restriction (Botany Sands Groundwater Source) Order 2018

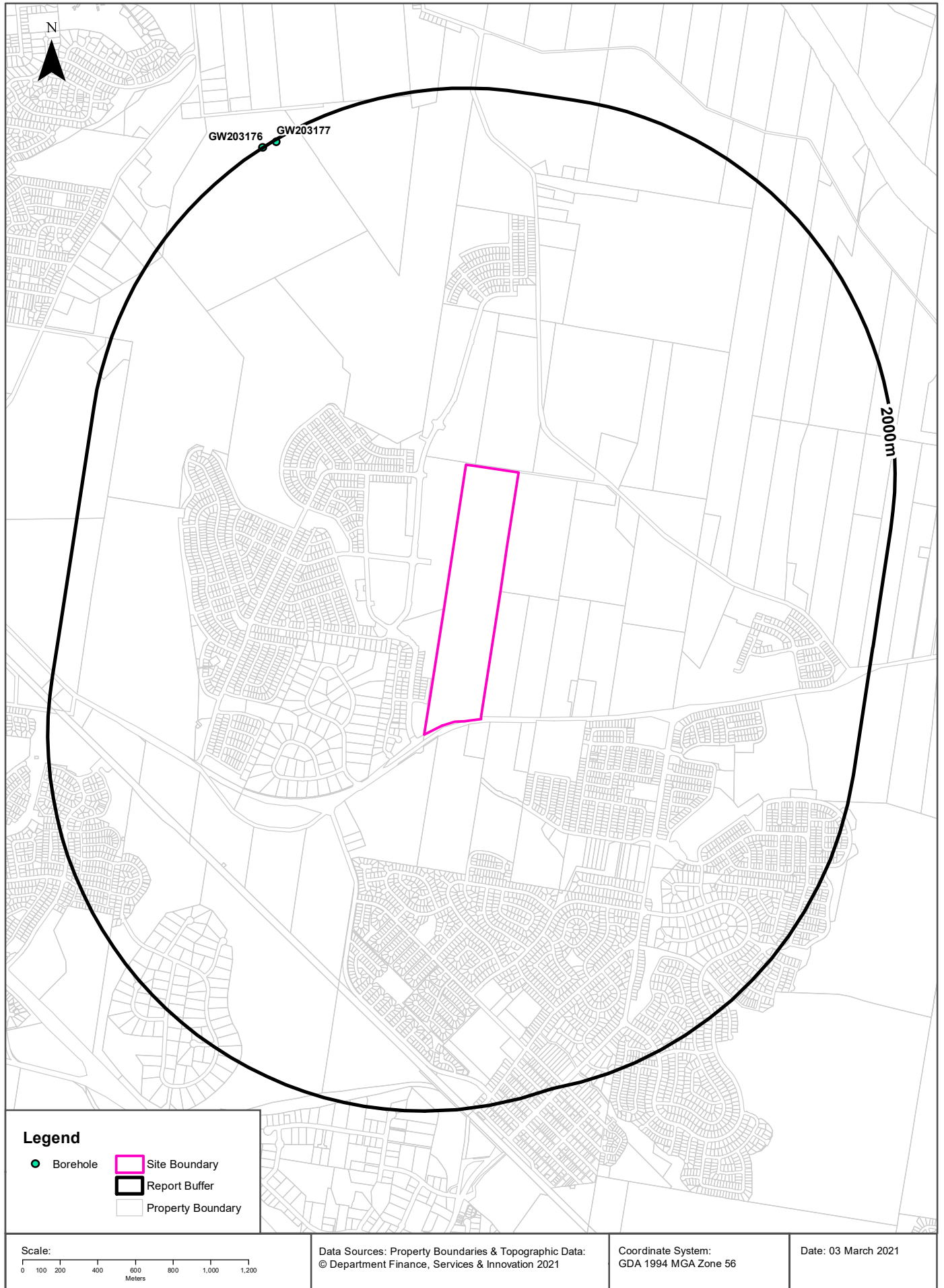
Temporary water restrictions relating to the Botany Sands aquifer within the dataset buffer:

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

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

Groundwater Boreholes

487 Raymond Terrace Road, Chisholm, NSW 2322



Hydrogeology & Groundwater

487 Raymond Terrace Road, Chisholm, NSW 2322

Groundwater Boreholes

Boreholes within the dataset buffer:

GW No.	Licence No	Work Type	Owner Type	Authorised Purpose	Intended Purpose	Name	Complete Date	Final Depth (m)	Drilled Depth (m)	Salinity (mg/L)	SWL (m bgl)	Yield (L/s)	Elev (AHD)	Dist	Dir
GW203 177	20BL173 771	Bore	Private	Monitoring Bore	Monitoring Bore	Hunter Water Corporation - BH104	04/03/2014	9.00	9.00					1986m	North West
GW203 176	20BL173 771	Bore	Private	Monitoring Bore	Monitoring Bore	Hunter Water Corporation - BH104	05/03/2014	6.00	6.00					1998m	North West

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

487 Raymond Terrace Road, Chisholm, NSW 2322

Driller's Logs

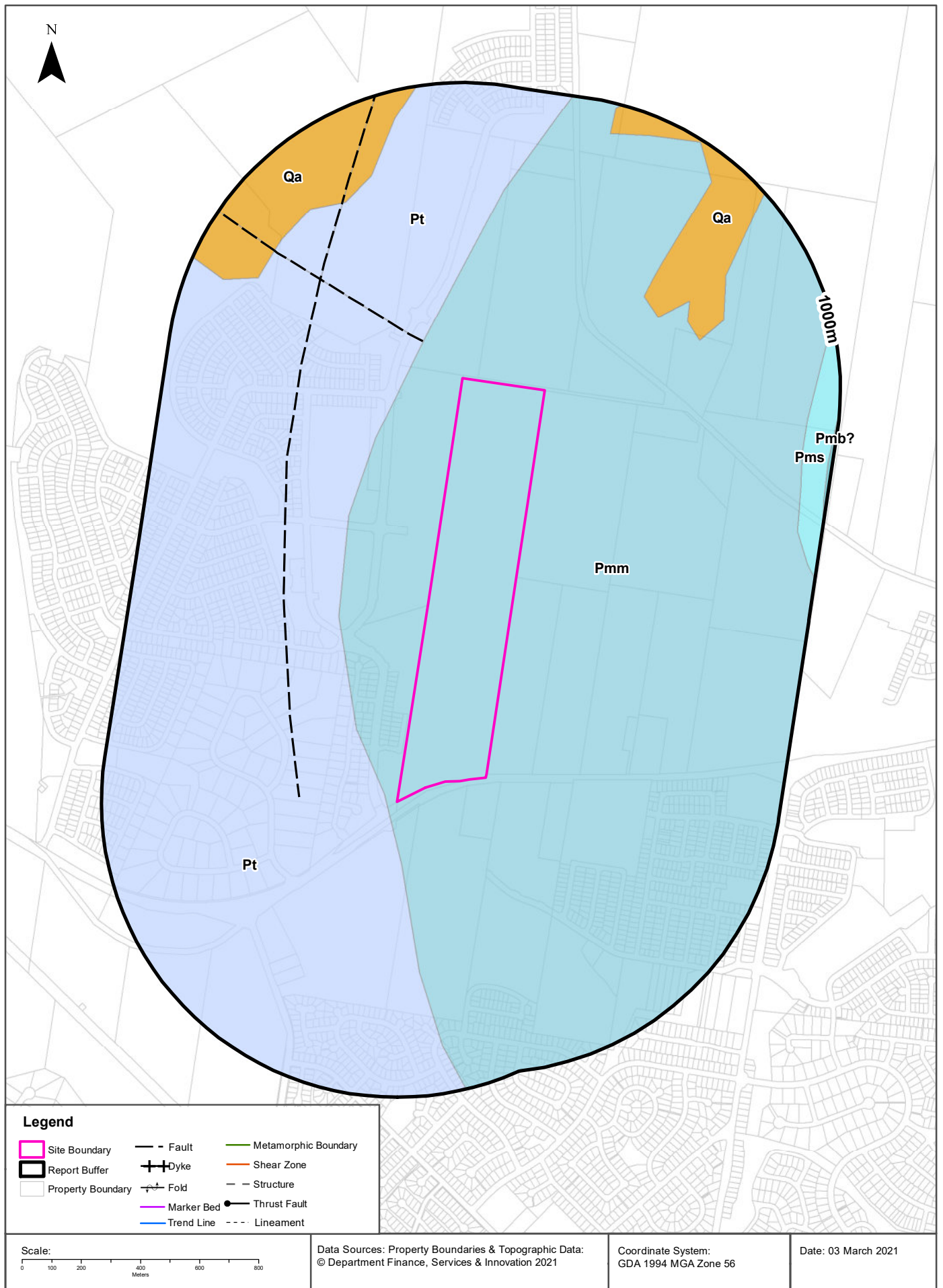
Drill log data relevant to the boreholes within the dataset buffer:

Groundwater No	Drillers Log	Distance	Direction
GW203177	0.00m-1.60m Fill; Clayey Sand 1.60m-1.90m Clay 1.90m-9.00m Sandstone	1986m	North West
GW203176	0.00m-1.00m Silt 1.00m-2.10m Clay 2.10m-6.00m Sandstone	1998m	North West

Drill Log Data Source: NSW Department of Primary Industries - Office of Water / Water Administration Ministerial Corp
Creative Commons 3.0 © Commonwealth of Australia <http://creativecommons.org/licenses/by/3.0/au/deed.en>

Geology 1:250,000

487 Raymond Terrace Road, Chisholm, NSW 2322



Geology

487 Raymond Terrace Road, Chisholm, NSW 2322

Geological Units

What are the Geological Units onsite?

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

What are the Geological Units within the dataset buffer?

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

Geological Structures

What are the Geological Structures onsite?

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

What are the Geological Structures within the dataset buffer?

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

487 Raymond Terrace Road, Chisholm, NSW 2322

Naturally Occurring Asbestos Potential

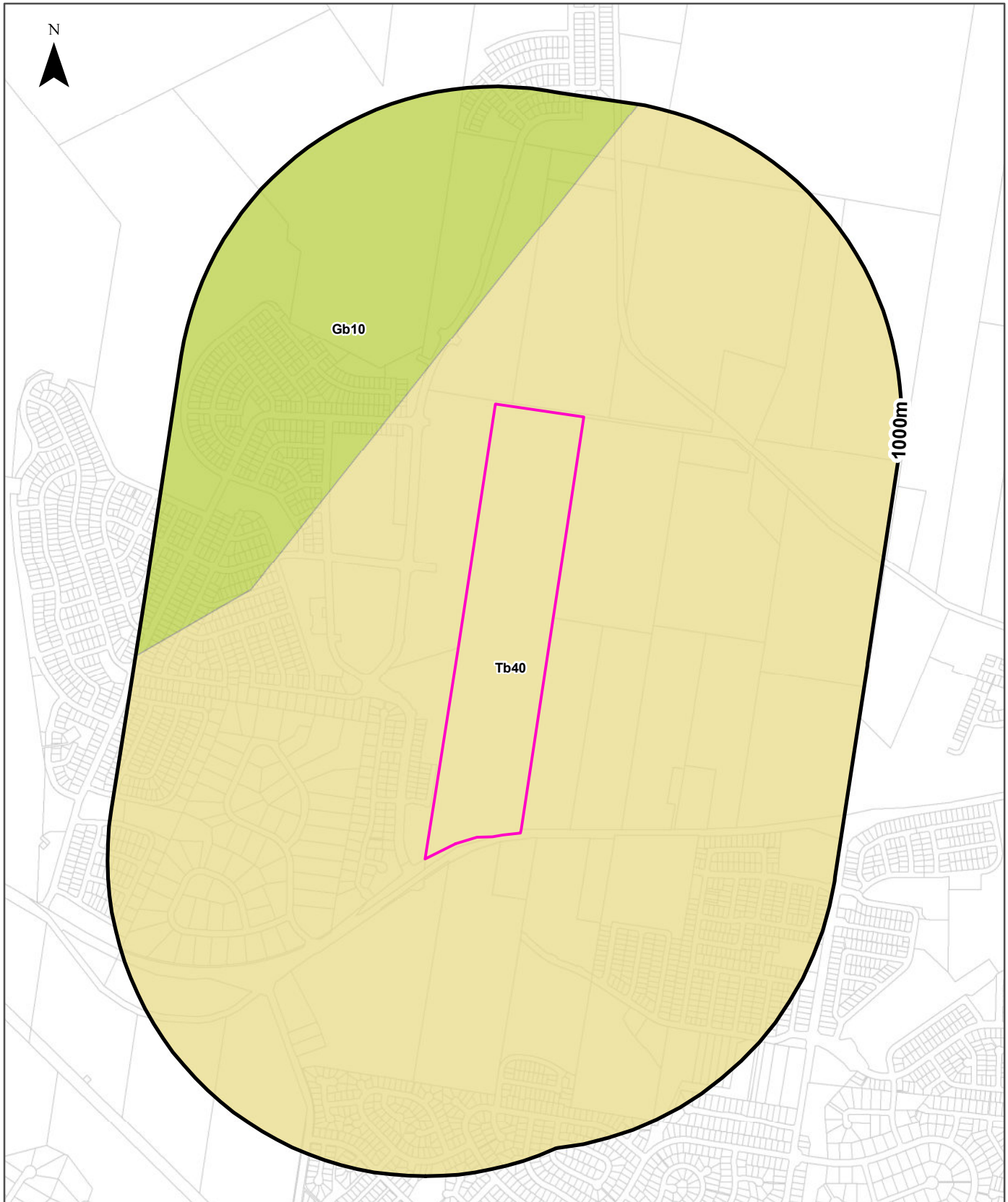
Naturally Occurring Asbestos Potential within the dataset buffer:

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

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

Atlas of Australian Soils

487 Raymond Terrace Road, Chisholm, NSW 2322



Legend		Australian Soil Classification Orders					
Site Boundary	Anthrosol	Dermosol	Kandosol	Podosol	Tenosol	No Data	
Report Buffer	Calcarosol	Ferrosol	Kurosol	Rudosol	Vertosol		
Property Boundary	Chromosol	Hydrosol	Organosol	Sodosol	Lake		
Scale: 		Data Sources: Property Boundaries & Topographic Data: © Department Finance, Services & Innovation 2021		Coordinate System: GDA 1994 MGA Zone 56		Date: 03 March 2021	

Soils

487 Raymond Terrace Road, Chisholm, NSW 2322

Atlas of Australian Soils

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

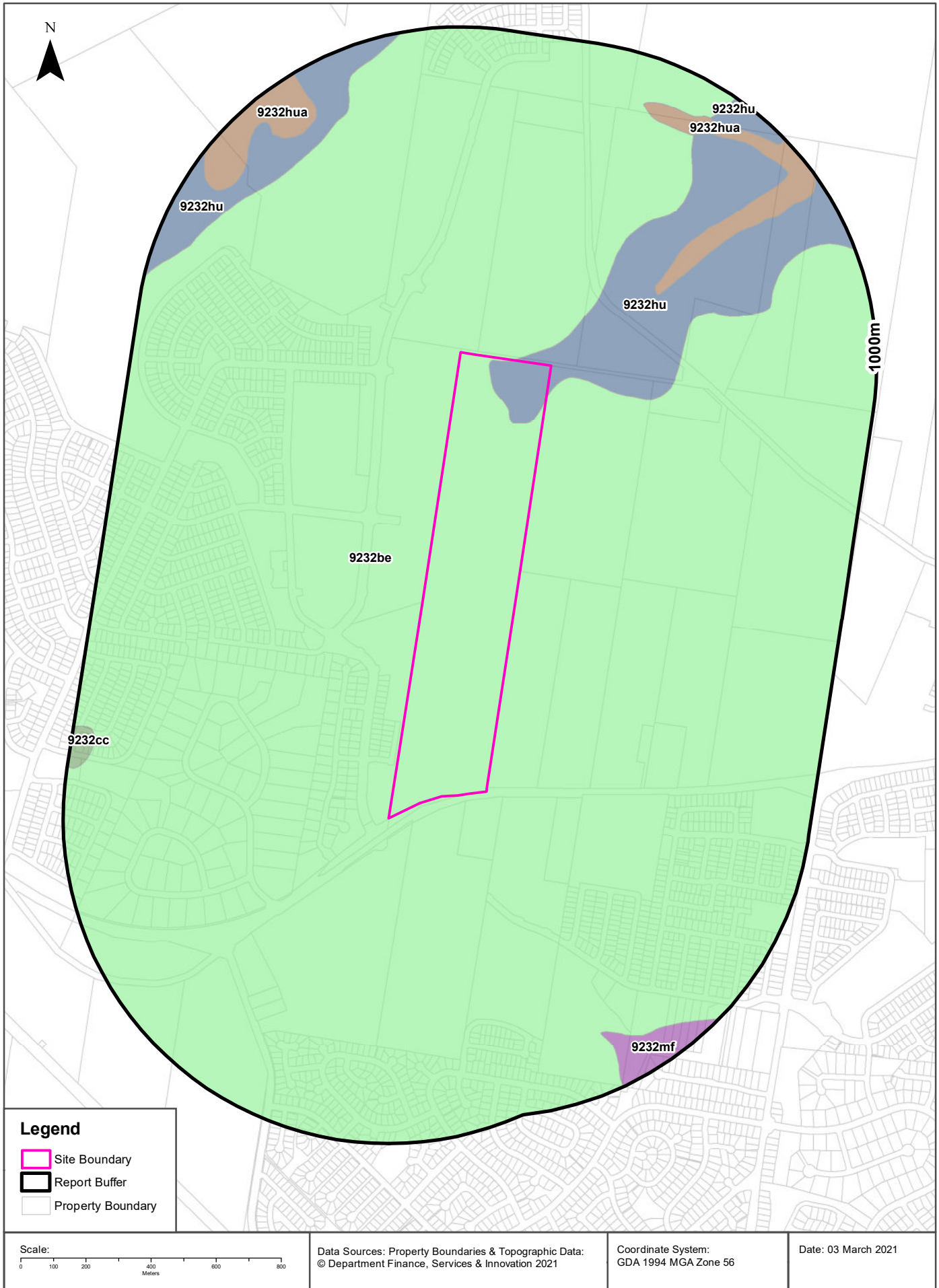
Map Unit Code	Soil Order	Map Unit Description	Distance
Tb40	Kurosol	Undulating to hilly areas with some steep slopes and cliffs, rock outcrops, and narrow terraced valleys: chief soils are hard acidic yellow mottled soils (Dy3.41) with some shallow soils such as (Um4.1) and (Uc4.1) on the steeper slopes. Associated are: (Gn2.2) soils and (Dd1) soils, both of which occur on slopes; undescribed soils in the valleys; and some (Dy5) and (Uc1 .2) soils along the coast. As mapped, small areas of units Gb10 and Cb28 are included.	0m
Gb10	Dermosol	River terraces, levees, flood-plains, coastal swamps, and tidal flats: this unit contains the same land forms and soils as unit Gb9, but in addition has (i) swamps and levees of the lower river flood-plain of (Uf6.6), (Ug5), and other undescribed soils; (ii) estuarine flats of peaty or organic soils over acid clays; and (iii) tidal mud flats. The soils of these areas are not well known but probably have similarities with the soils of units J3, Mc4, NY1, and NN1. The smaller areas mapped as unit Gb10 consist mainly of areas of (i) and/or (iii) above.	238m

Atlas of Australian Soils Data Source: CSIRO

Creative Commons 4.0 © Commonwealth of Australia <http://creativecommons.org/licenses/by/4.0/au/deed.en>

Soil Landscapes of Central and Eastern NSW

487 Raymond Terrace Road, Chisholm, NSW 2322



Soils

487 Raymond Terrace Road, Chisholm, NSW 2322

Soil Landscapes of Central and Eastern NSW

What are the on-site Soil Landscapes?

Soil Code	Name
9232be	Beresfield
9232hu	Hunter

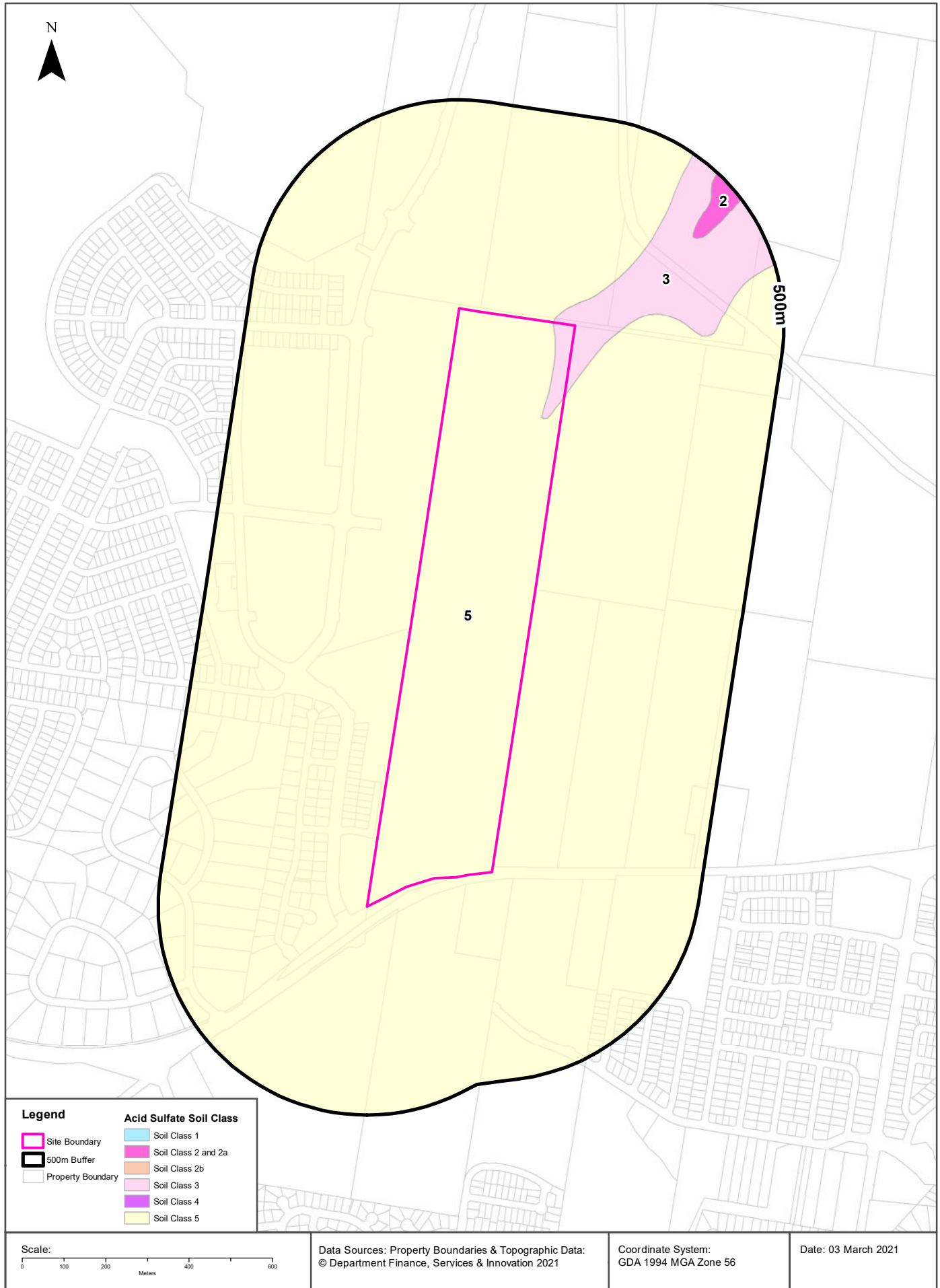
What are the Soil Landscapes within the dataset buffer?

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

Soil Landscapes of Central and Eastern NSW: NSW Department of Planning, Industry and Environment
Creative Commons 4.0 © Commonwealth of Australia <http://creativecommons.org/licenses/by/4.0/au/deed.en>

Acid Sulfate Soils

487 Raymond Terrace Road, Chisholm, NSW 2322



Acid Sulfate Soils

487 Raymond Terrace Road, Chisholm, NSW 2322

Environmental Planning Instrument - Acid Sulfate Soils

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

Soil Class	Description	EPI Name
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?

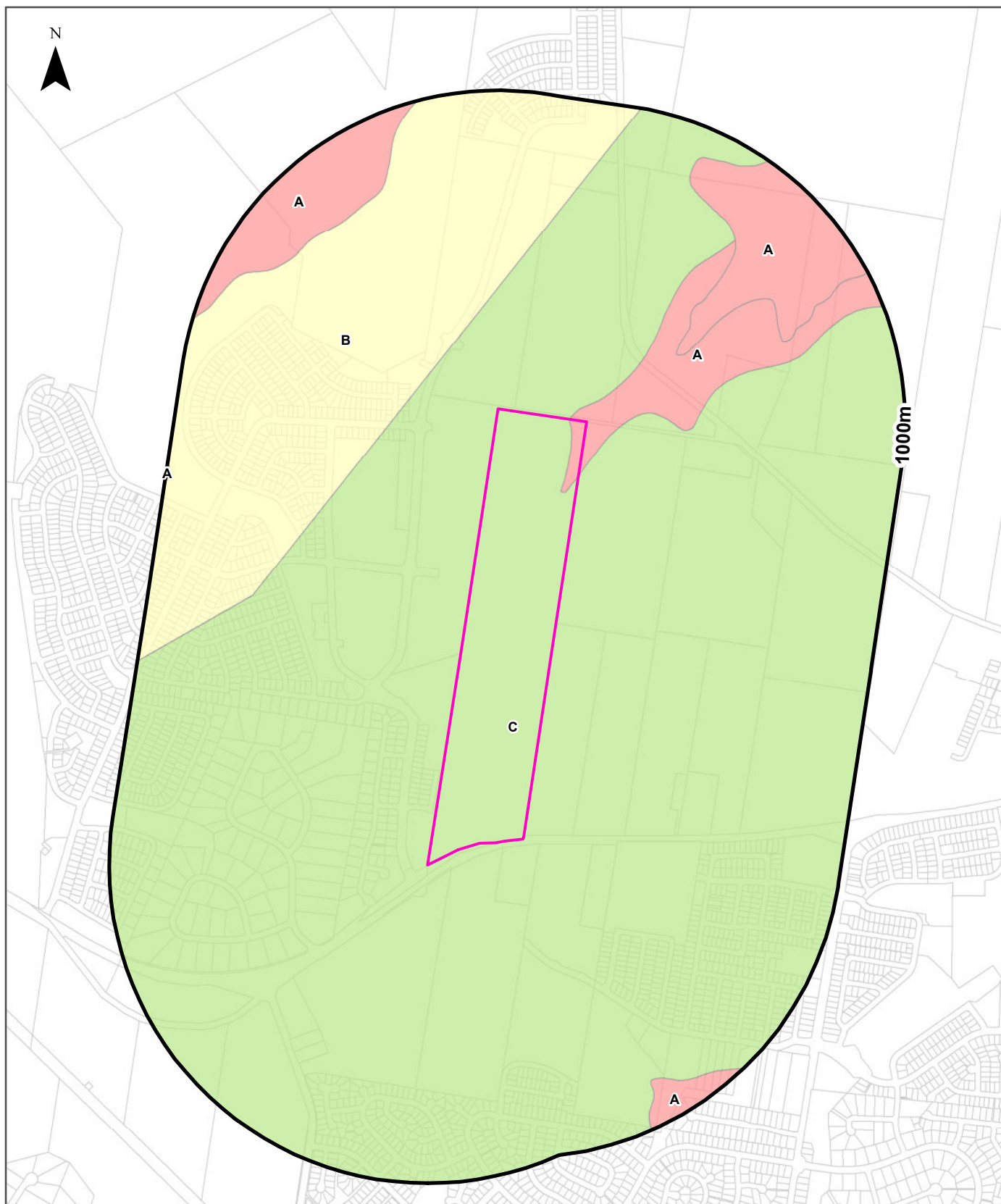
Soil Class	Description	EPI Name	Distance	Direction
N/A				

NSW Crown Copyright - Planning and Environment

Creative Commons 4.0 © Commonwealth of Australia <https://creativecommons.org/licenses/by/4.0/>

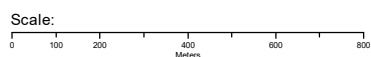
Atlas of Australian Acid Sulfate Soils

487 Raymond Terrace Road, Chisholm, NSW 2322



Legend

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



Data Sources: Property Boundaries & Topographic Data:
© Department Finance, Services & Innovation 2021

Coordinate System:
GDA 1994 MGA Zone 56

Date: 03March 2021

Acid Sulfate Soils

487 Raymond Terrace Road, Chisholm, NSW 2322

Atlas of Australian Acid Sulfate Soils

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

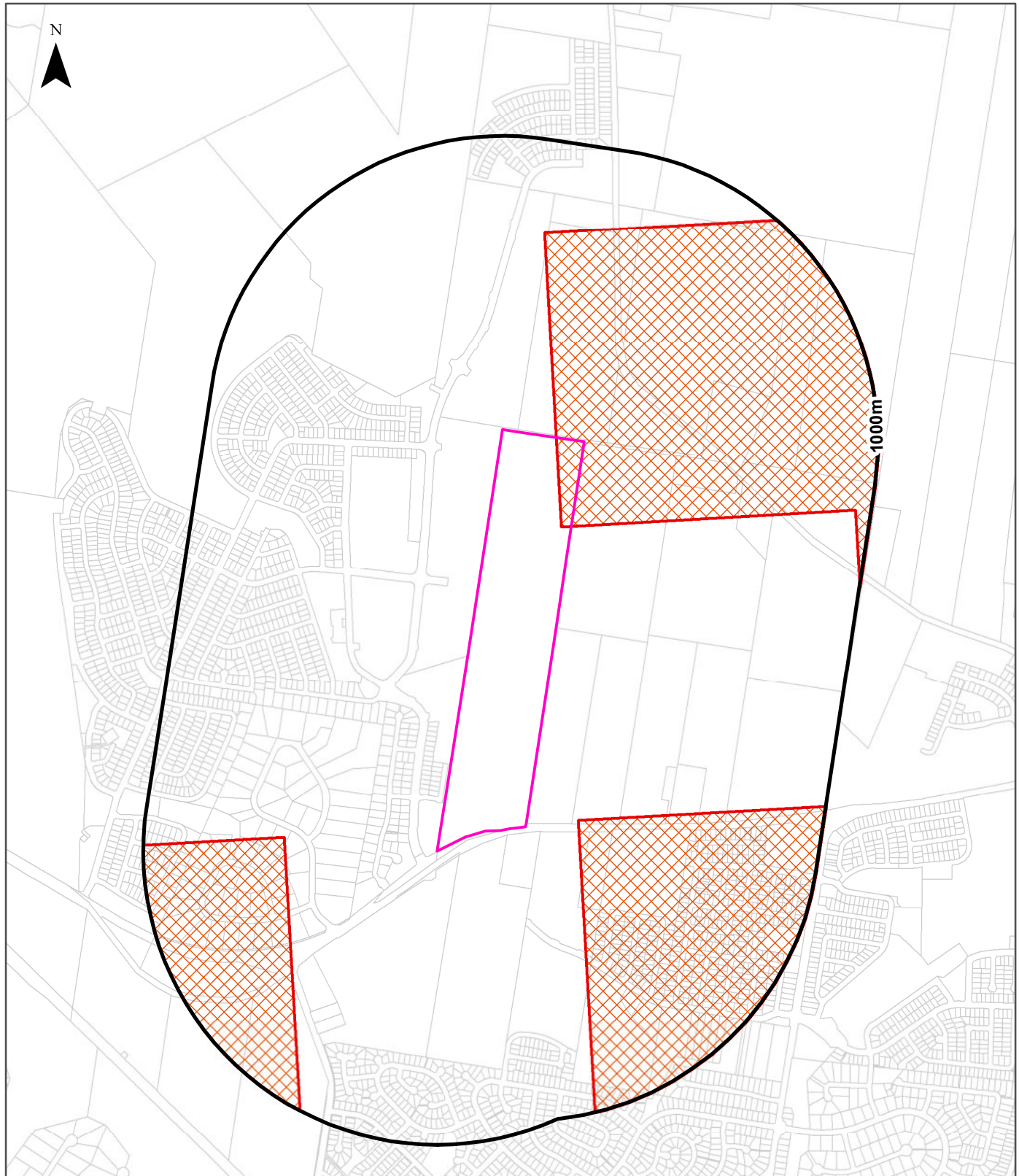
Class	Description	Distance
A	High Probability of occurrence. >70% chance of occurrence.	0m
C	Extremely low probability of occurrence. 1-5% chance of occurrence with occurrences in small localised areas.	0m
B	Low Probability of occurrence. 6-70% chance of occurrence.	239m

Atlas of Australian Acid Sulfate Soils Data Source: CSIRO

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

Dryland Salinity

487 Raymond Terrace 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	High hazard or risk in 2020 and 2050	High hazard or risk defined for all years: 2000, 2020, 2050	Area of Known Salinity	
Report Buffer	High hazard or risk in 2050 only	High hazard or risk in 2000 and 2050. 2020 not defined as high hazard		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	
				Area of Very Low Salinity Potential	
				Area of Water	

Scale: 0 100 200 400 600 800 1,000 Meters	Data Sources: Property Boundaries & Topographic Data: © Department Finance, Services & Innovation 2021	Coordinate System: GDA 1994 MGA Zone 56	Date: 03 March 2021
---	---	--	---------------------

Dryland Salinity

487 Raymond Terrace Road, Chisholm, NSW 2322

Dryland Salinity - National Assessment

Is there Dryland Salinity - National Assessment data onsite?

Yes

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

Yes

What Dryland Salinity assessments are given?

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

Dryland Salinity Data Source : National Land and Water Resources Audit

The Commonwealth and all suppliers of source data used to derive the maps of "Australia, Forecast Areas Containing Land of High Hazard or Risk of Dryland Salinity from 2000 to 2050" do not warrant the accuracy or completeness of information in this product. Any person using or relying upon such information does so on the basis that the Commonwealth and data suppliers shall bear no responsibility or liability whatsoever for any errors, faults, defects or omissions in the information. Any persons using this information do so at their own risk.

In many cases where a high risk is indicated, less than 100% of the area will have a high hazard or risk.

Dryland Salinity Potential of Western Sydney

Dryland Salinity Potential of Western Sydney within the dataset buffer?

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

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

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

Mining

487 Raymond Terrace Road, Chisholm, NSW 2322

Mining Subsidence Districts

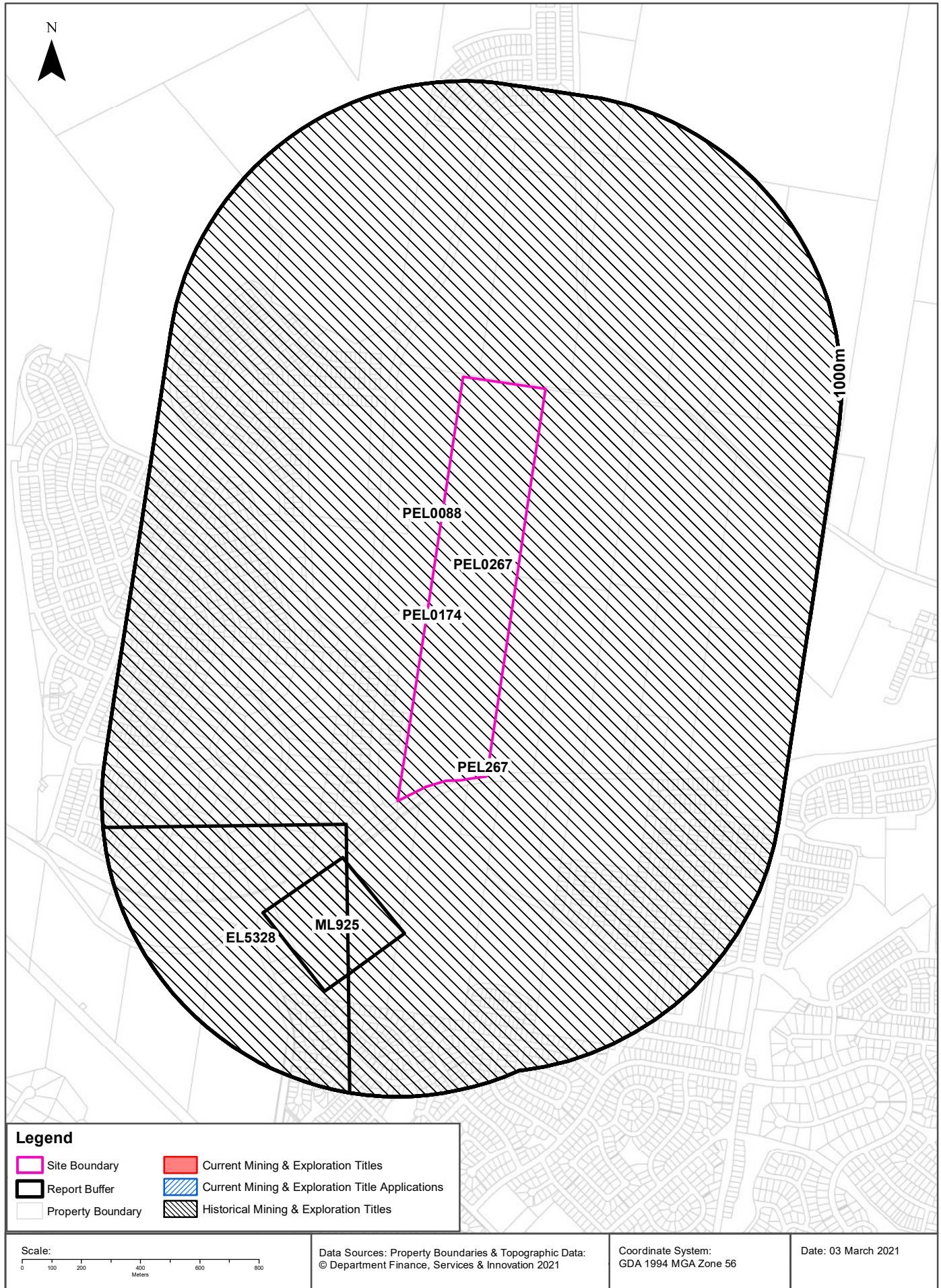
Mining Subsidence Districts within the dataset buffer:

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

Mining Subsidence District Data Source: © Land and Property Information (2016)
Creative Commons 3.0 © Commonwealth of Australia <http://creativecommons.org/licenses/by/3.0/au/deed.en>

Mining & Exploration Titles

487 Raymond Terrace Road, Chisholm, NSW 2322



Mining

487 Raymond Terrace Road, Chisholm, NSW 2322

Current Mining & Exploration Titles

Current Mining & Exploration Titles within the dataset buffer:

Title Ref	Holder	Grant Date	Expiry Date	Last Renewed	Operation	Resource	Minerals	Dist (m)	Dir'
N/A	No Records in Buffer								

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

Current Mining & Exploration Title Applications

Current Mining & Exploration Title Applications within the dataset buffer:

Application Ref	Applicant	Application Date	Operation	Resource	Minerals	Dist (m)	Dir'
N/A	No Records in Buffer						

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

Mining

487 Raymond Terrace Road, Chisholm, NSW 2322

Historical Mining & Exploration Titles

Historical Mining & Exploration Titles within the dataset buffer:

Title Ref	Holder	Start Date	End Date	Resource	Minerals	Dist (m)	Dir'
PEL0088	PLANET EXPLORATION COMPANY PTY LTD			PETROLEUM	Petroleum	0m	Onsite
PEL0174	NSW OIL AND GAS COMPANY NL			PETROLEUM	Petroleum	0m	Onsite
PEL0267	SYDNEY OIL CO (NSW) PTY LTD, MANVANE PTY LTD AUSTRALIA NL, BASE RESOURCES LTD, SEAHAWK OIL AUSTRALIA NL, READING & BATES	20/01/1984	6/07/2015	PETROLEUM	Petroleum	0m	Onsite
PEL267	AGL UPSTREAM INVESTMENTS PTY LIMITED			MINERALS		0m	Onsite
EL5328	MONIER PGH HOLDINGS LIMITED	05 Aug 1997	04 Aug 1999	MINERALS	Brick clay	191m	South West
ML925	CSR BUILDING PRODUCTS LIMITED			MINERALS		267m	South

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

State Environmental Planning Policy

487 Raymond Terrace Road, Chisholm, NSW 2322

State Significant Precincts

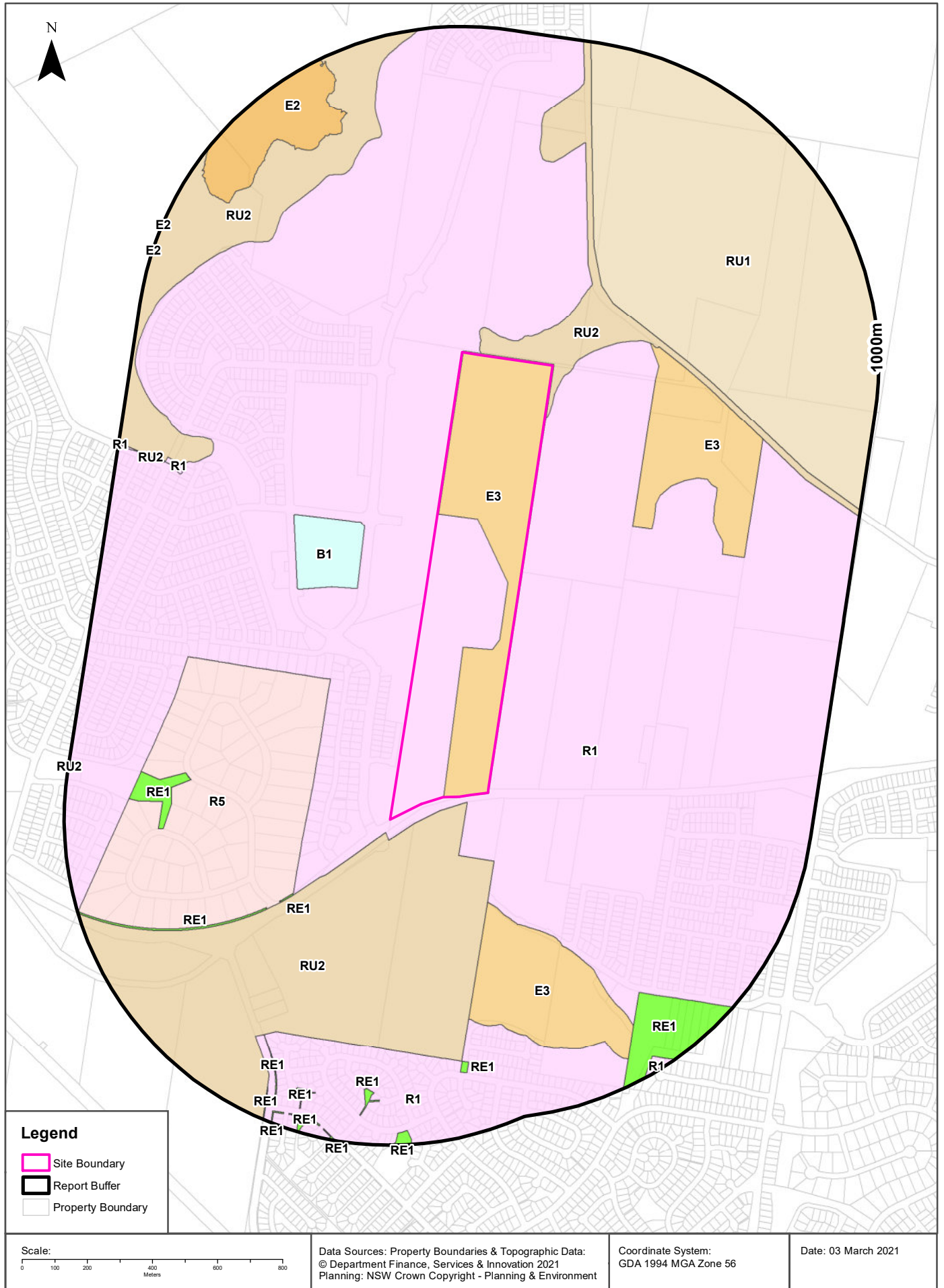
What SEPP State Significant Precincts exist within the dataset buffer?

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

State Environment Planning Policy Data Source: NSW Crown Copyright - Planning & Environment
Creative Commons 4.0 © Commonwealth of Australia <https://creativecommons.org/licenses/by/4.0/>

EPI Planning Zones

487 Raymond Terrace Road, Chisholm, NSW 2322



Environmental Planning Instrument

487 Raymond Terrace Road, Chisholm, NSW 2322

Land Zoning

What EPI Land Zones exist within the dataset buffer?

Zone	Description	Purpose	EPI Name	Published Date	Commenced Date	Currency Date	Amendment	Distance	Direction
E3	Environmental Management		Maitland Local Environmental Plan 2011	16/12/2011	16/12/2011	04/12/2020		0m	Onsite
R1	General Residential		Maitland Local Environmental Plan 2011	16/12/2011	16/12/2011	04/12/2020		0m	Onsite
RU2	Rural Landscape		Maitland Local Environmental Plan 2011	16/12/2011	16/12/2011	04/12/2020		1m	North West
B1	Neighbourhood Centre		Maitland Local Environmental Plan 2011	28/07/2017	28/07/2017	04/12/2020	Amendment No 22	210m	West
R5	Large Lot Residential		Maitland Local Environmental Plan 2011	16/12/2011	16/12/2011	04/12/2020		249m	South West
RU1	Primary Production		Maitland Local Environmental Plan 2011	25/08/2017	25/08/2017	04/12/2020	Amendment No 21	266m	North
E3	Environmental Management		Maitland Local Environmental Plan 2011	16/12/2011	16/12/2011	04/12/2020		305m	North East
E3	Environmental Management		Maitland Local Environmental Plan 2011	16/12/2011	16/12/2011	04/12/2020		332m	South
RE1	Public Recreation		Maitland Local Environmental Plan 2011	16/12/2011	16/12/2011	04/12/2020		374m	South West
RE1	Public Recreation		Maitland Local Environmental Plan 2011	16/12/2011	16/12/2011	04/12/2020		466m	South West
RE1	Public Recreation		Maitland Local Environmental Plan 2011	16/12/2011	16/12/2011	04/12/2020		622m	South West
R1	General Residential		Maitland Local Environmental Plan 2011	16/12/2011	16/12/2011	04/12/2020		659m	South
RE1	Public Recreation		Maitland Local Environmental Plan 2011	16/12/2011	16/12/2011	04/12/2020		764m	South
RE1	Public Recreation		Maitland Local Environmental Plan 2011	16/12/2011	16/12/2011	04/12/2020		767m	South East
E2	Environmental Conservation		Maitland Local Environmental Plan 2011	16/12/2011	16/12/2011	04/12/2020		769m	North West
RE1	Public Recreation		Maitland Local Environmental Plan 2011	16/12/2011	16/12/2011	04/12/2020		775m	South
R1	General Residential		Maitland Local Environmental Plan 2011	25/11/2016	25/11/2016	04/12/2020	Amendment No 20	793m	West
RE1	Public Recreation		Maitland Local Environmental Plan 2011	16/12/2011	16/12/2011	04/12/2020		829m	South
RU2	Rural Landscape		Maitland Local Environmental Plan 2011	25/11/2016	25/11/2016	04/12/2020	Amendment No 20	851m	West
RE1	Public Recreation		Maitland Local Environmental Plan 2011	16/12/2011	16/12/2011	04/12/2020		867m	South
RE1	Public Recreation		Maitland Local Environmental Plan 2011	16/12/2011	16/12/2011	04/12/2020		894m	South
R1	General Residential		Maitland Local Environmental Plan 2011	25/11/2016	25/11/2016	04/12/2020	Amendment No 20	898m	West
RU2	Rural Landscape		Maitland Local Environmental Plan 2011	25/11/2016	25/11/2016	04/12/2020	Amendment No 20	913m	West
R1	General Residential		Maitland Local Environmental Plan 2011	25/11/2016	25/11/2016	04/12/2020	Amendment No 20	923m	West
RE1	Public Recreation		Maitland Local Environmental Plan 2011	16/12/2011	16/12/2011	04/12/2020		949m	South
RE1	Public Recreation		Maitland Local Environmental Plan 2011	16/12/2011	16/12/2011	04/12/2020		955m	South

Environmental Planning Instrument Data Source: NSW Crown Copyright - Planning & Environment
Creative Commons 4.0 © Commonwealth of Australia <https://creativecommons.org/licenses/by/4.0/>

Heritage

487 Raymond Terrace Road, Chisholm, NSW 2322

Commonwealth Heritage List

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

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

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

National Heritage List

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

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

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

Heritage Data Source: Australian Government Department of the Environment and Energy - Heritage Branch
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
Creative Commons 4.0 © Commonwealth of Australia <https://creativecommons.org/licenses/by/4.0/>

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
Creative Commons 4.0 © Commonwealth of Australia <https://creativecommons.org/licenses/by/4.0/>

Natural Hazards - Bush Fire Prone Land

487 Raymond Terrace Road, Chisholm, NSW 2322



Natural Hazards

487 Raymond Terrace Road, Chisholm, NSW 2322

Bush Fire Prone Land

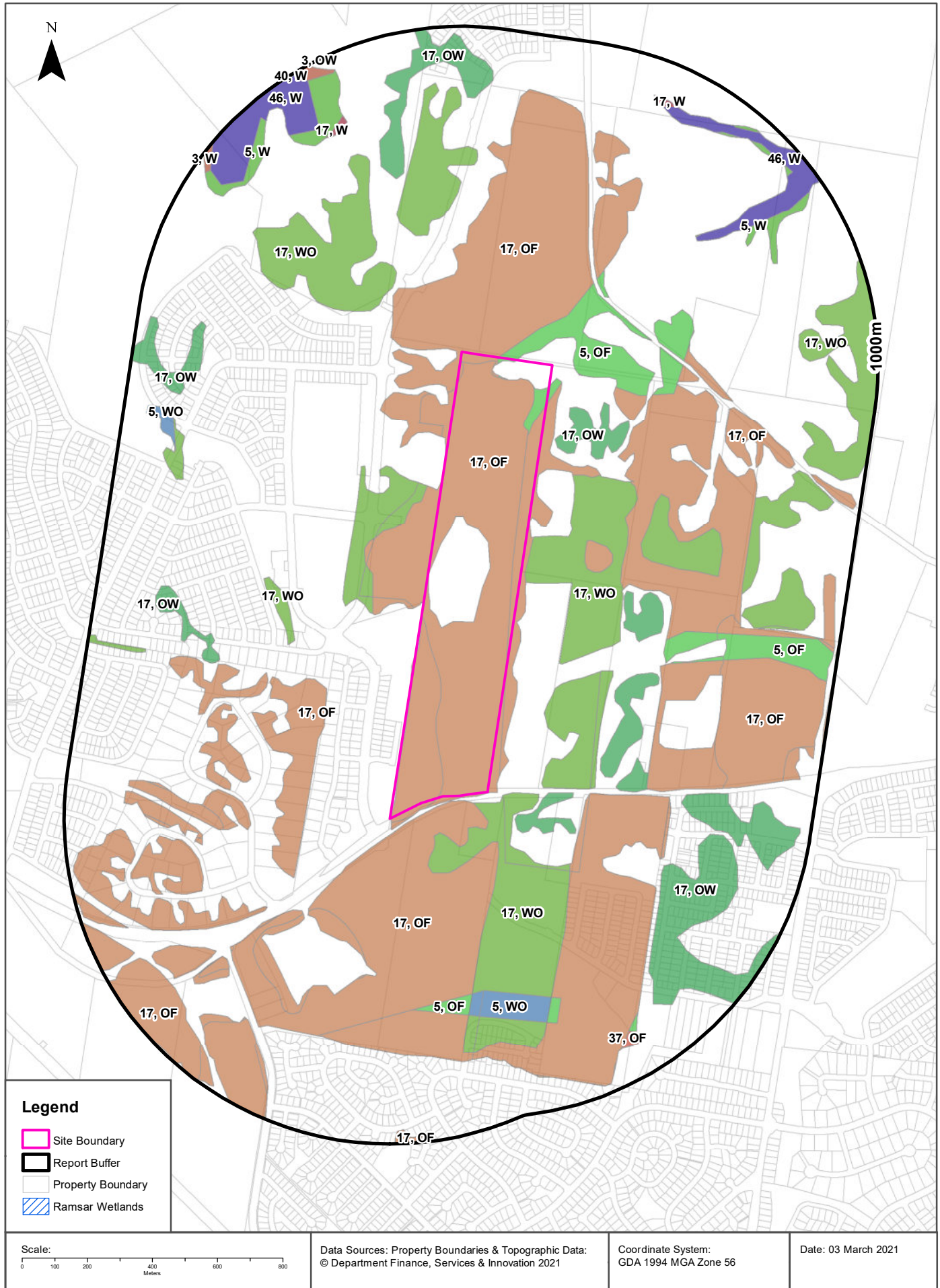
What are the nearest Bush Fire Prone Land Categories that exist within the dataset buffer?

Bush Fire Prone Land Category	Distance	Direction
Vegetation Buffer	0m	Onsite
Vegetation Category 1	0m	Onsite
Vegetation Category 2	291m	North

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

Ecological Constraints - Vegetation & Ramsar Wetlands

487 Raymond Terrace Road, Chisholm, NSW 2322



Ecological Constraints

487 Raymond Terrace Road, Chisholm, NSW 2322

Lower Hunter and Central Coast Regional Vegetation Survey

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

Map Id	Unit Desc	Canopy Code	Canopy Cover	Species	Distance	Direction
17	Lower Hunter Spotted Gum - Ironbark Forest	OF	Mid Dense (Open Forest) 50- <100% 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
17	Lower Hunter Spotted Gum - Ironbark Forest	WO	Sparse (Woodland) 20-<50% cover	C. maculata / E. fibrosa / E. punctata	9m	East
17	Lower Hunter Spotted Gum - Ironbark Forest	OW	Very Sparse (Open Woodland) 10-20% cover	C. maculata / E. fibrosa / E. punctata	39m	North East
46	Freshwater Wetland Complex	W	Wetland	Ludwigia peploides subsp montevidensis / Paspalum distichum / Eleocharis sphacelata / Juncus usitatus	584m	North East
5	Alluvial Tall Moist Forest	W	Wetland	E. saligna / S. glomulifera / Glochidion ferdinandi	589m	North East
5	Alluvial Tall Moist Forest	WO	Sparse (Woodland) 20-<50% cover	E. saligna / S. glomulifera / Glochidion ferdinandi	593m	South
17	Lower Hunter Spotted Gum - Ironbark Forest	W	Wetland	C. maculata / E. fibrosa / E. punctata	768m	North
37	Swamp Mahogany - Paperbark Forest	OF	Mid Dense (Open Forest) 50- <100% cover	Melaleuca quinquinervia / E. robusta / C. glauca	851m	South
3	Hunter Valley Dry Rainforest	W	Wetland	Ficus rubiginosa / Streblus brunonianus / C. maculata	943m	North
40	Swamp Oak Rushland Forest	W	Wetland	C. glauca / Melaleuca ericifolia / Baumea juncea	992m	North
3	Hunter Valley Dry Rainforest	OW	Very Sparse (Open Woodland) 10-20% cover	Ficus rubiginosa / Streblus brunonianus / C. maculata	993m	North

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

Ramsar Wetlands

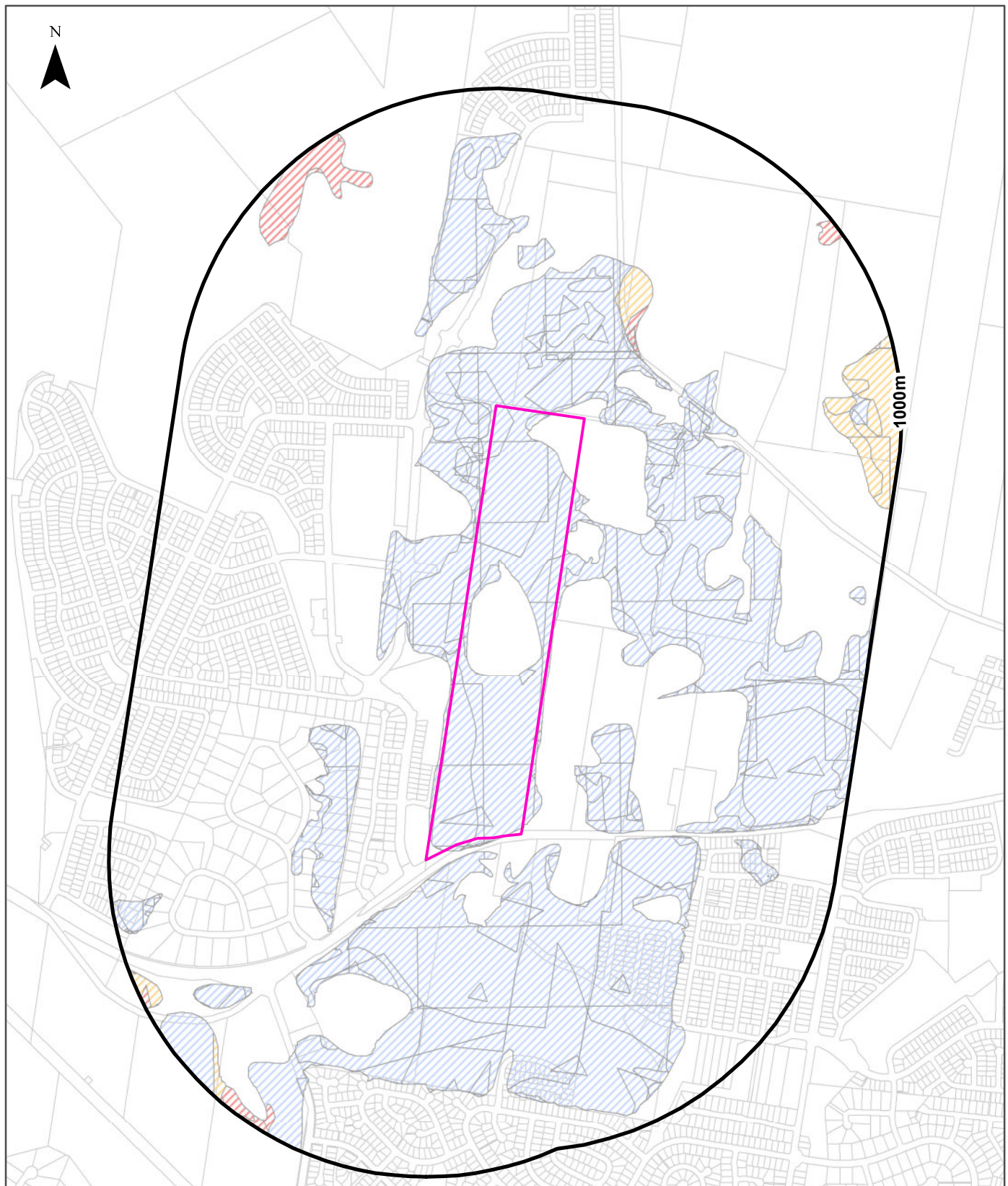
What Ramsar Wetland areas exist within the dataset buffer?

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

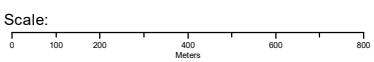
Ecological Constraints - Groundwater Dependent Ecosystems Atlas

487 Raymond Terrace 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 | Known GDE - from regional studies |
| | Moderate potential GDE - from regional studies | Unclassified potential GDE - from national assessment |
| | | Unclassified potential GDE - from regional studies |



Data Sources: Property Boundaries & Topographic Data:
© Department Finance, Services & Innovation 2021

Coordinate System:
GDA 1994 MGA Zone 56

Date: 03 March 2021

Ecological Constraints

487 Raymond Terrace Road, Chisholm, NSW 2322

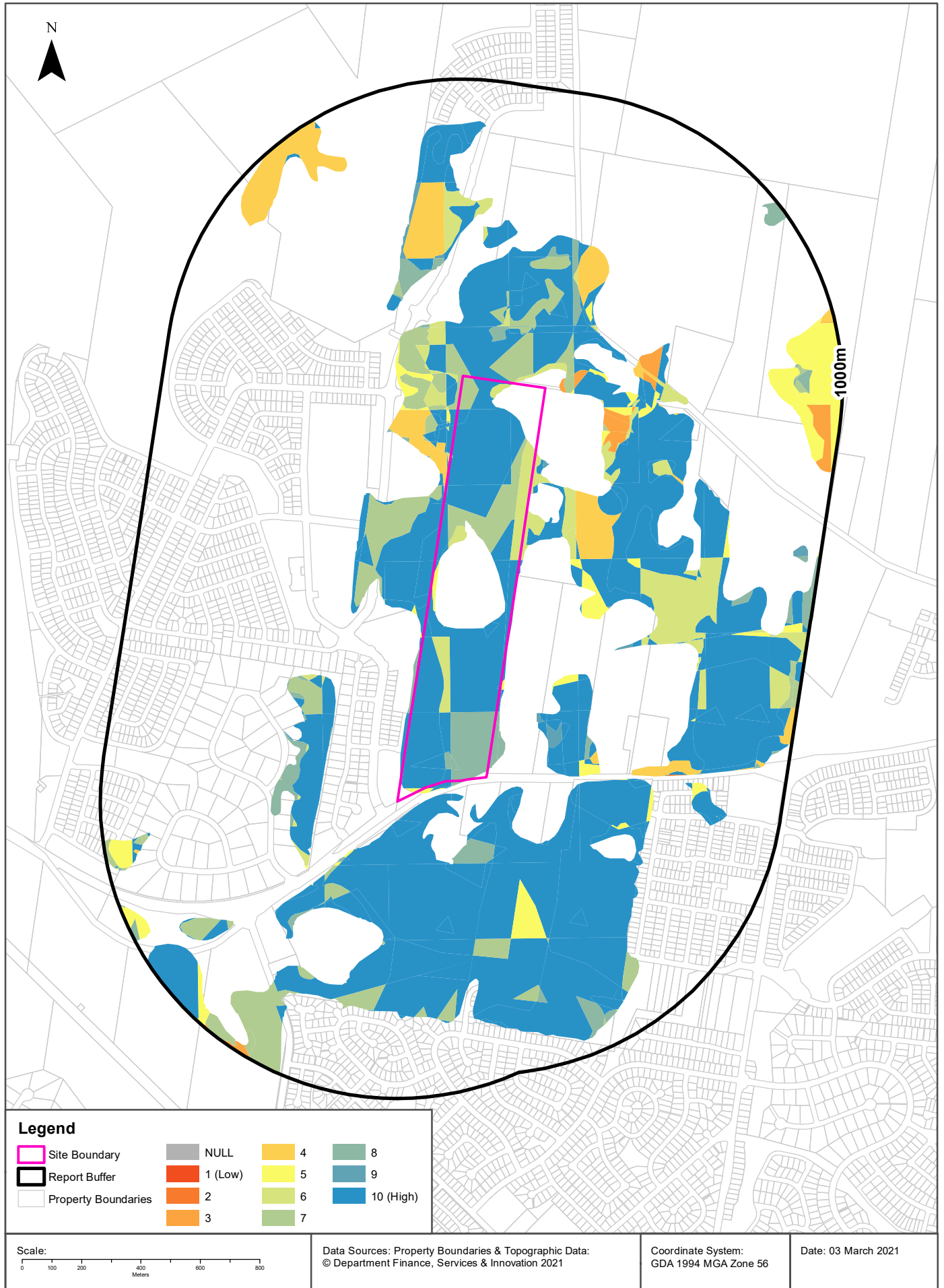
Groundwater Dependent Ecosystems Atlas

Type	GDE Potential	Geomorphology	Ecosystem Type	Aquifer Geology	Distance
Terrestrial	Low potential GDE - from regional studies	Undulating to low hilly country on weak rocks, with alluvial and sandy littoral plains.	Vegetation		0m
Terrestrial	High potential GDE - from regional studies	Undulating to low hilly country on weak rocks, with alluvial and sandy littoral plains.	Vegetation		258m
Terrestrial	Moderate potential GDE - from regional studies	Plateau flank dissected into narrow strike ridges and valleys.	Vegetation		301m

Groundwater Dependent Ecosystems Atlas Data Source: The Bureau of Meteorology
Creative Commons 3.0 © Commonwealth of Australia <http://creativecommons.org/licenses/by/3.0/au/deed.en>

Ecological Constraints - Inflow Dependent Ecosystems Likelihood

487 Raymond Terrace Road, Chisholm, NSW 2322



Ecological Constraints

487 Raymond Terrace Road, Chisholm, NSW 2322

Inflow Dependent Ecosystems Likelihood

Type	IDE Likelihood	Geomorphology	Ecosystem Type	Aquifer Geology	Distance
Terrestrial	4	Undulating to low hilly country on weak rocks, with alluvial and sandy littoral plains.	Vegetation		0m
Terrestrial	5	Undulating to low hilly country on weak rocks, with alluvial and sandy littoral plains.	Vegetation		0m
Terrestrial	6	Undulating to low hilly country on weak rocks, with alluvial and sandy littoral plains.	Vegetation		0m
Terrestrial	7	Undulating to low hilly country on weak rocks, with alluvial and sandy littoral plains.	Vegetation		0m
Terrestrial	8	Undulating to low hilly country on weak rocks, with alluvial and sandy littoral plains.	Vegetation		0m
Terrestrial	10	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		29m
Terrestrial	3	Plateau flank dissected into narrow strike ridges and valleys.	Vegetation		45m
Terrestrial	2	Plateau flank dissected into narrow strike ridges and valleys.	Vegetation		599m

Inflow Dependent Ecosystems Likelihood Data Source: The Bureau of Meteorology
 Creative Commons 3.0 © Commonwealth of Australia <http://creativecommons.org/licenses/by/3.0/au/deed.en>

Ecological Constraints

487 Raymond Terrace Road, Chisholm, NSW 2322

NSW BioNet Atlas

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

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

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

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 troungtoni</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>Dillwynia tenuifolia</i>		Vulnerable	Not Sensitive	Not Listed	
Plantae	Flora	<i>Diuris arenaria</i>	Sand Doubletail	Endangered	Category 2	Not Listed	
Plantae	Flora	<i>Eucalyptus camaldulensis</i>	River Red Gum	Endangered Population	Not Sensitive	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>Maundia triglochinosides</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	

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

USE OF REPORT - APPLICABLE TERMS

The following terms apply to any person (End User) who is given the Report by the person who purchased the Report from Lotsearch Pty Ltd (ABN: 89 600 168 018) (Lotsearch) or who otherwise has access to the Report (Terms). The contract terms that apply between Lotsearch and the purchaser of the Report are specified in the order form pursuant to which the Report was ordered and the terms set out below are of no effect as between Lotsearch and the purchaser of the Report.

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

- of its Third Party Content Supplier have any liability to it under or in connection with the Report or these Terms;
- (b) waives any right it may have to claim against Third Party Content Supplier in connection with the Report, or the negotiation of, entry into, performance of, or termination of these Terms; and
 - (c) releases each Third Party Content Supplier from any claim it may have otherwise had in connection with the Report, or the negotiation of, entry into, performance of, or termination of these Terms.
5. The End User acknowledges that any Third Party Supplier shall be entitled to plead the benefits conferred on it under clause 4, despite not being a party to these terms.
 6. End User must not remove any copyright notices, trade marks, digital rights management information, other embedded information, disclaimers or limitations from the Report or authorise any person to do so.
 7. End User acknowledges and agrees that Lotsearch and Third Party Content Suppliers retain ownership of all copyright, patent, design right (registered or unregistered), trade marks (registered or unregistered), database right or other data right, moral right or know how or any other intellectual property right in any Report or any other item, information or data included in or provided as part of a Report.
 8. To the extent permitted by law and subject to paragraph 9, all implied terms, representations and warranties whether statutory or otherwise relating to the subject matter of these Terms other than as expressly set out in these Terms are excluded.
 9. Subject to paragraph 6, Lotsearch excludes liability to End User for loss or damage of any kind, however caused, due to Lotsearch's negligence, breach of contract, breach of any law, in equity, under indemnities or otherwise, arising out of all acts, omissions and events whenever occurring.
 10. Lotsearch acknowledges that if, under applicable State, Territory or Commonwealth law, End User is a consumer certain rights may be conferred on End User which cannot be excluded, restricted or modified. If so, and if that law applies to Lotsearch, then, Lotsearch's liability is limited to the greater of an amount equal to the cost of resupplying the Report and the maximum extent permitted under applicable laws.
 11. Subject to paragraph 9, neither Lotsearch nor the End User is liable to the other for:
 - (a) any indirect, incidental, consequential, special or exemplary damages arising out of or in relation to the Report or these Terms; or
 - (b) any loss of profit, loss of revenue, loss of interest, loss of data, loss of goodwill or loss of business opportunities, business interruption arising directly or indirectly out of or in relation to the Report or these Terms,irrespective of how that liability arises including in contract or tort, liability under indemnity or for any other common law, equitable or statutory cause of action or otherwise.
 12. These Terms are subject to New South Wales law.

Appendix B

SITE PHOTOGRAPHS



Plate 1

Description:
Site Entry

Date:
4.02.2021



Plate 2

Description:

Juvenile
regrowth and
mounted
material in SW
CNR of site

Date:
4.02.2021



Plate 3

Description:

Brick waste off access track in southern portion of site

Date:

4.02.2021



Plate 4

Description:

Brick and Coal Waste in access track in southern portion of site

Date:

4.02.2021



Plate 5

Description:

Brick and Refractory at side of access track in the southern portion of site

Date:

4.02.2021



Plate 6

Description:

Polystyrene and mounded brick and coal waste Near western boundary front of site.

Date:

4.02.2021



Plate 7

Description:
Mounded brick
and coal waste
Near western
boundary front
of site.

Date:
4.02.2021



Plate 8

Description:
Old shelter
western
boundary

Date:
4.02.2021



Plate 9

Description:
Pond at north
west end of
quarry

Date:
4.02.2021



Plate 10

Description:
Vegetation
including
lantana in NW
portion of site

Date:
4.02.2021



Plate 11

Description:
Drainage path
through to NE
corner of site

Date:
4.02.2021



Plate 12

Description:
Prickly Pear on
Eastern
boundary north
of quarry

Date:
4.02.2021



Plate 13

Description:
Cleared land
between quarry
and E3 zone on
eastern
boundary

Date:
4.02.2021



Plate 14

Description:
Quarry floor
from NE corner

Date:
4.02.2021



Plate 15

Description:

Quarry void
from eastern
edge

Date:

4.02.2021



Plate 16

Description:

Scatter building
waste SE corner
of quarry

Date:

4.02.2021



Plate 17

Description:
E3 corridor on
eastern
boundary

Date:
4.02.2021



Plate 18

Description:
Dumped waste
SE E3 Zone

Date:
4.02.2021



Plate 19

Description:

Open
Woodland E#
Zone southern
portion

Date:

4.02.2021



Plate 20

Description:

Mounded
material border
of E3 zone and
R1 front of site

Date:

4.02.2021



		<p>Plate 21</p> <p>Description: Mounded material with brick waste wester edge of quarry entry</p> <p>Date: 4.02.2021</p>
		<p>Plate 22</p> <p>Description: Potential uncontrolled fill zone southern extent of quarry</p> <p>Date: 4.02.2021</p>



Plate 23

Description:
Erosional
feature north of
quarry eastern
track

Date:

4.02.2021







Plate 24



Description:
Stockpiled
material in the
centre of the
quarry,
identified as
SP05 and SP06.


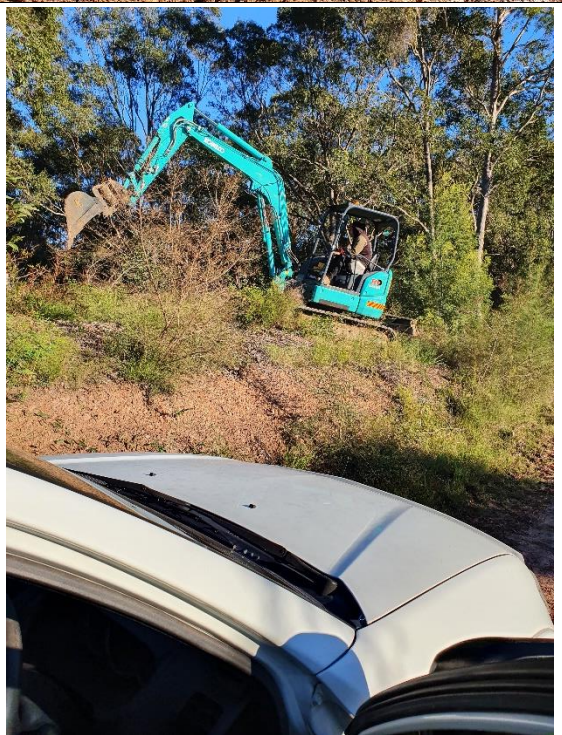
Date:

12.04.2021



		<p>Plate 25</p> <p>Description:</p> <p>TP132 within stockpile SP05.</p> <p>Date: 12.04.2021</p>
		<p>Plate 26</p> <p>Description:</p> <p>Stockpile SP06, test pit TP135. Photo taken facing east.</p> <p>Date: 12.04.2021</p>



		<p>Plate 27</p> <p>Description:</p> <p>Stockpile SP05 with anthropogenic waste located in the front left of the stockpile. Photo taken facing west.</p> <p>Date:</p> <p>12.04.2021</p>
		<p>Plate 28</p> <p>Description:</p> <p>Raised mound of material identified on the southern wall of the quarry. The mound is identified as SP07 and the photo shows TP145.</p> <p>Date:</p> <p>12.04.2021</p>



		<p>Plate 29</p> <p>Description:</p> <p>Test pit TP149 located within stockpiled material identified as SP01.</p> <p>Date:</p> <p>12.04.2021</p>
		<p>Plate 30</p> <p>Description:</p> <p>Stockpile material SP02, test pit TP123.</p> <p>Date:</p> <p>12.04.2021</p>

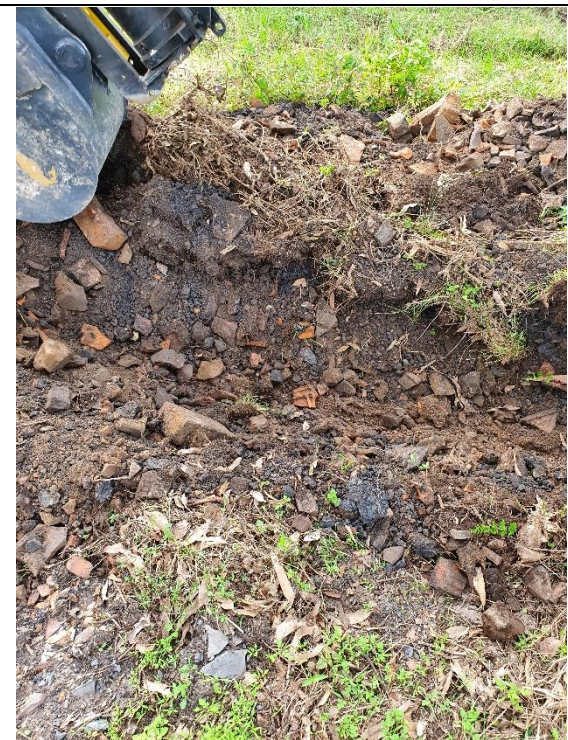

		<p>Plate 31</p> <p>Description:</p> <p>Stockpile SP03, photo shows test pit TP124.</p> <p>Date:</p> <p>12.04.2021</p>
		<p>Plate 32</p> <p>Description:</p> <p>SP08, test pit location TP150.</p> <p>Date:</p> <p>12.04.2021</p>



		<p>Plate 33</p> <p>Description:</p> <p>Western access track running along the edge of the quarry, photo taken from TP113 facing north.</p> <p>Date:</p> <p>12.04.2021</p>
		<p>Plate 34</p> <p>Description:</p> <p>Test pit location TP113 located within SP17 running along the western edge of the quarry.</p> <p>Date:</p> <p>12.04.2021</p>

		<p>Plate 35</p> <p>Description:</p> <p>Test pit location TP137 located within the side of SP07 on the southern edge of the quarry adjacent to the access track entering the quarry.</p> <p>Date:</p> <p>12.04.2021</p>
		<p>Plate 36</p> <p>Description:</p> <p>Brick and tiles within the access track entering the quarry in the south west corner. Photo taken of the test pit location TP130.</p> <p>Date:</p> <p>12.04.2021</p>



		<p>Plate 37</p> <p>Description:</p> <p>Old structure and anthropogenic waste stockpile, test pit location TP24.</p> <p>Date:</p> <p>8.03.2021</p>
		<p>Plate 38</p> <p>Description:</p> <p>Stockpiled SP15, test pit location TP27.</p> <p>Date:</p> <p>8.02.2021</p>

		<p>Plate 39</p> <p>Description:</p> <p>Old pipe and anthropogenic material adjacent to the two stockpiles SP11 and SP14.</p> <p>Date:</p> <p>8.03.2021</p>
		<p>Plate 40</p> <p>Description:</p> <p>Stockpiled material identified as SP11.</p> <p>Date:</p> <p>8.03.2021</p>

			<p>Plate 41</p> <p>Description:</p> <p>Test Pit TP06 located within the old access track in the south west corner of the Site. Contained brick, tiles and coal chitter.</p> <p>Date:</p> <p>8.03.2021</p>
			<p>Plate 42</p> <p>Description:</p> <p>Stockpiled material identified as SP12, test pit identified as TP10.</p> <p>Date:</p> <p>08.03.2021</p>

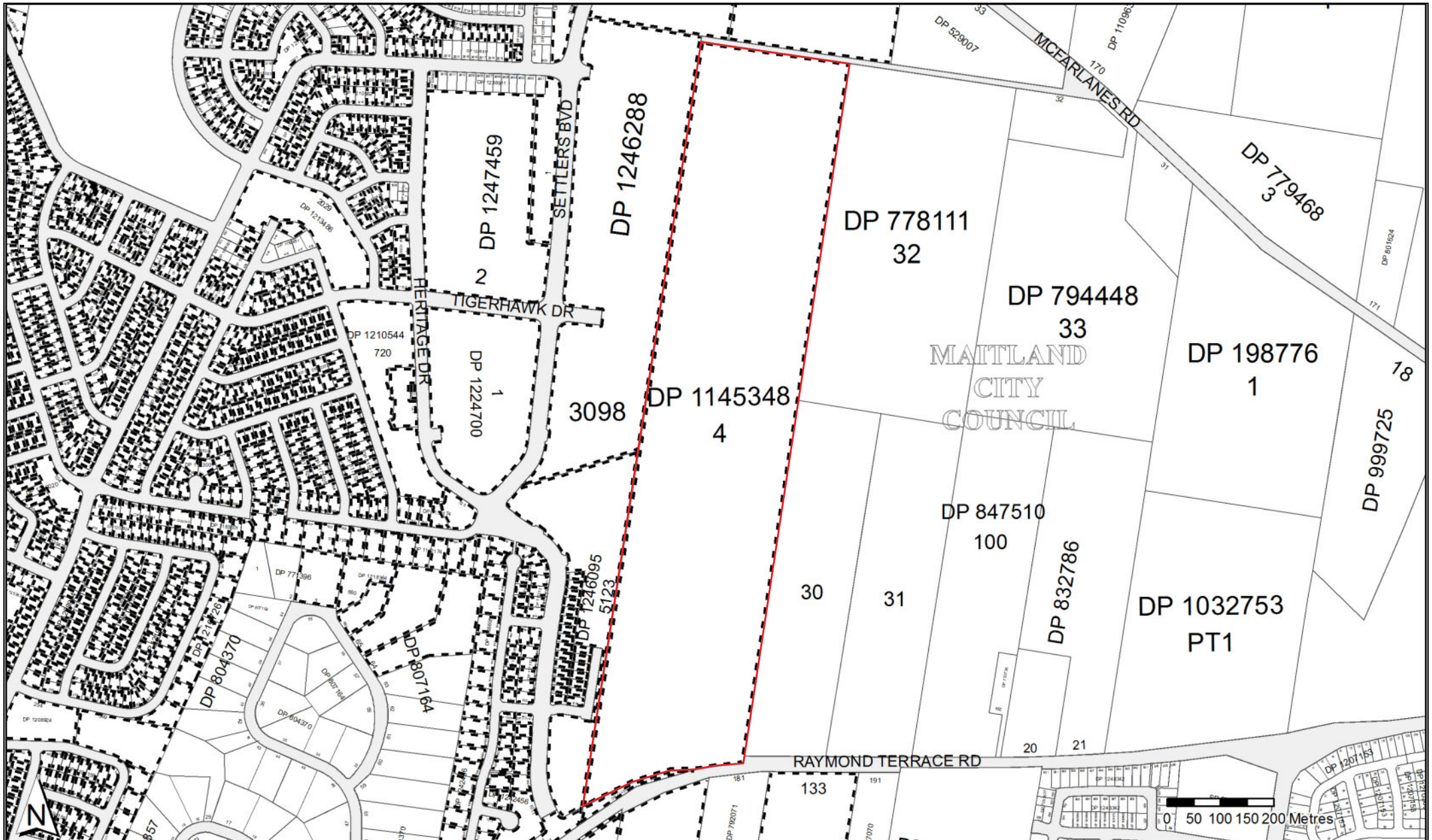
	<p>Plate 43</p> <p>Description:</p> <p>Sediment and surface water sampling location downstream of the onsite waterbody within the quarry. Sampling locations identified as SED02 and SW02.</p> <p>Date:</p> <p>8.04.2021</p>
	<p>Plate 44</p> <p>Description:</p> <p>Sediment and surface water sampling locations at the water body located within the quarry, identified as SW01 and SED01.</p> <p>Date:</p> <p>8.04.2021</p>

	<p>Plate 45</p> <p>Description:</p> <p>Surface water body in the northwestern corner of the quarry. Tall reeds surround the surface water close to the embankments.</p> <p>Date:</p> <p>8.04.2021</p>
	<p>Plate 46</p> <p>Description:</p> <p>Brick and tile used within the access track at test pit location TP85. Stockpiled material is visible in the top of the image showing SP10.</p> <p>Date:</p> <p>06.04.2021</p>

		<p>Plate 47</p> <p>Description:</p> <p>Brick and tiles located within the access track entering the quarry on the south eastern corner.</p> <p>Date:</p> <p>06.04.2021</p>
		<p>Plate 48</p> <p>Description:</p> <p>SP05 and SP06 located in the centre of the quarry, photo taken facing west from within the quarry along the eastern access track.</p> <p>Date:</p> <p>06.08.2021</p>

Appendix C

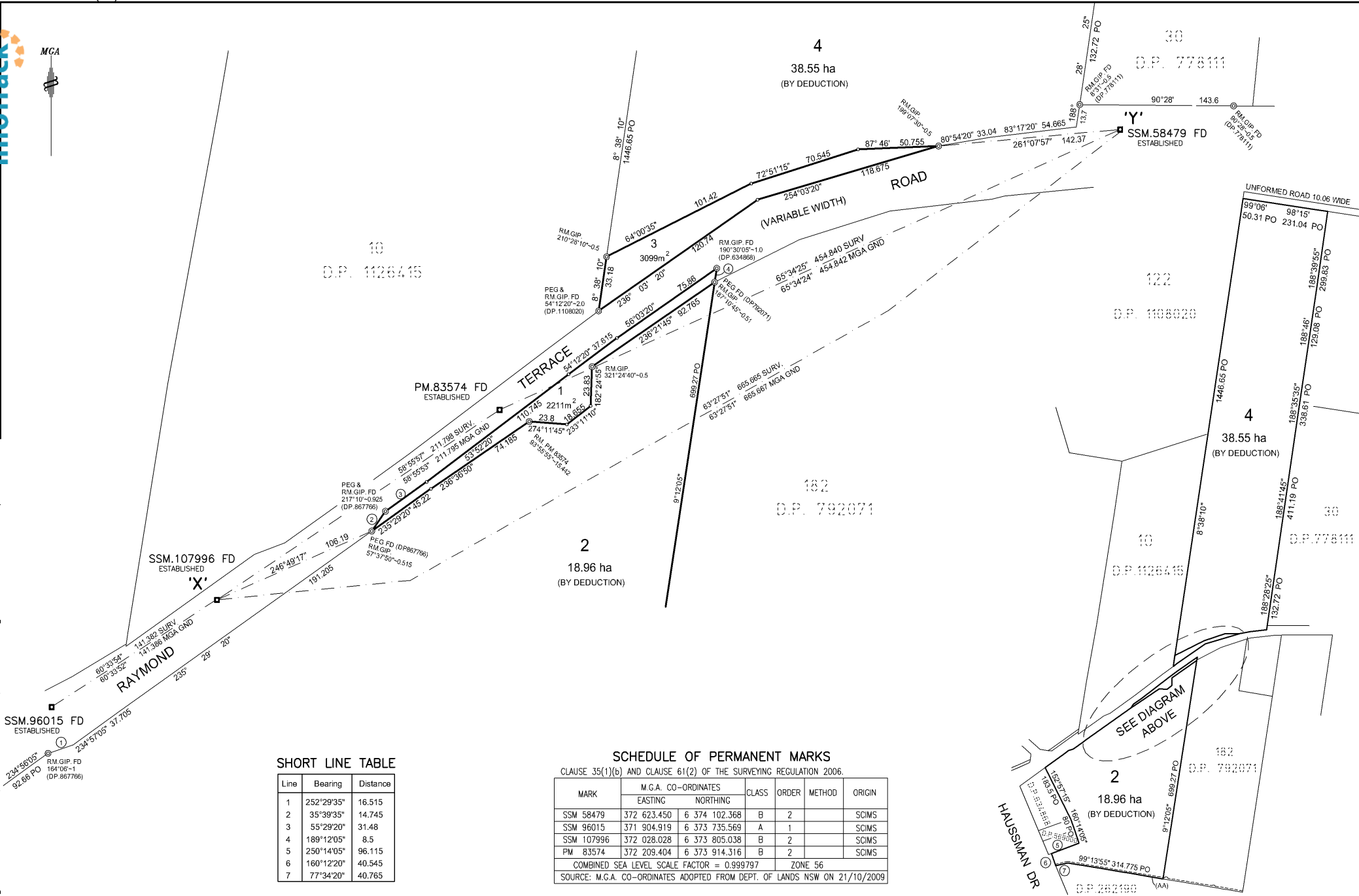
HISTORICAL TITLE INFORMATION





DP1145348

Req: R449735 / Doc: DP 1145348 P / Rev: 31-Mar-2010 / NSW IRS / Pgs: ALL / Prt: 03-Mar-2021 21:18 / Seq: 1 of 3
 © Office of the Registrar-General / Sec: INFOTRACK / Ref: 467 Raymond Terrace Road, Chisholm



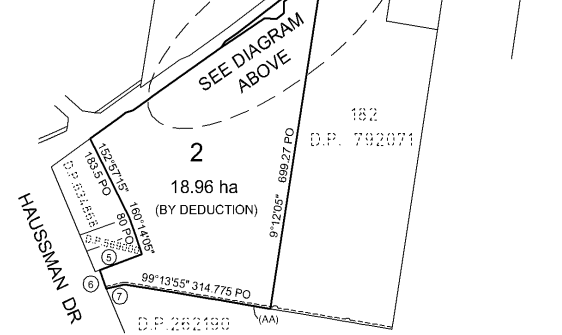
SHORT LINE TABLE

Line	Bearing	Distance
1	252°29'35"	16.515
2	35°39'35"	14.745
3	55°29'20"	31.48
4	189°12'05"	8.5
5	250°14'05"	96.115
6	160°12'20"	40.545
7	77°34'20"	40.765

SCHEDULE OF PERMANENT MARKS

CLAUSE 35(1)(b) AND CLAUSE 61(2) OF THE SURVEYING REGULATION 2006.

MARK	M.G.A. CO-ORDINATES		CLASS	ORDER	METHOD	ORIGIN
	EASTING	NORTHING				
SSM 58479	372 623.450	6 374 102.368	B	2		SCIMS
SSM 96015	371 904.919	6 373 735.569	A	1		SCIMS
SSM 107996	372 028.028	6 373 805.038	B	2		SCIMS
PM 83574	372 209.404	6 373 914.316	B	2		SCIMS
COMBINED SEA LEVEL SCALE FACTOR = 0.999797 ZONE 56						
SOURCE: M.G.A. CO-ORDINATES ADOPTED FROM DEPT. OF LANDS NSW ON 21/10/2009						



(AA) - PROPOSED EASEMENT FOR DRAINAGE OF SEWAGE 4 WIDE, 5 WIDE & VARIABLE WIDTH (8272569)

Surveyor: Jason Lee Haman
 Date of Survey: 28/10/2009
 Surveyor's Ref: 4070-DP-RTR

PLAN OF SUBDIVISION OF
 LOT 1 DP 797295 & LOT 2 DP 867766

LGA: MAITLAND
 Locality: CHISHOLM
 Subdivision No: 072980
 Lengths are in metres. Reduction Ratio 1: 1500

Registered:
 30.3.2010

DP1145348

PLAN FORM 6

WARNING: Creasing or folding will lead to rejection

ePlan

DEPOSITED PLAN ADMINISTRATION SHEET

Sheet 1 of 2 sheet(s)

SIGNATURES, SEALS and STATEMENTS of intention to dedicate public roads, to create public reserves, drainage reserves, easements, restrictions on the use of land or positive covenants.

IT IS INTENDED TO DEDICATE LOTS 1 & 3 TO THE PUBLIC AS PUBLIC ROAD.

DP1145348

Registered: 30.3.2010
Title System: TORRENS
Purpose: SUBDIVISION

PLAN OF SUBDIVISION OF
LOT 1 DP 797295 &
LOT 2 DP 867766

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

Surveying Regulation, 2006

I, JASON LEE HARMAN
of LAND DEVELOPMENT SOLUTIONS PTY LTD
P.O. BOX 853 THE JUNCTION, NSW 2291

a surveyor registered under the *Surveying Act, 2002*, certify that the survey represented in this plan is accurate, has been made in accordance with the *Surveying Regulation, 2006* and was completed on 28th October 2009

The survey relates to Lots 1 & 3

(specify the land actually surveyed, or specify any land shown in the plan that is not the subject of the survey)

Signature: [Signature] Dated: 20/10/2009
Surveyor registered under the *Surveying Act 2002*

Datum Line: X - Y
Type: Urban / Rural

Plans used in the preparation of survey/compilation:

- DP.10419
- DP.630225
- DP.634868
- DP.778111
- DP.792071
- DP.797295
- DP.867766
- DP.1053679
- DP.1090329
- DP.1108020
- DP.1126415

(if insufficient space use Plan Form 6A annexure sheet)

SURVEYOR'S REFERENCE: 4070-DP-RTR (CHECKLIST)

Use PLAN FORM 6A for additional certificates, signatures, seals and statements

Crown Lands NSW/Western Lands Office Approval

I, [Signature] in approving this plan certify (Authorised Officer) that all necessary approvals in regard to the allocation of the land shown herein have been given

Signature: _____
Date: _____
File Number: _____
Office: _____

Subdivision Certificate

I certify that the provisions of s.109J of the Environmental Planning and Assessment Act 1979 have been satisfied in relation to:

the proposed Road Widening set out herein
*(insert 'subdivision' or 'new road')

[Signature]
* Authorised Person/General Manager/Accredited Certifier

Consent Authority: Maitland City Council

Date of endorsement: 18.11.09

Accreditation no: _____

Subdivision Certificate no: 072980

File no: DA 07-2980

* Delete whichever is inapplicable

*OFFICE USE ONLY

PLAN FORM 6A (Annexure Sheet)

WARNING: Creasing or folding will lead to rejection ePlan

DEPOSITED PLAN ADMINISTRATION SHEET

Sheet 2 of 2 sheet(s)

PLAN OF SUBDIVISION OF
LOT 1 DP 797295 &
LOT 2 DP 867766


DP1145348 *

Registered:  30.3.2010 *

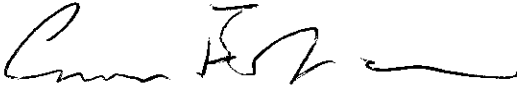
Subdivision Certificate No: 072980

Date of Endorsement: 18.11.09

CSR BUILDING PRODUCTS LIMITED
by its Attorneys who state that at the
date of their execution hereof they
have had no notice of the revocation
of the Power of Attorney
dated 23 February 2009 and
Registered No. Book 4563 No. 191
under the authority of which they
have executed this instrument.



Attorney PETER MARK MCGUIGAN



Attorney CHRISTOPHER JOHN BERTUCH

*OFFICE USE ONLY

LT 2/55

PLAN OF THE LAND COMPRISED IN DEED BK. 3093 NO. 291 CA. 39876		D P 797295	N O O I D I D
Locality: EAST ^{Mun / -Shire} MAITLAND City MAITLAND		Registered: 89.6.1989	
Parish: ALNWICK County: NORTHUMBERLAND		Title System: OLD SYSTEM	
Reduction Ratio 1: NOT TO SCALE Lengths are in metres		Purpose: LIMITED FOLIO CREATION	
THIS PLAN WAS PREPARED SOLELY TO IDENTIFY THE LAND IN THE ABOVE DEED AND THE BOUNDARIES HAVE NOT BEEN INVESTIGATED BY THE REGISTRAR GENERAL THE PLAN IS NOT A CURRENT PLAN IN TERMS OF SEC. 327AA LOCAL GOVERNMENT ACT, 1919.		Ref Map: U 5472-8*	
Last Plan: _____			

POR 45

Pt. POR 66

39.53 ha.

D.P. 630225

ROAD FROM RAYMOND TO TERRACE TO MAITLAND.

	This negative is a photograph made as a permanent record of a document in the custody of the Registrar General this day, 13th June, 1989												
<table border="1"> <tr> <td>10</td><td>20</td><td>30</td><td>40</td><td>50</td><td>60</td><td>70</td><td>Table of mm</td><td>110</td><td>120</td><td>130</td><td>140</td> </tr> </table>	10	20	30	40	50	60	70	Table of mm	110	120	130	140	
10	20	30	40	50	60	70	Table of mm	110	120	130	140		



NEW SOUTH WALES LAND REGISTRY SERVICES - HISTORICAL SEARCH

SEARCH DATE

3/3/2021 9:19PM

FOLIO: 1/797295

First Title(s): OLD SYSTEM

Prior Title(s): CA39876

Recorded	Number	Type of Instrument	C.T. Issue
22/6/1989	CA39876	CONVERSION ACTION	FOLIO CREATED EDITION 1
6/9/1995	0514293	TRANSFER	EDITION 2
18/6/2003	DP1054639	DEPOSITED PLAN	
30/3/2010	AF394340	CHANGE OF NAME	
30/3/2010	DP1145348	DEPOSITED PLAN	FOLIO CANCELLED RESIDUE REMAINS

*** END OF SEARCH ***

97-01T

TRANSFER

Real Property Act, 1900



0
514293 N



Office of State Revenue use only

①

OFFICE OF STATE REVENUE
(N.S.W. TREASURY)

1994/95 P3

NO STAMP DUTY IS PAYABLE
ON THIS INSTRUMENT (632)

(A) LAND TRANSFERRED
Show no more than 20 References to Title.
If appropriate, specify the share transferred.

FOLIO IDENTIFIER 1/797295

(B) LODGED BY	L.T.O. Box 41J 41J	Name, Address or DX and Telephone MALLESONS STEPHEN JAQUES 1 FARRER PLACE SYDNEY DX 113 SYDNEY Reference (max. 15 characters): ALB-P104022(7)
----------------------	--------------------------	--

(C) TRANSFEROR ..PGH LIMITED..(ACN 003 534 870).....
..(formerly PGH Pty Limited).....

(D) ~~acknowledges receipt of the consideration of ...pursuant to a corporate reconstruction.....~~
and as regards the land specified above transfers to the transferee an estate in fee simple

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

(F) TRANSFEREE

T	MONIER PGH HOLDINGS LIMITED (ACN 008 631 356)	5
---	--	---

(G) TENANCY:

(H) We certify this dealing correct for the purposes of the Real Property Act, 1900 **DATE** 18 AUGUST 1995

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

**FOR EXECUTION CLAUSES
SEE ANNEXURE**

.....
Signature of Witness
.....
Name of Witness (BLOCK LETTERS)
.....
Address of Witness

.....
Signature of Transferor

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

.....
Signature of Witness
.....
Name of Witness (BLOCK LETTERS)
.....
Address of Witness

.....
Signature of Transferee



**This is the annexure containing execution clauses to Transfer
Between:
PGH LIMITED (as Transferor)
And:
MONIER PGH HOLDINGS LIMITED (as Transferee)**

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

DATE 18 AUGUST 1995

THE COMMON SEAL of PGH LIMITED is affixed in accordance with its articles of association in the presence of:

[Handwritten Signature]

Signature of authorised person

DIRECTOR
Office held

ANTHONY JOHN TANNER
Name of authorised person (block letters)



[Handwritten Signature]

Signature of authorised person

SECRETARY
Office held

DAVID COLLEN
Name of authorised person (block letters)

THE COMMON SEAL of MONIER PGH HOLDINGS LIMITED is affixed in accordance with its articles of association in the presence of:

[Handwritten Signature]

Signature of authorised person

DIRECTOR
Office held

JOHN FORDIE-SMITH
Name of authorised person (block letters)



[Handwritten Signature]

Signature of authorised person

DIRECTOR
Office held

DAVID COLLEN
Name of authorised person (block letters)

ASIC EXTRACT SNAPSHOT

CURRENT ORGANISATION DETAILS

Date Extracted	04/03/2021
ACN	003 534 870
ABN	65 003 534 870
Current Name	EKI PTY LIMITED
Registered In	New South Wales
Registration Date	07/06/1988
Review Date	-
Company Type	ACN (Australian Company Number)
Current Directors	0
Current Secretaries	0

Start Date	28/03/2002
Name	EKI PTY LIMITED
Name Start Date	22/03/2001
Status	Deregistered
Type	Australian Proprietary Company
Class	Limited By Shares
Sub Class	Proprietary Company
Disclosing Entity	No
Document No.	

Share Structure (Displaying Top 4 Only)

[Go to Full ASIC Results](#)

Class	Class Type	Shares Issued	Amount Paid
ORD	ORDINARY SHARES	268000000	\$268,000,000.00

REVEAL - Company Visualisation

[Go to full workspace](#)



ASIC Data Extracted 04/03/2021 at 06:29

This extract contains information derived from the Australian Securities and Investment Commission's (ASIC) database under section 1274A of the Corporations Act 2001. Please advise ASIC of any error or omission which you may identify.

- 003 534 870 EKI PTY LIMITED -

ACN (Australian Company Number): 003 534 870
ABN: 65 003 534 870
Current Name: EKI PTY LIMITED
Registered in: New South Wales
Registration Date: 07/06/1988
Previous State Number: 42152419
Company Bounded By:

Document No.

- Current Organisation Details -

Name: EKI PTY LIMITED
Name Start Date: 22/03/2001
Status: Deregistered
Date Deregistered: 28/03/2002
Reason Deregistered: SECTION 509
Type: Australian Proprietary Company
Class: Limited By Shares
Sub Class: Proprietary Company

- Former Organisation Details from 02/05/2001 to 27/03/2002 -

Name: EKI PTY LIMITED
Name Start Date: 22/03/2001
Status: ** Under External Administration And/Or Controller Appointed **
Type: Australian Proprietary Company
Class: Limited By Shares
Sub Class: Proprietary Company

017154405

- Former Organisation Details from 22/03/2001 to 01/05/2001 -

Name: EKI PTY LIMITED
Name Start Date: 22/03/2001
Status: Registered
Type: Australian Proprietary Company

016601013

Class: Limited By Shares
Sub Class: Proprietary Company

- Former Organisation Details from 15/10/1998 to 21/03/2001 -

Name: PGH PTY LIMITED 014273902
Name Start Date: 15/10/1998
Status: Registered
Type: Australian Proprietary Company
Class: Limited By Shares
Sub Class: Proprietary Company

- Former Organisation Details from 19/10/1989 to 14/10/1998 -

Name: PGH LIMITED
Name Start Date: 19/10/1989
Status: Registered
Type: Australian Public Company
Class: Limited By Shares
Sub Class: Unlisted Public Company

- Former Organisation Details from 01/02/1989 to 18/10/1989 -

Name: PGH PTY. LIMITED
Name Start Date: 01/02/1989
Status: Registered
Type: Australian Proprietary Company
Class: Limited By Shares
Sub Class: Exempt Proprietary Company

- Former Organisation Details from 07/06/1988 to 31/01/1989 -

Name: EKI PTY. LIMITED
Name Start Date: 01/07/1988
Status: Registered
Type: Australian Proprietary Company
Class: Limited By Shares
Sub Class: Exempt Proprietary Company

- Company Addresses -

- Previous Registered Office

003060596

Address: LEVEL 4 9 HELP STREET CHATSWOOD NSW 2067
Start Date: 23/07/1992
Cease Date: 28/03/2002

- Previous Registered Office

Address: LEVEL 19 TOWER A ZENITH CENTRE 821 PACIFIC HIGHWAY CHATSWOOD
NSW 2067

Start Date: //
Cease Date: 22/07/1992

- Previous Principal Place of Business

00353487D
(AR 1993)

Address: LEVEL 4 9 HELP STREET CHATSWOOD NSW 2067
Start Date: 11/06/1993
Cease Date: 28/03/2002

- Previous Principal Place of Business

0353487B
(AR 1991)

Address: LEVEL 19 TOWER A ZENITH CENTRE 821 PACIFIC HIGHWAY CHATSWOOD
NSW 2067
Start Date: 16/07/1991
Cease Date: 10/06/1993

- Company Officers -

Note:

A date or address shown as UNKNOWN has not been updated since ASIC took over the records in 1991. For details, order the appropriate historical state or territory documents, available in microfiche or paper format.

* Check documents listed under ASIC Documents Received for recent changes.

Previous Previous Executive Officer

Name: JULIEN DE BERRI NOAKES
Address: 76 BEECHWORTH ROAD PYMBLE NSW 2073
Birth Details: 22/02/1937 AUCKLAND NEW ZEALAND
Appointment Date: 21/02/1989
Cease Date: 31/01/1991

Previous Director

Name: FRANCIS NORMAN GOSLING
Address: 5 FOX ROAD EAST RYDE NSW 2113
Birth Details: 07/03/1943 DARTFORD KENT UNITED KINGDOM
Appointment Date: 09/07/1998
Cease Date: 28/03/2002

014251451

Name: ERIC KA-FAI IP
Address: 21 TAYLOR STREET GREYSTANES NSW 2145
Birth Details: 31/12/1961 HONG KONG
Appointment Date: 09/07/1998
Cease Date: 28/03/2002

014251451

Name: ROBERT EDWARD ELLIOTT
Address: 21 GLEN AVENUE RANDWICK NSW 2031
Birth Details: 02/10/1952 SYDNEY NSW
Appointment Date: 09/07/1998
Cease Date: 28/03/2002

014251451

Name:	PETER ROBERT NETTHEIM	014251451
Address:	15A ALAN AVENUE SEAFORTH NSW 2092	
Birth Details:	12/06/1950 SYDNEY NSW	
Appointment Date:	09/07/1998	
Cease Date:	18/10/2000	
Name:	ANTHONY JOHN TANNER	010596010
Address:	23 CABRAMATTA ROAD MOSMAN NSW 2088	
Birth Details:	23/01/1948 SYDNEY NSW	
Appointment Date:	23/09/1994	
Cease Date:	09/07/1998	
Name:	MARK HOLLINGSWORTH	011105710
Address:	UNIT 4 16 CARLOTTA ROAD DOUBLE BAY NSW 2028	
Birth Details:	18/08/1941 GRAFTON NSW	
Appointment Date:	31/07/1995	
Cease Date:	09/07/1998	
Name:	IAN HARDIMAN	011105710
Address:	22 ROSA STREET OATLEY NSW 2223	
Birth Details:	03/06/1960 SYDNEY NSW	
Appointment Date:	22/12/1995	
Cease Date:	09/07/1998	
Name:	ROGER BATEMAN PAYNE	010596010
Address:	3 TAMBAROORA PLACE WEST PENNANT HILLS NSW 2125	
Birth Details:	16/01/1943 MALDEN UNITED KINGDOM	
Appointment Date:	05/07/1995	
Cease Date:	22/12/1995	
Name:	PETER JOHN BOWEN	005047251
Address:	18 ILYA AVENUE BAYVIEW NSW 2104	
Birth Details:	14/11/1944 SYDNEY NSW	
Appointment Date:	01/02/1991	
Cease Date:	31/07/1995	
Name:	DAVID VINCENT CULLEN	005780290
Address:	34 MONASH CRESCENT CLONTARF NSW 2093	
Birth Details:	10/04/1959 SYDNEY NSW	
Appointment Date:	06/08/1994	
Cease Date:	05/07/1995	
Name:	ADRIAN PHILLIP DRIVER	004986373
Address:	LOT 23 WERRINGTON STREET BURRADOO NSW 2576	
Birth Details:	02/09/1954 SYDNEY NSW	
Appointment Date:	01/05/1993	
Cease Date:	23/09/1994	

Name: MARTIN BRUCE BUCKLAND 001251963
Address: 76 FERGUSON STREET FORESTVILLE NSW 2087
Birth Details: 05/06/1954 WOOMERA SA
Appointment Date: 01/05/1991
Cease Date: 05/08/1994

Name: GEOFFREY VICTOR KELLS 000996650
Address: 19 GRANDVIEW STREET PYMBLE NSW 2073
Birth Details: 11/06/1943 PERTH WA
Appointment Date: 01/02/1991
Cease Date: 30/04/1993

Name: MARK HOLLINGSWORTH
Address: UNIT 4 6 GARIE PLACE COOGEE NSW 2034
Birth Details: 18/08/1941 SYDNEY NSW
Appointment Date: 14/12/1989
Cease Date: 01/05/1991

Name: GEOFFREY WILLIAM SQUIRES
Address: 21 HALLORAN AVENUE DAVIDSON NSW 2085
Birth Details: 14/04/1949 SYDNEY NSW
Appointment Date: 14/07/1989
Cease Date: 13/02/1991

Name: JULIEN DE BERRI NOAKES
Address: 76 BEECHWORTH ROAD PYMBLE NSW 2073
Birth Details: 22/02/1937 AUCKLAND NEW ZEALAND
Appointment Date: 21/02/1989
Cease Date: 31/01/1991

Name: BRYAN JAMIESON PADMAN
Address: 63 YARRARA ROAD WEST PYMBLE NSW 2073
Birth Details: 03/08/1933 BRISBANE QLD
Appointment Date: 06/12/1988
Cease Date: 06/12/1988

Name: BRIAN WILLIAM BOOS
Address: 7 CRAMER CRESCENT CHATSWOOD NSW 2067
Birth Details: 07/08/1944 SYDNEY NSW
Appointment Date: 06/12/1988
Cease Date: 06/12/1988

Name: MICHAEL JOHN GRAY
Address: 1 CROSS STREET MOSMAN NSW 2088
Birth Details: 25/09/1952 LONDON UNITED KINGDOM
Appointment Date: 09/06/1988
Cease Date: 06/12/1988

Name: BEVERELY ANN CAMERON
Address: 46 BARKER ROAD STRATHFIELD NSW 2135
Birth Details: 31/05/1940 MOUNT ISA QLD
Appointment Date: 09/06/1988
Cease Date: 06/12/1988

Previous Secretary

Name: FRANCIS NORMAN GOSLING 014251451
Address: 5 FOX ROAD EAST RYDE NSW 2113
Birth Details: 07/03/1943 DARTFORD KENT UNITED KINGDOM
Appointment Date: 09/07/1998
Cease Date: 28/03/2002

Name: DAVID EDWARD MILLER 014625759
Address: 20 TANTALLON ROAD LANE COVE NSW 2066
Birth Details: 01/02/1968 COOTAMUNDRA NSW
Appointment Date: 05/08/1998
Cease Date: 28/03/2002

Name: DIANE LESLIE KREJZAR 011105710
Address: 26A KILLARNEY STREET MOSMAN NSW 2088
Birth Details: 31/05/1943 QUANDIALLA NSW
Appointment Date: 22/12/1995
Cease Date: 09/07/1998

Name: ROGER BATEMAN PAYNE 010596010
Address: 3 TAMBAROORA PLACE WEST PENNANT HILLS NSW 2125
Birth Details: 16/01/1943 MALDEN UNITED KINGDOM
Appointment Date: 05/07/1995
Cease Date: 22/12/1995

Name: DAVID VINCENT CULLEN 005780290
Address: 34 MONASH CRESCENT CLONTARF NSW 2093
Birth Details: 10/04/1959 SYDNEY NSW
Appointment Date: 06/08/1994
Cease Date: 05/07/1995

Name: MARTIN BRUCE BUCKLAND 005827928
Address: 76 FERGUSON STREET FORESTVILLE NSW 2087
Birth Details: 05/06/1954 WOOMERA SA
Appointment Date: 17/12/1993
Cease Date: 05/08/1994

Name: JEAN ELBORN 000237480
Address: 8 BENNABRA PLACE FRENCHS FOREST NSW 2086
Birth Details: 23/09/1946 WOLVENHAMPTON UNITED KINGDOM

Appointment Date: 17/12/1990
Cease Date: 17/12/1993

Name: MARK HOLLINGSWORTH
Address: UNIT 4 6 GARIE PLACE COOGEE NSW 2034
Birth Details: 18/08/1941 SYDNEY NSW
Appointment Date: 14/12/1989
Cease Date: 01/05/1991

Name: ANDREAS VOGT VOGT
Address: 46 OLEANDER AVENUE BAULKHAM HILLS NSW 2153
Birth Details: 06/07/1949 DRESDEN GERMANY
Appointment Date: 06/12/1988
Cease Date: 06/12/1988

Name: BEVERELY ANN CAMERON
Address: 46 BARKER ROAD STRATHFIELD NSW 2135
Birth Details: 31/05/1940 MOUNT ISA QLD
Appointment Date: 09/06/1988
Cease Date: 06/12/1988

Previous Appointed Auditor

Name: DELOITTE ROSS TOHMATSU
Address: NATIONAL AUSTRALIA BANK HOUSE 255 GEORGE STREET SYDNEY NSW
2000
Appointment Date: 26/10/1990
Cease Date: 28/03/2002

Name: DELOITTE HASKINS & SELLS
Address: C/- ZENITH CENTRE 821 PACIFIC HIGHWAY CHATSWOOD NSW 2067
Appointment Date: 13/07/1990
Cease Date: 26/10/1990

Previous Ultimate Holding Company

Name: 000 001 276 CSR LIMITED 0353487B
Address: (AR 1991)
Appointment Date: //
Cease Date: //
Abn: 90 000 001 276

Previous Appointed Liquidator (Members Voluntary Winding Up)

Name: TIMOTHY JAMES CUMING 017177661
Address: PRICEWATERHOUSECOOPERS DARLING PARK TOWER 2 201 SUSSEX STREET SYDNEY NSW 1171
Birth Details: //
Appointment Date: 02/05/2001
Cease Date: 28/03/2002

- Share Structure -

Ceased/Former

Class: ORDINARY SHARES 00353487D
Number of Shares Issued: 268000000 (AR 1993)
Total Amount Paid / Taken to be Paid: \$268,000,000.00
Total Amount Due and Payable: \$0.00

Note:

For each class of shares issued by a company, ASIC records the details of the twenty members of the class (based on shareholdings). The details of any other members holding the same number of shares as the twentieth ranked member will also be recorded by ASIC on the database. Where available, historical records show that a member has ceased to be ranked amongst the twenty members. This may, but does not necessarily mean, that they have ceased to be a member of the company.

- Share/Interest Holding -

Ceased/Former

- Holding -

Class: ORD **Number Held:** 268000000 00353487C
Beneficially Owned: Yes **Fully Paid:** Yes (AR 1992)

- Members -

Name: CSR BUILDING PRODUCTS LIMITED
ACN: 008 631 356
Address: LEVEL 4 9 HELP STREET CHATSWOOD NSW 2067
Joint Holding: No
Abn: 55 008 631 356

- External Administration Documents -

There are no external administration documents held for this organisation.

- Charges -

There are no charges held for this organisation.

Notes:

On 30 January 2012, the Personal Property Securities Register (PPS Register) commenced. At that time ASIC transferred all details of current charges to the PPS Registrar. ASIC can only provide details of satisfied charges prior to that date. Details of current charges, or charge satisfied since 30 January 2012 can be found on the PPS Register, www.ppsr.gov.au. InfoTrack may cap documents for on-file searches to 250.

- Document List -

Notes:

- * Documents already listed under Registered Charges are not repeated here.
- * Data from Documents with no Date Processed are not included in this Extract.
- * Documents with '0' pages have not yet been imaged and are not available via DOCIMAGE. Imaging takes approximately 2 weeks from date of lodgement.
- * The document list for a current/historical extract will be limited unless you requested ALL documents for this extract.
- * In certain circumstances documents may be capped at 250.

Form Type	Date Received	Date Processed	No. Pages	Effective Date	Document No.
524 524B	23/01/2002	06/02/2002	5	28/12/2001	017971723
	Presentation of Liquidator's (Final) Account And Statement				
523 523	28/12/2001	14/01/2002	2	28/12/2001	017758638
	Notification of Final Meeting Convened By Liquidator				
524 524A	29/11/2001	12/12/2001	5	01/11/2001	017745369
	Presentation of Liquidator's Account And Statement				
505 505H	01/06/2001	07/06/2001	3	02/05/2001	017177661
	Notification of Appointment of Liquidator By The Members				
5011 5011A	03/05/2001	11/05/2001	3	02/05/2001	017154406
	Copy of Minutes of Meeting of Members, Creditors, Contributories or Committee of Inspection Other Than Under S.436e or S.439a				
205 205L	03/05/2001	11/05/2001	1	02/05/2001	017154405
	Notification of Resolution Winding Up The Company				
520 520	02/04/2001	06/04/2001	2	02/04/2001	017171285
	Declaration of Solvency				
205 205A	22/03/2001	23/03/2001	1	12/03/2001	016601013
	Notification of Resolution Changing Company Name				
316 316L	18/12/2000	09/01/2001	3	11/12/2000	00353487K
	ANNUAL RETURN - PROPRIETARY COMPANY				
304 304A	27/10/2000	14/11/2000	1	18/10/2000	016834419
	NOTIFICATION OF CHANGE TO OFFICEHOLDERS OF AUSTRALIAN COMPANY				

Updated by 016 834 182

370	19/10/2000	07/11/2000	2	19/10/2000	016834182
370	NOTIFICATION BY OFFICEHOLDER OF RESIGNATION OR RETIREMENT				
	Updates 016 834 419				
316	18/11/1999	29/11/1999	3	11/11/1999	00353487J
316L	ANNUAL RETURN - PROPRIETARY COMPANY				
304	18/11/1998	26/11/1998	1	13/11/1998	014625759
304C	NOTIFICATION OF CHANGE OF NAME OR ADDRESS OF OFFICEHOLDER				
205	31/08/1998	02/09/1998	2	24/08/1998	014273902
205B	NOTIFICATION OF RESOLUTION CONVERTING TO A PROPRIETARY COMPANY				
206	31/08/1998	02/09/1998	1	31/08/1998	014273901
206B	APPLICATION FOR CHANGE OF COMPANY STATUS CONVERSION OF COMPANY FROM PUBLIC TO PTY				
304	10/08/1998	11/08/1998	2	05/08/1998	014209819
304A	NOTIFICATION OF CHANGE TO OFFICEHOLDERS OF AUSTRALIAN COMPANY				
304	13/07/1998	22/07/1998	5	09/07/1998	014251451
304A	NOTIFICATION OF CHANGE TO OFFICEHOLDERS OF AUSTRALIAN COMPANY				
316	13/07/1998	22/07/1998	19	09/07/1998	00353487I
316G	ANNUAL RETURN - UNLISTED PUBLIC COMPANY				
316	08/12/1997	18/12/1997	22	21/11/1997	00353487H
316G	ANNUAL RETURN - UNLISTED PUBLIC COMPANY				
316	08/08/1996	14/08/1996	22	06/08/1996	00353487G
316G	ANNUAL RETURN - UNLISTED PUBLIC COMPANY				
304	19/01/1996	09/02/1996	2	23/12/1995	011105710
304	NOTIFICATION OF				
304A	CHANGE TO OFFICEHOLDERS OF AUSTRALIAN COMPANY				
304C	CHANGE OF NAME OR ADDRESS OF OFFICEHOLDER				
304	04/09/1995	07/09/1995	3	31/07/1995	009067920
304A	NOTIFICATION OF CHANGE TO OFFICEHOLDERS OF AUSTRALIAN COMPANY				
304	04/08/1995	04/08/1995	3	05/07/1995	010596010
304A	NOTIFICATION OF CHANGE TO OFFICEHOLDERS OF AUSTRALIAN COMPANY				
316	08/06/1995	13/06/1995	22	25/05/1995	00353487F
316G	ANNUAL RETURN - UNLISTED PUBLIC COMPANY				
304	05/06/1995	09/06/1995	2	23/09/1994	009636495

304A						
304	24/08/1994	15/09/1994	2	05/08/1994	005780290	
304A						
316	23/06/1994	30/07/1994	23	09/06/1994	007321634	
316G						
304	07/01/1994	11/01/1994	2	17/12/1993	005827928	
304A						
304	03/11/1993	10/11/1993	2	18/10/1993	004986373	
304C						
304	20/08/1993	24/08/1993	2	09/08/1993	005047251	
304C						
316	02/07/1993	08/07/1993	25	11/06/1993	00353487D	
316G						
304	28/05/1993	31/05/1993	2	30/04/1993	003948807	
304A						
203	16/07/1992	17/07/1992	1	20/07/1992	003060596	
203A						
316	16/07/1992	03/08/1992	28	16/07/1992	00353487C	
316						
316E						
316G						
207	03/10/1991	11/10/1991	2	30/09/1991	001875298	
207B						
316	16/07/1991	18/07/1991	26	16/07/1991	0353487B	
316						
316E						
316G						
316F						
205	19/06/1991	20/06/1991	1	17/06/1991	001035192	
205T						
304	29/05/1991	04/06/1991	2	01/05/1991	001251963	
304A						
304	25/02/1991	27/02/1991	2	31/01/1991	000996650	
304A						

COMPANY

304 17/01/1991 18/01/1991 2 17/01/1991 000237480
304A NOTIFICATION OF CHANGE TO OFFICEHOLDERS OF AUSTRALIAN
COMPANY

- Pre-ASIC Documents -

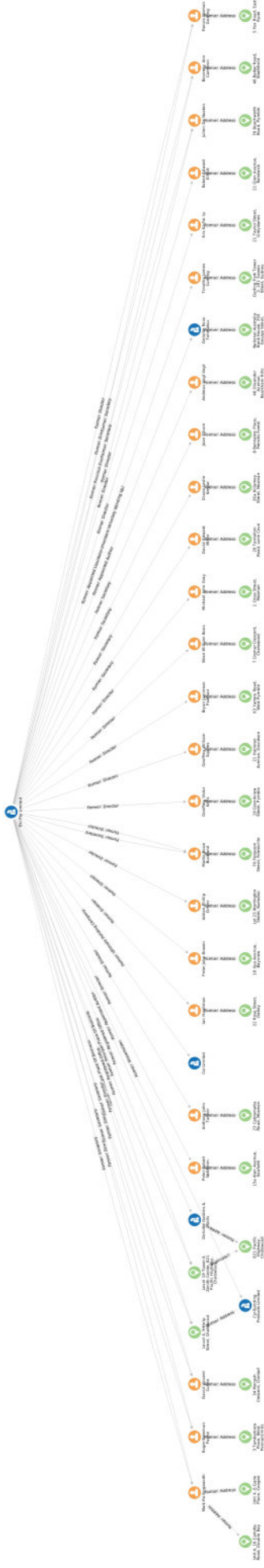
State	Date Received	Form Code	Status
New South Wales	19/10/1989	65E	RCVD
New South Wales	04/01/1990	61C	RCVD
New South Wales	04/01/1990	55C	RCVD
New South Wales	04/01/1990	66	RCVD
New South Wales	09/08/1990	66	RCVD
New South Wales	31/12/1990	M'FICHE	

- Annual Returns -

Year	Return Due	Extended Return Due	AGM Due	Extended AGM Due	AGM Held Date	Outstanding
1989	07/01/1990	//	07/12/1989	//	22/06/1989	No
1990	31/01/1991	//	31/12/1990	//	19/07/1990	No
1991	30/09/1991	//	31/08/1991	//	17/06/1991	No
1992	30/09/1992	//	31/08/1992	//	19/06/1992	No
1993	30/09/1993	//	31/08/1993	//	11/06/1993	No
1994	30/09/1994	//	31/08/1994	//	09/06/1994	No
1995	30/09/1995	//	31/08/1995	//	25/05/1995	No
1996	30/09/1996	//	31/08/1996	//	10/07/1996	No
1997	30/09/1997	//	31/08/1997	//	07/05/1997	No
1998	30/09/1998	//	31/08/1998	//	//	No
1999	31/01/2000	//	//	//	//	No
2000	31/01/2001	//	//	//	//	No

- Company Contact Addresses -

*** End of Document ***





NEW SOUTH WALES LAND REGISTRY SERVICES - HISTORICAL SEARCH

SEARCH DATE

3/3/2021 9:17PM

FOLIO: 4/1145348

First Title(s): OLD SYSTEM

Prior Title(s): 1/797295

Recorded	Number	Type of Instrument	C.T. Issue
-----	-----	-----	-----
30/3/2010	DP1145348	DEPOSITED PLAN	FOLIO CREATED EDITION 1
7/6/2019	DP1246095	DEPOSITED PLAN	

*** END OF SEARCH ***



FOLIO: 4/1145348

SEARCH DATE	TIME	EDITION NO	DATE
3/3/2021	9:18 PM	1	30/3/2010

LAND

LOT 4 IN DEPOSITED PLAN 1145348
AT CHISHOLM
LOCAL GOVERNMENT AREA MAITLAND
PARISH OF ALNWICK COUNTY OF NORTHUMBERLAND
TITLE DIAGRAM DP1145348

FIRST SCHEDULE

CSR BUILDING PRODUCTS LIMITED

SECOND SCHEDULE (4 NOTIFICATIONS)

- 1 RESERVATIONS AND CONDITIONS IN THE CROWN GRANT(S)
- 2 LIMITED TITLE. LIMITATION PURSUANT TO SECTION 28T(4) OF THE REAL PROPERTY ACT, 1900. THE BOUNDARIES OF THE LAND COMPRISED HEREIN HAVE NOT BEEN INVESTIGATED BY THE REGISTRAR GENERAL.
- * 3 DP1246095 RIGHT OF ACCESS 17 METRE(S) WIDE APPURTENANT TO THE LAND ABOVE DESCRIBED
- * 4 DP1246095 EASEMENT FOR SERVICES 17 METRE(S) WIDE APPURTENANT TO THE LAND ABOVE DESCRIBED

NOTATIONS

DP1054639 NOTE: PROPOSED EASEMENT FOR ELECTRICITY TRANSMISSION LINE AND ACCESS THERETO 5 WIDE

UNREGISTERED DEALINGS: NIL


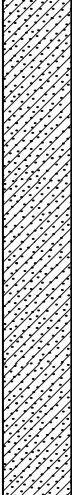
*** END OF SEARCH ***

Appendix D

SOIL LOGS

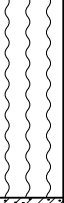

PROJECT NUMBER EP1995	DRILLING DATE 08/03/2021	LATITUDE -32.763270
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY Lovett's Earthmoving	LONGITUDE 151.638188
CLIENT Avid Property Group	DRILLER RN	SURFACE ELEVATION
ADDRESS Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD 400mm Bucket	LOGGED BY GR
	TOTAL DEPTH 0.7 m	CHECKED BY LK

COMMENTS Test Pit within access track

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Moisture	DCP	Consistency	Additional Observations
	<1		TP01_0.1 ASS01_0.1			FILL: Silty SAND with gravel: Fine to medium grained sand, brown, fine to medium sub-angular gravels.	D	Ref.		Foreign material and organic material identified. Brick and tiles.
0.5	<1		TP01_0.5			Sandy CLAY: Medium to high plasticity, brown mottled yellow, fine sand. Residual soil.				
1						EOI at 0.7m				


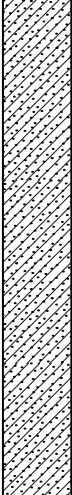
PROJECT NUMBER EP1995	DRILLING DATE 08/03/2021	LATITUDE -32.763539
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY Lovett's Earthmoving	LONGITUDE 151.637943
CLIENT Avid Property Group	DRILLER RN	SURFACE ELEVATION
ADDRESS Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD 400mm Bucket	LOGGED BY GR
	TOTAL DEPTH 1.1 m	CHECKED BY LK

COMMENTS

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Moisture	DCP	Consistency	Additional Observations
	<1		TP02_0.1 ASS02_0.1			TOPSOIL: Silty, clayey SAND: Fine to medium grained, brown, non-plastic, fine to medium sub-angular gravel. Traces of coal chitter.	D	3		No brick.
			5							
0.5	<1		TP02_0.5 ASS03_0.5			Sandy CLAY: Fine grained, medium to high plasticity, brown mottled yellow, near plastic limit. Residual soil.		5	Stiff to Very Stiff	
			4							
			2							
			3							
			2							
1						End of intrusive investigation.		2		
								4		
								4		
								5		
						End of Dynamic Core Penetrometer testing.				

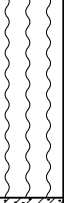


PROJECT NUMBER EP1995	DRILLING DATE 08/03/2021	LATITUDE -32.763503
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY Lovett's Earthmoving	LONGITUDE 151.637630
CLIENT Avid Property Group	DRILLER RN	SURFACE ELEVATION
ADDRESS Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD 400mm Bucket	LOGGED BY GR
	TOTAL DEPTH 0.7 m	CHECKED BY LK

COMMENTS

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Moisture	DCP	Consistency	Additional Observations
	<1		TP03_0.1 ASS04_0.1			FILL: Silty SAND with gravel: Fine to coarse grained sand, non-plastic, brown, fine to medium sub-angular gravel	D	6		Brick, foreign material and organic material identified.
			6							
0.5	<1		TP03_0.5 ASS05_0.5			Sandy CLAY: Medium to high plasticity, brown mottled yellow, near plastic limit, fine grained sand. Residual soil.		5	Stiff to very stiff	
			4							
			4							
			3							
			3							
						End of Intrusive investigation.		3		
								6		
1						End of Dynamic Core Penetrometer at 0.9m				


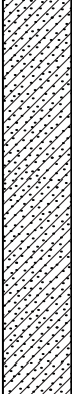
PROJECT NUMBER EP1995	DRILLING DATE 08/03/2021	LATITUDE -32.763441
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY Lovett's Earthmoving	LONGITUDE 151.637091
CLIENT Avid Property Group	DRILLER RN	SURFACE ELEVATION
ADDRESS Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD 400mm Bucket	LOGGED BY GR
	TOTAL DEPTH 1.0 m	CHECKED BY LK

COMMENTS

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Moisture	DCP	Consistency	Additional Observations
	<1		TP04_0.1 ASS06_0.1			TOPSOIL: Silty SAND: Fine to medium grained, brown, non-plastic, fine to medium sub-angular gravels.	D	6		Disturbed ground surface. No foreign materials.
			7							
0.5	<1		TP04_0.5 ASS07_0.5 ATT & CBR_0.5 - 0.8			Sandy CLAY: High plasticity, brown mottled yellow, near plastic limit. Residual soil.		5	Stiff to hard	
			5							
			6							
			6							
			12							
1			AGG_1.0			Extremely weathered SANDSTONE: Yellow and orange, dry, fine to coarse grained, low strength.		REF		
1						EOI at 1.0m				


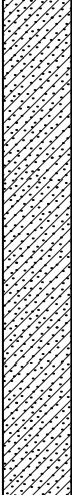
PROJECT NUMBER EP1995	DRILLING DATE 08/03/2021	LATITUDE -32.763728
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY Lovett's Earthmoving	LONGITUDE 151.636768
CLIENT Avid Property Group	DRILLER RN	SURFACE ELEVATION
ADDRESS Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD 400mm Bucket	LOGGED BY GR
	TOTAL DEPTH 0.8 m	CHECKED BY LK

COMMENTS Old Access track

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Moisture	DCP	Consistency	Additional Observations
	<1		<div style="border: 1px solid black; padding: 2px; display: inline-block;">TP05_0.1</div> <div style="border: 1px solid black; padding: 2px; display: inline-block;">ASS08_0.1</div> <div style="border: 1px solid black; padding: 2px; display: inline-block;">TP05_ASB</div>			FILL: Silty, clayey SAND: Fine to medium grained, non-plastic, fine to medium sub-angular gravel.	D	2		Brick, tile and coal chitter road base layer.
								4		
								4		
								6		
0.5	<1		<div style="border: 1px solid black; padding: 2px; display: inline-block;">TP05_0.5</div> <div style="border: 1px solid black; padding: 2px; display: inline-block;">ASS09_0.5</div>			Sandy CLAY: Medium to high plasticity, brown mottled yellow, fine grained sand. Residual soil.		REF		
1					EOI at 0.8m					



PROJECT NUMBER EP1995	DRILLING DATE 08/03/2021	LATITUDE -32.762974
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY Lovett's Earthmoving	LONGITUDE 151.636971
CLIENT Avid Property Group	DRILLER RN	SURFACE ELEVATION
ADDRESS Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD 400mm Bucket	LOGGED BY GR
	TOTAL DEPTH 0.9 m	CHECKED BY LK

COMMENTS

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Moisture	DCP	Consistency	Additional Observations
0.5			TP06_0.1 ASS09_0.1			FILL: Silty, clayey SAND: Fine to medium grained, brown, non-plastic, fine to medium sub-angular gravel.	D	2		Foreign material identified. Brick and tiles.
								4		
								4		
								3		
								4	Very stiff to hard.	
1			TP06_0.5 ASS10_0.5			Sandy CLAY: Medium to high plasticity, brown mottled yellow, fine grained sand. Residual soil.		6		
								9		
								12		
								REF		
1						EOI at 0.9m				


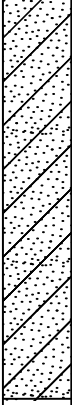
PROJECT NUMBER EP1995	DRILLING DATE 08/03/2021	LATITUDE -32.762566
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY Lovett's Earthmoving	LONGITUDE 151.637250
CLIENT Avid Property Group	DRILLER RN	SURFACE ELEVATION
ADDRESS Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD 400mm Bucket	LOGGED BY GR
	TOTAL DEPTH 1.5 m	CHECKED BY LK

COMMENTS

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Moisture	DCP	Consistency	Additional Observations	
0.5			TP07_0.1 ASS12_0.1			TOPSOIL: Sandy SILT: Fine to medium grained, non-plastic, dark brown.	D-M	3			
								4			
									3	Firm to stiff	
									2		
									1		
				TP07_0.5 ASS13_0.5 ATT & CBR_0.5 - 1.0			Sandy CLAY: Medium to high plasticity, light brown mottled orange, dry at plastic limit, fine grained sand. Residual soil.	D	2		
									3		
									4		
									3		
				AGG_1.0							
1											
1.5						EOI at 1.5m					


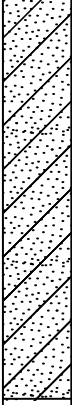
PROJECT NUMBER EP1995	DRILLING DATE 08/03/2021	LATITUDE -32.762922
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY Lovett's Earthmoving	LONGITUDE 151.637503
CLIENT Avid Property Group	DRILLER RN	SURFACE ELEVATION
ADDRESS Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD 400mm Bucket	LOGGED BY GR
	TOTAL DEPTH 1.0 m	CHECKED BY LK

COMMENTS

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Moisture	DCP	Consistency	Additional Observations
	<1		TP08_0.1 ASS14_0.1			FILL: Clayey SAND: Fine to coarse grained, grey, fine to coarse angular pebbles.	D	4		Bricks and tiles.
					3					
0.5	<1		TP08_0.5 ASS15_0.5			Sandy CLAY: Medium to high plasticity, grey, near plastic limit, fine to coarse grained sand. Residual soil.		7	Stiff to very stiff	
					6					
					3					
					3					
1						End of intrusive investigation at 0.6 m.		3		
					3					
					3					
					4					
1						End of Dynamic Core Penetrometer testing 1.0 m				



PROJECT NUMBER EP1995	DRILLING DATE 08/03/2021	LATITUDE -32.762655
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY Lovett's Earthmoving	LONGITUDE 151.637895
CLIENT Avid Property Group	DRILLER RN	SURFACE ELEVATION
ADDRESS Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD 400mm Bucket	LOGGED BY GR
	TOTAL DEPTH 0.9 m	CHECKED BY LK

COMMENTS Access track

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Moisture	DCP	Consistency	Additional Observations
	<1		TP09_0.1 ASS16_0.1			FILL: Silty SAND: Fine to medium grained, light brown, non-plastic.	D	5		Brick and tiles identified on surface.
			4							
0.5	<1		TP09_0.5 ASS17_0.5			Sandy CLAY: Medium to high plasticity, grey, near plastic limit, with fine to coarse grained sand. Residual soil.		3	Firm	
			3							
			3							
			3							
						End of intrusive investigation.		4		
								5		
								5		
1						End of Dynamic Core Penetrometer at 0.9m				


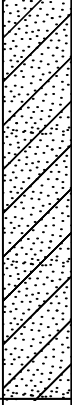
PROJECT NUMBER EP1995	DRILLING DATE 08/03/2021	LATITUDE -32.762507
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY Lovett's Earthmoving	LONGITUDE 151.637643
CLIENT Avid Property Group	DRILLER RN	SURFACE ELEVATION
ADDRESS Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD 400mm Bucket	LOGGED BY GR
	TOTAL DEPTH 0.7 m	CHECKED BY LK

COMMENTS Mound of bricks and tiles, approximately 0.4 m above ground level.

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Moisture	DCP	Consistency	Additional Observations
	<1		<div style="border: 1px solid black; padding: 2px;"> TP10_0.1 ASS18_0.1 QC01 QC02 </div>			FILL: Silt: Non plastic. fine to medium grained, light brown.	D	4		Foreign material identified in fill. Bricks and tiles.
								4		
0.5	<1		<div style="border: 1px solid black; padding: 2px;"> TP10_0.5 ASS19_0.5 </div>			Sandy CLAY: Medium to high plasticity, grey, near plastic limit, fine to coarse grained sand. Residual soil.		3	Stiff to very stiff.	
								3		
								4		
								4		
								6		
						End of intrusive investigation at 0.7m		5		
								6		
1						End of Dynamic Core Penetrometer testing at 0.9m				

PROJECT NUMBER EP1995	DRILLING DATE 08/03/2021	LATITUDE -32.762291
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY Lovett's Earthmoving	LONGITUDE 151.637275
CLIENT Avid Property Group	DRILLER RN	SURFACE ELEVATION
ADDRESS Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD 400mm Bucket	LOGGED BY GR
	TOTAL DEPTH 0.6 m	CHECKED BY LK

COMMENTS Old access track

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Moisture	DCP	Additional Observations
	<1		TP11_0.1 ASS20_0.1			FILL: Silty SAND: Fine to medium grained, light brown, non-plastic.	D	REF	Bricks and tiles.
0.5	<1		ASS21_0.5			Sandy CLAY: Medium to high plasticity, grey, near plastic limit, fine to coarse grained sand. Residual soil.			
1						EOI at 0.6m			


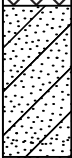
PROJECT NUMBER EP1995	DRILLING DATE 08/03/2021	LATITUDE -32.762647
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY Lovett's Earthmoving	LONGITUDE 151.636977
CLIENT Avid Property Group	DRILLER RN	SURFACE ELEVATION
ADDRESS Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD 400mm Bucket	LOGGED BY GR
	TOTAL DEPTH 0.9 m	CHECKED BY LK

COMMENTS Access track

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Moisture	DCP	Consistency	Additional Observations					
0.5	A1		<div style="border: 1px solid black; padding: 2px; display: inline-block;">TP12 0.1</div> <div style="border: 1px solid black; padding: 2px; display: inline-block;">ASS22 0.3</div>		FILL: Silty SAND with gravel: Fine to medium grained sand, brown, fine to medium sub-angular gravel.	D	3			Foreign material identified on surface. Bricks and tiles.					
					2										
					3										
										Sandy CLAY: Medium to high plasticity, grey, fine to coarse grained sand. Residual soil.		3	Stiff		
										End of intrusive investigation at 0.4m.		5			
												10			
												6			
							6								
							7								
						End of Dynamic Core Penetrometer testing at 0.4m									


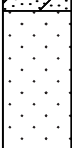
PROJECT NUMBER EP1995	DRILLING DATE 08/03/2021	LATITUDE -32.762738
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY Lovett's Earthmoving	LONGITUDE 151.636975
CLIENT Avid Property Group	DRILLER RN	SURFACE ELEVATION
ADDRESS Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD 400mm Bucket	LOGGED BY GR
	TOTAL DEPTH 0.9 m	CHECKED BY LK

COMMENTS Access track

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Moisture	DCP	Consistency	Additional Observations
	<1		<div style="border: 1px solid black; padding: 2px; display: inline-block;"> TP13 0.1 ASS23 0.4 </div>			FILL: Silty SAND with gravel: Fine to medium grained, brown, fine to medium sub-angular gravel.	D	3		Foreign material identified on surface. Bricks and tiles.
								2		
								3		
								3		
0.5	<1					Sandy CLAY: Medium to high plasticity, grey, near plastic limit, fine to coarse grained sand. Residual soil. End of intrusive investigation at 0.5m.		5	Very stiff	
								10		
								6		
								6		
								7		
						End of Dynamic Core Penetrometer at 0.9m				

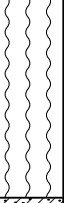

PROJECT NUMBER EP1995	DRILLING DATE 08/03/2021	LATITUDE -32.762910
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY Lovett's Earthmoving	LONGITUDE 151.637562
CLIENT Avid Property Group	DRILLER RN	SURFACE ELEVATION
ADDRESS Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD 400mm Bucket	LOGGED BY GR
	TOTAL DEPTH 1.0 m	CHECKED BY LK

COMMENTS

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Moisture	DCP	Consistency	Additional Observations
	4					Clayey SAND: Fine to coarse sand, light brown, non-plastic, with fine to coarse grained gravel. Residual soil.	D	4	Medium to dense	
								3		
								7		
								6		
0.5	4					Extremely weathered SANDSTONE: Low strength, fine to coarse grained.		3	Medium	
						End of intrusive investigation at 0.5m.				
								3		
								3		
								3		
								3		
								4		
1						End of Dynamic Core Penetrometer testing at 1.0m				


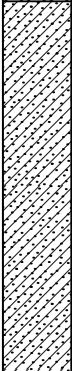
PROJECT NUMBER EP1995	DRILLING DATE 08/03/2021	LATITUDE -32.763188
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY Lovett's Earthmoving	LONGITUDE 151.637580
CLIENT Avid Property Group	DRILLER RN	SURFACE ELEVATION
ADDRESS Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD 400mm Bucket	LOGGED BY GR
	TOTAL DEPTH 0.9 m	CHECKED BY LK

COMMENTS

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Moisture	DCP	Consistency	Additional Observations
	<1		TP15_0.1 ASS24_0.1			TOPSOIL: Silty SAND: Fine to medium grained, light brown, non-plastic.	D	6		
			6							
0.5	<1		TP15_0.5 ASS25_0.5			Sandy CLAY: Medium to high plasticity, brown mottled yellow, near plastic limit, fine to medium grained sand. Residual soil.		5	Stiff to very stiff	
			3							
			4							
			3							
			6							
						End of intrusive investigation at 0.8m.		7		
1						End of Dynamic Core Penetrometer testing at 0.9m				


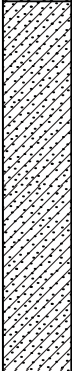
PROJECT NUMBER EP1995	DRILLING DATE 08/03/2021	LATITUDE -32.762607
PROJECT NAME Detailed Site investigation	DRILLING COMPANY Lovett's Earthmoving	LONGITUDE 151.637865
CLIENT Avid Property Group	DRILLER RN	SURFACE ELEVATION
ADDRESS Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD 400mm Bucket	LOGGED BY GR
	TOTAL DEPTH 0.8 m	CHECKED BY LK

COMMENTS Adjacent to access track

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Moisture	DCP	Consistency	Additional Observations	
0.5	<1		TP16_0.1			FILL: Silty SAND with gravel: Fine to medium grained sand, brown, fine to medium gravel.	D-M	5		Brick identified on surface	
						Sandy CLAY: Medium to high plasticity, brown mottled orange, near plastic limit, fine to coarse grained sand. Residual soil.		4	Stiff		
									3		
					ASS26_0.3					3	
									End of intrusive investigation at 0.35m.		
										3	
										4	
							5				
						End of Dynamic Core Penetrometer testing at 0.8m					


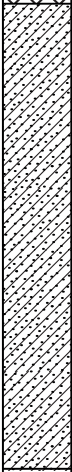
PROJECT NUMBER EP1995	DRILLING DATE 08/03/2021	LATITUDE -32.762641
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY Lovett's Earthmoving	LONGITUDE 151.637842
CLIENT Avid Property Group	DRILLER RN	SURFACE ELEVATION
ADDRESS Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD 400mm Bucket	LOGGED BY GR
	TOTAL DEPTH 0.8 m	CHECKED BY LK

COMMENTS Test pit adjacent to access track

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Moisture	DCP	Consistency	Additional Observations
0.5	<1		TP17 0.1 ASB 0.1			FILL: Silty SAND with gravel: Fine to medium grained sand, brown, fine to medium sub-angular gravel.	D-M	5		Brick identified on surface
						Sandy CLAY: Medium to high plasticity, brown mottled orange, near plastic limit, fine to coarse grained sand. Residual soil.		4	Stiff	
								3		
								3		
								3		
								4		
								5		
			ASS27 0.3			End of intrusive investigation at 0.35m.				
						End of Dynamic Core Penetrometer testing at 0.8m				



PROJECT NUMBER EP1995	DRILLING DATE 08/03/2021	LATITUDE -32.762530
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY Lovett's Earthmoving	LONGITUDE 151.637634
CLIENT Avid Property Group	DRILLER RN	SURFACE ELEVATION
ADDRESS Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD 400mm Bucket	LOGGED BY GR
	TOTAL DEPTH 1.2 m	CHECKED BY LK

COMMENTS Stockpile of brick and tiles approximately 0.2 m high.

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Moisture	DCP	Consistency	Additional Observations
	<1		TP18_0.1			FILL: Silty SAND with gravel: Fine to coarse grained sand, brown, fine to medium sub-angular gravel.	D-M			Brick identified on surface and in fill.
0.5	<1		ASS28_0.5			Sandy CLAY: Medium to high plasticity, brown mottled orange, near plastic limit, fine to coarse grained. Residual soil.	D	4	Stiff	
								4		
								4		
								6		
								5		
1								6		
								4		
						End of Dynamic Core Penetrometer at 1.2m				



PROJECT NUMBER EP1995	DRILLING DATE 08/03/2021	LATITUDE -32.762248
PROJECT NAME Detailed Site investigation	DRILLING COMPANY Lovett's Earthmoving	LONGITUDE 151.637530
CLIENT Avid Property Group	DRILLER RN	SURFACE ELEVATION
ADDRESS Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD 400mm Bucket	LOGGED BY GR
	TOTAL DEPTH 0.6 m	CHECKED BY LK

COMMENTS

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Moisture	DCP	Consistency	Additional Observations
	<1		TP19_0.1			TOPSOIL: Silty SAND: Fine to coarse grained, brown, non-plastic, with small sub-angular gravel.	D-M	6		
								7		
						Sandy CLAY: Medium to high plasticity, brown mottled orange, near plastic limit, fine to coarse grained sand. Residual soil.	D-M	9	Very stiff to hard	
								8		
0.5	<1		ASS29_0.5					6		
								7		
						End of intrusive investigation at 0.6m.				
								7		
								8		
								8		
						End of Dynamic Core Penetrometer testing at 0.6m				


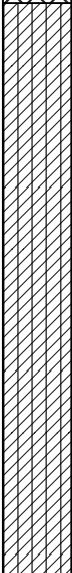
PROJECT NUMBER EP1995	DRILLING DATE 08/03/2021	LATITUDE -32.761768
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY Lovett's Earthmoving	LONGITUDE 151.637633
CLIENT Avid Property Group	DRILLER RN	SURFACE ELEVATION
ADDRESS Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD 400mm Bucket	LOGGED BY GR
	TOTAL DEPTH 0.9 m	CHECKED BY LK

COMMENTS

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Moisture	DCP	Consistency	Additional Observations
	<1		TP20_0.1			TOPSOIL: Silty SAND: Fine to medium grained, light brown, non-plastic.	D-M	4		
								5		
						Sandy CLAY: Medium to high plasticity, brown mottled orange, near plastic limit fine to coarse grained sand. Residual soil.		5	Very Stiff	
								4		
0.5	<1		ASS30_0.5					5		
						End of intrusive investigation at 0.6m.		5		
								4		
								4		
								5		
						End of Dynamic Core Penetrometer testing at 0.9m				


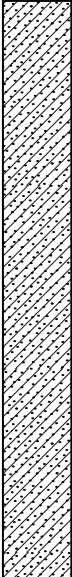
PROJECT NUMBER EP1995	DRILLING DATE 08/03/2021	LATITUDE -32.761384
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY Lovett's Earthmoving	LONGITUDE 151.637478
CLIENT Avid Property Group	DRILLER RN	SURFACE ELEVATION
ADDRESS Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD 400mm Bucket	LOGGED BY GR
	TOTAL DEPTH 1.0 m	CHECKED BY LK

COMMENTS

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Moisture	DCP	Consistency	Additional Observations
	<1					FILL: Silty SAND with gravel: Fine to coarse grained sand, brown, fine to medium grained sub-angular gravel.	D	6		Brick and tile identified on surface and in fill.
								8		
						Sandy CLAY: Medium to high plasticity, brown mottled orange, near plastic limit, fine to coarse grained sand. Residual soil.		5	Stiff to very stiff	
								3		
0.5	<1		TP21_0.5 ASS31_0.5					5		
								4		
						End of intrusive investigation at 0.6m.		3		
								7		
								9		
								REF		
1						End of Dynamic Core Penetrometer at 1.0m				

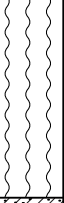


PROJECT NUMBER EP1995	DRILLING DATE 08/03/2021	LATITUDE -32.760809
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY Lovett's Earthmoving	LONGITUDE 151.637656
CLIENT Avid Property Group	DRILLER RN	SURFACE ELEVATION
ADDRESS Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD 400mm Bucket	LOGGED BY GR
	TOTAL DEPTH 1.2 m	CHECKED BY LK

COMMENTS Stockpile of brick and tiles 0.3 m above ground level

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Moisture	DCP	Consistency	Additional Observations
	<1		TP22_0.1 ASS32_0.1			FILL: Silty SAND with gravel: Fine to medium grained sand, light brown, fine to medium sub-angular gravel.	D-M			Brick and tiles
0.5	<1					Sandy CLAY: Medium to high plasticity, brown mottled orange, near plastic limit, fine to coarse grained sand. Residual soil.		6	Very Stiff	Decayed log identified in clay
							6			
							5			
							6			
							5			
						End of intrusive investigation at 0.8m.		6		
								6		
								7		
								9		
						End of Dynamic Core Penetrometer at 1.2m				


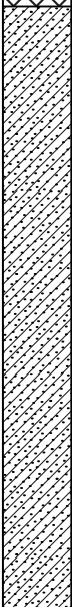
PROJECT NUMBER EP1995	DRILLING DATE 08/03/2021	LATITUDE -32.760456
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY Lovett's Earthmoving	LONGITUDE 151.638043
CLIENT Avid Property Group	DRILLER RN	SURFACE ELEVATION
ADDRESS Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD 400mm Bucket	LOGGED BY GR
	TOTAL DEPTH 1.2 m	CHECKED BY LK

COMMENTS

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Moisture	DCP	Consistency	Additional Observations
	<1					TOPSOIL: Silty, clayey SAND: Fine to medium grained, brown, non-plastic, with fine to medium sub-angular gravels.	D	6		
								5		
						Sandy CLAY: Medium to high plasticity, brown mottled yellow, near plastic limit, fine grained sand. Residual soil.		3	Stiff to very stiff	
								4		
0.5	<1		TP23_0.5 ASS33_0.5 ATT & CBR_0.5 - 1.0					4		
								5		
								5		
								6		
								7		
1	<1		AGG_1.0			Extremely weathered SANDSTONE: Low strength, fine to coarse grained.				
						EOI at 1.2m				


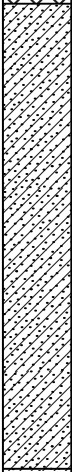
PROJECT NUMBER EP1995	DRILLING DATE 08/03/2021	LATITUDE -32.760249
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY Lovett's Earthmoving	LONGITUDE 151.637548
CLIENT Avid Property Group	DRILLER RN	SURFACE ELEVATION
ADDRESS Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD 400mm Bucket	LOGGED BY GR
	TOTAL DEPTH 0.9 m	CHECKED BY LK

COMMENTS Old demolished structure

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Moisture	DCP	Consistency	Additional Observations
	<1		<div style="border: 1px solid black; padding: 2px; display: inline-block;"> TP24_0.1 ASS34_0.1 TP24_ASB </div>			FILL: Silty SAND with gravel: Fine to coarse grained sand, brown, non-plastic, with fine to medium sub-angular gravel.	D-M	6		Demolished structure. Brick, timber and other foreign material identified.
								9		
0.5	<1					Sandy CLAY: Medium to high plasticity, brown mottled orange, near plastic limit, fine to coarse grained sand. Residual soil.		7	Very stiff to hard	
								9		
								6		
								8		
						End of intrusive investigation at 0.6m.		7		
								9		
								8		
						End of Dynamic Core Penetrometer testing at 0.9m				


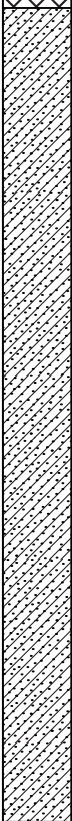
PROJECT NUMBER EP1995	DRILLING DATE 08/03/2021	LATITUDE -32.759940
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY Lovett's Earthmoving	LONGITUDE 151.638188
CLIENT Avid Property Group	DRILLER RN	SURFACE ELEVATION
ADDRESS Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD 400mm Bucket	LOGGED BY GR
	TOTAL DEPTH 1.2 m	CHECKED BY LK

COMMENTS Stockpile of material approximately 0.3 m above ground level

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Moisture	DCP	Consistency	Additional Observations
	<1		TP25_0.1 ASS35_0.1			FILL: Silty SAND with gravel: Fine to medium grained sand, light brown, non-plastic, with fine to medium sub-angular gravel..	D			No foreign materials
0.5	<1					Sandy CLAY: Medium to high plasticity, red, near plastic limit, fine to coarse grained sand. Residual soil.		6	Stiff to very stiff	
								5		
								2		
						End of intrusive investigation at 0.6m.		2		
								1		
								3		
								2		
1								2		
								2		
						End of Dynamic Core Penetrometer at 1.2m				


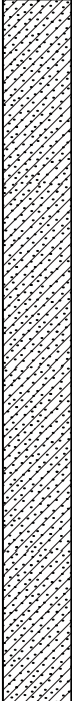
PROJECT NUMBER EP1995	DRILLING DATE 08/03/2021	LATITUDE -32.759631
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY Lovett's Earthmoving	LONGITUDE 151.638343
CLIENT Avid Property Group	DRILLER RN	SURFACE ELEVATION
ADDRESS Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD 400mm Bucket	LOGGED BY GR
	TOTAL DEPTH 1.0 m	CHECKED BY LK

COMMENTS Stockpile of material approximately 0.3 m above ground level

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Moisture	DCP	Consistency	Additional Observations
	<1					FILL: Silty SAND with gravel: Fine to medium grained sand, brown, fine to medium sub-angular gravel.	D			No brick or tiles.
0.5	<1		TP26_0.5 ASS36_0.5			Sandy CLAY: Medium to high plasticity, red mottled grey, near plastic limit, fine to coarse grained sand. Residual soil.		5 3 4 4 6 6 6	Stiff to very stiff	
1								9 12		
						End of Dynamic Core Penetrometer at 1.2m				



PROJECT NUMBER EP1995	DRILLING DATE 08/03/2021	LATITUDE -32.759439
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY Lovett's Earthmoving	LONGITUDE 151.637950
CLIENT Avid Property Group	DRILLER RN	SURFACE ELEVATION
ADDRESS Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD 400mm Bucket	LOGGED BY GR
	TOTAL DEPTH 1.2 m	CHECKED BY LK

COMMENTS Stockpile of material approximately 0.3 m above ground level

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Moisture	DCP	Consistency	Additional Observations
	<1		TP27_0.1 ASS37_0.1			FILL: Silty SAND with gravel: Fine to medium grained sand, brown, dry, fine to medium sub-angular gravel	D			Bricks and tiles
0.5	<1					Sandy CLAY: Medium to high plasticity, red mottled grey, near plastic limit, fine to coarse grained sand. Residual soil.		6 5 9 7 6 6 6	Very stiff to hard	
1						End of intrusive investigation at 1.0m.		4 4		
						End of Dynamic Core Penetrometer at 1.2m				


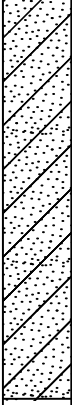
PROJECT NUMBER EP1995	DRILLING DATE 08/03/2021	LATITUDE -32.759371
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY Lovett's Earthmoving	LONGITUDE 151.638628
CLIENT Avid Property Group	DRILLER RN	SURFACE ELEVATION
ADDRESS Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD 400mm Bucket	LOGGED BY GR
	TOTAL DEPTH 1.0 m	CHECKED BY LK

COMMENTS

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Moisture	DCP	Additional Observations
0 - 0.5	<1					TOPSOIL: Silty SAND: Fine to medium grained, light brown, non-plastic.	D		
0.5 - 1.0	<1		TP28_0.5 ASS38_0.5 ATT & CBR_0.5 - 1.0			Sandy CLAY: High plasticity, red mottled grey, near plastic limit, fine to coarse grained sand. Residual soil.			
1.0						EOI at 1.0m			



PROJECT NUMBER EP1995	DRILLING DATE 06/04/2021	LATITUDE -32.759393
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY Lovett's Earthmoving	LONGITUDE 151.639013
CLIENT Avid Property Group	DRILLER RN	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD 10 T Excavator 400mm	LOGGED BY LK
	TOTAL DEPTH 0.6 m BGL	CHECKED BY PS

COMMENTS End of Investigation at 0.6 m BGL. Test Pit located within one of the access tracks encountered across the Site.

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
	<1		TP29_0.1			FILL: Silty SAND with gravel: Brown, fine to coarse sand, moist, fine to medium sub angular gravel. Anthropogenic material.		4	Anthropogenic material: Brick and tile waste material.
					6				
0.5	<1		TP29_0.5			Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual Soil.	Firm to stiff.	3	
					3				
					2				
					3				
					3				
					3				
1						End of intrusive investigation.		3	
					3				
					4				
					4				
1						End of Dynamic Cone Penetrometer Testing.			



PROJECT NUMBER EP1995	DRILLING DATE 06/04/2021	LATITUDE -32.759068
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY Lovett's Earthmoving	LONGITUDE 151.638473
CLIENT Avid Property Group	DRILLER RN	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD 10 T Excavator 400mm	LOGGED BY LK
	TOTAL DEPTH 1.0 m BGL	CHECKED BY PS

COMMENTS End of Investigation at 0.6 m BGL. Mound of natural soil/Fill material, approximately 0.4 m above ground level..

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
	<1		TP30_0.1			FILL: Silty SAND with gravel: Brown, fine to coarse sand, moist, fine to medium sub angular gravel.			Mound of material, 0.4 meters above ground level. Some wood and tree branches located within the mound of material.
			TP30a_0.1						
0.5	<1		TP30_0.5			Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.	Soft	1	Started DCP within the test pit beneath the fill material layer.
			2						
			Firm to very stiff.	3					
				3					
				3					
2									
1						End of intrusive investigation.		3	
								4	
								5	
1.5						End of Dynamic Cone Penetrometer Testing.			



PROJECT NUMBER EP1995	DRILLING DATE 12/04/2021	LATITUDE -32.758978
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY Lovett's Earthmoving	LONGITUDE 151.638062
CLIENT Avid Property Group	DRILLER RN	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD 10 T Excavator 400mm	LOGGED BY LK
	TOTAL DEPTH 1.5 m	CHECKED BY PS

COMMENTS Test pit within a stockpile on the western side of the quarry. Stockpile approximately 1.0 m above ground level.

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	Additional Observations
	<1		TP31_0.1			FILL: Sandy gravelly CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine to coarse sand, fine to coarse sub angular shale gravels.		Anthropogenic material, bricks and tiles.
0.5	<1		TP31_0.5					
1						Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand, residual soil.		
1.5						End of Intrusive Investigation		



PROJECT NUMBER EP1995	DRILLING DATE 12/04/2021	LATITUDE -32.758216
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY Lovett's Earthmoving	LONGITUDE 151.638282
CLIENT Avid Property Group	DRILLER RN	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD 10 T Excavator 400mm	LOGGED BY LK
	TOTAL DEPTH 1.5 m	CHECKED BY PS

COMMENTS Test pit within a stockpile on the western side of the quarry. Stockpile approximately 1.2 m above ground level.

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	Additional Observations
	<1		TP32_0.1			FILL: Sandy gravelly CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine to coarse sand, fine to coarse sub angular shale gravels.		Anthropogenic material, bricks and tiles.
0.5	<1		TP32_0.5					
1						Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand, residual soil.		
1.5						End of Intrusive Investigation		



PROJECT NUMBER EP1995	DRILLING DATE 12/04/2021	LATITUDE -32.757747
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY Lovett's Earthmoving	LONGITUDE 151.639050
CLIENT Avid Property Group	DRILLER RN	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD 10 T Excavator 400mm	LOGGED BY LK
	TOTAL DEPTH 1.7 m	CHECKED BY PS

COMMENTS Mound of stockpiled material in the centre of the quarry. Mound of material approximately 1.5 m above ground level.

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	Additional Observations
	<1		TP33_0.1			FILL: Silty SAND with gravel: Brown, fine to coarse sand, fine to medium sub angular gravels.		No anthropogenic material.
0.5	<1		TP33_0.5					
1.5						Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand, residual soil.		
						End of Intrusive Investigation		

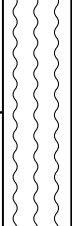

PROJECT NUMBER EP1995	Investigation Date 06/04/2021	LATITUDE -32.736087
PROJECT NAME Detailed Site Investigation	Drilling Company Lovett's Earthmoving	LONGITUDE 151.638547
CLIENT Avid Property Group Pty Ltd	Driller RN	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Road, Chisholm, NSW	Drilling Method 10 T Excavator 400 mm	LOGGED BY GR
	TOTAL DEPTH 0.9 m	CHECKED BY PS

COMMENTS

Depth (m)	PID	PP (kPa)	Samples	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	DCP	Consistency	Moisture	Additional Observations
	<1		TP34_0.1		TOPSOIL: Sandy SILT: Non plastic, brown, near plastic limit, with fine to coarse grained sand and fine sub-angular gravel.	2		Dry to moist	
						2			
0.5	<1	200	TP34_0.5 ASSTP34_0.5		Sandy CLAY: Medium to high plasticity, orange mottled brown, with fine to coarse grained sand. Residual soil.	2	Stiff		
						2			
						3			
						4			
1					End of intrusive investigation	5			
						5			
						4			
1					EOI at 0.9 m				

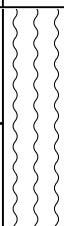

PROJECT NUMBER EP1995	Investigation Date 06/04/2021	LATITUDE -32.763251
PROJECT NAME Detailed Site Investigation	Drilling Company Lovett's Earthmoving	LONGITUDE 151.638796
CLIENT Avid Property Group Pty Ltd	Driller RN	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Road, Chisholm, NSW	Drilling Method 10 T Excavator 400 mm	LOGGED BY GR
	TOTAL DEPTH 0.9 m	CHECKED BY PS

COMMENTS

Depth (m)	PID	PP (kPa)	Samples	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	DCP	Consistency	Moisture	Additional Observations
	<1		TP35_0.1		TOPSOIL: Sandy SILT: Non plastic, brown, with fine to coarse grained sand and fine sub-angular gravel.	2		Dry to moist	
						2			
0.5	<1	300	TP35_0.5 ASSTP35_0.5		Sandy CLAY: Medium to high plasticity, orange mottled brown, near plastic limit, with fine to coarse grained sand. Residual soil.	2	Stiff	Dry to moist	
						2			
						3			
						4			
					End of intrusive investigation	5			
						5			
						4			
1					EOI at 0.9 m				



PROJECT NUMBER EP1995	Investigation Date 06/04/2021	LATITUDE -32.763439
PROJECT NAME Detailed Site Investigation	Drilling Company Lovett's Earthmoving	LONGITUDE 151.639507
CLIENT Avid Property Group Pty Ltd	Driller RN	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Road, Chisholm, NSW	Drilling Method 10 T Excavator 400 mm	LOGGED BY GR
	TOTAL DEPTH 0.9 m	CHECKED BY PS

COMMENTS

Depth (m)	PID	PP (kPa)	Samples	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	DCP	Consistency	Moisture	Additional Observations
	<1		<div style="border: 1px solid black; padding: 2px; width: fit-content;">TP36_0.1</div> <div style="border: 1px solid black; padding: 2px; width: fit-content;">ASS_TP36_0.1</div>		TOPSOIL: Sandy SILT: Non plastic, brown, with fine to coarse grained sand and fine to medium sub-angular gravel.	4		Dry to moist	Cloth, disturbed ground surface
						5			
0.5	<1	400	<div style="border: 1px solid black; padding: 2px; width: fit-content;">TP36_0.5</div> <div style="border: 1px solid black; padding: 2px; width: fit-content;">ASS_TP36_0.5</div>		Sandy CLAY: Medium to high plasticity, brown, near plastic limit, with fine to coarse grained sand. Residual soil.	3	Stiff	Dry to moist	
						2			
					3	Stiff	Dry to moist		
					4				
End of intrusive investigation					4				
					4				
					5				
1					EOI at 0.9 m				





PROJECT NUMBER EP1995	Investigation Date 06/04/2021	LATITUDE -32.762620
PROJECT NAME Detailed Site Investigation	Drilling Company Lovett's Earthmoving	LONGITUDE 151.638672
CLIENT Avid Property Group Pty Ltd	Driller RN	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Road, Chisholm, NSW	Drilling Method 10 T Excavator 400 mm	LOGGED BY GR
	TOTAL DEPTH 0.9 m	CHECKED BY PS

COMMENTS

Depth (m)	PID	PP (kPa)	Samples	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	DCP	Consistency	Moisture	Additional Observations
	<1		TP37_0.1		TOPSOIL: Sandy Clayey SILT: Low plasticity, brown, with fine to coarse grained sand. Some coal chitter and organics present.	2		Dry to moist	
						1			
0.5	<1	250	TP37_0.5 ASS_TP37_0.5		Sandy CLAY: Medium to high plasticity, grey, near plastic limit, with fine to coarse grained sand. Residual soil.	2	Firm	Dry to moist	
						1			
						1			
						2			
					End of intrusive investigation	2			
						3			
						4			
1					EOI at 0.9 m				

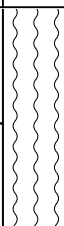
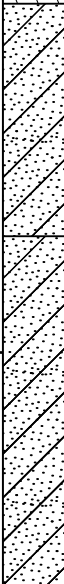
PROJECT NUMBER EP1995	Investigation Date 06/04/2021	LATITUDE -32.763033
PROJECT NAME Detailed Site Investigation	Drilling Company Lovett's Earthmoving	LONGITUDE 151.639513
CLIENT Avid Property Group Pty Ltd	Driller RN	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Road, Chisholm, NSW	Drilling Method 10 T Excavator 400 mm	LOGGED BY GR
	TOTAL DEPTH 0.9 m	CHECKED BY PS

COMMENTS

Depth (m)	PID	PP (kPa)	Samples	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	DCP	Consistency	Moisture	Additional Observations
	<1		TP38_0.1		TOPSOIL: Sandy SILT: Non plastic, brown, with fine to coarse grained sand and fine to medium sub-angular gravel.	2		Dry to moist	
						1			
					Silty Sandy CLAY: Medium to high plasticity, brown, with fine to coarse grained sand and some fine to coarse sub-angular gravel. Residual soil.	2	Firm	Dry to moist	
						1			
0.5	<1	250	TP38_0.5 ASS_TP38_0.5		Sandy CLAY: Medium to high plasticity, brown to orange, near plastic limit, with fine to coarse grained sand. Residual soil.	1	Firm		
						2			
					End of intrusive investigation	2			
						3			
						4			
1					EOI at 0.9 m				




PROJECT NUMBER EP1995	Investigation Date 06/04/2021	LATITUDE -32.762990
PROJECT NAME Detailed Site Investigation	Drilling Company Lovett's Earthmoving	LONGITUDE 151.639061
CLIENT Avid Property Group Pty Ltd	Driller RN	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Road, Chisholm, NSW	Drilling Method 10 T Excavator 400 mm	LOGGED BY GR
	TOTAL DEPTH 0.9 m	CHECKED BY PS

COMMENTS

Depth (m)	PID	PP (kPa)	Samples	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	DCP	Consistency	Moisture	Additional Observations
	<1		TP39_0.1		TOPSOIL: Gravelly Sandy SILT: Non plastic, brown, with fine to coarse grained sand and fine to medium sub-angular gravel.	2		Dry to moist	
						2			
0.5	<1	250	TP39_0.5 ASS_TP39_0.5		Silty, Sandy CLAY: Medium to high plasticity, brown mottled orange, with fine to coarse grained sand. Residual soil.	2	Stiff	Moist	
						3			
						3	Stiff to very stiff	Dry to moist	
						4			
4									
					End of intrusive investigation	4			
						5			
1					EOI at 0.9 m				



PROJECT NUMBER EP1995	Investigation Date 06/04/2021	LATITUDE -32.762549
PROJECT NAME Detailed Site Investigation	Drilling Company Lovett's Earthmoving	LONGITUDE 151.639389
CLIENT Avid Property Group Pty Ltd	Driller RN	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Road, Chisholm, NSW	Drilling Method 10 T Excavator 400 mm	LOGGED BY GR
	TOTAL DEPTH 0.9 m	CHECKED BY PS

COMMENTS

Depth (m)	PID	PP (kPa)	Samples	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	DCP	Consistency	Moisture	Additional Observations
	<1		TP40_0.1		FILL: Sandy SILT: Light brown, with fine to coarse grained sand, fine to coarse grained angular gravel, and some clay fines.	3		Dry to moist	Coal chitter, organics and tree roots present
						4			
	<1	250	TP40_0.5 ASS_TP40_0.5		Silty Sandy CLAY: Medium to high plasticity, brown mottled orange, near plastic limit, with fine to coarse grained sand. Residual soil.	3	Firm	Dry to moist	
						3			
0.5	<1	250	TP40_0.5 ASS_TP40_0.5		Sandy CLAY: Medium to high plasticity, orange mottled red, near plastic limit, with fine to coarse grained sand. Residual soil.	3	Very stiff	Dry to moist	Tree roots
						4			
						4			
					End of intrusive investigation.				
						5			
						7			
1					EOI at 0.9 m				

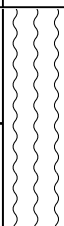


PROJECT NUMBER EP1995	Investigation Date 06/04/2021	LATITUDE -32.762182
PROJECT NAME Detailed Site Investigation	Drilling Company Lovett's Earthmoving	LONGITUDE 151.638907
CLIENT Avid Property Group Pty Ltd	Driller RN	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Road, Chisholm, NSW	Drilling Method 10 T Excavator 400 mm	LOGGED BY GR
	TOTAL DEPTH 0.9 m	CHECKED BY PS

COMMENTS

Depth (m)	PID	PP (kPa)	Samples	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	DCP	Consistency	Moisture	Additional Observations
	<1		TP41_0.1		TOPSOIL: Sandy SILT: Non plastic, brown, with fine to coarse grained sand and fine to coarse grained sub-angular gravel.	4		Dry	
						4			
0.5	<1	200	TP41_0.5 ASS_TP41_0.5		Sandy CLAY: Medium to high plasticity, orange mottled brown, near plastic limit, with fine to coarse grained sand. Residual soil.	2	Stiff	Dry to moist	Tree roots
						2			
						3			
						3			
					End of intrusive investigation	4			
						3			
						4			
1					EOI at 0.9 m				

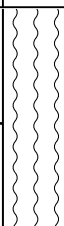
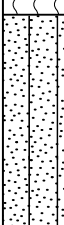

PROJECT NUMBER EP1995	Investigation Date 06/04/2021	LATITUDE -32.762218
PROJECT NAME Detailed Site Investigation	Drilling Company Lovett's Earthmoving	LONGITUDE 151.638399
CLIENT Avid Property Group Pty Ltd	Driller RN	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Road, Chisholm, NSW	Drilling Method 10 T Excavator 400 mm	LOGGED BY GR
	TOTAL DEPTH 0.9 m	CHECKED BY PS

COMMENTS

Depth (m)	PID	PP (kPa)	Samples	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	DCP	Consistency	Moisture	Additional Observations
	<1		<div style="border: 1px solid black; padding: 2px; width: fit-content;">TP42_0.1</div> <div style="border: 1px solid black; padding: 2px; width: fit-content;">TP42a_0.1</div>		TOPSOIL: Sandy SILT : Non plastic, brown, with fine to coarse grained sand and fine to medium grained sub-angular gravel.	3		Dry to moist	
						4			
					Sandy CLAY: Medium to high plasticity, grey, near plastic limit, with fine to coarse grained sand. Residual soil.	3	Stiff	Dry to moist	
						3			
0.5	<1	250	<div style="border: 1px solid black; padding: 2px; width: fit-content;">TP42_0.5</div> <div style="border: 1px solid black; padding: 2px; width: fit-content;">ASS_TP42_0.5</div>		Sandy CLAY: Medium to high plasticity, grey to brown, near plastic limit, with fine to coarse grained sand. Residual soil.	3	Stiff	Moist	Tree roots
					End of intrusive investigation	3			
						4			
						3			
						4			
1					EOI at 0.9 m				

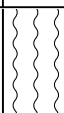

PROJECT NUMBER EP1995	Investigation Date 06/04/2021	LATITUDE -32.762183
PROJECT NAME Detailed Site Investigation	Drilling Company Lovett's Earthmoving	LONGITUDE 151.639561
CLIENT Avid Property Group Pty Ltd	Driller RN	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Road, Chisholm, NSW	Drilling Method 10 T Excavator 400 mm	LOGGED BY GR
	TOTAL DEPTH 0.9 m	CHECKED BY PS

COMMENTS

Depth (m)	PID	PP (kPa)	Samples	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	DCP	Consistency	Moisture	Additional Observations						
	<1		<div style="border: 1px solid black; padding: 2px; display: inline-block;">TP43_0.1</div> <div style="border: 1px solid black; padding: 2px; display: inline-block;">TP43a_0.1</div>		TOPSOIL: Sandy SILT : Non plastic, brown, with fine to coarse grained sand and fine to medium grained sub-angular gravel.	3		Dry to moist							
						4									
0.5	<1	250	<div style="border: 1px solid black; padding: 2px; display: inline-block;">TP43_0.5</div> <div style="border: 1px solid black; padding: 2px; display: inline-block;">ASS_TP43_0.5</div>		Silty Sandy CLAY: Medium to high plasticity, light brown, near plastic limit, fine to coarse grained sand. Residual soil.	3	Stiff	Moist							
						3									
											Sandy Clay: Medium to high plasticity, brown, near plastic limit, fine to coarse grained sand. Residual soil.	3	Stiff	Dry to moist	
												3			
					End of intrusive investigation	4									
						3									
						4									
1					EOI at 0.9 m										

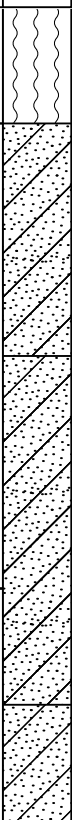
PROJECT NUMBER EP1995	Investigation Date 06/04/2021	LATITUDE -32.761813
PROJECT NAME Detailed Site Investigation	Drilling Company Lovett's Earthmoving	LONGITUDE 151.638752
CLIENT Avid Property Group Pty Ltd	Driller RN	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Road, Chisholm, NSW	Drilling Method 10 T Excavator 400 mm	LOGGED BY GR
	TOTAL DEPTH 0.9 m	CHECKED BY PS

COMMENTS

Depth (m)	PID	PP (kPa)	Samples	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	DCP	Consistency	Moisture	Additional Observations
	<1		TP44_0.1		TOPSOIL: Sandy SILT : Non plastic, brown, with fine to coarse grained sand and fine to medium grained sub-angular gravel.	1		Dry to moist	
					Sandy Silty CLAY: Medium to high plasticity, brown, near plastic limit, with some gravel. Residual soil.	2	Firm	Dry to moist	
0.5	<1		TP44_0.5 ASS_TP44_0.5		Sandy Silty CLAY: Medium to high plasticity, brown, near plastic limit, with some gravel. Residual soil.	2	Firm to very stiff	Dry to moist	
						1			
						3			
						4			
					End of intrusive investigation	5			
						5			
1					EOI at 0.9 m				

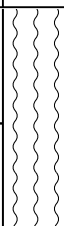


PROJECT NUMBER EP1995	Investigation Date 06/04/2021	LATITUDE -32.761888
PROJECT NAME Detailed Site Investigation	Drilling Company Lovett's Earthmoving	LONGITUDE 151.639324
CLIENT Avid Property Group Pty Ltd	Driller RN	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Road, Chisholm, NSW	Drilling Method 10 T Excavator 400 mm	LOGGED BY GR
	TOTAL DEPTH 0.9 m	CHECKED BY PS

COMMENTS

Depth (m)	PID	PP (kPa)	Samples	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	DCP	Consistency	Moisture	Additional Observations
0.5	<1	200	TP45_0.1 TP45_0.5 ASS_TP45_0.5		TOPSOIL: Sandy SILT : Non plastic, brown, with fine to coarse grained sand and fine to medium grained sub-angular gravel.	2		Dry to moist	
					Sandy Silty CLAY: Medium to high plasticity, light brown, near plastic limit, with fine to coarse grained sand. Residual soil.	3	Stiff	Dry to moist	
						2			
					Sandy Clay: Medium to high plasticity, grey, near plastic limit, with fine to coarse grained sand. Residual soil.	1	Firm	Dry to moist	
1	<1				Sandy Clay: Medium to high plasticity, grey tending brown, near plastic limit, with fine to coarse grained sand. Residual soil.	3	Stiff	Dry to moist	
					End of intrusive investigation	3			
						4			
1					EOI at 0.9 m				

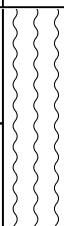


PROJECT NUMBER EP1995	Investigation Date 06/04/2021	LATITUDE -32.761600
PROJECT NAME Detailed Site Investigation	Drilling Company Lovett's Earthmoving	LONGITUDE 151.638537
CLIENT Avid Property Group Pty Ltd	Driller RN	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Road, Chisholm, NSW	Drilling Method 10 T Excavator 400 mm	LOGGED BY GR
	TOTAL DEPTH 0.9 m	CHECKED BY PS

COMMENTS

Depth (m)	PID	PP (kPa)	Samples	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	DCP	Consistency	Moisture	Additional Observations						
	<1		TP46_0.1		TOPSOIL: Sandy SILT : Non plastic, brown, with fine to coarse grained sand and fine to medium grained sub-angular gravel.	2		Dry to moist							
						2									
0.5	<1	250	TP46_0.5 ASS_TP46_0.5		Sandy Clayey SILT: Medium to high plasticity clay, with fine to coarse grained sand and fine to coarse grained gravel. Residual soil.	2	Firm to stiff	Dry to moist							
						3									
											Sandy Clay: Medium to high plasticity, grey, near plastic limit, with fine to coarse grained sand. Organics present. Residual soil.	2	Stiff	Dry to moist	
												3			
					End of intrusive investigation	6									
						6									
1					EOI at 0.9 m										

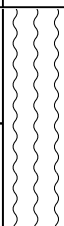

PROJECT NUMBER EP1995	Investigation Date 06/04/2021	LATITUDE -32.761607
PROJECT NAME Detailed Site Investigation	Drilling Company Lovett's Earthmoving	LONGITUDE 151.639086
CLIENT Avid Property Group Pty Ltd	Driller RN	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Road, Chisholm, NSW	Drilling Method 10 T Excavator 400 mm	LOGGED BY GR
	TOTAL DEPTH 0.9 m	CHECKED BY PS

COMMENTS

Depth (m)	PID	PP (kPa)	Samples	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	DCP	Consistency	Moisture	Additional Observations
0.5	<1	300	TP47_0.1 TP47_0.5 ASS_TP47_0.5		TOPSOIL: Sandy SILT : Non plastic, brown, with fine to coarse grained sand and fine to medium grained sub-angular gravel.	2		Dry to moist	
					2				
					Sandy Clayey SILT: Low to medium plasticity clay, with fine to coarse grained sand and fine to coarse grained gravel. Residual soil.	2	Firm	Dry to moist	
					2				
					Sandy Clay: Medium to high plasticity, grey, near plastic limit, with fine to coarse grained sand. Organics present. Residual soil.	2	Firm	Dry to moist	
					2				
				End of intrusive investigation	3				
						4			
						6			
1					EOI at 0.9 m				

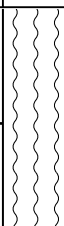

PROJECT NUMBER EP1995	Investigation Date 06/04/2021	LATITUDE -32.761585
PROJECT NAME Detailed Site Investigation	Drilling Company Lovett's Earthmoving	LONGITUDE 151.639772
CLIENT Avid Property Group Pty Ltd	Driller RN	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Road, Chisholm, NSW	Drilling Method 10 T Excavator 400 mm	LOGGED BY GR
	TOTAL DEPTH 0.9 m	CHECKED BY PS

COMMENTS

Depth (m)	PID	PP (kPa)	Samples	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	DCP	Consistency	Moisture	Additional Observations
	<1		TP48_0.1		TOPSOIL: Sandy SILT : Non plastic, brown, with fine to coarse grained sand and fine to medium grained sub-angular gravel.	2		Dry to moist	
						3			
0.5	<1	300	TP48_0.5 ASS_TP48_0.5		Sandy CLAY: Medium to high plasticity, brown, near plastic limit, with fine to coarse grained sand. Residual soil.	4	Stiff to firm	Dry to moist	
						2			
						1			
						2			
						2			
					End of intrusive investigation	3			
						5			
1					EOI at 0.9 m				

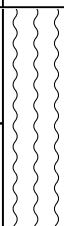

PROJECT NUMBER EP1995	Investigation Date 12/04/2021	LATITUDE -32.761277
PROJECT NAME Detailed Site Investigation	Drilling Company Lovett's Earthmoving	LONGITUDE 151.638631
CLIENT Avid Property Group Pty Ltd	Driller RN	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Road, Chisholm, NSW	Drilling Method 10 T Excavator 400 mm	LOGGED BY GR
	TOTAL DEPTH 0.6 m	CHECKED BY PS

COMMENTS

Depth (m)	PID	PP (kPa)	Samples	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	DCP	Consistency	Moisture	Additional Observations
	<1		TP49_0.1 ASS_TP49_0.1		TOPSOIL: Sandy SILT : Non plastic, dark brown, with fine to coarse grained sand and some low plasticity clay fines			Moist	
			TP49_0.5 ASS_TP49_0.5		Sandy CLAY: Medium to high plasticity, light grey, near plastic limit, with fine to coarse grained sand. Residual soil.			Moist	
0.5	<1				Sandy CLAY: Medium to high plasticity, light grey tending red, near plastic limit, with fine to coarse grained sand. Residual soil.			Moist	
1					EOI at 0.6 m				

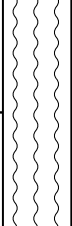

PROJECT NUMBER EP1995	Investigation Date 12/04/2021	LATITUDE -32.761289
PROJECT NAME Detailed Site Investigation	Drilling Company Lovett's Earthmoving	LONGITUDE 151.639281
CLIENT Avid Property Group Pty Ltd	Driller RN	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Road, Chisholm, NSW	Drilling Method 10 T Excavator 400 mm	LOGGED BY GR
	TOTAL DEPTH 0.6 m	CHECKED BY PS

COMMENTS

Depth (m)	PID	PP (kPa)	Samples	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	DCP	Consistency	Moisture	Additional Observations
<1			TP50_0.1		TOPSOIL: Sandy SILT : Non plastic, dark brown, with fine to coarse grained sand and some low plasticity clay fines			Moist	
0.5	<1		TP50_0.5 ASS_TP50_0.5		Sandy CLAY: Medium to high plasticity, light grey, near plastic limit, with fine to coarse grained sand. Residual soil.			Moist	
1					EOI at 0.6 m				

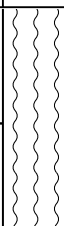

PROJECT NUMBER EP1995	Investigation Date 12/04/2021	LATITUDE -32.760886
PROJECT NAME Detailed Site Investigation	Drilling Company Lovett's Earthmoving	LONGITUDE 151.638702
CLIENT Avid Property Group Pty Ltd	Driller RN	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Road, Chisholm, NSW	Drilling Method 10 T Excavator 400 mm	LOGGED BY GR
	TOTAL DEPTH 0.6 m	CHECKED BY PS

COMMENTS

Depth (m)	PID	PP (kPa)	Samples	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	DCP	Consistency	Moisture	Additional Observations
	<1		TP51_0.1		TOPSOIL: Sandy SILT : Non plastic, dark brown, with fine to coarse grained sand and some low plasticity clay fines			Dry	
0.5	<1		TP51_0.5 ASS_TP51_0.5		Sandy CLAY: Medium to high plasticity, brown mottled orange, near plastic limit, with fine to coarse grained sand. Residual soil.			Dry	
1					EOI at 0.6 m				

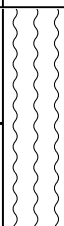

PROJECT NUMBER EP1995	Investigation Date 12/04/2021	LATITUDE -32.761018
PROJECT NAME Detailed Site Investigation	Drilling Company Lovett's Earthmoving	LONGITUDE 151.639186
CLIENT Avid Property Group Pty Ltd	Driller RN	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Road, Chisholm, NSW	Drilling Method 10 T Excavator 400 mm	LOGGED BY GR
	TOTAL DEPTH 0.6 m	CHECKED BY PS

COMMENTS

Depth (m)	PID	PP (kPa)	Samples	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	DCP	Consistency	Moisture	Additional Observations
	<1		TP52_0.1		TOPSOIL: Sandy SILT : Non plastic, dark brown, with fine to coarse grained sand and some low plasticity clay fines			Moist	
0.5	<1		TP52_0.5 ASS_TP52_0.5		Sandy CLAY: Medium to high plasticity, light grey, near plastic limit, with fine to coarse grained sand. Residual soil.			Moist	
1					EOI at 0.6 m				

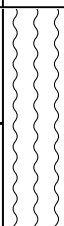

PROJECT NUMBER EP1995	Investigation Date 12/04/2021	LATITUDE -32.761112
PROJECT NAME Detailed Site Investigation	Drilling Company Lovett's Earthmoving	LONGITUDE 151.639838
CLIENT Avid Property Group Pty Ltd	Driller RN	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Road, Chisholm, NSW	Drilling Method 10 T Excavator 400 mm	LOGGED BY GR
	TOTAL DEPTH 0.6 m	CHECKED BY PS

COMMENTS

Depth (m)	PID	PP (kPa)	Samples	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	DCP	Consistency	Moisture	Additional Observations
<1			TP53_0.1 ASS_TP53_0.1 TP53_ASB QC07 QC08		TOPSOIL: Sandy SILT : Non plastic, dark brown, with fine to coarse grained sand and some low plasticity clay fines			Dry to moist	QC07 and QC08 taken from TP53_0.1
0.5	<1		TP53_0.5 ASS_TP53_0.5		Sandy CLAY: Medium to high plasticity, light grey, near plastic limit, with fine to coarse grained sand. Residual soil.			Dry to moist	
1					EOI at 0.6 m				

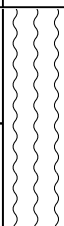

PROJECT NUMBER EP1995	Investigation Date 12/04/2021	LATITUDE -32.760427
PROJECT NAME Detailed Site Investigation	Drilling Company Lovett's Earthmoving	LONGITUDE 151.638802
CLIENT Avid Property Group Pty Ltd	Driller RN	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Road, Chisholm, NSW	Drilling Method 10 T Excavator 400 mm	LOGGED BY GR
	TOTAL DEPTH 0.6 m	CHECKED BY PS

COMMENTS

Depth (m)	PID	PP (kPa)	Samples	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	DCP	Consistency	Moisture	Additional Observations
<1			TP54_0.1 ASS_TP54_0.1 TP54_ASB		TOPSOIL: Sandy SILT: Non plastic, brown, with fine to coarse grained sand.			Dry	
0.5	<1		TP54_0.5 ASS_TP54_0.5		Sandy CLAY: Medium to high plasticity, brown mottled red, near plastic limit, with fine to coarse grained sand. Residual soil.			Dry	
1					EOI at 0.6 m				

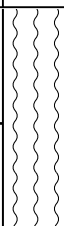

PROJECT NUMBER EP1995	Investigation Date 12/04/2021	LATITUDE -32.760620
PROJECT NAME Detailed Site Investigation	Drilling Company Lovett's Earthmoving	LONGITUDE 151.639753
CLIENT Avid Property Group Pty Ltd	Driller RN	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Road, Chisholm, NSW	Drilling Method 10 T Excavator 400 mm	LOGGED BY GR
	TOTAL DEPTH 0.6 m	CHECKED BY PS

COMMENTS

Depth (m)	PID	PP (kPa)	Samples	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	DCP	Consistency	Moisture	Additional Observations
<1	<1		TP55_0.1		TOPSOIL: Sandy SILT: Non plastic, brown, with fine to coarse grained sand.			Dry	
0.5	<1		TP55_0.5 ASS_TP55_0.5		Sandy CLAY: Medium to high plasticity, brown mottled red, near plastic limit, with fine to coarse grained sand. Residual soil.			Dry to moist	
1					EOI at 0.6 m				

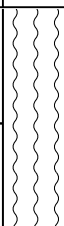

PROJECT NUMBER EP1995	Investigation Date 12/04/2021	LATITUDE -32.759970
PROJECT NAME Detailed Site Investigation	Drilling Company Lovett's Earthmoving	LONGITUDE 151.639017
CLIENT Avid Property Group Pty Ltd	Driller RN	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Road, Chisholm, NSW	Drilling Method 10 T Excavator 400 mm	LOGGED BY GR
	TOTAL DEPTH 0.6 m	CHECKED BY PS

COMMENTS

Depth (m)	PID	PP (kPa)	Samples	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	DCP	Consistency	Moisture	Additional Observations
<1			TP56_0.1 TP56_ASB		TOPSOIL: Sandy SILT: Non plastic, brown, with fine to coarse grained sand.			Dry	
0.5	<1		TP56_0.5 ASS_TP56_0.5		Sandy CLAY: Medium to high plasticity, brown mottled red, near plastic limit, with fine to coarse grained sand. Residual soil.			Dry	
1					EOI at 0.6 m				

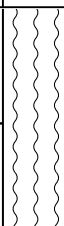

PROJECT NUMBER EP1995	Investigation Date 12/04/2021	LATITUDE -32.760112
PROJECT NAME Detailed Site Investigation	Drilling Company Lovett's Earthmoving	LONGITUDE 151.639845
CLIENT Avid Property Group Pty Ltd	Driller RN	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Road, Chisholm, NSW	Drilling Method 10 T Excavator 400 mm	LOGGED BY GR
	TOTAL DEPTH 0.8 m	CHECKED BY PS

COMMENTS

Depth (m)	PID	PP (kPa)	Samples	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	DCP	Consistency	Moisture	Additional Observations
<1			TP57_0.1		TOPSOIL: Sandy SILT: Non plastic, brown, with fine to coarse grained sand.			Dry	
0.5	<1		TP57_0.5 ASS_TP57_0.5 QC25		Sandy CLAY: Medium to high plasticity, brown mottled red, near plastic limit, with fine to coarse grained sand. Residual soil.			Dry	
1					EOI at 0.8 m				



PROJECT NUMBER EP1995	Investigation Date 12/04/2021	LATITUDE -32.760080
PROJECT NAME Detailed Site Investigation	Drilling Company Lovett's Earthmoving	LONGITUDE 151.640199
CLIENT Avid Property Group Pty Ltd	Driller	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Road, Chisholm, NSW	Drilling Method 10 T Excavator 400 mm	LOGGED BY GR
	TOTAL DEPTH 0.6 m	CHECKED BY PS

COMMENTS

Depth (m)	PID	PP (kPa)	Samples	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	DCP	Consistency	Moisture	Additional Observations
<1	<1		TP58_0.1		TOPSOIL: Sandy SILT: Non plastic, brown, with fine to coarse grained sand.			Dry	
0.5	<1		TP58_0.5 ASS_TP58_0.5		Sandy CLAY: Medium to high, plasticity, brown mottled orange, near plastic limit, with fine to coarse grained sand. Residual soil.			Dry	
1					EOI at 0.6 m				



PROJECT NUMBER EP1995	DRILLING DATE 08/04/2021	LATITUDE -32.759671
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY EP Risk	LONGITUDE 151.640006
CLIENT Avid Property Group	DRILLER LK	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD Hand Auger	LOGGED BY LK
	TOTAL DEPTH 0.6 m BGL	CHECKED BY PS

COMMENTS End of Investigation at 0.6 m BGL.

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
<1			BH59_0.1 BH59a_0.1			TOPSOIL: Silty SAND: Brown, fine to coarse sand, moist, loose, organic material.			
0.5	<1		BH59_0.5 BH59_0.5_ASS			Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.			
						End of intrusive investigation.			



PROJECT NUMBER EP1995	DRILLING DATE 08/04/2021	LATITUDE -32.759433
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY EP Risk	LONGITUDE 151.640299
CLIENT Avid Property Group	DRILLER LK	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD Hand Auger	LOGGED BY LK
	TOTAL DEPTH 0.6 m BGL	CHECKED BY PS

COMMENTS End of Investigation at 0.6 m BGL.

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
<1			BH60_0.1			TOPSOIL: Silty SAND: Brown, fine to coarse sand, moist, loose, organic material.			
0.5	<1		BH60_0.5 BH60_0.5_ASS			Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.			
						End of intrusive investigation.			



PROJECT NUMBER EP1995	DRILLING DATE 08/04/2021	LATITUDE -32.759097
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY EP Risk	LONGITUDE 151.640164
CLIENT Avid Property Group	DRILLER LK	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD Hand Auger	LOGGED BY LK
	TOTAL DEPTH 0.6 m BGL	CHECKED BY PS

COMMENTS End of Investigation at 0.6 m BGL.

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
<1			BH61_0.1 BH61a_0.1			TOPSOIL: Silty SAND: Brown, fine to coarse sand, moist, loose, organic material.			
0.5	<1		BH61_0.5 BH61_0.5_ASS			Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.			
						End of intrusive investigation.			



PROJECT NUMBER EP1995	DRILLING DATE 08/04/2021	LATITUDE -32.758815
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY EP Risk	LONGITUDE 151.640384
CLIENT Avid Property Group	DRILLER LK	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD Hand Auger	LOGGED BY LK
	TOTAL DEPTH 0.6 m BGL	CHECKED BY PS

COMMENTS End of Investigation at 0.6 m BGL.

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
<1			BH62_0.1			TOPSOIL: Silty SAND: Brown, fine to coarse sand, moist, loose, organic material.			
0.5	<1		BH62_0.5 BH62_0.5_ASS			Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.			
						End of intrusive investigation.			



PROJECT NUMBER EP1995	DRILLING DATE 08/04/2021	LATITUDE -32.758346
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY EP Risk	LONGITUDE 151.640271
CLIENT Avid Property Group	DRILLER LK	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD Hand Auger	LOGGED BY LK
	TOTAL DEPTH 0.6 m BGL	CHECKED BY PS

COMMENTS End of Investigation at 0.6 m BGL.

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
<1			BH63_0.1 BH63a_0.1			TOPSOIL: Silty SAND: Brown, fine to coarse sand, moist, loose, organic material.			
0.5	<1		BH63_0.5 BH63_0.5_ASS			Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.			
						End of intrusive investigation.			



PROJECT NUMBER EP1995	DRILLING DATE 08/04/2021	LATITUDE -32.758107
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY EP Risk	LONGITUDE 151.640507
CLIENT Avid Property Group	DRILLER LK	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD Hand Auger	LOGGED BY LK
	TOTAL DEPTH 0.6 m BGL	CHECKED BY PS

COMMENTS End of Investigation at 0.6 m BGL.

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
<1			BH64_0.1			TOPSOIL: Silty SAND: Brown, fine to coarse sand, moist, loose, organic material.			
0.5	<1		BH64_0.5 BH64_0.5_ASS			Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.			
						End of intrusive investigation.			



PROJECT NUMBER EP1995	DRILLING DATE 08/04/2021	LATITUDE -32.757863
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY EP Risk	LONGITUDE 151.640290
CLIENT Avid Property Group	DRILLER LK	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD Hand Auger	LOGGED BY LK
	TOTAL DEPTH 0.6 m BGL	CHECKED BY PS

COMMENTS End of Investigation at 0.6 m BGL.

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
<1			BH65_0.1 BH65a_0.1			TOPSOIL: Silty SAND: Brown, fine to coarse sand, moist, loose, organic material.			
0.5	<1		BH65_0.5 BH65_0.5_ASS			Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.			
						End of intrusive investigation.			



PROJECT NUMBER EP1995	DRILLING DATE 08/04/2021	LATITUDE -32.757654
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY EP Risk	LONGITUDE 151.640674
CLIENT Avid Property Group	DRILLER LK	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD Hand Auger	LOGGED BY LK
	TOTAL DEPTH 0.6 m BGL	CHECKED BY PS

COMMENTS End of Investigation at 0.6 m BGL.

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
<1			BH66_0.1			TOPSOIL: Silty SAND: Brown, fine to coarse sand, moist, loose, organic material.			
0.5	<1		BH66_0.5 BH66_0.5_ASS			Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.			
						End of intrusive investigation.			



PROJECT NUMBER EP1995	DRILLING DATE 08/04/2021	LATITUDE -32.757403
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY EP Risk	LONGITUDE 151.640247
CLIENT Avid Property Group	DRILLER LK	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD Hand Auger	LOGGED BY LK
	TOTAL DEPTH 0.6 m BGL	CHECKED BY PS

COMMENTS End of Investigation at 0.6 m BGL.

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
<1			BH67_0.1 BH67a_0.1			TOPSOIL: Silty SAND: Brown, fine to coarse sand, moist, loose, organic material.			
0.5	<1		BH67_0.5 BH67_0.5_ASS			Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.			
						End of intrusive investigation.			



PROJECT NUMBER EP1995	DRILLING DATE 08/04/2021	LATITUDE -32.756975
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY EP Risk	LONGITUDE 151.640635
CLIENT Avid Property Group	DRILLER LK	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD Hand Auger	LOGGED BY LK
	TOTAL DEPTH 0.6 m BGL	CHECKED BY PS

COMMENTS End of Investigation at 0.6 m BGL.

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
<1			BH68_0.1			TOPSOIL: Silty SAND: Brown, fine to coarse sand, moist, loose, organic material.			
0.5	<1		BH68_0.5 BH68_0.5_ASS			Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.			
						End of intrusive investigation.			



PROJECT NUMBER EP1995	DRILLING DATE 08/04/2021	LATITUDE -32.756611
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY EP Risk	LONGITUDE 151.640851
CLIENT Avid Property Group	DRILLER LK	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD Hand Auger	LOGGED BY LK
	TOTAL DEPTH 0.6 m BGL	CHECKED BY PS

COMMENTS End of Investigation at 0.6 m BGL.

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
<1			BH69_0.1			TOPSOIL: Silty SAND: Brown, fine to coarse sand, moist, loose, organic material.			
0.5	<1		BH69_0.5 BH69_0.5_ASS			Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.			
						End of intrusive investigation.			



PROJECT NUMBER EP1995	DRILLING DATE 08/04/2021	LATITUDE -32.756472
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY EP Risk	LONGITUDE 151.639987
CLIENT Avid Property Group	DRILLER LK	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD Hand Auger	LOGGED BY LK
	TOTAL DEPTH 0.6 m BGL	CHECKED BY PS

COMMENTS End of Investigation at 0.6 m BGL.

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
<1			BH70_0.1			TOPSOIL: Silty SAND: Brown, fine to coarse sand, moist, loose, organic material.			
0.5	<1		BH70_0.5 BH70_0.5_ASS			Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.			
						End of intrusive investigation.			



PROJECT NUMBER EP1995	DRILLING DATE 08/04/2021	LATITUDE -32.756936
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY EP Risk	LONGITUDE 151.640103
CLIENT Avid Property Group	DRILLER LK	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD Hand Auger	LOGGED BY LK
	TOTAL DEPTH 0.6 m BGL	CHECKED BY PS

COMMENTS End of Investigation at 0.6 m BGL.

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
<1			BH71_0.1			TOPSOIL: Silty SAND: Brown, fine to coarse sand, moist, loose, organic material.			
0.5	<1		BH71_0.5 BH71_0.5_ASS			Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.			
						End of intrusive investigation.			



PROJECT NUMBER EP1995	DRILLING DATE 08/04/2021	LATITUDE -32.756134
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY EP Risk	LONGITUDE 151.640252
CLIENT Avid Property Group	DRILLER LK	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD Hand Auger	LOGGED BY LK
	TOTAL DEPTH 0.6 m BGL	CHECKED BY PS

COMMENTS End of Investigation at 0.6 m BGL.

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
<1			BH72_0.1			TOPSOIL: Silty SAND: Brown, fine to coarse sand, moist, loose, organic material.			
0.5	<1		BH72_0.5 BH72_0.5_ASS			Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.			
						End of intrusive investigation.			



PROJECT NUMBER EP1995	DRILLING DATE 08/04/2021	LATITUDE -32.756198
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY EP Risk	LONGITUDE 151.640864
CLIENT Avid Property Group	DRILLER LK	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD Hand Auger	LOGGED BY LK
	TOTAL DEPTH 0.6 m BGL	CHECKED BY PS

COMMENTS End of Investigation at 0.6 m BGL.

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
<1			BH73_0.1			TOPSOIL: Silty SAND: Brown, fine to coarse sand, moist, loose, organic material.			
0.5	<1		BH73_0.5 BH73_0.5_ASS			Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.			
						End of intrusive investigation.			



PROJECT NUMBER EP1995	DRILLING DATE 08/04/2021	LATITUDE -32.756058
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY EP Risk	LONGITUDE 151.639445
CLIENT Avid Property Group	DRILLER LK	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD Hand Auger	LOGGED BY LK
	TOTAL DEPTH 0.6 m BGL	CHECKED BY PS

COMMENTS End of Investigation at 0.6 m BGL.

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
<1			BH74_0.1			TOPSOIL: Silty SAND: Brown, fine to coarse sand, moist, loose, organic material.			
0.5	<1		BH74_0.5 BH74_0.5_ASS			Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.			
						End of intrusive investigation.			



PROJECT NUMBER EP1995	DRILLING DATE 08/04/2021	LATITUDE -32.756431
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY EP Risk	LONGITUDE 151.639508
CLIENT Avid Property Group	DRILLER LK	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD Hand Auger	LOGGED BY LK
	TOTAL DEPTH 0.6 m BGL	CHECKED BY PS

COMMENTS End of Investigation at 0.6 m BGL.

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
<1			BH75_0.1			TOPSOIL: Silty SAND: Brown, fine to coarse sand, moist, loose, organic material.			
0.5	<1		BH75_0.5 BH75_0.5_ASS			Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.			
						End of intrusive investigation.			



PROJECT NUMBER EP1995	DRILLING DATE 08/04/2021	LATITUDE -32.756159
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY EP Risk	LONGITUDE 151.639083
CLIENT Avid Property Group	DRILLER LK	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD Hand Auger	LOGGED BY LK
	TOTAL DEPTH 0.6 m BGL	CHECKED BY PS

COMMENTS End of Investigation at 0.6 m BGL.

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
<1			BH76_0.1			TOPSOIL: Silty SAND: Brown, fine to coarse sand, moist, loose, organic material.			
0.5	<1		BH76_0.5 BH76_0.5_ASS			Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.			
						End of intrusive investigation.			



PROJECT NUMBER EP1995	DRILLING DATE 08/04/2021	LATITUDE -32.755845
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY EP Risk	LONGITUDE 151.638693
CLIENT Avid Property Group	DRILLER LK	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD Hand Auger	LOGGED BY LK
	TOTAL DEPTH 0.6 m BGL	CHECKED BY PS

COMMENTS End of Investigation at 0.6 m BGL.

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
<1			BH77_0.1			FILL: Silty SAND with gravel: Fine to coarse grained sand, brown, fine to coarse sub-angular gravel.			Some bricks and anthropogenic material at the surface.
0.5	<1		BH77_0.5 BH77_0.5_ASS			Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.			
						End of intrusive investigation.			



PROJECT NUMBER EP1995	DRILLING DATE 08/04/2021	LATITUDE -32.756093
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY EP Risk	LONGITUDE 151.638665
CLIENT Avid Property Group	DRILLER LK	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD Hand Auger	LOGGED BY LK
	TOTAL DEPTH 0.6 m BGL	CHECKED BY PS

COMMENTS End of Investigation at 0.6 m BGL. Borehole located within the waterway north of the quarry.

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
<1			BH78_0.1 BH78a_0.1			FILL: Silty SAND with gravel: Fine to coarse grained sand, brown, fine to medium sub-angular gravel, moist.			Some bricks and anthropogenic material at the surface. Bricks have been used to prevent erosion during periods of high water flow through the area.
0.5	<1		BH78_0.5 BH78_0.5_ASS			Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.			
						End of intrusive investigation.			



PROJECT NUMBER EP1995	DRILLING DATE 08/04/2021	LATITUDE -32.755921
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY EP Risk	LONGITUDE 151.638490
CLIENT Avid Property Group	DRILLER LK	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD Hand Auger	LOGGED BY LK
	TOTAL DEPTH 0.6 m BGL	CHECKED BY PS

COMMENTS End of Investigation at 0.6 m BGL.

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
<1			BH79_0.1			TOPSOIL: Silty SAND: Brown, fine to coarse sand, moist, loose, organic material.			
0.5	<1		BH79_0.5 BH79_0.5_ASS			Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.			
						End of intrusive investigation.			



PROJECT NUMBER EP1995	DRILLING DATE 08/04/2021	LATITUDE -32.756348
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY EP Risk	LONGITUDE 151.640523
CLIENT Avid Property Group	DRILLER LK	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD Hand Auger	LOGGED BY LK
	TOTAL DEPTH 0.6 m BGL	CHECKED BY PS

COMMENTS End of Investigation at 0.6 m BGL.

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
<1			BH80_0.1			TOPSOIL: Silty SAND: Brown, fine to coarse sand, moist, loose, organic material.			
0.5	<1		BH80_0.5 BH80_0.5_ASS			Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.			
						End of intrusive investigation.			



PROJECT NUMBER EP1995	DRILLING DATE 08/04/2021	LATITUDE -32.757067
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY EP Risk	LONGITUDE 151.640811
CLIENT Avid Property Group	DRILLER LK	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD Hand Auger	LOGGED BY LK
	TOTAL DEPTH 0.6 m BGL	CHECKED BY PS

COMMENTS End of Investigation at 0.6 m BGL.

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
<1			BH81_0.1			TOPSOIL: Silty SAND: Brown, fine to coarse sand, moist, loose, organic material.			
0.5	<1		BH81_0.5 BH81_0.5_ASS			Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.			
						End of intrusive investigation.			



PROJECT NUMBER EP1995	DRILLING DATE 08/04/2021	LATITUDE -32.756084
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY EP Risk	LONGITUDE 151.639867
CLIENT Avid Property Group	DRILLER LK	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD Hand Auger	LOGGED BY LK
	TOTAL DEPTH 0.6 m BGL	CHECKED BY PS

COMMENTS End of Investigation at 0.6 m BGL.

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
<1			BH82_0.1			TOPSOIL: Silty SAND: Brown, fine to coarse sand, moist, loose, organic material.			
0.5	<1		BH82_0.5 BH82_0.5_ASS			Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.			
						End of intrusive investigation.			



PROJECT NUMBER EP1995	DRILLING DATE 08/04/2021	LATITUDE -32.755885
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY EP Risk	LONGITUDE 151.638890
CLIENT Avid Property Group	DRILLER LK	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD Hand Auger	LOGGED BY LK
	TOTAL DEPTH 0.6 m BGL	CHECKED BY PS

COMMENTS End of Investigation at 0.6 m BGL.

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
<1			BH83_0.1			TOPSOIL: Silty SAND: Brown, fine to coarse sand, moist, loose, organic material.			
0.5	<1		BH83_0.5 BH83_0.5_ASS			Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.			
						End of intrusive investigation.			


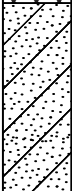
PROJECT NUMBER EP1995	DRILLING DATE 08/03/2021	LATITUDE -32.759726
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY Lovett's Earthmoving	LONGITUDE 151.638497
CLIENT Avid Property Group	DRILLER RN	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD 10 T Excavator 400mm	LOGGED BY LK
	TOTAL DEPTH 0.6 m BGL	CHECKED BY PS

COMMENTS End of Investigation at 0.6 m BGL.

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations	
0.5	<1		TP84_0.1			TOPSOIL: Silty SAND: Brown, fine to coarse sand, moist, loose, organic material.		1		
						Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.	Firm	2		
1	<1		TP84_0.5					4		
								2		
									2	
									2	
								End of intrusive investigation.		2
							2			
							2			
							2			
						End of Dynamic Cone Penetrometer testing.				



PROJECT NUMBER EP1995	DRILLING DATE 06/04/2021	LATITUDE -32.759800
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY Lovett's Earthmoving	LONGITUDE 151.638739
CLIENT Avid Property Group	DRILLER RN	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD 10 T Excavator 400mm	LOGGED BY LK
	TOTAL DEPTH 0.6 m BGL	CHECKED BY PS

COMMENTS End of Investigation at 0.6 m BGL. Test Pit located within one of the access tracks encountered across the Site.

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
	<1		TP85_0.1			FILL: Silty SAND with gravel: Brown, fine to coarse sand, moist, fine to medium sub angular gravel. Anthropogenic material.			Anthropogenic material: Brick and tile waste material.
			TP85_ACM						
0.5	<1		TP85_0.5			Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.	Firm	2	Started DCP within the test pit beneath the fill material layer.
								2	
1						End of intrusive investigation.		5	
								5	
								5	
								7	
								5	
								6	
								8	
1.5						End of Dynamic Cone Penetrometer Testing.			



PROJECT NUMBER EP1995	DRILLING DATE 06/04/2021	LATITUDE -32.759836
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY Lovett's Earthmoving	LONGITUDE 151.639296
CLIENT Avid Property Group	DRILLER RN	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD 10 T Excavator 400mm	LOGGED BY LK
	TOTAL DEPTH 0.6 m BGL	CHECKED BY PS

COMMENTS End of Investigation at 0.6 m BGL.

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
0.5	<1		TP86_0.1			TOPSOIL: Silty SAND: Brown, fine to coarse sand, moist, loose, organic material.		4	
						Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.	Firm to stiff	2	
								3	
								2	
								3	
			TP86_0.5					2	
						End of intrusive investigation.		2	
								3	
								4	
								4	
1						End of Dynamic Cone Penetrometer testing.			



PROJECT NUMBER EP1995	DRILLING DATE 06/04/2021	LATITUDE -32.759857
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY Lovett's Earthmoving	LONGITUDE 151.639687
CLIENT Avid Property Group	DRILLER RN	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD 10 T Excavator 400mm	LOGGED BY LK
	TOTAL DEPTH 0.6 m BGL	CHECKED BY PS

COMMENTS End of Investigation at 0.6 m BGL.

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
0.5	<1		TP87_0.1			TOPSOIL: Silty SAND: Brown, fine to coarse sand, moist, loose, organic material.		4	
			TP87a_0.1			Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.	Firm to stiff	2	
							3		
							3		
							3		
		TP87_0.5					2		
1						End of intrusive investigation.		2	
								2	
								4	
								4	
1						End of Dynamic Cone Penetrometer testing.			

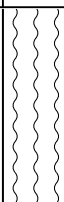

PROJECT NUMBER EP1995	DRILLING DATE 06/04/2021	LATITUDE -32.759639
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY Lovett's Earthmoving	LONGITUDE 151.639541
CLIENT Avid Property Group	DRILLER RN	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD 10 T Excavator 400mm	LOGGED BY LK
	TOTAL DEPTH 0.6 m BGL	CHECKED BY PS

COMMENTS End of Investigation at 0.6 m BGL.

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations	
0.5	<1		TP88_0.1			TOPSOIL: Silty SAND: Brown, fine to coarse sand, moist, loose, organic material.		2		
			TP88a_0.1			Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.	Firm to stiff	2		
1	<1		TP88_0.5					2		
								2		
									3	
									3	
						End of intrusive investigation.		2		
								2		
								3		
								3		
						End of Dynamic Cone Penetrometer testing.				


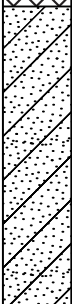
PROJECT NUMBER EP1995	DRILLING DATE 08/03/2021	LATITUDE -32.759819
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY Lovett's Earthmoving	LONGITUDE 151.639051
CLIENT Avid Property Group	DRILLER RN	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD 10 T Excavator 400mm	LOGGED BY LK
	TOTAL DEPTH 0.6 m BGL	CHECKED BY PS

COMMENTS End of Investigation at 0.6 m BGL.

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
	<1		TP89_0.1			TOPSOIL: Silty SAND: Brown, fine to coarse sand, moist, loose, organic material.		4	
					6				
0.5	<1		TP89_0.5			Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.	Firm to stiff	3	
					2				
					2				
					3				
1						End of intrusive investigation.		2	
					2				
					3				
					5				
1						End of Dynamic Cone Penetrometer testing.			

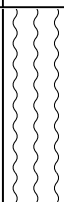

PROJECT NUMBER EP1995	DRILLING DATE 06/04/2021	LATITUDE -32.759498
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY Lovett's Earthmoving	LONGITUDE 151.638886
CLIENT Avid Property Group	DRILLER RN	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD 10 T Excavator 400mm	LOGGED BY LK
	TOTAL DEPTH 0.6 m BGL	CHECKED BY PS

COMMENTS End of Investigation at 0.6 m BGL. Test Pit located within one of the access tracks encountered across the Site.

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
0.5	<1		TP90_0.1			FILL: Silty SAND with gravel: Brown, fine to coarse sand, moist, fine to medium sub angular gravel. Anthropogenic material.			Anthropogenic material: Brick and tile waste material.
			TP90a_0.1						
1	<1		TP90_0.5			Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.	Firm to stiff.	2	Started DCP within the test pit beneath the fill material layer.
					2				
					2				
					3				
					3				
1	<1					End of intrusive investigation.		3	
					3				
					3				
					4				
					4				
1	<1					End of Dynamic Cone Penetrometer Testing.		5	


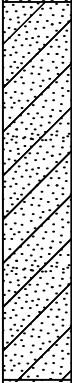
PROJECT NUMBER EP1995	DRILLING DATE 06/03/2021	LATITUDE -32.759521
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY Lovett's Earthmoving	LONGITUDE 151.638613
CLIENT Avid Property Group	DRILLER RN	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD 10 T Excavator 400mm	LOGGED BY LK
	TOTAL DEPTH 0.6 m BGL	CHECKED BY PS

COMMENTS End of Investigation at 0.6 m BGL.

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations		
	<1		TP91_0.1			TOPSOIL: Silty SAND: Brown, fine to coarse sand, moist, loose, organic material.		1			
									1		
0.5	<1		TP91_0.5			Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.	Firm to stiff.	4			
									3		
										3	
										3	
1						End of intrusive investigation.		2			
									2		
										3	
										3	
						End of Dynamic Cone Penetrometer testing.					

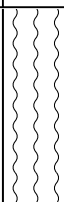

PROJECT NUMBER EP1995	DRILLING DATE 06/04/2021	LATITUDE -32.759469
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY Lovett's Earthmoving	LONGITUDE 151.638331
CLIENT Avid Property Group	DRILLER RN	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD 10 T Excavator 400mm	LOGGED BY LK
	TOTAL DEPTH 0.5 m BGL	CHECKED BY PS

COMMENTS End of Investigation at 0.5 m BGL. Mound of natural soil/Fill material, approximately 0.5 m high. Log starts at surface of mound.

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
0.5	<1		TP92_0.1 TP92a_0.1			FILL: Silty SAND with gravel: Brown, fine to coarse sand, moist, fine to medium sub angular gravel.			Mound of material, 0.5 meters above ground level.
			TP92_0.5						
1						Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.	Firm to very stiff.	1	Started DCP within the test pit beneath the fill material layer.
								2	
								4	
								7	
								8	
1.5						End of intrusive investigation.		12	
								REF	
1.5						End of Dynamic Cone Penetrometer Testing.			



PROJECT NUMBER EP1995	DRILLING DATE 06/03/2021	LATITUDE -32.759279
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY Lovett's Earthmoving	LONGITUDE 151.638283
CLIENT Avid Property Group	DRILLER RN	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD 10 T Excavator 400mm	LOGGED BY LK
	TOTAL DEPTH 0.6 m BGL	CHECKED BY PS

COMMENTS End of Investigation at 0.6 m BGL.

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
	<1		TP93_0.1			TOPSOIL: Silty SAND: Brown, fine to coarse sand, moist, loose, organic material.		3	
								2	
0.5	<1		TP93_0.5			Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.	Firm to stiff.	1	
								2	
								2	
								2	
1						End of intrusive investigation.		2	
								3	
								3	
								3	
1						End of Dynamic Cone Penetrometer testing.			

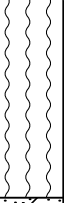

PROJECT NUMBER EP1995	DRILLING DATE 06/04/2021	LATITUDE -32.759402
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY Lovett's Earthmoving	LONGITUDE 151.639319
CLIENT Avid Property Group	DRILLER RN	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD 10 T Excavator 400mm	LOGGED BY LK
	TOTAL DEPTH 0.6 m BGL	CHECKED BY PS

COMMENTS End of Investigation at 0.6 m BGL.

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations	
0.5	<1		TP94 0.1			TOPSOIL: Silty SAND: Brown, fine to coarse sand, moist, loose, organic material.		1		
						Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.	Firm to stiff.	2		
1	<1		TP94 0.5					2		
								2		
									2	
									2	
						End of intrusive investigation.		2		
								5		
								5		
								6		
						End of Dynamic Cone Penetrometer testing.				

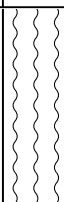

PROJECT NUMBER EP1995	DRILLING DATE 06/04/2021	LATITUDE -32.759446
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY Lovett's Earthmoving	LONGITUDE 151.639631
CLIENT Avid Property Group	DRILLER RN	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD 10 T Excavator 400mm	LOGGED BY LK
	TOTAL DEPTH 0.6 m BGL	CHECKED BY PS

COMMENTS End of Investigation at 0.6 m BGL.

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
	<1		TP95_0.1			TOPSOIL: Silty SAND: Brown, fine to coarse sand, moist, loose, organic material.		0	
			TP95a_0.1					1	
0.5	<1		TP95_0.5			Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.	Soft	1	
							Firm to stiff.	2	
								2	
								3	
1						End of intrusive investigation.		3	
								3	
								3	
								3	
						End of Dynamic Cone Penetrometer testing.			



PROJECT NUMBER EP1995	DRILLING DATE 06/04/2021	LATITUDE -32.759231
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY Lovett's Earthmoving	LONGITUDE 151.639804
CLIENT Avid Property Group	DRILLER RN	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD 10 T Excavator 400mm	LOGGED BY LK
	TOTAL DEPTH 0.6 m BGL	CHECKED BY PS

COMMENTS End of Investigation at 0.6 m BGL.

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
	<1		TP96_0.1			TOPSOIL: Silty SAND: Brown, fine to coarse sand, moist, loose, organic material.		1	
								2	
0.5	<1		TP96_0.5			Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.	Firm to stiff.	2	
								1	
								2	
								2	
1						End of intrusive investigation.		2	
								3	
								8	
								9	
1						End of Dynamic Cone Penetrometer testing.			


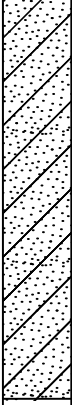
PROJECT NUMBER EP1995	DRILLING DATE 06/04/2021	LATITUDE -32.759180
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY Lovett's Earthmoving	LONGITUDE 151.639379
CLIENT Avid Property Group	DRILLER RN	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD 10 T Excavator 400mm	LOGGED BY LK
	TOTAL DEPTH 0.8 m BGL	CHECKED BY PS

COMMENTS End of Investigation at 0.8 m BGL. Mound of natural soil/Fill material, approximately 0.8 m above ground level.

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
0.5	<1		TP97_0.1			FILL: Silty SAND with gravel: Brown, fine to coarse sand, moist, fine to medium sub angular gravel.			Wood branches in the top layer of FILL.
			TP97a_0.1						Mound of material, 0.8 meters above ground level. The mound is identified as SP10.
1	<1					Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.	Firm to stiff	2	
								4	
								3	
								3	
								3	
								3	
								3	
1.5						End of intrusive investigation.		4	
								6	
						End of Dynamic Cone Penetrometer Testing.			



PROJECT NUMBER EP1995	DRILLING DATE 06/04/2021	LATITUDE -32.759171
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY Lovett's Earthmoving	LONGITUDE 151.639069
CLIENT Avid Property Group	DRILLER RN	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD 10 T Excavator 400mm	LOGGED BY LK
	TOTAL DEPTH 0.6 m BGL	CHECKED BY PS

COMMENTS End of Investigation at 0.6 m BGL. Test Pit located within one of the access tracks encountered across the Site.

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
	<1		TP98_0.1 TP98a_0.1 QC09 QC10			FILL: Silty SAND with gravel: Brown, fine to coarse sand, moist, fine to medium sub angular gravel. Anthropogenic material.			Anthropogenic material: Brick and tile waste material.
0.5	<1		TP98_0.5			Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.	Firm to stiff.	2	Started DCP within the test pit beneath the fill material layer.
								2	
								3	
								3	
								4	
1						End of intrusive investigation.		5	
								5	
								5	
								7	
							8		
						End of Dynamic Cone Penetrometer Testing.			

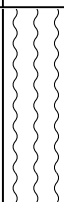

PROJECT NUMBER EP1995	DRILLING DATE 06/03/2021	LATITUDE -32.759225
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY Lovett's Earthmoving	LONGITUDE 151.638811
CLIENT Avid Property Group	DRILLER RN	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD 10 T Excavator 400mm	LOGGED BY LK
	TOTAL DEPTH 0.6 m BGL	CHECKED BY PS

COMMENTS End of Investigation at 0.6 m BGL.

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
0.5	<1		TP99_0.1			TOPSOIL: Silty SAND: Brown, fine to coarse sand, moist, loose, organic material.		3	
					6				
					6				
	<1		TP99_0.5			Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.	Firm to stiff.	3	
					3				
					3				
1						End of intrusive investigation.		4	
								4	
								5	
								6	
1						End of Dynamic Cone Penetrometer testing.			

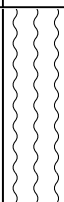

PROJECT NUMBER EP1995	DRILLING DATE 06/04/2021	LATITUDE -32.759078
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY Lovett's Earthmoving	LONGITUDE 151.638887
CLIENT Avid Property Group	DRILLER RN	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD 10 T Excavator 400mm	LOGGED BY LK
	TOTAL DEPTH 0.6 m BGL	CHECKED BY PS

COMMENTS End of Investigation at 0.6 m BGL.

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
	<1		TP100_0.1			TOPSOIL: Silty SAND: Brown, fine to coarse sand, moist, loose, organic material.		1	
								2	
0.5	<1		TP100_0.5			Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.	Firm to stiff.	3	
								3	
								3	
								2	
1						End of intrusive investigation.		3	
							3		
							3		
							4		
1						End of Dynamic Cone Penetrometer testing.			



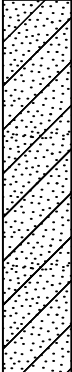
PROJECT NUMBER EP1995	DRILLING DATE 06/03/2021	LATITUDE -32.759192
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY Lovett's Earthmoving	LONGITUDE 151.638488
CLIENT Avid Property Group	DRILLER RN	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD 10 T Excavator 400mm	LOGGED BY LK
	TOTAL DEPTH 0.6 m BGL	CHECKED BY PS

COMMENTS End of Investigation at 0.6 m BGL.

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
	<1		TP101_0.1			TOPSOIL: Silty SAND: Brown, fine to coarse sand, moist, loose, organic material.		1	
			TP101a_0.1					2	
0.5	<1		TP101_0.5			Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.	Firm to stiff.	1	
								1	
								2	
								2	
1						End of intrusive investigation.		4	
								4	
								2	
								2	
1						End of Dynamic Cone Penetrometer testing.			

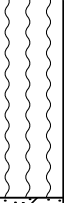

PROJECT NUMBER EP1995	DRILLING DATE 06/04/2021	LATITUDE -32.759126
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY Lovett's Earthmoving	LONGITUDE 151.638242
CLIENT Avid Property Group	DRILLER RN	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD 10 T Excavator 400mm	LOGGED BY LK
	TOTAL DEPTH 0.4 m BGL	CHECKED BY PS

COMMENTS End of Investigation at 0.4 m BGL. Mound of natural soil/Fill material, approximately 0.8 m above ground level.

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
	<1		TP102_0.1 TP102a_0.1			FILL: Silty SAND with gravel: Brown, fine to coarse sand, moist, fine to medium sub angular gravel. Brick and wood material throughout the surface of the mound.			Brick and wood anthropogenic waste in the top layer of FILL.
0.5	<1		TP102_0.5			FILL: Silty SAND with gravel: Brown, fine to coarse sand, moist, fine to medium sub angular gravel.			Mound of material, 0.8 meters above ground level. The mound formed a portion of the quarry embankment on the southern side.
1						Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.			
1.5						EOI at 1.2 m.			



PROJECT NUMBER EP1995	DRILLING DATE 06/04/2021	LATITUDE -32.759126
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY Lovett's Earthmoving	LONGITUDE 151.639649
CLIENT Avid Property Group	DRILLER RN	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD 10 T Excavator 400mm	LOGGED BY LK
	TOTAL DEPTH 0.6 m BGL	CHECKED BY PS

COMMENTS End of Investigation at 0.6 m BGL.

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
	<1		TP103_0.1			TOPSOIL: Silty SAND: Brown, fine to coarse sand, moist, loose, organic material.		2	
			TP103a_0.1					3	
0.5	<1		TP103_0.5			Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.	Firm to stiff.	3	
								3	
								3	
								3	
1						End of intrusive investigation.		4	
								4	
								5	
								6	
						End of Dynamic Cone Penetrometer testing.			

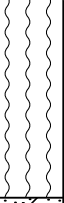

PROJECT NUMBER EP1995	DRILLING DATE 06/04/2021	LATITUDE -32.758923
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY Lovett's Earthmoving	LONGITUDE 151.639734
CLIENT Avid Property Group	DRILLER RN	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD 10 T Excavator 400mm	LOGGED BY LK
	TOTAL DEPTH 0.6 m BGL	CHECKED BY PS

COMMENTS End of Investigation at 0.6 m BGL.

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
0.5	<1		TP104_0.1			Clayey Gravelly SAND: Fine to coarse grained sand, grey and orange, dry, fine to coarse sub-angular gravels. Residual soil.		4	
								8	
								REF	
			TP104_0.5			XW SANDSTONE: Fine grained sand, dry, low strength, yellow and orange.			
1						EOI at 0.6 m.			

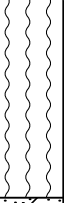

PROJECT NUMBER EP1995	DRILLING DATE 06/04/2021	LATITUDE -32.759006
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY Lovett's Earthmoving	LONGITUDE 151.639937
CLIENT Avid Property Group	DRILLER RN	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD 10 T Excavator 400mm	LOGGED BY LK
	TOTAL DEPTH 0.6 m BGL	CHECKED BY PS

COMMENTS End of Investigation at 0.6 m BGL.

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
	<1		TP105_0.1			TOPSOIL: Silty SAND: Brown, fine to coarse sand, moist, loose, organic material.		2	
								3	
0.5	<1		TP105_0.5			Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.	Firm to stiff.	2	
								3	
								3	
								3	
1						End of intrusive investigation.		3	
								4	
								4	
								4	
1						End of Dynamic Cone Penetrometer testing.			

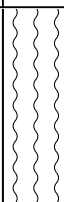

PROJECT NUMBER EP1995	DRILLING DATE 06/04/2021	LATITUDE -32.758782
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY Lovett's Earthmoving	LONGITUDE 151.639987
CLIENT Avid Property Group	DRILLER RN	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD 10 T Excavator 400mm	LOGGED BY LK
	TOTAL DEPTH 0.6 m BGL	CHECKED BY PS

COMMENTS End of Investigation at 0.6 m BGL.

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
	<1		TP106_0.1			TOPSOIL: Silty SAND: Brown, fine to coarse sand, moist, loose, organic material.		5	
			TP106a_0.1					4	
0.5	<1		TP106_0.5			Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.	Firm to stiff.	3	
								2	
								2	
								2	
1						End of intrusive investigation.		4	
								5	
								7	
								8	
						End of Dynamic Cone Penetrometer testing.			

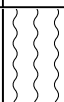

PROJECT NUMBER EP1995	DRILLING DATE 06/04/2021	LATITUDE -32.758588
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY Lovett's Earthmoving	LONGITUDE 151.639922
CLIENT Avid Property Group	DRILLER RN	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD 10 T Excavator 400mm	LOGGED BY LK
	TOTAL DEPTH 0.6 m BGL	CHECKED BY PS

COMMENTS End of Investigation at 0.6 m BGL.

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
	<1		TP107_0.1			TOPSOIL: Silty SAND: Brown, fine to coarse sand, moist, loose, organic material.		1	
								1	
0.5	<1		TP107_0.5			Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.	Firm to stiff.	2	
								2	
								2	
								2	
1						End of intrusive investigation.		2	
								2	
								3	
								3	
					End of Dynamic Cone Penetrometer testing.				

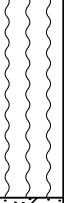

PROJECT NUMBER EP1995	DRILLING DATE 06/04/2021	LATITUDE -32.758416
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY Lovett's Earthmoving	LONGITUDE 151.640105
CLIENT Avid Property Group	DRILLER RN	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD 10 T Excavator 400mm	LOGGED BY LK
	TOTAL DEPTH 0.6 m BGL	CHECKED BY PS

COMMENTS End of Investigation at 0.6 m BGL.

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
	<1		TP108_0.1			TOPSOIL: Silty SAND: Brown, fine to coarse sand, moist, loose, organic material.		1	
						Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.	Firm to stiff.	2	
								2	
								2	
								4	
0.5	<1		TP108_0.5					5	
						End of intrusive investigation.		6	
								8	
								10	
								10	
1						End of Dynamic Cone Penetrometer testing.			



PROJECT NUMBER EP1995	DRILLING DATE 06/04/2021	LATITUDE -32.758267
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY Lovett's Earthmoving	LONGITUDE 151.639998
CLIENT Avid Property Group	DRILLER RN	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD 10 T Excavator 400mm	LOGGED BY LK
	TOTAL DEPTH 1.0 m BGL	CHECKED BY PS

COMMENTS End of Investigation at 1.0 m BGL. Test pit located on the eastern wall of the quarry.

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
	<1		TP109_0.1			TOPSOIL: Silty SAND: Brown, fine to coarse sand, moist, loose, organic material.		1	
								1	
0.5	<1		TP109_0.5			Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.	Firm to stiff.	2	
								2	
								2	
								2	
1						End of intrusive investigation.		4	
								4	
								4	
								5	
1						End of Dynamic Cone Penetrometer testing.			


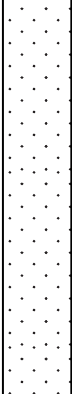
PROJECT NUMBER EP1995	DRILLING DATE 06/04/2021	LATITUDE -32.758125
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY Lovett's Earthmoving	LONGITUDE 151.640176
CLIENT Avid Property Group	DRILLER RN	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD 10 T Excavator 400mm	LOGGED BY LK
	TOTAL DEPTH 0.6 m BGL	CHECKED BY PS

COMMENTS End of Investigation at 0.6 m BGL.

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
0.5	<1		TP110_0.1			TOPSOIL: Silty SAND: Brown, fine to coarse sand, moist, loose, organic material.		2	
								3	
								3	
	<1		TP110_0.5		Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.	Firm to stiff.	4		
	3								
3									
1						End of intrusive investigation.		3	
								4	
								4	
								5	
1						End of Dynamic Cone Penetrometer testing.			



PROJECT NUMBER EP1995	DRILLING DATE 06/04/2021	LATITUDE -32.757789
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY Lovett's Earthmoving	LONGITUDE 151.639747
CLIENT Avid Property Group	DRILLER RN	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD 10 T Excavator 400mm	LOGGED BY LK
	TOTAL DEPTH 0.6 m BGL	CHECKED BY PS

COMMENTS End of Investigation at 0.6 m BGL. Test Pit located within one of the access tracks encountered across the Site.

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
	<1		TP111_0.1 TP111a_0.1			FILL: Silty SAND with gravel: Brown, fine to coarse sand, moist, fine to medium sub angular gravel. Anthropogenic material.		REF	Anthropogenic material: Brick and tile waste material.
0.5	<1		TP111_0.5			Extremely weathered SANDSTONE: Grey, white, red and orange, dry, fine to coarse sand, fine to coarse sub angular sandstone gravels.			
1						End of intrusive investigation.			



PROJECT NUMBER EP1995	DRILLING DATE 12/04/2021	LATITUDE -32.758334
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY Lovett's Earthmoving	LONGITUDE 151.637857
CLIENT Avid Property Group	DRILLER RN	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD 10 T Excavator 400mm	LOGGED BY LK
	TOTAL DEPTH 0.6 m BGL	CHECKED BY PS

COMMENTS Raised mound on the side of the access track running along the western boundary of the quarry.

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
	<1		TP112_0.1 TP112a_0.1			FILL: Sandy CLAY with gravel: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand, fine to medium sub-angular gravels.			Some Brick scattered on the surface. Mound of material 0.4 m above ground level.
0.5	<1		TP112_0.5			Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.			
1						End of Intrusive Investigation 0.6 m BGL.			



PROJECT NUMBER EP1995	DRILLING DATE 12/04/2021	LATITUDE -32.757918
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY Lovett's Earthmoving	LONGITUDE 151.637860
CLIENT Avid Property Group	DRILLER RN	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD 10 T Excavator 400mm	LOGGED BY LK
	TOTAL DEPTH 0.6 m BGL	CHECKED BY PS

COMMENTS Raised mound on the side of the access track running along the western boundary of the quarry.

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
	<1		TP113_0.1 TP113a_0.1			FILL: Sandy CLAY with gravel: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand, fine to medium sub-angular gravels.			Some Brick scattered on the surface. Mound of material 0.4 m above ground level.
0.5	<1		TP113_0.5			Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.			
1						End of Intrusive Investigation 0.6 m BGL.			



PROJECT NUMBER EP1995	DRILLING DATE 12/04/2021	LATITUDE -32.757623
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY Lovett's Earthmoving	LONGITUDE 151.637804
CLIENT Avid Property Group	DRILLER RN	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD 10 T Excavator 400mm	LOGGED BY LK
	TOTAL DEPTH 0.6 m BGL	CHECKED BY PS

COMMENTS Raised mound on the side of the access track running along the western boundary of the quarry.

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
	<1		TP114_0.1 TP114a_0.1			FILL: Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand, fine to medium sub-angular gravels.			Some Brick scattered on the surface. Mound of material 0.4 m above ground level.
0.5	<1		TP114_0.5			Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.			
1						End of Intrusive Investigation 0.6 m BGL.			



PROJECT NUMBER EP1995	DRILLING DATE 12/04/2021	LATITUDE -32.758102
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY Lovett's Earthmoving	LONGITUDE 151.637986
CLIENT Avid Property Group	DRILLER RN	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD 10 T Excavator 400mm	LOGGED BY LK
	TOTAL DEPTH 0.6 m BGL	CHECKED BY PS

COMMENTS End of Investigation at 0.6 m BGL.

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
	<1		TP115_0.1 TP115a_0.1			FILL: Silty SAND: Brown, fine to coarse sand, moist, loose.			Some Brick scattered on the surface.
0.5	<1		TP115_0.5			Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.			
1						End of Intrusive Investigation			



PROJECT NUMBER EP1995	DRILLING DATE 12/04/2021	LATITUDE -32.757749
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY Lovett's Earthmoving	LONGITUDE 151.637949
CLIENT Avid Property Group	DRILLER RN	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD 10 T Excavator 400mm	LOGGED BY LK
	TOTAL DEPTH 0.6 m BGL	CHECKED BY PS

COMMENTS End of Investigation at 0.6 m BGL.

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
	<1		TP116_0.1 TP116a_0.1			FILL: Silty SAND: Brown, fine to coarse sand, moist, loose.			Some Brick scattered on the surface.
0.5	<1		TP116_0.5			Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.			
1						End of Intrusive Investigation			


PROJECT NUMBER EP1995	DRILLING DATE 12/04/2021	LATITUDE -32.757243
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY Lovett's Earthmoving	LONGITUDE 151.637869
CLIENT Avid Property Group	DRILLER RN	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD 10 T Excavator 400mm	LOGGED BY LK
	TOTAL DEPTH 0.6 m BGL	CHECKED BY PS

COMMENTS Raised mound on the side of the access track running along the western boundary of the quarry.

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
	<1		TP117_0.1 TP117a_0.1			FILL: Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand, trace sub angular gravels.			Some Brick scattered on the surface. Mound of material 0.1 m above ground level.
0.5	<1		TP117_0.5			Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.			
1						End of Intrusive Investigation 0.6 m BGL.			



PROJECT NUMBER EP1995	DRILLING DATE 12/04/2021	LATITUDE -32.757412
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY Lovett's Earthmoving	LONGITUDE 151.637962
CLIENT Avid Property Group	DRILLER RN	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD 10 T Excavator 400mm	LOGGED BY LK
	TOTAL DEPTH 0.6 m BGL	CHECKED BY PS

COMMENTS End of Investigation at 0.6 m BGL.

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
0.5	<1		TP118_0.1 TP118a_0.1 QC21 QC22			TOPSOIL: Silty SAND: Brown, fine to coarse sand, moist, loose, organic material.			
	<1		TP118_0.5			Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.			
1						End of Intrusive Investigation			



PROJECT NUMBER EP1995	DRILLING DATE 12/04/2021	LATITUDE -32.756795
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY Lovett's Earthmoving	LONGITUDE 151.638022
CLIENT Avid Property Group	DRILLER RN	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD 10 T Excavator 400mm	LOGGED BY LK
	TOTAL DEPTH 0.6 m BGL	CHECKED BY PS

COMMENTS located on the side of the access track running along the western boundary of the quarry.

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
	<1		TP119_0.1			FILL: Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand, trace sub angular gravels.			
0.5	<1		TP119_0.5			Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.			
1						End of Intrusive Investigation 0.6 m BGL.			



PROJECT NUMBER EP1995	DRILLING DATE 12/04/2021	LATITUDE -32.757050
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY Lovett's Earthmoving	LONGITUDE 151.638044
CLIENT Avid Property Group	DRILLER RN	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD 10 T Excavator 400mm	LOGGED BY LK
	TOTAL DEPTH 0.6 m BGL	CHECKED BY PS

COMMENTS End of Investigation at 0.6 m BGL.

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
0.5	<1		TP120_0.1			TOPSOIL: Silty SAND: Brown, fine to coarse sand, moist, loose, organic material.			
			TP120a_0.1			Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.			
			TP120_0.5						
1						End of Intrusive Investigation			



PROJECT NUMBER EP1995	DRILLING DATE 12/04/2021	LATITUDE -32.756453
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY Lovett's Earthmoving	LONGITUDE 151.638149
CLIENT Avid Property Group	DRILLER RN	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD 10 T Excavator 400mm	LOGGED BY LK
	TOTAL DEPTH 0.6 m BGL	CHECKED BY PS

COMMENTS located on the side of the access track running along the western boundary of the quarry.

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
	<1		TP121_0.1 TP121a_0.1 QC23 QC24			FILL: Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand, trace sub angular gravels.			
0.5	<1		TP121_0.5			Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.			
1						End of Intrusive Investigation 0.6 m BGL.			



PROJECT NUMBER EP1995	DRILLING DATE 12/04/2021	LATITUDE -32.756628
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY Lovett's Earthmoving	LONGITUDE 151.638178
CLIENT Avid Property Group	DRILLER RN	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD 10 T Excavator 400mm	LOGGED BY LK
	TOTAL DEPTH 0.6 m BGL	CHECKED BY PS

COMMENTS End of Investigation at 0.6 m BGL.

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
	<1		TP122_0.1			TOPSOIL: Silty SAND: Brown, fine to coarse sand, moist, loose, organic material.			
						Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.			
0.5	<1		TP122_0.5						
						End of Intrusive Investigation			
1									



PROJECT NUMBER EP1995	DRILLING DATE 12/04/2021	LATITUDE -32.756970
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY Lovett's Earthmoving	LONGITUDE 151.638881
CLIENT Avid Property Group	DRILLER RN	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD 10 T Excavator 400mm	LOGGED BY LK
	TOTAL DEPTH 1.0 m	CHECKED BY PS

COMMENTS Stockpile of material approximately 0.8 m Above ground level. Log begins at 0.8 m above ground level.

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
	<1		TP123_0.1 QC15 QC16 TP123a_0.1			FILL: Silty SAND with gravel: Brown, fine to coarse sand, moist, fine to medium sub-angular gravel			No anthropogenic material
0.5	<1		TP123_0.5			XW SHALE: Low strength, dry, fine grained, black and grey.			
1						End of Intrusive Investigation			



PROJECT NUMBER EP1995	DRILLING DATE 12/04/2021	LATITUDE -32.756861
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY Lovett's Earthmoving	LONGITUDE 151.639044
CLIENT Avid Property Group	DRILLER RN	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD 10 T Excavator 400mm	LOGGED BY LK
	TOTAL DEPTH 1.0 m	CHECKED BY PS

COMMENTS Stockpile of material approximately 0.8 m Above ground level. Log begins at 0.8 m above ground level.

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
	<1		TP124_0.1			FILL: Silty SAND with gravel: Brown, fine to coarse sand, moist, fine to medium sub-angular gravel			No anthropogenic material
0.5	<1		TP124_0.5						
1						XW SHALE: Low strength, dry, fine grained, black and grey.			
						End of Intrusive Investigation			




PROJECT NUMBER EP1995	DRILLING DATE 12/04/2021	LATITUDE -32.757262
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY Lovett's Earthmoving	LONGITUDE 151.639381
CLIENT Avid Property Group	DRILLER RN	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD 10 T Excavator 400mm	LOGGED BY LK
	TOTAL DEPTH 0.6 m	CHECKED BY PS

COMMENTS Located on an access track

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
	<1		TP125_0.1			FILL: Silty SAND with gravel: Brown and orange, fine to coarse sand, dry, fine to medium sub-angular gravels.			No anthropogenic material
0.5	<1		TP125_0.5						
						XW SHALE: Low strength, dry, fine grained, black and grey.			
						End of Intrusive Investigation			
1									



PROJECT NUMBER EP1995	DRILLING DATE 12/04/2021	LATITUDE -32.757344
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY Lovett's Earthmoving	LONGITUDE 151.639165
CLIENT Avid Property Group	DRILLER RN	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD 10 T Excavator 400mm	LOGGED BY LK
	TOTAL DEPTH 0.6 m	CHECKED BY PS

COMMENTS Located on access track

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
	<1		TP126_0.1			FILL: Silty SAND with gravel: Brown and orange, fine to coarse sand, dry, fine to medium sub angular gravels.			No anthropogenic material
						Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.			
0.5	<1		TP126_0.5			XW SHALE: Low strength, dry, fine grained, black and grey.			
						End of Intrusive Investigation			
1									



PROJECT NUMBER EP1995	DRILLING DATE 12/04/2021	LATITUDE -32.757350
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY Lovett's Earthmoving	LONGITUDE 151.639574
CLIENT Avid Property Group	DRILLER RN	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD 10 T Excavator 400mm	LOGGED BY LK
	TOTAL DEPTH 0.6 m	CHECKED BY PS

COMMENTS Located on access track

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
	<1		TP127_0.1			FILL: Silty SAND with gravel: Brown and orange, fine to coarse sand, dry, fine to medium sub-angular gravels.			No anthropogenic material
0.5	<1		TP127_0.5			XW SHALE: Low strength, dry, fine grained, black and grey.			
1						End of Intrusive Investigation			


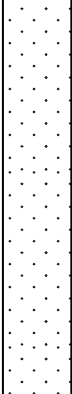
PROJECT NUMBER EP1995	DRILLING DATE 12/04/2021	EASTING -32.452696
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY Lovett's Earthmoving	NORTHING 151.382365
CLIENT Avid Property Group	DRILLER RN	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD 10 T Excavator 400mm	LOGGED BY LK
	TOTAL DEPTH 0.6 m	CHECKED BY PS

COMMENTS

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
	<1		TP128_0.1			TOPSOIL: Silty SAND: Brown, fine to coarse sand, moist, loose, organic material and rootlets.			No anthropogenic material
						Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.			
0.5	<1		TP128_0.5						
						End of Intrusive Investigation			
1									

PROJECT NUMBER EP1995	DRILLING DATE 06/04/2021	LATITUDE -32.757485
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY Lovett's Earthmoving	LONGITUDE 151.639646
CLIENT Avid Property Group	DRILLER RN	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD 10 T Excavator 400mm	LOGGED BY LK
	TOTAL DEPTH 0.6 m BGL	CHECKED BY PS

COMMENTS End of Investigation at 0.6 m BGL. Test Pit located within one of the access tracks encountered across the Site.

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
	<1		TP129_0.1 TP129_ACM			FILL: Silty SAND with gravel: Brown, fine to coarse sand, moist, fine to medium sub angular gravel. Anthropogenic material.		REF	Anthropogenic material: Brick and tile waste material.
0.5	<1		TP129_0.5			Extremely weathered SANDSTONE: Grey, white, red and orange, dry, fine to coarse sand, fine to coarse sub-angular sandstone gravels.			
1						End of intrusive investigation.			



PROJECT NUMBER EP1995	DRILLING DATE 12/04/2021	LATITUDE -32.758536
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY Lovett's Earthmoving	LONGITUDE 151.638353
CLIENT Avid Property Group	DRILLER RN	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD 10 T Excavator 400mm	LOGGED BY LK
	TOTAL DEPTH 0.6 m	CHECKED BY PS

COMMENTS Access track, brick and tiles.

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
	<1		<div style="border: 1px solid black; padding: 2px; margin-bottom: 5px;">TP130_0.1</div> <div style="border: 1px solid black; padding: 2px; margin-bottom: 5px;">TP130a_0.1</div> <div style="border: 1px solid black; padding: 2px; margin-bottom: 5px;">QC17</div> <div style="border: 1px solid black; padding: 2px;">QC18</div>		[Cross-hatched pattern]	FILL: Silty SAND with gravel: Brown and orange, fine to coarse sand, dry, fine to medium sub angular gravels.			Bricks and tiles.
0.5	<1		<div style="border: 1px solid black; padding: 2px;">TP130_0.5</div>		[Dotted pattern]	Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.			No anthropogenic material
1						End of Intrusive Investigation			



PROJECT NUMBER EP1995	DRILLING DATE 12/04/2021	LATITUDE -32.758199
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY Lovett's Earthmoving	LONGITUDE 151.638640
CLIENT Avid Property Group	DRILLER RN	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD 10 T Excavator 400mm	LOGGED BY LK
	TOTAL DEPTH 0.6 m	CHECKED BY PS

COMMENTS Located within the access track

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
	<1		TP131_0.1 TP131a_0.1			FILL: Silty SAND with gravel: Brown and orange, fine to coarse sand, dry, fine to medium sub angular gravels.			Brick and tiles within the access track.
0.5	<1		TP131_0.5			Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.			No anthropogenic material
1						End of Intrusive Investigation			



PROJECT NUMBER EP1995	DRILLING DATE 12/04/2021	LATITUDE -32.757745
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY Lovett's Earthmoving	LONGITUDE 151.638813
CLIENT Avid Property Group	DRILLER RN	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD 10 T Excavator 400mm	LOGGED BY LK
	TOTAL DEPTH 3.2 m	CHECKED BY PS

COMMENTS Stockpile in the central west of the quarry, approximately 3.0 m above ground level. Log starting at the top of the stockpile

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	Additional Observations
	<1		TP132_0.1 TP132_ACM			FILL: Sandy gravelly CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine to coarse sand, fine to coarse sub angular shale gravels.		No anthropogenic material
0.5	<1		TP132_0.5					
3						XW SHALE: Low strength, dry, fine grained, black and grey.		
						End of Intrusive Investigation		



PROJECT NUMBER EP1995	DRILLING DATE 12/04/2021	LATITUDE -32.757548
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY Lovett's Earthmoving	LONGITUDE 151.638978
CLIENT Avid Property Group	DRILLER RN	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD 10 T Excavator 400mm	LOGGED BY LK
	TOTAL DEPTH 3.2 m	CHECKED BY PS

COMMENTS Stockpile in the central west of the quarry, approximately 3.0 m above ground level. Log starting at the top of the stockpile

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	Additional Observations
	<1		TP133 0.1 TP133a 0.1			FILL: Sandy gravelly CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine to coarse sand, fine to coarse sub angular shale gravels.		No anthropogenic material
0.5	<1		TP133 0.5					
1								
1.5								
2								
2.5								
3						XW SHALE: Low strength, dry, fine grained, black and grey.		
						End of Intrusive Investigation		



PROJECT NUMBER EP1995	DRILLING DATE 12/04/2021	LATITUDE -32.757768
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY Lovett's Earthmoving	LONGITUDE 151.639140
CLIENT Avid Property Group	DRILLER RN	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD 10 T Excavator 400mm	LOGGED BY LK
	TOTAL DEPTH 3.2 m	CHECKED BY PS

COMMENTS Stockpile in the central east of the quarry, approximately 3.0 m above ground level. Log starting at the top of the stockpile

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	Additional Observations
	<1		TP134_0.1 TP134a_0.1			FILL: Sandy gravelly CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine to coarse sand, fine to coarse sub angular shale gravels.		No anthropogenic material
0.5	<1		TP134_0.5					
3						XW SHALE: Low strength, dry, fine grained, black and grey.		
						End of Intrusive Investigation		



PROJECT NUMBER EP1995	DRILLING DATE 12/04/2021	LATITUDE -32.757925
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY Lovett's Earthmoving	LONGITUDE 151.638968
CLIENT Avid Property Group	DRILLER RN	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD 10 T Excavator 400mm	LOGGED BY LK
	TOTAL DEPTH 2.2 m	CHECKED BY PS

COMMENTS Stockpile in the central east of the quarry, approximately 3.0 m above ground level. Log starting at the top of the stockpile

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	Additional Observations
<1			TP135_0.1 TP135a_0.1 QC19 QC20			FILL: Sandy gravelly CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine to coarse sand, fine to coarse sub angular shale gravels.		No anthropogenic material
0.5	<1		TP135_0.5					
1						XW SHALE: Low strength, dry, fine grained, black and grey.		
1.5								
2								
						End of Intrusive Investigation		



PROJECT NUMBER EP1995	DRILLING DATE 12/04/2021	LATITUDE -32.757984
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY Lovett's Earthmoving	LONGITUDE 151.638405
CLIENT Avid Property Group	DRILLER RN	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD 10 T Excavator 400mm	LOGGED BY LK
	TOTAL DEPTH 0.6 m	CHECKED BY PS

COMMENTS

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
	<1		TP136_0.1			TOPSOIL: Silty SAND: Brown, fine to coarse sand, moist, loose, organic material and rootlets.			No anthropogenic material
						Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.			
0.5	<1		TP136_0.5						
						End of Intrusive Investigation			
1									



PROJECT NUMBER EP1995	DRILLING DATE 12/04/2021	LATITUDE -32.758945
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY Lovett's Earthmoving	LONGITUDE 151.638225
CLIENT Avid Property Group	DRILLER RN	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD 10 T Excavator 400mm	LOGGED BY LK
	TOTAL DEPTH 2.0 m	CHECKED BY PS

COMMENTS Test pit advanced in the side of a stockpile approximately 1.8 m above ground level.

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
0.5	<1		TP137_0.1			FILL: Silty SAND with gravel: Brown and orange, fine to coarse sand, dry, fine to medium sub angular gravels.			Bricks on the surface.
						FILL: Sandy CLAY with gravel: Brown and orange, medium to high plasticity clay, near plastic limit, fine to coarse sand, fine to medium sub-angular gravels.			No anthropogenic material
1.5			TP137_0.5						
2						Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.			
						End of Intrusive Investigation			



PROJECT NUMBER EP1995	DRILLING DATE 12/04/2021	LATITUDE -32.758618
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY Lovett's Earthmoving	LONGITUDE 151.639166
CLIENT Avid Property Group	DRILLER RN	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD 10 T Excavator 400mm	LOGGED BY LK
	TOTAL DEPTH 0.3 m	CHECKED BY PS

COMMENTS

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	Additional Observations
	<1		TP138 0.1			FILL: Silty SAND with gravel: Brown and orange, fine to coarse sand, dry, fine to medium sub angular gravels.		Bricks and tiles on the surface.
						XW SHALE: Low strength, dry, fine grained, black and grey		
0.5						End of Intrusive Investigation		


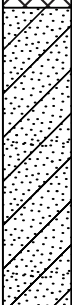
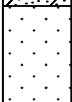
PROJECT NUMBER EP1995	DRILLING DATE 12/04/2021	LATITUDE -32.758496
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY Lovett's Earthmoving	LONGITUDE 151.638696
CLIENT Avid Property Group	DRILLER RN	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD 10 T Excavator 400mm	LOGGED BY LK
	TOTAL DEPTH 3.2 m	CHECKED BY PS

COMMENTS Stockpile mound of material on the southern boundary of the quarry.

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	Additional Observations
	<1		TP139_0.1 TP139a_0.1			FILL: Sandy gravelly CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine to coarse sand, fine to coarse sub angular shale gravels.		No anthropogenic material
0.5	<1		TP139_0.5					
3						Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand, residual soil.		
						End of Intrusive Investigation		


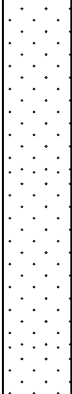
PROJECT NUMBER EP1995	DRILLING DATE 06/04/2021	LATITUDE -32.758843
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY Lovett's Earthmoving	LONGITUDE 151.639406
CLIENT Avid Property Group	DRILLER RN	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD 10 T Excavator 400mm	LOGGED BY LK
	TOTAL DEPTH 0.6 m BGL	CHECKED BY PS

COMMENTS End of Investigation at 0.6 m BGL. Test Pit located within one of the access tracks encountered across the Site.

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
	<1		TP140_0.1 TP140_ACM			FILL: Silty SAND with gravel: Brown, fine to coarse sand, moist, fine to medium sub angular gravel. Anthropogenic material.		REF	Anthropogenic material: Brick and tile waste material.
						Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual.			
0.5	<1		TP140_0.5			Extremely weathered SANDSTONE: Grey, white, red and orange, dry, fine to coarse sand, fine to coarse sub angular sandstone gravels.			
						End of intrusive investigation.			
1									


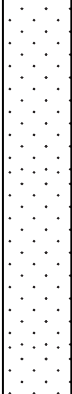
PROJECT NUMBER EP1995	DRILLING DATE 06/04/2021	LATITUDE -32.758449
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY Lovett's Earthmoving	LONGITUDE 151.639568
CLIENT Avid Property Group	DRILLER RN	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD 10 T Excavator 400mm	LOGGED BY LK
	TOTAL DEPTH 0.6 m BGL	CHECKED BY PS

COMMENTS End of Investigation at 0.6 m BGL. Test Pit located within one of the access tracks encountered across the Site.

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
	<1		TP141_0.1 TP141a_0.1			FILL: Silty SAND with gravel: Brown, fine to coarse sand, moist, fine to medium sub angular gravel. Anthropogenic material.		REF	Anthropogenic material: Brick and tile waste material.
0.5	<1		TP141_0.5			Extremely weathered SANDSTONE: Grey, white, red and orange, dry, fine to coarse sand, fine to coarse sub angular sandstone gravels.			
1						End of intrusive investigation.			




PROJECT NUMBER EP1995	DRILLING DATE 06/04/2021	LATITUDE -32.758080
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY Lovett's Earthmoving	LONGITUDE 151.639750
CLIENT Avid Property Group	DRILLER RN	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD 10 T Excavator 400mm	LOGGED BY LK
	TOTAL DEPTH 0.6 m BGL	CHECKED BY PS

COMMENTS End of Investigation at 0.6 m BGL. Test Pit located within one of the access tracks encountered across the Site.

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
	<1		TP142_0.1 TP142_ACM			FILL: Silty SAND with gravel: Brown, fine to coarse sand, moist, fine to medium sub angular gravel. Anthropogenic material.		REF	Anthropogenic material: Brick and tile waste material.
0.5	<1		TP142_0.5			Extremely weathered SANDSTONE: Grey, white, red and orange, dry, fine to coarse sand, fine to coarse sub angular sandstone gravels.			
1						End of intrusive investigation.			



PROJECT NUMBER EP1995	DRILLING DATE 12/04/2021	LATITUDE -32.758354
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY Lovett's Earthmoving	LONGITUDE 151.639063
CLIENT Avid Property Group	DRILLER RN	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD 10 T Excavator 400mm	LOGGED BY LK
	TOTAL DEPTH 0.6 m	CHECKED BY PS

COMMENTS

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
	<1		TP143_0.1			TOPSOIL: Silty SAND: Brown, fine to coarse sand, moist, loose, organic material and rootlets.			No anthropogenic material
						Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.			
0.5	<1		TP143_0.5			XW SHALE: Low strength, dry, fine grained, black and grey.			
						End of Intrusive Investigation			
1									



PROJECT NUMBER EP1995	DRILLING DATE 12/04/2021	LATITUDE -32.758774
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY Lovett's Earthmoving	LONGITUDE 151.639221
CLIENT Avid Property Group	DRILLER RN	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD 10 T Excavator 400mm	LOGGED BY LK
	TOTAL DEPTH 0.3 m	CHECKED BY PS

COMMENTS

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	Additional Observations
	<1		TP144 0.1			FILL: Silty SAND with gravel: Brown and orange, fine to coarse sand, dry, fine to medium sub angular gravels.		Bricks and tiles on the surface.
						XW SHALE: Low strength, dry, fine grained, black and grey.		
0.5						End of Intrusive Investigation		



PROJECT NUMBER EP1995	DRILLING DATE 12/04/2021	LATITUDE -32.758530
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY Lovett's Earthmoving	LONGITUDE 151.638966
CLIENT Avid Property Group	DRILLER RN	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD 10 T Excavator 400mm	LOGGED BY LK
	TOTAL DEPTH 1.7 m	CHECKED BY PS

COMMENTS Stockpile mound of material on the southern boundary of the quarry.

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	Additional Observations
	<1		TP145_0.1 TP145a_0.1			FILL: Sandy gravelly CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine to coarse sand, fine to coarse sub angular shale gravels.		No anthropogenic material
0.5	<1		TP145_0.5					
1.5						Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand, residual soil.		
						End of Intrusive Investigation		




PROJECT NUMBER EP1995	DRILLING DATE 12/04/2021	LATITUDE -32.758617
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY Lovett's Earthmoving	LONGITUDE 151.637974
CLIENT Avid Property Group	DRILLER RN	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD 10 T Excavator 400mm	LOGGED BY LK
	TOTAL DEPTH 0.6 m	CHECKED BY PS

COMMENTS

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
	<1		TP146_0.1 TP146_ACM			FILL: Silty SAND with gravel: Brown and orange, fine to coarse sand, dry, fine to medium sub angular gravels.			Bricks on the surface.
						Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.			No anthropogenic material
0.5	<1		TP146_0.5						
						End of Intrusive Investigation			
1									



PROJECT NUMBER EP1995	DRILLING DATE 12/04/2021	LATITUDE -32.758390
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY Lovett's Earthmoving	LONGITUDE 151.638128
CLIENT Avid Property Group	DRILLER RN	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD 10 T Excavator 400mm	LOGGED BY LK
	TOTAL DEPTH 0.6 m	CHECKED BY PS

COMMENTS

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
	<1		TP147_0.1			TOPSOIL: Silty SAND: Brown, fine to coarse sand, moist, loose, organic material and rootlets.			No anthropogenic material
						Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.			
0.5	<1		TP147_0.5			XW SHALE: Low strength, dry, fine grained, black and grey.			
						End of Intrusive Investigation			
1									



PROJECT NUMBER EP1995	DRILLING DATE 12/04/2021	LATITUDE -32.7582163
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY Lovett's Earthmoving	LONGITUDE 151.6382820
CLIENT Avid Property Group	DRILLER RN	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD 10 T Excavator 400mm	LOGGED BY LK
	TOTAL DEPTH 0.6 m	CHECKED BY PS

COMMENTS

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	Additional Observations
	<1		TP148_0.1			TOPSOIL: Silty SAND: Brown, fine to coarse sand, moist, loose, organic material and rootlets.		No anthropogenic material.
0.5	<1		TP148_0.5			Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand, residual soil.		
						End of Intrusive Investigation		



PROJECT NUMBER EP1995	DRILLING DATE 12/04/2021	LATITUDE -32.757401
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY Lovett's Earthmoving	LONGITUDE 151.638643
CLIENT Avid Property Group	DRILLER RN	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD 10 T Excavator 400mm	LOGGED BY LK
	TOTAL DEPTH 1.6 m	CHECKED BY PS

COMMENTS Mound of stockpiled material in the centre of the quarry. Log starts on top of stockpile approximately 1.5 m above ground level.

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	Additional Observations
	<1		TP149_0.1			FILL: Silty SAND with gravel: Brown, fine to coarse sand, moist, fine to medium sub angular gravel		No anthropogenic material
0.5	<1		TP149_0.5					
1.5						Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.		
						End of Intrusive Investigation		




PROJECT NUMBER EP1995	DRILLING DATE 12/04/2021	LATITUDE -32.758792
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY Lovett's Earthmoving	LONGITUDE 151.637908
CLIENT Avid Property Group	DRILLER RN	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD 10 T Excavator 400mm	LOGGED BY LK
	TOTAL DEPTH 0.6 m	CHECKED BY PS

COMMENTS Mound of stockpiled material on the western edge of the quarry. Approximately 1.0 m above ground level.

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	Additional Observations
<1			TP150a_0.1			FILL: Sandy CLAY with gravel: Medium to high plasticity, brown to orange and yellow, near plastic limit, fine to coarse grained sand, fine to coarse grained sub-angular gravel.		Brick and tile found throughout entire layer.
0.5	<1		TP150_0.5					
1.5						Sandy CLAY: Medium to high plasticity, brown mottled yellow, grey and red, near plastic limit, fine to medium grained sand. Residual soil.		
2			TP150_2.0					
End of Intrusive Investigation								



PROJECT NUMBER EP1995	DRILLING DATE 12/04/2021	LATITUDE -32.758401
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY Lovett's Earthmoving	LONGITUDE 151.638467
CLIENT Avid Property Group	DRILLER RN	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD 10 T Excavator 400mm	LOGGED BY LK
	TOTAL DEPTH 0.7 m	CHECKED BY PS

COMMENTS Side of access track.

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
0.5	<1		TP151 0.1			TOPSOIL: Silty SAND: Brown, fine to coarse sand, moist, loose, organic material and rootlets.			No anthropogenic material
	<1		TP151 0.5			Sandy CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine sand. Residual soil.			
						XW SHALE: Dry, fine grained, black and grey, low strength.			
1						End of Intrusive Investigation			


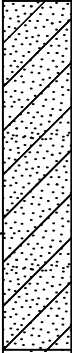
PROJECT NUMBER EP1995	DRILLING DATE 12/04/2021	LATITUDE -32.756969
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY Lovett's Earthmoving	LONGITUDE 151.639271
CLIENT Avid Property Group	DRILLER RN	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD 10 T Excavator 400mm	LOGGED BY LK
	TOTAL DEPTH 0.9 m	CHECKED BY PS

COMMENTS Stockpile of material approximately 0.8 m Above ground level. Log begins at 0.8 m above ground level.

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	DCP	Additional Observations
0.1 - 0.5	<1		TP152 0.1 TP152a 0.1 TP152 0.5			FILL: Silty SAND: Brown, fine to coarse sand, moist, fine to medium sub angular gravel			No anthropogenic material
0.5 - 0.8	<1					XW SHALE: Dry, fine grained, black and grey, low strength.			
0.8 - 1.0						End of Intrusive Investigation			


PROJECT NUMBER EP1995 PROJECT NAME Detailed Site Investigation CLIENT Avid Property Group Pty Ltd ADDRESS 487 Raymond Terrace Road, Chisholm, NSW	Investigation Date 12/04/2021 Drilling Company Lovett's Earthmoving Drilling Method 10 T Excavator 400 mm TOTAL DEPTH 0.9 m	LATITUDE -32.763765 LONGITUDE 151.637427 SURFACE ELEVATION LOGGED BY GR CHECKED BY PS
---	--	--

COMMENTS

Depth (m)	PID	PP (kPa)	Samples	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	DCP	Consistency	Moisture	Additional Observations
			TP153 0.1 TP153a 0.1		FILL: Gravelly Sandy SILT: Non plastic, light brown, fine to coarse grained sand, and fine to coarse sub-angular gravels.	5		Dry to Moist	Disturbed gravel surface
						4			
						3			
0.5		400	TP153 0.5		Sandy CLAY: Medium to high plasticity, brown, near plastic limit, fine to coarse grained sand. Residual soil.	1	Firm to Very Stiff	Dry to Moist	
						2			
						2			
					End of intrusive investigation	6			
						5			
						6			
1					End of Dynamic Cone Penetrometer testing at 0.9m				


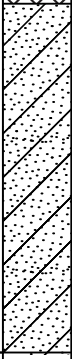
PROJECT NUMBER EP1995 PROJECT NAME Detailed Site Investigation CLIENT Avid Property Group Pty Ltd ADDRESS 487 Raymond Terrace Road, Chisholm, NSW	Investigation Date 12/04/2021 Drilling Company Lovett's Earthmoving Drilling Method 10 T Excavator 400 mm TOTAL DEPTH 0.9 m	LATITUDE -32.762484 LONGITUDE 151.637966 SURFACE ELEVATION LOGGED BY GR CHECKED BY PS
---	--	--

COMMENTS

Depth (m)	PID	PP (kPa)	Samples	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	DCP	Consistency	Moisture	Additional Observations					
0.5			TP154 0.1 TP154a 0.1 450 TP154 0.5		FILL: Sandy SILT: Non plastic, light brown, fine to coarse grained sand.	5		Dry to moist						
						4								
					Sandy CLAY: Medium to high plasticity, brown, near plastic limit, fine to coarse grained sand. Residual soil.	2	Stiff	Dry						
						3								
						5								
						4								
						End of intrusive investigation					7			
						8								
					9									
					1						End of Dynamic Cone Penetrometer testing at 0.9m			



PROJECT NUMBER EP1995 PROJECT NAME Detailed Site Investigation CLIENT Avid Property Group Pty Ltd ADDRESS 487 Raymond Terrace Road, Chisholm, NSW	Investigation Date 12/04/2021 Drilling Company Lovett's Earthmoving Drilling Method 10 T Excavator 400 mm TOTAL DEPTH 0.9 m	LATITUDE -32.761486 LONGITUDE 151.637845 SURFACE ELEVATION LOGGED BY GR CHECKED BY PS
---	--	--

COMMENTS

Depth (m)	PID	PP (kPa)	Samples	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	DCP	Consistency	Moisture	Additional Observations
			TP155 0.1		FILL: Sandy SILT: Non plastic, light brown, fine to coarse grained sand and some coal chitter.	3		Dry	Brick and tiles
						3			
0.5		350	TP155 0.5		Sandy CLAY: Medium to high plasticity, brown and red mottled, near plastic limit, fine to coarse grained sand. Residual soil.	3	Stiff to Very Stiff	Dry	
						5			
						5			
						End of intrusive investigation			
						4			
						6			
						5			
						6			
1					End of Dynamic Cone Penetrometer testing at 0.9m				


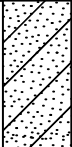
PROJECT NUMBER EP1995	Investigation Date 12/04/2021	LATITUDE -32.761964
PROJECT NAME Detailed Site Investigation	Drilling Company Lovett's Earthmoving	LONGITUDE 151.637834
CLIENT Avid Property Group Pty Ltd	Drilling Method 10 T Excavator 400 mm	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Road, Chisholm, NSW	TOTAL DEPTH 1.0 m	LOGGED BY GR
		CHECKED BY PS

COMMENTS

Depth (m)	PID	PP (kPa)	Samples	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	DCP	Consistency	Moisture	Additional Observations
			TP156 0.1 TP156a 0.1		FILL: Sandy SILT: Non plastic, light brown, with fine to coarse grained sand.	2		Dry to moist	Road base, brick and tiles
						3			
		450	TP156 0.3		Sandy CLAY: Medium to high plasticity, brown and red mottled, near plastic limit, fine to coarse grained sand. Residual soil.	3	Stiff	Dry	
						2			
					End of intrusive investigation				
0.5						2			
						6			
						6			
						8			
						8			
						10			
1					End of Dynamic Cone Penetrometer testing at 1.0m				



PROJECT NUMBER EP1995 PROJECT NAME Detailed Site Investigation CLIENT Avid Property Group Pty Ltd ADDRESS 487 Raymond Terrace Road, Chisholm, NSW	Investigation Date 12/04/2021 Drilling Company EP Risk Driller GR Drilling Method Hand Auger TOTAL DEPTH 0.4 m	LATITUDE -32.77550 LONGITUDE 152.638222 SURFACE ELEVATION LOGGED BY GR CHECKED BY PS
---	---	---

COMMENTS

Depth (m)	PID	PP (kPa)	Samples	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	DCP	Consistency	Moisture	Additional Observations
			BH157 0.1 BH157a 0.1		FILL: Silty SAND: fine to coarse grained, with fine to coarse grained sub-angular gravel.			Dry	Brick and tiles.
			BH157 0.3		FILL: Sandy CLAY: Medium to high plasticity, brown and red mottled, near plastic limit, fine to coarse grained sand. Residual soil.			Dry	
0.5					EOI at 0.4 m				


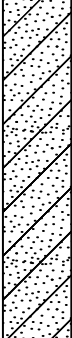
PROJECT NUMBER EP1995 PROJECT NAME Detailed Site Investigation CLIENT Avid Property Group Pty Ltd ADDRESS 487 Raymond Terrace Road, Chisholm, NSW	Investigation Date 12/04/2021 Drilling Company Lovett's Earthmoving Drilling Method 10 T Excavator 400 mm TOTAL DEPTH 0.9 m	LATITUDE -32.760836 LONGITUDE 151.638459 SURFACE ELEVATION LOGGED BY GR CHECKED BY PS
---	--	--

COMMENTS

Depth (m)	PID	PP (kPa)	Samples	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	DCP	Consistency	Moisture	Additional Observations
			TP158 0.1		FILL: Sandy SILT: Non plastic, light brown, fine to coarse grained sand and some coal chitter.	2		Dry	Brick and tiles
						1			
0.5		300	TP158 0.5		Sandy CLAY: Medium to high plasticity, grey and brown mottled, near plastic limit, fine to coarse grained sand. Residual soil.	2	Firm to Stiff	Dry	
						3			
						3			
						5			
						5			
					End of intrusive investigation	6			
						5			
						9			
1					EOI at 0.9 m				



PROJECT NUMBER EP1995 PROJECT NAME Detailed Site Investigation CLIENT Avid Property Group Pty Ltd ADDRESS 487 Raymond Terrace Road, Chisholm, NSW	Investigation Date 12/04/2021 Drilling Company Lovett's Earthmoving Drilling Method 10 T Excavator 400 mm TOTAL DEPTH 1.0 m	LATITUDE -32.760571 LONGITUDE 151.638514 SURFACE ELEVATION LOGGED BY GR CHECKED BY PS
---	--	--

COMMENTS

Depth (m)	PID	PP (kPa)	Samples	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	DCP	Consistency	Moisture	Additional Observations
0.5			TP159 0.1		FILL: Silty SAND: Fine to coarse grained, light brown, non plastic, some coal chitter.	2		Dry	
						4			
						3			
						3			
						3			
1.0		500	TP159 0.5		Sandy CLAY: Medium to high plasticity, grey mottled and red to orange, near plastic limit, fine to coarse grained sand. Residual	4	Stiff	Moist	
						3			
						4			
						End of intrusive investigation			
1.0						5			
						4			
1.0					End of Dynamic Cone Penetrometer testing at 1.0m				



PROJECT NUMBER EP1995	Investigation Date 12/04/2021	LATITUDE -32.760849
PROJECT NAME Detailed Site Investigation	Drilling Company Lovett's Earthmoving	LONGITUDE 151.638046
CLIENT Avid Property Group Pty Ltd	Drilling Method 10 T Excavator 400 mm	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Road, Chisholm, NSW	TOTAL DEPTH 0.9 m	LOGGED BY GR
		CHECKED BY PS

COMMENTS

Depth (m)	PID	PP (kPa)	Samples	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	DCP	Consistency	Moisture	Additional Observations
					FILL: Sandy SILT: Non plastic, light brown, fine to coarse grained sand.	4		Dry	Brick and tiles
					Sandy CLAY: Medium to high plasticity, grey and brown mottled, non plastic limit, fine to coarse grained sand. Residual soil.	4	Stiff to Very Stiff	Dry	
0.5		250	TP160 0.5			4			
					End of intrusive investigation	5			
						4			
						5			
1					End of Dynamic Cone Penetrometer testing at 0.9m				


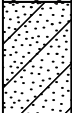
PROJECT NUMBER EP1995	Investigation Date 12/04/2021	LATITUDE -32.760946
PROJECT NAME Detailed Site Investigation	Drilling Company Lovett's Earthmoving	LONGITUDE 151.637711
CLIENT Avid Property Group Pty Ltd	Drilling Method 10 T Excavator 400 mm	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Road, Chisholm, NSW	TOTAL DEPTH 0.9 m	LOGGED BY GR
		CHECKED BY PS

COMMENTS

Depth (m)	PID	PP (kPa)	Samples	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	DCP	Consistency	Moisture	Additional Observations
			TP161 0.1 TP161 ASB 0.1		FILL: Sandy SILT: Non plastic, light brown, fine to coarse grained sand.	5		Dry	Brick and coal chitter layer
						4			
0.5		50	TP161 0.5		Sandy CLAY: Medium to high plasticity, grey and brown mottled, near plastic limit, fine to coarse grained sand. Residual soil.	4	Firm to Very Stiff	Dry	
						4			
						5			
						6			
					End of intrusive investigation	7			
						10			
						REF			
1					End of Dynamic Cone Penetrometer testing at 0.9m				



PROJECT NUMBER EP1995 PROJECT NAME Detailed Site Investigation CLIENT Avid Property Group Pty Ltd ADDRESS 487 Raymond Terrace Road, Chisholm, NSW	Investigation Date 12/04/2021 Drilling Company Lovett's Earthmoving Drilling Method 10 T Excavator 400 mm TOTAL DEPTH 1.1 m	LATITUDE -32.760414 LONGITUDE 151.638297 SURFACE ELEVATION LOGGED BY GR CHECKED BY PS
---	--	--

COMMENTS

Depth (m)	PID	PP (kPa)	Samples	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	DCP	Consistency	Moisture	Additional Observations
			TP162 0.1		FILL: Sandy SILT: Non plastic, light brown, fine to coarse grained sand.			Dry	Brick and tiles
					As above with some clay clumps and crushed brick			Dry	
0.5			TP162 0.5						
1		250			Sandy CLAY: Medium to high plasticity, brown, near plastic limit, fine to coarse grained sand. Residual soil.			Dry	
					EOI at 1.1m				



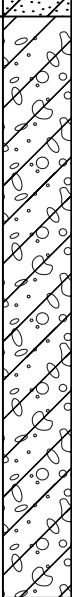
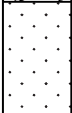
PROJECT NUMBER EP1995 PROJECT NAME Detailed Site Investigation CLIENT Avid Property Group Pty Ltd ADDRESS 487 Raymond Terrace Road, Chisholm, NSW	Investigation Date 12/04/2021 Drilling Company Lovett's Earthmoving Drilling Method 10 T Excavator 400 mm TOTAL DEPTH 0.9 m	LATITUDE -32.760101 LONGITUDE 151.638500 SURFACE ELEVATION LOGGED BY GR CHECKED BY PS
---	--	--

COMMENTS

Depth (m)	PID	PP (kPa)	Samples	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	DCP	Consistency	Moisture	Additional Observations
			TP163 0.1		FILL: Silty SAND: Fine to coarse grained, brown, non plastic.	4		Dry	Brick and tile.
						4			
						4			
0.5		450	TP163 0.5		Sandy CLAY: Medium to high plasticity, brown and orange mottled, near plastic limit, fine to coarse grained sand. Residual soil.	2	Firm to Stiff	Dry	
						2			
						3			
					End of intrusive investigation	4			
						6			
						5			
1					End of Dynamic Cone Penetrometer testing at 0.9m				




PROJECT NUMBER EP1995	Investigation Date 12/04/2021	LATITUDE -32.762016
PROJECT NAME Detailed Site Investigation	Drilling Company Lovett's Earthmoving	LONGITUDE 151.637076
CLIENT Avid Property Group Pty Ltd	Drilling Method 10 T Excavator 400 mm	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Road, Chisholm, NSW	TOTAL DEPTH 1.1 m	LOGGED BY GR
		CHECKED BY PS

COMMENTS

Depth (m)	PID	PP (kPa)	Samples	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	DCP	Consistency	Moisture	Additional Observations
			TP164 0.1		FILL: Silty SAND: Fine to coarse grained, light brown, non plastic.	5		Dry	Brick and coal chitter layer
						7			
0.5		350	TP164 0.5		Sandy CLAY: Medium to high plasticity, brown and red mottled, near plastic limit, fine to coarse grained sand. Residual soil.	5	Stiff to Very Stiff	Dry	
						4			
						2			
1					Sandy Gravelly CLAY: Medium plasticity, brown and red mottled, near plastic limit, fine to coarse grained sand, fine to coarse grained sub-angular gravels. Residual soil.	1	Soft to Stiff	Dry	
						2			
						2			
						2			
					XW SANDSTONE: Orange and yellow, dry, low strength, fine to coarse grained sand.				
					EOI at 1.1 m				





PROJECT NUMBER EP1995 PROJECT NAME Detailed Site Investigation CLIENT Avid Property Group Pty Ltd ADDRESS 487 Raymond Terrace Road, Chisholm, NSW	Investigation Date 12/04/2021 Drilling Company Lovett's Earthmoving Drilling Method 10 T Excavator 400 mm TOTAL DEPTH 1.2 m	LATITUDE -32.763894 LONGITUDE 151.636772 SURFACE ELEVATION LOGGED BY GR CHECKED BY PS
---	--	--

COMMENTS

Depth (m)	PID	PP (kPa)	Samples	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	DCP	Consistency	Moisture	Additional Observations
			TP165 0.1 TP165 ASB 0.1		FILL: Gravelly, Sandy SILT: Non plastic, light brown, fine to coarse grained sand, some fine to coarse sub-angular gravels, and some coal chitter.	2		Dry	Brick and tiles.
			REF						
0.5			TP165 0.5						
1		250					XW SHALE: Fine grained, grey and dark grey, dry, low strength.		
					EOI at 1.2 m				


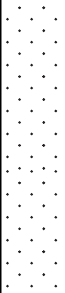
PROJECT NUMBER EP1995 PROJECT NAME Detailed Site Investigation CLIENT Avid Property Group Pty Ltd ADDRESS 487 Raymond Terrace Road, Chisholm, NSW	Investigation Date 12/04/2021 Drilling Company Lovett's Earthmoving Drilling Method 10 T Excavator 400 mm TOTAL DEPTH 0.9 m	LATITUDE -32.763336 LONGITUDE 151.638432 SURFACE ELEVATION LOGGED BY GR CHECKED BY PS
---	--	--

COMMENTS

Depth (m)	PID	PP (kPa)	Samples	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	DCP	Consistency	Moisture	Additional Observations
0.5	<1	400	TP166 0.5		FILL: Sandy SILT: Non plastic, light grey, fine to coarse grained sand, some fine to coarse sub-angular gravels, and some coal chitter.	3		Dry to Moist	Brick and tiles
						3			
						4			
						4			
						4			
1	<1	400	TP166 0.5		Sandy CLAY: Medium to high plasticity, red, near plastic limit, fine to coarse grained sand. Residual soil.	4	Stiff to Very Stiff	Dry to Moist	
						5			
						5			
1	<1	400	TP166 0.5		End of intrusive investigation	5			
						6			
1	<1	400	TP166 0.5		End of Dynamic Cone Penetrometer testing at 0.9m				


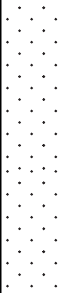
PROJECT NUMBER EP1995	DRILLING DATE 12/04/2021	LATITUDE -32.7588261
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY Lovett's Earthmoving	LONGITUDE 151.6390930
CLIENT Avid Property Group	DRILLER RN	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD 10 T Excavator 400mm	LOGGED BY LK
	TOTAL DEPTH 0.6 m	CHECKED BY PS

COMMENTS Test pit located on the southern wall of the quarry.

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	Additional Observations
	<1					Clayey SAND with gravels: Grey and orange, dry, fine to coarse sand, fine to coarse sub angular gravels. Residual soil.		No anthropogenic material.
0.5	<1					XW SANDSTONE: Orange and yellow, dry, fine to coarse sand, fine to coarse sub angular sandstone gravels.		
						End of Intrusive Investigation		


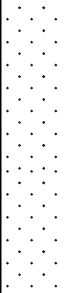
PROJECT NUMBER EP1995	DRILLING DATE 12/04/2021	LATITUDE -32.758698
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY Lovett's Earthmoving	LONGITUDE 151.639013
CLIENT Avid Property Group	DRILLER RN	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD 10 T Excavator 400mm	LOGGED BY LK
	TOTAL DEPTH 0.6 m	CHECKED BY PS

COMMENTS Test pit located on the southern wall of the quarry.

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	Additional Observations
	<1					Clayey SAND with gravels: Grey and orange, dry, fine to coarse sand, fine to coarse sub angular gravels. Residual soil.		No anthropogenic material.
0.5	<1					XW SANDSTONE: Orange and yellow, dry, fine to coarse sand, fine to coarse sub angular sandstone gravels.		
						End of Intrusive Investigation		



PROJECT NUMBER EP1995	DRILLING DATE 12/04/2021	LATITUDE -32.758728
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY Lovett's Earthmoving	LONGITUDE 151.639065
CLIENT Avid Property Group	DRILLER RN	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD 10 T Excavator 400mm	LOGGED BY LK
	TOTAL DEPTH 0.6 m	CHECKED BY PS

COMMENTS Test pit located on the southern wall of the quarry.

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	Additional Observations
	<1					Clayey SAND with gravels: Grey and orange, dry, fine to coarse sand, fine to coarse sub angular gravels. Residual soil.		No anthropogenic material.
0.5	<1					XW SANDSTONE: Orange and yellow, dry, fine to coarse sand, fine to coarse sub angular sandstone gravels.		
						End of Intrusive Investigation		


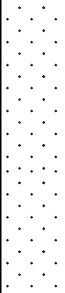
PROJECT NUMBER EP1995	DRILLING DATE 12/04/2021	LATITUDE -32.758625
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY Lovett's Earthmoving	LONGITUDE 151.638712
CLIENT Avid Property Group	DRILLER RN	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD 10 T Excavator 400mm	LOGGED BY LK
	TOTAL DEPTH 3.2 m	CHECKED BY PS

COMMENTS Test pit on top of a stockpile on the southern side of the quarry 3.0m above ground level.

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	Additional Observations
0	<1					FILL: Sandy gravelly CLAY: Brown mottled yellow, grey and red, medium to high plasticity, near plastic limit, fine to coarse sand, fine to coarse sub angular shale gravels.		Logs and rock fragments throughout mound. No anthropogenic waste.
0.5	<1							
1								
1.5								
2								
2.5								
3						Sandy CLAY: Medium to high plasticity, brown mottled yellow, grey and red, near plastic limit, fine sand. Residual soil.		
						End of Intrusive Investigation		


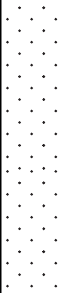
PROJECT NUMBER EP1995	DRILLING DATE 12/04/2021	LATITUDE -32.758754
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY Lovett's Earthmoving	LONGITUDE 151.638710
CLIENT Avid Property Group	DRILLER RN	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD 10 T Excavator 400mm	LOGGED BY LK
	TOTAL DEPTH 0.6 m	CHECKED BY PS

COMMENTS Test pit located on the southern wall of the quarry.

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	Additional Observations
	<1					Clayey SAND with gravels: Grey and orange, dry, fine to coarse sand, fine to coarse sub angular gravels. Residual soil.		No anthropogenic material.
0.5	<1					XW SANDSTONE: Orange and yellow, dry, fine to coarse sand, fine to coarse sub angular sandstone gravels.		
						End of Intrusive Investigation		

PROJECT NUMBER EP1995	DRILLING DATE 12/04/2021	LATITUDE -32.758796
PROJECT NAME Detailed Site Investigation	DRILLING COMPANY Lovett's Earthmoving	LONGITUDE 151.638428
CLIENT Avid Property Group	DRILLER RN	SURFACE ELEVATION
ADDRESS 487 Raymond Terrace Rd, Chisholm NSW	DRILLING METHOD 10 T Excavator 400mm	LOGGED BY LK
	TOTAL DEPTH 0.6 m	CHECKED BY PS

COMMENTS Test pit located on the southern wall of the quarry.

Depth (m)	PID	PP (kPa)	Samples	Is Analysed?	Graphic Log	Material Description: Soil type, plasticity/particle characteristics, colour, minor components	Consistency	Additional Observations
	<1					Clayey SAND with gravels: Grey and orange, dry, fine to coarse sand, fine to coarse sub angular gravels. Residual soil.		No anthropogenic material.
0.5	<1					XW SANDSTONE: Orange and yellow, dry, fine to coarse sand, fine to coarse sub angular sandstone gravels.		
						End of Intrusive Investigation		

Appendix E

NATA Accredited Laboratory Reports

CHAIN OF CUSTODY

ALS Laboratory, please tick →

Sydney, 277 Woodpark Rd, Smithfield NSW 2164
 Ph: 02 8784 8555 E: sam@als.com.au
 Newcastle, 5 Rosegum Rd, Warabrook NSW 2304
 Ph: 02 4968 9433 E: sam@als.com.au

Brisbane, 32 Shand St, Stafford QLD 4053
 Ph: 07 3243 7222 E: sam@als.com.au
 Townsville, 14-15 Dama Ct, Bohle QLD 4818
 Ph: 07 4798 9600 E: townsville@als.com.au

Melbourne, 2-4 Westall Rd, Springvale VIC 3171
 Ph: 03 8549 9600 E: sam@als.com.au
 Adelaide, 2-1 Burma Rd, Pooraka SA 5005
 Ph: 08 8359 0800 E: adelaide@als.com.au

CLIENT: EP RISK MANAGEMENT PTY LTD OFFICE: NEWCASTLE PROJECT: Chisholm CRS Due Diligence ORDER NUMBER: EP1995 PROJECT MANAGER: Luke Kerry SAMPLER: Luke Kerry COC emailed to ALS? (YES / NO) Email Reports to (will default to PM if no other addresses are listed): Luke.Kerry@eprisk.com.au Email Invoice to (will default to PM if no other addresses are listed): Accounts@eprisk.com.au	TURNAROUND REQUIREMENTS: (Standard TAT may be longer for some tests e.g., Ultra Trace Organics) ALS QUOTE NO.: SY 497-20 <input checked="" type="checkbox"/> Standard TAT (List due date) <input type="checkbox"/> Non Standard or urgent TAT (List due date): COC SEQUENCE NUMBER (Circle) coc: 1 2 3 4 5 6 7 OF: 1 2 3 4 5 6 7 RECEIVED BY: Luke Kerry DATE/TIME: 8/03/2021	FOR LABORATORY USE ONLY (Circle) Custody Seal Intact? Yes No Frozen / frozen ice bricks present upon receipt? Yes No Random Sample Temperature on Receipt: 10.9 °C Other comment:
RECEIVED BY: Luke Kerry DATE/TIME: 8/03/2021	RELINQUISHED BY: Luke Kerry DATE/TIME: 8/03/2021	RECEIVED BY: David DATE/TIME: 09/02/2021 09:30 AM

ALS USE ONLY	SAMPLE DETAILS MATRIX: Solid(S) Water(W)	CONTAINER INFORMATION	ANALYSIS REQUIRED INCLUDING SUITES (NB: Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).							Additional Information			
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL BOTTLES	OC, OP, Heavy Metals	TRH, BTEXN, PAH, PCBs	PF and MTHX	NEM Screen for soil classification	Asbestos w/w%	Chromium Suite	TRH, BTEXN, PAH, Heavy Metals, OCP and OP	Comments on likely contaminant levels, dilutions, or samples requiring specific CC analysis etc.
1	TP01-0.1	8/03/2021	Soil	Jar	1	X	X	Hold					
2	TP01-0.5	8/03/2021	Soil	li	1	X		X					
3	ASS-01	8/03/2021	Soil	ASS									
4	TP02-0.1	8/03/2021	Soil	li	1			X					
5	TP02-0.5	8/03/2021	Soil	li	1			X					
6	TP03-0.1	8/03/2021	Soil	Jar	1			X					
7	TP04-0.1	8/03/2021	Soil		1	X		X					
8	TP04-0.5	8/03/2021	Soil		1	X		X					
9	TP05-0.1	8/03/2021	Soil		1	X		X					
10	TP05-0.5	8/03/2021	Soil		1	X		X					
11	TP06-0.1	8/03/2021	Soil		1	X		X					
12	TP06-0.5	8/03/2021	Soil		1	X		X					
13	TP07-0.1	8/03/2021	Soil	Jar	1			X					
					TOTAL	13							

Environmental Division
 Sydney
 Work Order Reference
ES2108110



Telephone : + 61-2- 784 8556

REMAINED

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic
 V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sodium Bisulphate Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl Preserved Plastic; HS = HCl Preserved Speciation bottle; SP = Sulfuric Preserved Glass;
 Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Solids; B = Unpreserved Bag



CHAIN OF CUSTODY

ALS Laboratory: please tick →

Sydney: 277 Westpark Rd, Smithfield NSW 2164
 Ph: 02 8784 6555 E: samples.sydney@alsenviro.com
 Newcastle: 5 Rosegum Rd, Warabrook NSW 2304
 Ph: 02 4988 9433 E: samples.newcastle@alsenviro.com

Brisbane: 33 Shand St, Stafford QLD 4053
 Ph: 07 3263 7222 E: samples.brisbane@alsenviro.com
 Adelaide: 2-1 Burma Rd, Pooraka SA 5095
 Ph: 08 8359 0800 E: adelaide@alsenviro.com

Melbourne: 2-4 Westall Rd, Springvale VIC 3171
 Ph: 03 8849 9800 E: samples.melbourne@alsenviro.com

CLIENT: EP RISK MANAGEMENT PTY LTD	TURNAROUND REQUIREMENTS: Standard TAT (List due date): <input checked="" type="checkbox"/> Standard TAT (List due date): <input type="checkbox"/> Non Standard or urgent TAT (List due date):	FOR LABORATORY USE ONLY (Circle) COC SEQUENCE NUMBER (Circle) coc: 1 2 3 4 5 6 7 OF: 1 2 3 4 5 6 7	Yes No Free ice / frozen ice bricks present upon receipt? Yes No Random Sample Temperature on Receipt: °C Other comment:
OFFICE: NEWCASTLE	ALS QUOTE NO.: SY 497-20	RECEIVED BY: <i>Lu</i>	RECEIVED BY: <i>David</i>
PROJECT: Chisholm CRS Due Diligence	CONTACT PH: 0432266617	RELINQUISHED BY: <i>Luke Kerry</i>	RELINQUISHED BY: <i>David</i>
ORDER NUMBER: EP1995	SAMPLER MOBILE: 0432266617	DATE/TIME: 8/3/2021	DATE/TIME: 08/03/21 07:30p
PROJECT MANAGER: Luke Kerry	EDD FORMAT (or default): Esdat		
SAMPLER: Luke Kerry	Accounts@eprisk.com.au		
COC emailed to ALS? (YES / NO)			
Email Reports to (will default to PM if no other addresses are listed): Luke.Kerry@eprisk.com.au			
Email Invoice to (will default to PM if no other addresses are listed): Accounts@eprisk.com.au			
COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:			

ALS USE ONLY	SAMPLE DETAILS MATRIX: Solid(S) Water(W)	CONTAINER INFORMATION	ANALYSIS REQUIRED INCLUDING SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).							Additional Information			
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL BOTTLES	OCP, OPP, Heavy Metals	TRH, BTEXN, PAH, PCBs	TRH, BTEXN, PAH, PCBs	TRH, BTEXN, PAH, Heavy Metals, OCP	Chromium Suite	Asbestos w/w%	NEM Screen for soil classification	TRH (F1), BTEXN
14	TP07-0.5	8/03/2021	Soil	Jar	1	X							
15	TP08-0.1	8/03/2021	Soil	Jar	1	X							
16	TP08-0.5	8/03/2021	Soil		1								
17	TP09-0.1	8/03/2021	Soil		1								
18	TP09-0.5	8/03/2021	Soil		1								
19	TP10-0.1	8/03/2021	Soil		1	X							
20	TP10-0.5	8/03/2021	Soil		1	X							
21	TP11-0.1	8/03/2021	Soil		1								
22	TP11-0.5	8/03/2021	Soil		1	X							
23	TP12-0.1	8/03/2021	Soil		1								
24	TP13-0.1	8/03/2021	Soil		1	X							
25	TP15-0.1	8/03/2021	Soil	Jar	1								
					TOTAL	14	12						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic
 Y = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bicarbonate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation Bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
 Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bag for Acid Sulphate Soils; B = Unpreserved Bag.

CHAIN OF CUSTODY

ALS Laboratory: please tick →

ALS Laboratory: please tick →

ALS Laboratory: please tick →

ALS Laboratory: please tick →

ALS Laboratory: please tick →

CLIENT: EP RISK MANAGEMENT PTY LTD
OFFICE: NEWCASTLE
PROJECT: Chisholm CRS Due Diligence
ORDER NUMBER: EP1995
PROJECT MANAGER: Luke Kerry
SAMPLER: Luke Kerry
COC emailed to ALS? (YES / NO)
Email Reports to (will default to PM if no other addresses are listed): Luke.Kerry@eprisk.com.au
Email Invoice to (will default to PM if no other addresses are listed): Accounts@eprisk.com.au

TURNAROUND REQUIREMENTS:
 Standard TAT (List due date):
 Non Standard or urgent TAT (List due date):
 SY 497-20

ALS QUOTE NO.: SY 497-20

CONTACT PH: 0432266617
SAMPLER MOBILE: 0432266617
EDD FORMAT (or default): Esdat

RELINQUISHED BY: Luke Kerry
DATE/TIME: 8/03/2021

RECEIVED BY: A. 510 SPW
DATE/TIME: 8/03/2021

FOR LABORATORY USE ONLY (Circle):
 Custody Seal Intact? Yes No
 Free ice / frozen ice bricks present upon receipt? Yes No
 Random Sample Temperature on Receipt: °C
 Other comment:

RECEIVED BY: Ward
DATE/TIME: 8/3/21 17:00

ALS USE ONLY	SAMPLE DETAILS MATRIX: Solid(S) Water(W)	CONTAINER INFORMATION	ANALYSIS REQUIRED INCLUDING SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).							Additional Information			
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL BOTTLES	OCP, OPP, Heavy Metals	TRH, BTEXN, PAH, PCBs	PH and Phos	NEM Screen for soil classification	Asbestos wh%	Chromium Suite	TRH (F1), BTEXN and OPP	TRH, BTEXN, PAH, Heavy Metals, OCP
26	TP15-0.5	8/03/2021	Soil	Jar	1				X				
27	TP16-0.1	8/03/2021	Soil		1		X						
28	TP17-0.1	8/03/2021	Soil		1	X							
29	TP18-0.1	8/03/2021	Soil		1			X					
30	TP19-0.1	8/03/2021	Soil		1			X					
31	TP20-0.1	8/03/2021	Soil		1	X							
32	TP21-0.5	8/03/2021	Soil		1			X					
33	TP22-0.1	8/03/2021	Soil		1			X					
34	TP23-0.5	8/03/2021	Soil		1			X					
35	TP24-0.1	8/03/2021	Soil		1			X					
36	TP25-0.1	8/03/2021	Soil		1			X					
37	TP26-0.5	8/03/2021	Soil		1	X							
38	TP27-0.1	8/03/2021	Soil		1			X					
39	TP28-0.5	8/03/2021	Soil	Jar	1			X					
					TOTAL	14							

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic
 V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl Preserved Plastic; HS = HCl Preserved Plastic; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
 Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.



CHAIN OF CUSTODY

ALS Laboratory, please tick →

Sydney 277 Woodpark Rd, Smithfield NSW 2164
 Ph: 02 8784 8555 E: sam.ples.sydney@alsenviro.com
 Newcastle: 5 Rosegum Rd, Warabrook NSW 2304
 Ph: 02 4968 9433 E: sam.ples.newcastle@alsenviro.com

Brisbane: 32 Shand St, Stafford QLD 4053
 Ph: 07 3283 7222 E: sam.ples.brisbane@alsenviro.com
 Townsville: 14-15 Dasma Ct, Bohle QLD 4818
 Ph: 07 4796 0600 E: townsville.environmental@alsenviro.com

Melbourne: 2-4 Westall Rd, Springvale VIC 3171
 Ph: 03 8549 9600 E: sam.ples.melbourne@alsenviro.com
 Adelaide: 2-1 Burma Rd, Peacocks SA 5095
 Ph: 08 8359 0880 E: adelaide@alsenviro.com

CLIENT: EP RISK MANAGEMENT PTY LTD OFFICE: NEWCASTLE PROJECT: Chisholm CRS Due Diligence ORDER NUMBER: EP1995 PROJECT MANAGER: Luke Kerry		TURNAROUND REQUIREMENTS: (Standard TAT may be longer for some tests e.g., Ultra Trace Organics) <input checked="" type="checkbox"/> Standard TAT (List due date): <input type="checkbox"/> Non Standard or urgent TAT (List due date): SY 497-20		FOR LABORATORY USE ONLY (Circle) Custody Seal Intact? Yes No N/A Free ice / frozen ice bricks present upon receipt? Yes No N/A Random Sample Temperature on Receipt: °C Other comment:	
ALS QUOTE NO.: CONTACT PH: 0432286617 SAMPLER MOBILE: 0432286617 EDD FORMAT (or default): Esdat		COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 7 OF: 1 2 3 4 5 6 7 (4 is circled)		RECEIVED BY: Luke Kerry DATE/TIME: 8/03/2021	
Email Reports to (will default to PM if no other addresses are listed): Luke.Kerry@eprisk.com.au Email Invoice to (will default to PM if no other addresses are listed): Accounts@eprisk.com.au		RECEIVED BY: Luke Kerry DATE/TIME: 8/03/2021 5:03pm		RECEIVED BY: OJana DATE/TIME: 8/3/21 17:00	

ALYS USE ONLY		SAMPLE DETAILS MATRIX: Solid(S) Water(W)		CONTAINER INFORMATION		ANALYSIS REQUIRED INCLUDING SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL BOTTLES	OCP, OPP, Heavy Metals	TRH, BTEXN, PAH, PCBs	PbT and PhTox	NEM Screen for soil	Asbestos wt%	Chromium Suite	Comments on likely contaminant levels, dilutions, or samples requiring specific OC analysis etc.		
40	TP04-AGG	8/03/2021	Soil	Jar	1									
41	TP07-AGG	8/03/2021	Soil	Jar	1									
42	TP23-AGG	8/03/2021	Soil	Jar	1									
43	TP05-ASB	8/03/2021	Soil	B	1					1				
44	TP07-ASB	8/03/2021	Soil	B	1					1				
45	TP24-ASB	8/03/2021	Soil	B	1					1				
		8/03/2021	Soil											
		8/03/2021	Soil											
		8/03/2021	Soil											
		8/03/2021	Soil											
		8/03/2021	Soil											
		8/03/2021	Soil											
		8/03/2021	Soil											
					TOTAL	6				3	3			

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic
 V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl Preserved Plastic; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass.
 Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

CHAIN OF CUSTODY

ALS Laboratory, please tick →

ALS Laboratory, please tick →

ALS Laboratory, please tick →

ALS Laboratory, please tick →

ALS Laboratory, please tick →

CLIENT: EP RISK MANAGEMENT PTY LTD
OFFICE: NEWCASTLE
PROJECT: Chisholm CRS Due Diligence
ORDER NUMBER: EP1995
PROJECT MANAGER: Luke Kerry
SAMPLER: Luke Kerry
COC emailed to ALS? (YES / NO)
Email Reports to (will default to PM if no other addresses are listed): Luke.Kerry@eprisk.com.au
Email Invoice to (will default to PM if no other addresses are listed): Accounts@eprisk.com.au

TURNAROUND REQUIREMENTS: Standard TAT (List due date):
 Standard TAT (List due date):
 Non-Standard or urgent TAT (List due date):
ALS QUOTE NO.: SY 497-20

RECEIVED BY: Luke Kerry
DATE/TIME: 8/03/2021

RELINQUISHED BY: Luke Kerry
DATE/TIME: 8/03/2021

FOR LABORATORY USE ONLY (Circle)

Custody Seal Intact? Yes No
 Free ice / frozen ice bricks present upon receipt? Yes No
 Random Sample Temperature on Receipt: °C

RECEIVED BY: NANO
DATE/TIME: 09/03/21 07:24

ALS USE ONLY	SAMPLE DETAILS		CONTAINER INFORMATION		ANALYSIS REQUIRED INCLUDING SUITES (NB. Suite Codes must be listed to attract suite price)										Additional Information
	MATRIX: Solid(S) Water(W)	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL BOTTLES	Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).	OCP, OPP, Heavy Metals	TRH, BTEXN, PAH, PCBs	PH and Phlox	NEM Screen for soil classification	Asbestos w/w%	Chromium Suite	TRH (F1), BTEXN	TRH, BTEXN, PAH, Heavy Metals, OCP and OPP	
46	ASS01	8/03/2021	Soil		1 Bag			X							
47	ASS02	8/03/2021	Soil					X							
48	ASS03	8/03/2021	Soil					X							
49	ASS04	8/03/2021	Soil					X							
50	ASS05	8/03/2021	Soil					X			X				
51	ASS06	8/03/2021	Soil					X							
52	ASS07	8/03/2021	Soil					X							
53	ASS08	8/03/2021	Soil					X							
54	ASS09	8/03/2021	Soil					X							
55	ASS10	8/03/2021	Soil					X							
56	ASS11	8/03/2021	Soil					X							
57	ASS12	8/03/2021	Soil					X							
58	ASS13	8/03/2021	Soil					X			X				
59	ASS14	8/03/2021	Soil					X							
TOTAL															

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic; Y = YCA Vial HCl Preserved; VB = YCA Vial Sodium Bisulphate Preserved; VS = YCA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Solids; B = Unpreserved Bag.

CHAIN OF CUSTODY

Sydney: 277 Woodpark Rd, Smithfield NSW 2164
 Ph: 02 8784 9555 E: sam.piles.sydney@alsenviro.com
 Newcastle: 5 Rosegum Rd, Warabrook NSW 2304
 Ph: 02 4960 9433 E: sam.piles.newcastle@alsenviro.com

Brisbane: 32 Shand St, Stafford QLD 4053
 Ph: 07 3263 7222 E: sam.piles.brisbane@alsenviro.com
 Townsville: 14-15 Dasma Ct, Bohle QLD 4818
 Ph: 07 4799 0600 E: townsville.environmental@alsenviro.com

Melbourne: 2-4 Westall Rd, Springvale VIC 3171
 Ph: 03 8549 9600 E: sam.piles.melbourne@alsenviro.com
 Adelaide: 2-1 Burma Rd, Pooraka SA 5095
 Ph: 08 8359 0890 E: adelaide@alsenviro.com



CLIENT:	EP RISK MANAGEMENT PTY LTD	TURNAROUND REQUIREMENTS:	<input checked="" type="checkbox"/> Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)	
OFFICE:	NEWCASTLE	(Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	<input type="checkbox"/> Non Standard or urgent TAT (List due date):	Custody Seal intact?	Yes No
PROJECT:	Chisholm CRS Due Diligence	ALS QUOTE NO.:	SY 497-20	Free ice / frozen ice bricks present upon receipt?	Yes No
ORDER NUMBER:	EP1995	CONTACT PH:	0432266617	Random Sample Temperature on Receipt:	°C
PROJECT MANAGER:	Luke Kerry	SAMPLER MOBILE:	0432266617	Other comment:	
SAMPLER:	Luke Kerry	EDD FORMAT (or default):	Esdad	RECEIVED BY:	<i>Wanda</i>
EMAIL REPORTS:	(will default to PM if no other addresses are listed): Luke.Kerry@eprisk.com.au	ACCOUNTS:	Accounts@eprisk.com.au	DATE/TIME:	<i>8/3/21 17:00</i>
EMAIL INVOICE:	(will default to PM if no other addresses are listed): Accounts@eprisk.com.au	RELINQUISHED BY:	Luke Kerry	DATE/TIME:	<i>08/03/21 07:24</i>
COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:		DATE/TIME:	<i>8/03/2021</i>		

LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL BOTTLES	ANALYSIS REQUIRED INCLUDING SUITES (NB. Suite Codes must be listed to attract suite price)						Additional Information			
						Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).	OCP, OPP, Heavy Metals	TRH, BTEXN, PAH, PCBs	PH and Pfxox	NEM Screen for soil classification	Asbestos Wt%		Chromium Suite	TRH (F-), BTEXN and OPP	
60	ASS15	8/03/2021	Soil		1 Bag				X						
61	ASS16	8/03/2021	Soil						X						
62	ASS17	8/03/2021	Soil						X						
63	ASS18	8/03/2021	Soil						X						
64	ASS19	8/03/2021	Soil						X						
65	ASS20	8/03/2021	Soil						X						
66	ASS21	8/03/2021	Soil						X						
67	ASS22	8/03/2021	Soil						X						
68	ASS23	8/03/2021	Soil						X						
69	ASS24	8/03/2021	Soil						X						
70	ASS25	8/03/2021	Soil						X						
71	ASS26	8/03/2021	Soil						X						
72	ASS27	8/03/2021	Soil						X						
73	ASS28	8/03/2021	Soil						X						
TOTAL															

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic; V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial; SG = Sulfuric Preserved Amber Glass; H = HCl Preserved Plastic; HS = HCl Preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

CHAIN OF CUSTODY

ALS Laboratory, please tick →

□ Sydney 277 Woodpark Rd, Smithfield NSW 2164
Ph: 02 8784 8555 E: samples.sydney@alsenviro.com
□ Newcastle: 5 Rosegum Rd, Warabrook NSW 2304
Ph: 02 4968 9433 E: samples.newcastle@alsenviro.com

□ Brisbane: 32 Shand St, Stafford QLD 4053
Ph: 07 3243 7222 E: samples.brisbane@alsenviro.com
□ Townsville: 14-15 Dasma Ct, Bohle QLD 4818
Ph: 07 4796 0000 E: townsville.environmental@alsenviro.com

□ Melbourne: 2-4 Westall Rd, Springvale VIC 3171
Ph: 03 8549 9800 E: samples.melbourne@alsenviro.com
□ Adelaide: 2-1 Burma Rd, Pooraka SA 5095
Ph: 08 8359 0850 E: adelaide@alsenviro.com

CLIENT: EP RISK MANAGEMENT PTY LTD

OFFICE: NEWCASTLE

PROJECT: Chisholm CRS Due Diligence

ORDER NUMBER: EP1985

PROJECT MANAGER: Luke Kerry

SAMPLER: Luke Kerry

COC emailed to ALS? (YES / NO)

Email Reports to (will default to PM if no other addresses are listed): Luke.Kerry@eprisk.com.au

Email Invoice to (will default to PM if no other addresses are listed): Accounts@eprisk.com.au

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

TURNAROUND REQUIREMENTS: Standard TAT (List due date): Non Standard or urgent TAT (List due date):

ALS QUOTE NO.: SY 497-20

CONTACT PH: 0432266617

SAMPLER MOBILE: 0432266617

EDD FORMAT (or default): Esdat

COC emailed to ALS? (YES / NO)

RECEIVED BY: Luke Kerry

DATE/TIME: 8/03/2021

RELINQUISHED BY: Luke Kerry

DATE/TIME: 8/03/2021

FOR LABORATORY USE ONLY (Circle)

Custody Seal Intact? Yes No N/A

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

Random Sample Temperature on Receipt: °C

Other comment:

RECEIVED BY: David

DATE/TIME: 8/3/21 09:24

RELINQUISHED BY: Luke Kerry

DATE/TIME: 8/3/21 17:00

RECEIVED BY: Luke Kerry

DATE/TIME: 8/03/2021

COC SEQUENCE NUMBER (Circle)

COC: 1 2 3 4 5 6 **7**

OF: 1 2 3 4 5 6 **7**

LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL BOTTLES	ANALYSIS REQUIRED INCLUDING SUITES (NB. Suite Codes must be listed to attract suite price)							Additional Information		
						OCP, OP, Heavy Metals	TRH, BTEXN, PAH, PCBs	PHT and Phox	NEM Screen for soil classification	Asbestos w/w%	Chromium Suite	TRH (F-1), BTEXN		TRH, BTEXN, PAH, Heavy Metals, OCP and OPP	
74	ASS29	8/03/2021	Soil		1 bag			X							
75	ASS36	8/03/2021	Soil					X							
76	ASS31	8/03/2021	Soil					X							
77	ASS32	8/03/2021	Soil					X							
78	ASS33	8/03/2021	Soil					X							
79	ASS34	8/03/2021	Soil					X							
80	ASS35	8/03/2021	Soil					X							
81	ASS36	8/03/2021	Soil					X							
82	ASS37	8/03/2021	Soil					X							
83	Q201	8/03/2021	Soil		2 jar	X	X	X							
84	Q202	8/03/2021	Soil		2 jar	X	X	X							
85	Risatco1	8/03/2021	Soil		300 500ml bottles										
85	TS	8/03/2021	Soil		15 jar										
86	TB	8/03/2021	Soil		15 jar										
TOTAL															

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic; V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulfate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl Preserved Plastic; HS = HCl Preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

Please send to Everts for analysis

Wanida Roberts

From: Helen Simpson
Sent: Wednesday, March 10, 2021 3:23 PM
To: Wanida Roberts
Subject: FW: ES2108110 - EPRISK - EP1995 - Chisholm CRS Due Diligence - Sample #026 (TP15_0.5)
Attachments: Re: [EXTERNAL] - Re: ES2108110 - EP1995 - Chisholm CRS Due Diligence


Hi Wanida,
Changes required.

The bag for sample 19 should be the missing sample for ASS18 (#63) – please add as new sample.

Also, remove analysis for #26 and add to #25, (no clay content).

Kind Regards,

Helen Simpson
Sample Admin, Environmental
Sydney


T +61 2 8784 8555
F +61 2 8784 8500
helen.simpson@alsglobal.com
277-289 Woodpark Road
Smithfield NSW 2164 AUSTRALIA

Subscribe 

From: Hannah White <hannah.white@ALSGlobal.com>
Sent: Wednesday, 10 March 2021 3:19 PM
To: Helen Simpson <helen.simpson@alsglobal.com>
Subject: RE: ES2108110 - EPRISK - EP1995 - Chisholm CRS Due Diligence - Sample #026 (TP15_0.5)

Environmental Division
Sydney
Work Order Reference
ES2108110



Telephone : + 61 2 8784 8555

Hi Helen,

Per my email chain with the client (attached), this is correct.

Thank you

Regards,

Hannah White

Client Services Officer, Environmental
Melbourne



T +61 3 8549 9600 **D** +61 3 8549 9608
Hannah.White@ALSglobal.com
2-4 Westall Rd
Springvale VIC 3171
AUSTRALIA

EnviroMail™ 127 – Bacterial Diversity Profiling in NGS

EnviroMail™ 128 – Revised PFAS Bottle Requirements

EnviroMail™ 123 Re-Release – Leaching Environmental Assessment Framework

EnviroMail™ 00 – All EnviroMail™ in one convenient library.



Holiday trading hours →
Stay safe this festive season.



See how ALS is making sampling easier! [Register](#) your interest.

Right Solutions · Right Partner
www.alsglobal.com

From: Helen Simpson <helen.simpson@alsglobal.com>
Sent: Wednesday, 10 March 2021 2:21 PM

To: Hannah White <hannah.white@ALSGlobal.com>

Subject: RE: ES2108110 - EPRISK - EP1995- Chisholm CRS Due Diligence - Sample #026 (TP15_0.5)

Thanks Hannah,

So we are switching the NEPM screen from #26 to #25, but still no clay content?

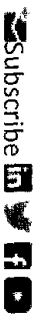
Kind Regards,

Helen Simpson

Sample Admin, Environmental
Sydney



T +61 2 8784 8555
F +61 2 8784 8500
helen.simpson@alsglobal.com
277-289 Woodpark Road
Smithfield NSW 2164 AUSTRALIA



Subscribe

From: Hannah White <hannah.white@ALSGlobal.com>

Sent: Wednesday, 10 March 2021 1:02 PM

To: Helen Simpson <helen.simpson@alsglobal.com>

Subject: RE: ES2108110 - EPRISK - EP1995- Chisholm CRS Due Diligence - Sample #026 (TP15_0.5)

Hi Helen,

Please see attached for Client's response.

Thank you

Regards,

Hannah White

Client Services Officer, Environmental
Melbourne



T +61 3 8549 9600 D +61 3 8549 9608
Hannah.White@ALSGlobal.com
2-4 Westall Rd
Springvale VIC 3171
AUSTRALIA

EnviroMail™ 127 – Bacterial Diversity Profiling in NGS
EnviroMail™ 128 – Revised PFAS Bottle Requirements
EnviroMail™ 123 Re-Release – Leaching Environmental Assessment Framework
EnviroMail™ 00 – All EnviroMails™ in one convenient library.



Holiday trading hours →
Stay safe this festive season.



See how ALS is making sampling easier! [Register](#) your interest.

Right Solutions · Right Partner
www.alsglobal.com

From: Helen Simpson <helen.simpson@alsglobal.com>
Sent: Wednesday, 10 March 2021 12:28 PM
To: Hannah White <hannah.white@alsglobal.com>
Subject: RE: ES2108110 - EPRISK - EP1995- Chisholm CRS Due Diligence - Sample #026 (TP15_0.5)

Newcastle confirmed NATA accreditation is not affected as long as they have enough volume.

Kind Regards,

Helen Simpson

Sample Admin, Environmental
Sydney



T +61 2 8784 8555
F +61 2 8784 8500
helen.simpson@alsglobal.com
277-289 Woodpark Road
Smithfield NSW 2164 AUSTRALIA



Subscribe

From: Helen Simpson

Sent: Wednesday, 10 March 2021 12:26 PM

To: Hannah White <hannah.white@alsglobal.com>

Subject: RE: ES2108110 - EPRISK - EP1995- Chisholm CRS Due Diligence - Sample #026 (TP15_0.5)

Hi Hannah,

COC attached.

Yes we can combine samples to test for PSD/clay content. I think it should still be NATA acc, but I'm double checking with Newcastle lab though.

Can you also check with Luke about the sample in attached photo. Log-in have assumed that this is sample TP10_0.1, but I'm thinking this is the missing ASS bag for sample ASS18 (#63 which was marked as not received). Please confirm.

Kind Regards,

Helen Simpson

Sample Admin, Environmental
Sydney



T +61 2 8784 8555
F +61 2 8784 8500
helen.simpson@alsglobal.com
277-289 Woodpark Road
Smithfield NSW 2164 AUSTRALIA

From: Hannah White <hannah.white@ALSGlobal.com>
Sent: Wednesday, 10 March 2021 11:34 AM
To: Helen Simpson <helen.simpson@alsglobal.com>
Cc: Wael Saleh <Wael.Saleh@alsglobal.com>
Subject: RE: ES2108110 - EPRISK - EPI1995- Chisholm CRS Due Diligence - Sample #026 (TP15_0.5)

Hi Helen,

If we can combine enough volume, would it potentially be possible to analyse clay content from a jar and meet compliance?

Could you please send me a copy of the COC? - I'll follow up with the client

Thank you

Regards,

Hannah White
Client Services Officer, Environmental
Melbourne



T +61 3 8549 9600 **D** +61 3 8549 9608
Hannah.White@ALSGlobal.com
2-4 Westall Rd
Springvale VIC 3171
AUSTRALIA

EnviroMail™ 127 – Bacterial Diversity Profiling in NGS
EnviroMail™ 128 – Revised PFAS Bottle Requirements
EnviroMail™ 123 Re-Release – Leaching Environmental Assessment Framework
EnviroMail™ 00 – All EnviroMails™ in one convenient library.



Holiday trading hours →
Stay safe this festive season.



See how ALS is making sampling easier! [Register](#) your interest.

Right Solutions · Right Partner
www.alsglobal.com


From: Helen Simpson <helen.simpson@alsglobal.com>
Sent: Wednesday, 10 March 2021 11:25 AM
To: Hannah White <hannah.white@alsglobal.com>
Cc: Wael Saleh <Wael.Saleh@alsglobal.com>
Subject: RE: ES2108110 - EPRISK - EP1995- Chisholm CRS Due Diligence - Sample #026 (TP15_0.5)

Yes this is correct. clay content requires a separate medium bag.

Are you also able to clarify with the client which test they require for "aggressivity", as analysis logged was a guess.

Kind Regards,

Helen Simpson
Sample Admin, Environmental
Sydney


T +61 2 8784 8555
F +61 2 8784 8500
helen.simpson@alsglobal.com
277-289 Woodpark Road
Smithfield NSW 2164 AUSTRALIA

Subscribe    

From: Fadi Soro <fadi.soro@alsglobal.com>
Sent: Wednesday, 10 March 2021 10:56 AM
To: Helen Simpson <helen.simpson@alsglobal.com>; Wael Saleh <Wael.Saleh@alsglobal.com>
Cc: Wanida Roberts <wanida.roberts@alsglobal.com>
Subject: FW: ES2108110 - EPRISK - EP1995- Chisholm CRS Due Diligence - Sample #026 (TP15_0.5)

Hey Team,

Can I leave this with you?

Regards

Fadi

From: Hannah White
Sent: Wednesday, 10 March 2021 10:51 AM
To: Samples Sydney <Samples.Sydney@alsglobal.com>
Cc: Wanida Roberts <wanida.roberts@alsglobal.com>; Fadi Soro <fadi.soro@alsglobal.com>
Subject: ES2108110 - EPRISK - EP1995- Chisholm CRS Due Diligence - Sample #026 (TP15_0.5)

Good Morning,

I've just received a call from Luke Kerry regarding the SRN he received for this batch.

I am unable to view the COC for this work order, but it sounds as if he requested a P-22 on this sample, however, due to only a 150ml jar being received for the sample, it appears PSD/Clay content was unable to be logged. Could you please confirm that this is a correct interpretation of the situation?

The client is looking to potentially combine sample volume from some of the on hold samples to test for clay content instead.

Thank you

Regards,

Hannah White
Client Services Officer, Environmental
Melbourne



I +61 3 8549 9600 D +61 3 8549 9608
Hannah.White@ALSglobal.com
2-4 Westall Rd
Springvale VIC 3171
AUSTRALIA

EnviroMail™ 127 – Bacterial Diversity Profiling in NGS
EnviroMail™ 128 – Revised PFAS Bottle Requirements
EnviroMail™ 123 Re-Release – Leaching Environmental Assessment Framework
EnviroMail™ 00 – All EnviroMails™ in one convenient library.



Holiday trading hours →
Stay safe this festive season.



See how ALS is making sampling easier! [Register](#) your interest.

Right Solutions · Right Partner
www.alsglobal.com

CERTIFICATE OF ANALYSIS

Work Order : **ES2108110**
Client : **EP Risk Management**
Contact : LUKE Kerry
Address : 3/19 BOLTON STREET
 NEWCASTLE NSW 2300
Telephone : ----
Project : Chisholm CRS Due Diligence
Order number : EP1995
C-O-C number : ----
Sampler : LUKE KERRY
Site : ----
Quote number : SY/497/20 Primary analysis only
No. of samples received : 88
No. of samples analysed : 61

Page : 1 of 35
Laboratory : Environmental Division Sydney
Contact : Hannah White
Address : 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone : +61-2-8784 8555
Date Samples Received : 08-Mar-2021 17:04
Date Analysis Commenced : 10-Mar-2021
Issue Date : 19-Mar-2021 19:23



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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Descriptive Results
- Surrogate Control Limits

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

Signatories

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

<i>Signatories</i>	<i>Position</i>	<i>Accreditation Category</i>
Alana Smylie	Asbestos Identifier	Newcastle - Asbestos, Mayfield West, NSW
Ankit Joshi	Inorganic Chemist	Sydney Inorganics, Smithfield, NSW
Ben Felgendrejeris	Senior Acid Sulfate Soil Chemist	Brisbane Acid Sulphate Soils, Stafford, QLD
Dian Dao	Senior Chemist - Inorganics	Sydney Inorganics, Smithfield, NSW
Edwandy Fadjar	Organic Coordinator	Sydney Inorganics, Smithfield, NSW
Edwandy Fadjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Evie Sidarta	Inorganic Chemist	Sydney Inorganics, Smithfield, NSW
Ivan Taylor	Analyst	Sydney Inorganics, 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.

- EP075 (SIM): Where reported, Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a,h)anthracene (1.0), Benzo(g,h,i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero.
- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a,h)anthracene (1.0), Benzo(g,h,i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero, for 'TEQ 1/2LOR' are treated as half the reported LOR, and for 'TEQ LOR' are treated as being equal to the reported LOR. Note: TEQ 1/2LOR and TEQ LOR will calculate as 0.6mg/Kg and 1.2mg/Kg respectively for samples with non-detects for all of the eight TEQ PAHs.
- EP080: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EP068: Where reported, Total Chlordane (sum) is the sum of the reported concentrations of cis-Chlordane and trans-Chlordane at or above the LOR.
- EP068: Where reported, Total OCP is the sum of the reported concentrations of all Organochlorine Pesticides at or above LOR.
- EP075(SIM): Where reported, Total Cresol is the sum of the reported concentrations of 2-Methylphenol and 3- & 4-Methylphenol at or above the LOR.
- EP080: Positive results for sample ES2108110_11 was confirmed by re-analysis.
- EP071: Results of sample TP06_0.1 have been confirmed by re-extraction and re-analysis.
- ASS: EA033 (CRS Suite): ANC not required because pH KCl less than 6.5
- EP080: The trip spike and its control have been analysed for volatile TPH and BTEXN only. The trip spike and control were prepared in the lab using reagent grade sand spiked with petrol. The spike was dispatched from the lab and the control retained.
- ASS: EA037 (Rapid Field and F(ox) screening): pH F(ox) Reaction Rate: 1 - Slight; 2 - Moderate; 3 - Strong; 4 - Extreme
- ASS: EA033 (CRS Suite): Liming rate is calculated and reported on a dry weight basis assuming use of fine agricultural lime (CaCO₃) and using a safety factor of 1.5 to allow for non-homogeneous mixing and poor reactivity of lime. For conversion of Liming Rate from 'kg/t dry weight' to 'kg/m³ in-situ soil', multiply 'reported results' x 'wet bulk density of soil in t/m³'.
- EA037 ASS Field Screening: NATA accreditation does not cover performance of this service.
- EA200N: Asbestos weights and percentages are not covered under the Scope of NATA Accreditation.
Weights of Asbestos are based on extracted bulk asbestos, fibre bundles, and/or ACM and do not include respirable fibres (if present)
The Asbestos (Fines and Fibrous) weight is calculated from the extracted Fibrous Asbestos and Asbestos Fines as an equivalent weight of 100% Asbestos
Percentages for Asbestos content in ACM are based on the 2013 NEPM default values.
All calculations of percentage Asbestos under this method are approximate and should be used as a guide only.
- EA200 'Am' Amosite (brown asbestos)
- EA200 'Cr' Crocidolite (blue asbestos)



- EA200 'Trace' - Asbestos fibres ("Free Fibres") detected by trace analysis per AS4964. The result can be interpreted that the sample contains detectable 'respirable' asbestos fibres
- EA200: Asbestos Identification Samples were analysed by Polarised Light Microscopy including dispersion staining.
- EA200 Legend
- EA200 'Ch' Chrysotile (white asbestos)
- EA200: 'UMF' Unknown Mineral Fibres. "-" indicates fibres detected may or may not be asbestos fibres. Confirmation by alternative techniques is recommended.
- EA200N: ALS laboratory procedures and methods used for the identification and quantitation of asbestos are consistent with AS4964-2004 and the requirements of the 2013 NEPM for Assessment of Site Contamination
- EA200: For samples larger than 30g, the <2mm fraction may be sub-sampled prior to trace analysis as outlined in ISO23909:2008(E) Sect 6.3.2-2
- ED007 and ED008: When Exchangeable Al is reported from these methods, it should be noted that Rayment & Lyons (2011) suggests Exchange Acidity by 1M KCl - Method 15G1 (ED005) is a more suitable method for the determination of exchange acidity (H⁺ + Al³⁺).
- EA200: 'Yes' - Asbestos detected by polarised light microscopy including dispersion staining.
- EA200: 'No*' - No asbestos found, at the reporting limit of 0.1g/kg, by polarised light microscopy including dispersion staining. Asbestos material was detected and positively identified at concentrations estimated to be below 0.1g/kg.
- EA200: 'No' - No asbestos found at the reporting limit 0.1g/kg, by polarised light microscopy including dispersion staining.



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TP01_0.1	TP03_0.5	TP06_0.1	TP08_0.1	TP10_0.1
Sampling date / time				08-Mar-2021 00:00	08-Mar-2021 00:00	08-Mar-2021 00:00	08-Mar-2021 00:00	08-Mar-2021 00:00	
Compound	CAS Number	LOR	Unit	ES2108110-001	ES2108110-006	ES2108110-011	ES2108110-015	ES2108110-019	
				Result	Result	Result	Result	Result	
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%	8.0	18.5	15.2	15.3	12.1	
EG005(ED093)T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg	6	6	12	6	7	
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1	
Chromium	7440-47-3	2	mg/kg	5	9	3	5	7	
Copper	7440-50-8	5	mg/kg	<5	13	16	8	11	
Lead	7439-92-1	5	mg/kg	16	12	15	25	15	
Nickel	7440-02-0	2	mg/kg	<2	2	4	3	3	
Zinc	7440-66-6	5	mg/kg	17	16	33	26	25	
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	
EP066: Polychlorinated Biphenyls (PCB)									
Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	----	<0.1	----	<0.1	
EP068A: Organochlorine Pesticides (OC)									
alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
^ Total Chlordane (sum)	----	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
4,4'-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
^ Endosulfan (sum)	115-29-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
4,4'-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TP01_0.1	TP03_0.5	TP06_0.1	TP08_0.1	TP10_0.1
Sampling date / time				08-Mar-2021 00:00	08-Mar-2021 00:00	08-Mar-2021 00:00	08-Mar-2021 00:00	08-Mar-2021 00:00	
Compound	CAS Number	LOR	Unit	ES2108110-001	ES2108110-006	ES2108110-011	ES2108110-015	ES2108110-019	
				Result	Result	Result	Result	Result	
EP068A: Organochlorine Pesticides (OC) - Continued									
4,4'-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2	
Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2	
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/5 0-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
EP068B: Organophosphorus Pesticides (OP)									
Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2	
Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2	
Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2	
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg	<0.5	----	<0.5	----	<0.5	
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	----	<0.5	----	<0.5	
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	----	<0.5	----	<0.5	
Fluorene	86-73-7	0.5	mg/kg	<0.5	----	<0.5	----	<0.5	
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	----	<0.5	----	<0.5	
Anthracene	120-12-7	0.5	mg/kg	<0.5	----	<0.5	----	<0.5	
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	----	<0.5	----	<0.5	
Pyrene	129-00-0	0.5	mg/kg	<0.5	----	<0.5	----	<0.5	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TP01_0.1	TP03_0.5	TP06_0.1	TP08_0.1	TP10_0.1
Sampling date / time				08-Mar-2021 00:00	08-Mar-2021 00:00	08-Mar-2021 00:00	08-Mar-2021 00:00	08-Mar-2021 00:00	
Compound	CAS Number	LOR	Unit	ES2108110-001	ES2108110-006	ES2108110-011	ES2108110-015	ES2108110-019	
				Result	Result	Result	Result	Result	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	----	<0.5	----	<0.5	
Chrysene	218-01-9	0.5	mg/kg	<0.5	----	<0.5	----	<0.5	
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	----	<0.5	----	<0.5	
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	----	<0.5	----	<0.5	
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	----	<0.5	----	<0.5	
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	----	<0.5	----	<0.5	
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	----	<0.5	----	<0.5	
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	----	<0.5	----	<0.5	
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	----	<0.5	----	<0.5	
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	----	<0.5	----	<0.5	
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	0.6	----	0.6	----	0.6	
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	1.2	----	1.2	----	1.2	
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg	<10	----	13	----	<10	
C10 - C14 Fraction	----	50	mg/kg	<50	----	100	----	<50	
C15 - C28 Fraction	----	100	mg/kg	<100	----	770	----	<100	
C29 - C36 Fraction	----	100	mg/kg	<100	----	320	----	<100	
^ C10 - C36 Fraction (sum)	----	50	mg/kg	<50	----	1190	----	<50	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg	<10	----	20	----	<10	
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	<10	----	20	----	<10	
>C10 - C16 Fraction	----	50	mg/kg	<50	----	160	----	<50	
>C16 - C34 Fraction	----	100	mg/kg	<100	----	940	----	120	
>C34 - C40 Fraction	----	100	mg/kg	<100	----	180	----	<100	
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	----	1280	----	120	
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	<50	----	160	----	<50	
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg	<0.2	----	<0.2	----	<0.2	
Toluene	108-88-3	0.5	mg/kg	<0.5	----	<0.5	----	<0.5	
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	----	<0.5	----	<0.5	
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	----	<0.5	----	<0.5	
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	----	<0.5	----	<0.5	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TP01_0.1	TP03_0.5	TP06_0.1	TP08_0.1	TP10_0.1
Sampling date / time				08-Mar-2021 00:00	08-Mar-2021 00:00	08-Mar-2021 00:00	08-Mar-2021 00:00	08-Mar-2021 00:00	
Compound	CAS Number	LOR	Unit	ES2108110-001	ES2108110-006	ES2108110-011	ES2108110-015	ES2108110-019	
				Result	Result	Result	Result	Result	
EP080: BTEXN - Continued									
^ Sum of BTEX	----	0.2	mg/kg	<0.2	----	<0.2	----	<0.2	
^ Total Xylenes	----	0.5	mg/kg	<0.5	----	<0.5	----	<0.5	
Naphthalene	91-20-3	1	mg/kg	<1	----	<1	----	<1	
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%	77.0	----	77.5	----	71.1	
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%	95.1	103	89.9	86.6	107	
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%	106	108	138	110	128	
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%	88.6	----	93.8	----	93.5	
2-Chlorophenol-D4	93951-73-6	0.5	%	93.7	----	86.1	----	93.5	
2,4,6-Tribromophenol	118-79-6	0.5	%	89.3	----	69.8	----	90.6	
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%	103	----	91.1	----	102	
Anthracene-d10	1719-06-8	0.5	%	99.5	----	99.3	----	98.6	
4-Terphenyl-d14	1718-51-0	0.5	%	93.4	----	105	----	94.3	
EP080S: TPH(V)/BTEX Surrogates									
1,2-Dichloroethane-D4	17060-07-0	0.2	%	114	----	109	----	126	
Toluene-D8	2037-26-5	0.2	%	104	----	93.9	----	115	
4-Bromofluorobenzene	460-00-4	0.2	%	114	----	96.5	----	124	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TP11_0.5	TP13_0.1	TP15_0.1	TP16_0.1	TP17_0.1
Sampling date / time				08-Mar-2021 00:00	08-Mar-2021 00:00	08-Mar-2021 00:00	08-Mar-2021 00:00	08-Mar-2021 00:00	
Compound	CAS Number	LOR	Unit	ES2108110-022	ES2108110-024	ES2108110-025	ES2108110-027	ES2108110-028	
				Result	Result	Result	Result	Result	
EA001: pH in soil using 0.01M CaCl extract									
pH (CaCl2)	----	0.1	pH Unit	----	----	3.9	----	----	
EA002: pH 1:5 (Soils)									
pH Value	----	0.1	pH Unit	----	----	4.8	----	----	
EA010: Conductivity (1:5)									
Electrical Conductivity @ 25°C	----	1	µS/cm	----	----	116	----	----	
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	0.1	%	----	----	16.1	----	----	
Moisture Content	----	1.0	%	16.4	15.7	----	9.0	15.8	
ED007: Exchangeable Cations									
Exchangeable Calcium	----	0.1	meq/100g	----	----	2.2	----	----	
Exchangeable Magnesium	----	0.1	meq/100g	----	----	8.5	----	----	
Exchangeable Potassium	----	0.1	meq/100g	----	----	0.7	----	----	
Exchangeable Sodium	----	0.1	meq/100g	----	----	1.5	----	----	
Cation Exchange Capacity	----	0.1	meq/100g	----	----	12.9	----	----	
Exchangeable Sodium Percent	----	0.1	%	----	----	11.6	----	----	
EG005(ED093)T: Total Metals by ICP-AES									
Iron	7439-89-6	0.005	%	----	----	1.97	----	----	
Arsenic	7440-38-2	5	mg/kg	10	12	----	----	10	
Cadmium	7440-43-9	1	mg/kg	<1	<1	----	----	<1	
Chromium	7440-47-3	2	mg/kg	12	6	----	----	7	
Copper	7440-50-8	5	mg/kg	19	8	----	----	9	
Lead	7439-92-1	5	mg/kg	18	21	----	----	12	
Nickel	7440-02-0	2	mg/kg	4	4	----	----	3	
Zinc	7440-66-6	5	mg/kg	30	33	----	----	17	
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	----	----	<0.1	
EP004: Organic Matter									
Organic Matter	----	0.5	%	----	----	1.0	----	----	
Total Organic Carbon	----	0.5	%	----	----	0.6	----	----	
EP066: Polychlorinated Biphenyls (PCB)									
Total Polychlorinated biphenyls	----	0.1	mg/kg	----	----	----	<0.1	----	
EP068A: Organochlorine Pesticides (OC)									
alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	----	----	<0.05	
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	----	----	<0.05	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TP11_0.5	TP13_0.1	TP15_0.1	TP16_0.1	TP17_0.1
Sampling date / time				08-Mar-2021 00:00	08-Mar-2021 00:00	08-Mar-2021 00:00	08-Mar-2021 00:00	08-Mar-2021 00:00	
Compound	CAS Number	LOR	Unit	ES2108110-022	ES2108110-024	ES2108110-025	ES2108110-027	ES2108110-028	
				Result	Result	Result	Result	Result	
EP068A: Organochlorine Pesticides (OC) - Continued									
beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	----	----	<0.05	
gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	----	----	<0.05	
delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	----	----	<0.05	
Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	----	----	<0.05	
Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	----	----	<0.05	
Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	----	----	<0.05	
^ Total Chlordane (sum)	----	0.05	mg/kg	<0.05	<0.05	----	----	<0.05	
trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	----	----	<0.05	
alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	----	----	<0.05	
cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	----	----	<0.05	
Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	----	----	<0.05	
4,4'-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	----	----	<0.05	
Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	----	----	<0.05	
beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	----	----	<0.05	
^ Endosulfan (sum)	115-29-7	0.05	mg/kg	<0.05	<0.05	----	----	<0.05	
4,4'-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	----	----	<0.05	
Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	----	----	<0.05	
Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	----	----	<0.05	
4,4'-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	----	----	<0.2	
Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	----	----	<0.05	
Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	----	----	<0.2	
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	<0.05	<0.05	----	----	<0.05	
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.05	mg/kg	<0.05	<0.05	----	----	<0.05	
EP068B: Organophosphorus Pesticides (OP)									
Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	----	----	<0.05	
Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	----	----	<0.05	
Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	----	----	<0.2	
Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	----	----	<0.05	
Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	----	----	<0.05	
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	----	----	<0.05	
Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	----	----	<0.2	
Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	----	----	<0.05	
Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	----	----	<0.05	
Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	----	----	<0.05	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TP11_0.5	TP13_0.1	TP15_0.1	TP16_0.1	TP17_0.1
Sampling date / time				08-Mar-2021 00:00	08-Mar-2021 00:00	08-Mar-2021 00:00	08-Mar-2021 00:00	08-Mar-2021 00:00	
Compound	CAS Number	LOR	Unit	ES2108110-022	ES2108110-024	ES2108110-025	ES2108110-027	ES2108110-028	
				Result	Result	Result	Result	Result	
EP068B: Organophosphorus Pesticides (OP) - Continued									
Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	----	----	<0.2	
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	----	----	<0.05	
Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	----	----	<0.05	
Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	----	----	<0.05	
Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	----	----	<0.05	
Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	----	----	<0.05	
Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	----	----	<0.05	
Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	----	----	<0.05	
Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	----	----	<0.05	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg	----	----	----	<0.5	----	
Acenaphthylene	208-96-8	0.5	mg/kg	----	----	----	<0.5	----	
Acenaphthene	83-32-9	0.5	mg/kg	----	----	----	<0.5	----	
Fluorene	86-73-7	0.5	mg/kg	----	----	----	<0.5	----	
Phenanthrene	85-01-8	0.5	mg/kg	----	----	----	<0.5	----	
Anthracene	120-12-7	0.5	mg/kg	----	----	----	<0.5	----	
Fluoranthene	206-44-0	0.5	mg/kg	----	----	----	<0.5	----	
Pyrene	129-00-0	0.5	mg/kg	----	----	----	<0.5	----	
Benz(a)anthracene	56-55-3	0.5	mg/kg	----	----	----	<0.5	----	
Chrysene	218-01-9	0.5	mg/kg	----	----	----	<0.5	----	
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	----	----	----	<0.5	----	
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	----	----	----	<0.5	----	
Benzo(a)pyrene	50-32-8	0.5	mg/kg	----	----	----	<0.5	----	
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	----	----	----	<0.5	----	
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	----	----	----	<0.5	----	
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	----	----	----	<0.5	----	
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	----	----	----	<0.5	----	
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	----	----	----	<0.5	----	
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	----	----	----	0.6	----	
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	----	----	----	1.2	----	
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg	----	----	----	<10	----	
C10 - C14 Fraction	----	50	mg/kg	----	----	----	<50	----	
C15 - C28 Fraction	----	100	mg/kg	----	----	----	<100	----	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TP11_0.5	TP13_0.1	TP15_0.1	TP16_0.1	TP17_0.1
Sampling date / time				08-Mar-2021 00:00	08-Mar-2021 00:00	08-Mar-2021 00:00	08-Mar-2021 00:00	08-Mar-2021 00:00	
Compound	CAS Number	LOR	Unit	ES2108110-022	ES2108110-024	ES2108110-025	ES2108110-027	ES2108110-028	
				Result	Result	Result	Result	Result	
EP080/071: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	100	mg/kg	----	----	----	<100	----	
^ C10 - C36 Fraction (sum)	----	50	mg/kg	----	----	----	<50	----	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg	----	----	----	<10	----	
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	----	----	----	<10	----	
>C10 - C16 Fraction	----	50	mg/kg	----	----	----	<50	----	
>C16 - C34 Fraction	----	100	mg/kg	----	----	----	<100	----	
>C34 - C40 Fraction	----	100	mg/kg	----	----	----	<100	----	
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	----	----	----	<50	----	
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	----	----	----	<50	----	
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg	----	----	----	<0.2	----	
Toluene	108-88-3	0.5	mg/kg	----	----	----	<0.5	----	
Ethylbenzene	100-41-4	0.5	mg/kg	----	----	----	<0.5	----	
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	----	----	----	<0.5	----	
ortho-Xylene	95-47-6	0.5	mg/kg	----	----	----	<0.5	----	
^ Sum of BTEX	----	0.2	mg/kg	----	----	----	<0.2	----	
^ Total Xylenes	----	0.5	mg/kg	----	----	----	<0.5	----	
Naphthalene	91-20-3	1	mg/kg	----	----	----	<1	----	
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%	----	----	----	71.9	----	
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%	98.2	88.4	----	----	102	
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%	102	102	----	----	120	
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%	----	----	----	89.8	----	
2-Chlorophenol-D4	93951-73-6	0.5	%	----	----	----	88.6	----	
2,4,6-Tribromophenol	118-79-6	0.5	%	----	----	----	84.0	----	
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%	----	----	----	96.1	----	
Anthracene-d10	1719-06-8	0.5	%	----	----	----	95.4	----	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TP11_0.5	TP13_0.1	TP15_0.1	TP16_0.1	TP17_0.1
Sampling date / time				08-Mar-2021 00:00	08-Mar-2021 00:00	08-Mar-2021 00:00	08-Mar-2021 00:00	08-Mar-2021 00:00	
Compound	CAS Number	LOR	Unit	ES2108110-022	ES2108110-024	ES2108110-025	ES2108110-027	ES2108110-028	
				Result	Result	Result	Result	Result	
EP075(SIM)T: PAH Surrogates - Continued									
4-Terphenyl-d14	1718-51-0	0.5	%	----	----	----	95.0	----	
EP080S: TPH(V)/BTEX Surrogates									
1,2-Dichloroethane-D4	17060-07-0	0.2	%	----	----	----	120	----	
Toluene-D8	2037-26-5	0.2	%	----	----	----	109	----	
4-Bromofluorobenzene	460-00-4	0.2	%	----	----	----	116	----	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TP20_0.1	TP24_0.1	TP26_0.5	TP04_AGG	TP07_AGG
Sampling date / time				08-Mar-2021 00:00	08-Mar-2021 00:00	08-Mar-2021 00:00	08-Mar-2021 00:00	08-Mar-2021 00:00	
Compound	CAS Number	LOR	Unit	ES2108110-031	ES2108110-035	ES2108110-037	ES2108110-040	ES2108110-041	
				Result	Result	Result	Result	Result	
EA002: pH 1:5 (Soils)									
pH Value	----	0.1	pH Unit	----	----	----	4.4	4.5	
EA010: Conductivity (1:5)									
Electrical Conductivity @ 25°C	----	1	µS/cm	----	----	----	571	784	
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%	18.2	9.8	15.0	16.8	25.0	
ED040S : Soluble Sulfate by ICPAES									
Sulfate as SO4 2-	14808-79-8	10	mg/kg	----	----	----	240	400	
ED045G: Chloride by Discrete Analyser									
Chloride	16887-00-6	10	mg/kg	----	----	----	760	940	
EG005(ED093)T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg	12	----	<5	----	----	
Cadmium	7440-43-9	1	mg/kg	<1	----	<1	----	----	
Chromium	7440-47-3	2	mg/kg	9	----	13	----	----	
Copper	7440-50-8	5	mg/kg	13	----	11	----	----	
Lead	7439-92-1	5	mg/kg	15	----	30	----	----	
Nickel	7440-02-0	2	mg/kg	4	----	4	----	----	
Zinc	7440-66-6	5	mg/kg	18	----	21	----	----	
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg	<0.1	----	<0.1	----	----	
EP066: Polychlorinated Biphenyls (PCB)									
Total Polychlorinated biphenyls	----	0.1	mg/kg	----	<0.1	----	----	----	
EP068A: Organochlorine Pesticides (OC)									
alpha-BHC	319-84-6	0.05	mg/kg	<0.05	----	<0.05	----	----	
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	----	<0.05	----	----	
beta-BHC	319-85-7	0.05	mg/kg	<0.05	----	<0.05	----	----	
gamma-BHC	58-89-9	0.05	mg/kg	<0.05	----	<0.05	----	----	
delta-BHC	319-86-8	0.05	mg/kg	<0.05	----	<0.05	----	----	
Heptachlor	76-44-8	0.05	mg/kg	<0.05	----	<0.05	----	----	
Aldrin	309-00-2	0.05	mg/kg	<0.05	----	<0.05	----	----	
Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	----	<0.05	----	----	
^ Total Chlordane (sum)	----	0.05	mg/kg	<0.05	----	<0.05	----	----	
trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	----	<0.05	----	----	
alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	----	<0.05	----	----	
cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	----	<0.05	----	----	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TP20_0.1	TP24_0.1	TP26_0.5	TP04_AGG	TP07_AGG
Sampling date / time				08-Mar-2021 00:00	08-Mar-2021 00:00	08-Mar-2021 00:00	08-Mar-2021 00:00	08-Mar-2021 00:00	
Compound	CAS Number	LOR	Unit	ES2108110-031	ES2108110-035	ES2108110-037	ES2108110-040	ES2108110-041	
				Result	Result	Result	Result	Result	
EP068A: Organochlorine Pesticides (OC) - Continued									
Dieldrin	60-57-1	0.05	mg/kg	<0.05	----	<0.05	----	----	
4.4'-DDE	72-55-9	0.05	mg/kg	<0.05	----	<0.05	----	----	
Endrin	72-20-8	0.05	mg/kg	<0.05	----	<0.05	----	----	
beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	----	<0.05	----	----	
^ Endosulfan (sum)	115-29-7	0.05	mg/kg	<0.05	----	<0.05	----	----	
4.4'-DDD	72-54-8	0.05	mg/kg	<0.05	----	<0.05	----	----	
Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	----	<0.05	----	----	
Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	----	<0.05	----	----	
4.4'-DDT	50-29-3	0.2	mg/kg	<0.2	----	<0.2	----	----	
Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	----	<0.05	----	----	
Methoxychlor	72-43-5	0.2	mg/kg	<0.2	----	<0.2	----	----	
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	<0.05	----	<0.05	----	----	
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.05	mg/kg	<0.05	----	<0.05	----	----	
EP068B: Organophosphorus Pesticides (OP)									
Dichlorvos	62-73-7	0.05	mg/kg	<0.05	----	<0.05	----	----	
Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	----	<0.05	----	----	
Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	----	<0.2	----	----	
Dimethoate	60-51-5	0.05	mg/kg	<0.05	----	<0.05	----	----	
Diazinon	333-41-5	0.05	mg/kg	<0.05	----	<0.05	----	----	
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	----	<0.05	----	----	
Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	----	<0.2	----	----	
Malathion	121-75-5	0.05	mg/kg	<0.05	----	<0.05	----	----	
Fenthion	55-38-9	0.05	mg/kg	<0.05	----	<0.05	----	----	
Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	----	<0.05	----	----	
Parathion	56-38-2	0.2	mg/kg	<0.2	----	<0.2	----	----	
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	----	<0.05	----	----	
Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	----	<0.05	----	----	
Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	----	<0.05	----	----	
Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	----	<0.05	----	----	
Prothiofos	34643-46-4	0.05	mg/kg	<0.05	----	<0.05	----	----	
Ethion	563-12-2	0.05	mg/kg	<0.05	----	<0.05	----	----	
Carbophenothion	786-19-6	0.05	mg/kg	<0.05	----	<0.05	----	----	
Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	----	<0.05	----	----	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TP20_0.1	TP24_0.1	TP26_0.5	TP04_AGG	TP07_AGG
Sampling date / time				08-Mar-2021 00:00	08-Mar-2021 00:00	08-Mar-2021 00:00	08-Mar-2021 00:00	08-Mar-2021 00:00	
Compound	CAS Number	LOR	Unit	ES2108110-031	ES2108110-035	ES2108110-037	ES2108110-040	ES2108110-041	
				Result	Result	Result	Result	Result	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Naphthalene	91-20-3	0.5	mg/kg	----	<0.5	----	----	----	
Acenaphthylene	208-96-8	0.5	mg/kg	----	<0.5	----	----	----	
Acenaphthene	83-32-9	0.5	mg/kg	----	<0.5	----	----	----	
Fluorene	86-73-7	0.5	mg/kg	----	<0.5	----	----	----	
Phenanthrene	85-01-8	0.5	mg/kg	----	<0.5	----	----	----	
Anthracene	120-12-7	0.5	mg/kg	----	<0.5	----	----	----	
Fluoranthene	206-44-0	0.5	mg/kg	----	<0.5	----	----	----	
Pyrene	129-00-0	0.5	mg/kg	----	<0.5	----	----	----	
Benzo(a)anthracene	56-55-3	0.5	mg/kg	----	<0.5	----	----	----	
Chrysene	218-01-9	0.5	mg/kg	----	<0.5	----	----	----	
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	----	<0.5	----	----	----	
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	----	<0.5	----	----	----	
Benzo(a)pyrene	50-32-8	0.5	mg/kg	----	<0.5	----	----	----	
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	----	<0.5	----	----	----	
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	----	<0.5	----	----	----	
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	----	<0.5	----	----	----	
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	----	<0.5	----	----	----	
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	----	<0.5	----	----	----	
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	----	0.6	----	----	----	
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	----	1.2	----	----	----	
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg	----	<10	----	----	----	
C10 - C14 Fraction	----	50	mg/kg	----	<50	----	----	----	
C15 - C28 Fraction	----	100	mg/kg	----	<100	----	----	----	
C29 - C36 Fraction	----	100	mg/kg	----	100	----	----	----	
^ C10 - C36 Fraction (sum)	----	50	mg/kg	----	100	----	----	----	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg	----	<10	----	----	----	
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	----	<10	----	----	----	
>C10 - C16 Fraction	----	50	mg/kg	----	<50	----	----	----	
>C16 - C34 Fraction	----	100	mg/kg	----	130	----	----	----	
>C34 - C40 Fraction	----	100	mg/kg	----	<100	----	----	----	
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	----	130	----	----	----	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TP20_0.1	TP24_0.1	TP26_0.5	TP04_AGG	TP07_AGG	
Sampling date / time				08-Mar-2021 00:00	08-Mar-2021 00:00	08-Mar-2021 00:00	08-Mar-2021 00:00	08-Mar-2021 00:00		
Compound	CAS Number	LOR	Unit	ES2108110-031	ES2108110-035	ES2108110-037	ES2108110-040	ES2108110-041		
				Result	Result	Result	Result	Result		
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued										
^ >C10 - C16 Fraction minus Naphthalene (F2)				----	50	mg/kg	----	<50	----	----
EP080: BTEXN										
Benzene	71-43-2	0.2	mg/kg	----	<0.2	----	----	----	----	
Toluene	108-88-3	0.5	mg/kg	----	<0.5	----	----	----	----	
Ethylbenzene	100-41-4	0.5	mg/kg	----	<0.5	----	----	----	----	
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	----	<0.5	----	----	----	----	
ortho-Xylene	95-47-6	0.5	mg/kg	----	<0.5	----	----	----	----	
^ Sum of BTEX				----	0.2	mg/kg	----	<0.2	----	----
^ Total Xylenes				----	0.5	mg/kg	----	<0.5	----	----
Naphthalene	91-20-3	1	mg/kg	----	<1	----	----	----	----	
EP066S: PCB Surrogate										
Decachlorobiphenyl	2051-24-3	0.1	%	----	72.3	----	----	----	----	
EP068S: Organochlorine Pesticide Surrogate										
Dibromo-DDE	21655-73-2	0.05	%	95.8	----	97.2	----	----	----	
EP068T: Organophosphorus Pesticide Surrogate										
DEF	78-48-8	0.05	%	97.8	----	78.2	----	----	----	
EP075(SIM)S: Phenolic Compound Surrogates										
Phenol-d6	13127-88-3	0.5	%	----	94.9	----	----	----	----	
2-Chlorophenol-D4	93951-73-6	0.5	%	----	91.3	----	----	----	----	
2,4,6-Tribromophenol	118-79-6	0.5	%	----	89.3	----	----	----	----	
EP075(SIM)T: PAH Surrogates										
2-Fluorobiphenyl	321-60-8	0.5	%	----	100	----	----	----	----	
Anthracene-d10	1719-06-8	0.5	%	----	99.7	----	----	----	----	
4-Terphenyl-d14	1718-51-0	0.5	%	----	92.5	----	----	----	----	
EP080S: TPH(V)/BTEX Surrogates										
1,2-Dichloroethane-D4	17060-07-0	0.2	%	----	131	----	----	----	----	
Toluene-D8	2037-26-5	0.2	%	----	124	----	----	----	----	
4-Bromofluorobenzene	460-00-4	0.2	%	----	129	----	----	----	----	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)		Sample ID		TP23_AGG	TP05_ASB	TP17_ASB	TP24_ASB	ASS01
		Sampling date / time		08-Mar-2021 00:00	08-Mar-2021 00:00	08-Mar-2021 00:00	08-Mar-2021 00:00	08-Mar-2021 00:00
Compound	CAS Number	LOR	Unit	ES2108110-042	ES2108110-043	ES2108110-044	ES2108110-045	ES2108110-046
				Result	Result	Result	Result	Result
EA002: pH 1:5 (Soils)								
pH Value	----	0.1	pH Unit	4.6	----	----	----	----
EA010: Conductivity (1:5)								
Electrical Conductivity @ 25°C	----	1	µS/cm	669	----	----	----	----
EA037: Ass Field Screening Analysis								
∅ pH (F)	----	0.1	pH Unit	----	----	----	----	4.8
∅ pH (Fox)	----	0.1	pH Unit	----	----	----	----	3.4
∅ Reaction Rate	----	1	-	----	----	----	----	2
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	16.1	----	----	----	----
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	----	No	No	No	----
Asbestos Type	1332-21-4	-	--	----	-	-	-	----
Asbestos (Trace)	1332-21-4	5	Fibres	----	No	No	No	----
Sample weight (dry)	----	0.01	g	----	499	446	518	----
Synthetic Mineral Fibre	----	0.1	g/kg	----	No	No	No	----
Organic Fibre	----	0.1	g/kg	----	No	No	No	----
APPROVED IDENTIFIER:	----	-	--	----	A. SMYLIE	A. SMYLIE	A. SMYLIE	----
EA200N: Asbestos Quantification (non-NATA)								
∅ Asbestos (Fines and Fibrous <7mm)	1332-21-4	0.0004	g	----	<0.0004	<0.0004	<0.0004	----
∅ Asbestos (Fines and Fibrous FA+AF)	----	0.001	% (w/w)	----	<0.001	<0.001	<0.001	----
∅ Asbestos Containing Material	1332-21-4	0.1	g	----	<0.1	<0.1	<0.1	----
∅ Asbestos Containing Material (as 15% Asbestos in ACM >7mm)	1332-21-4	0.01	% (w/w)	----	<0.01	<0.01	<0.01	----
∅ Weight Used for % Calculation	----	0.0001	kg	----	0.499	0.446	0.518	----
∅ Fibrous Asbestos >7mm	----	0.0004	g	----	<0.0004	<0.0004	<0.0004	----
ED040S : Soluble Sulfate by ICPAES								
Sulfate as SO4 2-	14808-79-8	10	mg/kg	390	----	----	----	----
ED045G: Chloride by Discrete Analyser								
Chloride	16887-00-6	10	mg/kg	920	----	----	----	----



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	ASS02	ASS03	ASS04	ASS05	ASS06
Sampling date / time				08-Mar-2021 00:00	08-Mar-2021 00:00	08-Mar-2021 00:00	08-Mar-2021 00:00	08-Mar-2021 00:00	
Compound	CAS Number	LOR	Unit	ES2108110-047	ES2108110-048	ES2108110-049	ES2108110-050	ES2108110-051	
				Result	Result	Result	Result	Result	
EA033-A: Actual Acidity									
pH KCl (23A)	----	0.1	pH Unit	----	----	----	3.8	----	
Titrateable Actual Acidity (23F)	----	2	mole H+ / t	----	----	----	88	----	
sulfidic - Titrateable Actual Acidity (s-23F)	----	0.02	% pyrite S	----	----	----	0.14	----	
EA033-B: Potential Acidity									
Chromium Reducible Sulfur (22B)	----	0.005	% S	----	----	----	0.015	----	
acidity - Chromium Reducible Sulfur (a-22B)	----	10	mole H+ / t	----	----	----	<10	----	
EA033-D: Retained Acidity									
KCl Extractable Sulfur (23Ce)	----	0.02	% S	----	----	----	0.03	----	
HCl Extractable Sulfur (20Be)	----	0.02	% S	----	----	----	0.03	----	
Net Acid Soluble Sulfur (20Je)	----	0.02	% S	----	----	----	0.04	----	
acidity - Net Acid Soluble Sulfur (a-20J)	----	10	mole H+ / t	----	----	----	18	----	
sulfidic - Net Acid Soluble Sulfur (s-20J)	----	0.02	% pyrite S	----	----	----	0.03	----	
EA033-E: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-	----	----	----	1.5	----	
Net Acidity (sulfur units)	----	0.02	% S	----	----	----	0.18	----	
Net Acidity (acidity units)	----	10	mole H+ / t	----	----	----	116	----	
Liming Rate	----	1	kg CaCO3/t	----	----	----	9	----	
Net Acidity excluding ANC (sulfur units)	----	0.02	% S	----	----	----	0.18	----	
Net Acidity excluding ANC (acidity units)	----	10	mole H+ / t	----	----	----	116	----	
Liming Rate excluding ANC	----	1	kg CaCO3/t	----	----	----	9	----	
EA037: Ass Field Screening Analysis									
∅ pH (F)	----	0.1	pH Unit	5.6	4.8	5.1	4.6	5.4	
∅ pH (Fox)	----	0.1	pH Unit	2.9	3.4	3.2	3.4	2.6	
∅ Reaction Rate	----	1	-	3	3	3	2	3	



Analytical Results

Sub-Matrix: SOIL
 (Matrix: SOIL)

Sample ID

				ASS07	ASS08	ASS09	ASS10	ASS11
				08-Mar-2021 00:00	08-Mar-2021 00:00	08-Mar-2021 00:00	08-Mar-2021 00:00	08-Mar-2021 00:00
Compound	CAS Number	LOR	Unit	ES2108110-052	ES2108110-053	ES2108110-054	ES2108110-055	ES2108110-056
				Result	Result	Result	Result	Result
EA037: Ass Field Screening Analysis								
∅ pH (F)	----	0.1	pH Unit	4.6	4.7	4.9	5.0	4.5
∅ pH (Fox)	----	0.1	pH Unit	3.3	1.8	3.4	2.2	2.9
∅ Reaction Rate	----	1	-	2	4	2	3	3



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	ASS12	ASS13	ASS14	ASS15	ASS16
Sampling date / time				08-Mar-2021 00:00	08-Mar-2021 00:00	08-Mar-2021 00:00	08-Mar-2021 00:00	08-Mar-2021 00:00	
Compound	CAS Number	LOR	Unit	ES2108110-057	ES2108110-058	ES2108110-059	ES2108110-060	ES2108110-061	
				Result	Result	Result	Result	Result	
EA033-A: Actual Acidity									
pH KCl (23A)	----	0.1	pH Unit	----	4.1	----	----	----	
Titrateable Actual Acidity (23F)	----	2	mole H+ / t	----	59	----	----	----	
sulfidic - Titrateable Actual Acidity (s-23F)	----	0.02	% pyrite S	----	0.09	----	----	----	
EA033-B: Potential Acidity									
Chromium Reducible Sulfur (22B)	----	0.005	% S	----	0.012	----	----	----	
acidity - Chromium Reducible Sulfur (a-22B)	----	10	mole H+ / t	----	<10	----	----	----	
EA033-D: Retained Acidity									
KCl Extractable Sulfur (23Ce)	----	0.02	% S	----	0.02	----	----	----	
HCl Extractable Sulfur (20Be)	----	0.02	% S	----	0.04	----	----	----	
Net Acid Soluble Sulfur (20Je)	----	0.02	% S	----	0.04	----	----	----	
acidity - Net Acid Soluble Sulfur (a-20J)	----	10	mole H+ / t	----	21	----	----	----	
sulfidic - Net Acid Soluble Sulfur (s-20J)	----	0.02	% pyrite S	----	0.03	----	----	----	
EA033-E: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-	----	1.5	----	----	----	
Net Acidity (sulfur units)	----	0.02	% S	----	0.14	----	----	----	
Net Acidity (acidity units)	----	10	mole H+ / t	----	88	----	----	----	
Liming Rate	----	1	kg CaCO3/t	----	6	----	----	----	
Net Acidity excluding ANC (sulfur units)	----	0.02	% S	----	0.14	----	----	----	
Net Acidity excluding ANC (acidity units)	----	10	mole H+ / t	----	88	----	----	----	
Liming Rate excluding ANC	----	1	kg CaCO3/t	----	6	----	----	----	
EA037: Ass Field Screening Analysis									
∅ pH (F)	----	0.1	pH Unit	4.9	4.6	5.4	4.9	5.4	
∅ pH (Fox)	----	0.1	pH Unit	1.9	3.3	2.9	3.2	2.9	
∅ Reaction Rate	----	1	-	4	3	3	3	3	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	ASS17	ASS19	ASS20	ASS21	ASS22
				Sampling date / time	08-Mar-2021 00:00	08-Mar-2021 00:00	08-Mar-2021 00:00	08-Mar-2021 00:00	08-Mar-2021 00:00
Compound	CAS Number	LOR	Unit		ES2108110-062	ES2108110-064	ES2108110-065	ES2108110-066	ES2108110-067
					Result	Result	Result	Result	Result
EA037: Ass Field Screening Analysis									
ø pH (F)	----	0.1	pH Unit		4.6	4.6	5.3	4.6	4.9
ø pH (Fox)	----	0.1	pH Unit		3.3	3.3	2.5	3.0	2.8
ø Reaction Rate	----	1	-		3	3	3	3	3



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	ASS23	ASS24	ASS25	ASS26	ASS27
Sampling date / time				08-Mar-2021 00:00	08-Mar-2021 00:00	08-Mar-2021 00:00	08-Mar-2021 00:00	08-Mar-2021 00:00	
Compound	CAS Number	LOR	Unit	ES2108110-068	ES2108110-069	ES2108110-070	ES2108110-071	ES2108110-072	
				Result	Result	Result	Result	Result	
EA033-A: Actual Acidity									
pH KCl (23A)	----	0.1	pH Unit	----	4.3	----	----	----	
Titrateable Actual Acidity (23F)	----	2	mole H+ / t	----	54	----	----	----	
sulfidic - Titrateable Actual Acidity (s-23F)	----	0.02	% pyrite S	----	0.09	----	----	----	
EA033-B: Potential Acidity									
Chromium Reducible Sulfur (22B)	----	0.005	% S	----	0.022	----	----	----	
acidity - Chromium Reducible Sulfur (a-22B)	----	10	mole H+ / t	----	14	----	----	----	
EA033-D: Retained Acidity									
KCl Extractable Sulfur (23Ce)	----	0.02	% S	----	<0.02	----	----	----	
HCl Extractable Sulfur (20Be)	----	0.02	% S	----	<0.02	----	----	----	
Net Acid Soluble Sulfur (20Je)	----	0.02	% S	----	<0.02	----	----	----	
acidity - Net Acid Soluble Sulfur (a-20J)	----	10	mole H+ / t	----	<10	----	----	----	
sulfidic - Net Acid Soluble Sulfur (s-20J)	----	0.02	% pyrite S	----	<0.02	----	----	----	
EA033-E: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-	----	1.5	----	----	----	
Net Acidity (sulfur units)	----	0.02	% S	----	0.11	----	----	----	
Net Acidity (acidity units)	----	10	mole H+ / t	----	68	----	----	----	
Liming Rate	----	1	kg CaCO3/t	----	5	----	----	----	
Net Acidity excluding ANC (sulfur units)	----	0.02	% S	----	0.11	----	----	----	
Net Acidity excluding ANC (acidity units)	----	10	mole H+ / t	----	68	----	----	----	
Liming Rate excluding ANC	----	1	kg CaCO3/t	----	5	----	----	----	
EA037: Ass Field Screening Analysis									
∅ pH (F)	----	0.1	pH Unit	5.2	5.0	4.6	4.5	4.8	
∅ pH (Fox)	----	0.1	pH Unit	2.4	3.0	3.1	3.2	3.2	
∅ Reaction Rate	----	1	-	3	3	3	3	3	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	ASS28	ASS29	ASS30	ASS31	ASS32
				Sampling date / time	08-Mar-2021 00:00	08-Mar-2021 00:00	08-Mar-2021 00:00	08-Mar-2021 00:00	08-Mar-2021 00:00
Compound	CAS Number	LOR	Unit	ES2108110-073	ES2108110-074	ES2108110-075	ES2108110-076	ES2108110-077	
				Result	Result	Result	Result	Result	
EA033-A: Actual Acidity									
pH KCl (23A)	----	0.1	pH Unit	3.9	----	----	----	----	
Titrateable Actual Acidity (23F)	----	2	mole H+ / t	94	----	----	----	----	
sulfidic - Titrateable Actual Acidity (s-23F)	----	0.02	% pyrite S	0.15	----	----	----	----	
EA033-B: Potential Acidity									
Chromium Reducible Sulfur (22B)	----	0.005	% S	0.015	----	----	----	----	
acidity - Chromium Reducible Sulfur (a-22B)	----	10	mole H+ / t	<10	----	----	----	----	
EA033-D: Retained Acidity									
KCl Extractable Sulfur (23Ce)	----	0.02	% S	<0.02	----	----	----	----	
HCl Extractable Sulfur (20Be)	----	0.02	% S	0.02	----	----	----	----	
Net Acid Soluble Sulfur (20Je)	----	0.02	% S	0.05	----	----	----	----	
acidity - Net Acid Soluble Sulfur (a-20J)	----	10	mole H+ / t	23	----	----	----	----	
sulfidic - Net Acid Soluble Sulfur (s-20J)	----	0.02	% pyrite S	0.04	----	----	----	----	
EA033-E: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-	1.5	----	----	----	----	
Net Acidity (sulfur units)	----	0.02	% S	0.20	----	----	----	----	
Net Acidity (acidity units)	----	10	mole H+ / t	126	----	----	----	----	
Liming Rate	----	1	kg CaCO3/t	9	----	----	----	----	
Net Acidity excluding ANC (sulfur units)	----	0.02	% S	0.20	----	----	----	----	
Net Acidity excluding ANC (acidity units)	----	10	mole H+ / t	126	----	----	----	----	
Liming Rate excluding ANC	----	1	kg CaCO3/t	9	----	----	----	----	
EA037: Ass Field Screening Analysis									
∅ pH (F)	----	0.1	pH Unit	4.7	5.0	5.4	4.5	5.3	
∅ pH (Fox)	----	0.1	pH Unit	3.1	3.4	3.4	3.2	2.3	
∅ Reaction Rate	----	1	-	3	3	3	3	3	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	ASS33	ASS34	ASS35	ASS36	ASS37
				Sampling date / time	08-Mar-2021 00:00	08-Mar-2021 00:00	08-Mar-2021 00:00	08-Mar-2021 00:00	08-Mar-2021 00:00
Compound	CAS Number	LOR	Unit	ES2108110-078	ES2108110-079	ES2108110-080	ES2108110-081	ES2108110-082	
				Result	Result	Result	Result	Result	
EA033-A: Actual Acidity									
pH KCl (23A)	----	0.1	pH Unit	----	----	4.2	----	----	
Titratable Actual Acidity (23F)	----	2	mole H+ / t	----	----	55	----	----	
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	----	----	0.09	----	----	
EA033-B: Potential Acidity									
Chromium Reducible Sulfur (22B)	----	0.005	% S	----	----	0.014	----	----	
acidity - Chromium Reducible Sulfur (a-22B)	----	10	mole H+ / t	----	----	<10	----	----	
EA033-D: Retained Acidity									
KCl Extractable Sulfur (23Ce)	----	0.02	% S	----	----	<0.02	----	----	
HCl Extractable Sulfur (20Be)	----	0.02	% S	----	----	<0.02	----	----	
Net Acid Soluble Sulfur (20Je)	----	0.02	% S	----	----	<0.02	----	----	
acidity - Net Acid Soluble Sulfur (a-20J)	----	10	mole H+ / t	----	----	<10	----	----	
sulfidic - Net Acid Soluble Sulfur (s-20J)	----	0.02	% pyrite S	----	----	<0.02	----	----	
EA033-E: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-	----	----	1.5	----	----	
Net Acidity (sulfur units)	----	0.02	% S	----	----	0.10	----	----	
Net Acidity (acidity units)	----	10	mole H+ / t	----	----	64	----	----	
Liming Rate	----	1	kg CaCO3/t	----	----	5	----	----	
Net Acidity excluding ANC (sulfur units)	----	0.02	% S	----	----	0.10	----	----	
Net Acidity excluding ANC (acidity units)	----	10	mole H+ / t	----	----	64	----	----	
Liming Rate excluding ANC	----	1	kg CaCO3/t	----	----	5	----	----	
EA037: Ass Field Screening Analysis									
∅ pH (F)	----	0.1	pH Unit	4.6	5.2	5.1	4.7	5.4	
∅ pH (Fox)	----	0.1	pH Unit	3.4	2.1	2.9	3.7	2.5	
∅ Reaction Rate	----	1	-	2	3	3	2	3	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	QC01	TS	TB	TSC	ASS18
Sampling date / time				08-Mar-2021 00:00	08-Mar-2021 00:00	08-Mar-2021 00:00	08-Mar-2021 00:00	08-Mar-2021 00:00	
Compound	CAS Number	LOR	Unit	ES2108110-083	ES2108110-085	ES2108110-086	ES2108110-087	ES2108110-088	
				Result	Result	Result	Result	Result	
EA033-A: Actual Acidity									
pH KCl (23A)	----	0.1	pH Unit	----	----	----	----	----	4.4
Titration Actual Acidity (23F)	----	2	mole H+ / t	----	----	----	----	----	27
sulfidic - Titration Actual Acidity (s-23F)	----	0.02	% pyrite S	----	----	----	----	----	0.04
EA033-B: Potential Acidity									
Chromium Reducible Sulfur (22B)	----	0.005	% S	----	----	----	----	----	0.018
acidity - Chromium Reducible Sulfur (a-22B)	----	10	mole H+ / t	----	----	----	----	----	11
EA033-C: Acid Neutralising Capacity									
Acid Neutralising Capacity (19A2)	----	0.01	% CaCO3	----	----	----	----	----	<0.01
EA033-D: Retained Acidity									
KCl Extractable Sulfur (23Ce)	----	0.02	% S	----	----	----	----	----	<0.02
HCl Extractable Sulfur (20Be)	----	0.02	% S	----	----	----	----	----	<0.02
Net Acid Soluble Sulfur (20Je)	----	0.02	% S	----	----	----	----	----	<0.02
acidity - Net Acid Soluble Sulfur (a-20J)	----	10	mole H+ / t	----	----	----	----	----	<10
sulfidic - Net Acid Soluble Sulfur (s-20J)	----	0.02	% pyrite S	----	----	----	----	----	<0.02
EA033-E: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-	----	----	----	----	----	1.5
Net Acidity (sulfur units)	----	0.02	% S	----	----	----	----	----	0.06
Net Acidity (acidity units)	----	10	mole H+ / t	----	----	----	----	----	39
Liming Rate	----	1	kg CaCO3/t	----	----	----	----	----	3
Net Acidity excluding ANC (sulfur units)	----	0.02	% S	----	----	----	----	----	0.06
Net Acidity excluding ANC (acidity units)	----	10	mole H+ / t	----	----	----	----	----	39
Liming Rate excluding ANC	----	1	kg CaCO3/t	----	----	----	----	----	3
EA037: Ass Field Screening Analysis									
Ø pH (F)	----	0.1	pH Unit	----	----	----	----	----	5.6
Ø pH (Fox)	----	0.1	pH Unit	----	----	----	----	----	2.6
Ø Reaction Rate	----	1	-	----	----	----	----	----	3
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%	18.4	----	----	----	----	----
EG005(ED093)T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg	8	----	----	----	----	----
Cadmium	7440-43-9	1	mg/kg	<1	----	----	----	----	----
Chromium	7440-47-3	2	mg/kg	15	----	----	----	----	----
Copper	7440-50-8	5	mg/kg	12	----	----	----	----	----



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	QC01	TS	TB	TSC	ASS18
Sampling date / time				08-Mar-2021 00:00	08-Mar-2021 00:00	08-Mar-2021 00:00	08-Mar-2021 00:00	08-Mar-2021 00:00	
Compound	CAS Number	LOR	Unit	ES2108110-083	ES2108110-085	ES2108110-086	ES2108110-087	ES2108110-088	
				Result	Result	Result	Result	Result	
EG005(ED093)T: Total Metals by ICP-AES - Continued									
Lead	7439-92-1	5	mg/kg	25	----	----	----	----	
Nickel	7440-02-0	2	mg/kg	4	----	----	----	----	
Zinc	7440-66-6	5	mg/kg	25	----	----	----	----	
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg	<0.1	----	----	----	----	
EP066: Polychlorinated Biphenyls (PCB)									
Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	----	----	----	----	
EP068A: Organochlorine Pesticides (OC)									
alpha-BHC	319-84-6	0.05	mg/kg	<0.05	----	----	----	----	
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	----	----	----	----	
beta-BHC	319-85-7	0.05	mg/kg	<0.05	----	----	----	----	
gamma-BHC	58-89-9	0.05	mg/kg	<0.05	----	----	----	----	
delta-BHC	319-86-8	0.05	mg/kg	<0.05	----	----	----	----	
Heptachlor	76-44-8	0.05	mg/kg	<0.05	----	----	----	----	
Aldrin	309-00-2	0.05	mg/kg	<0.05	----	----	----	----	
Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	----	----	----	----	
^ Total Chlordane (sum)	----	0.05	mg/kg	<0.05	----	----	----	----	
trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	----	----	----	----	
alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	----	----	----	----	
cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	----	----	----	----	
Dieldrin	60-57-1	0.05	mg/kg	<0.05	----	----	----	----	
4,4'-DDE	72-55-9	0.05	mg/kg	<0.05	----	----	----	----	
Endrin	72-20-8	0.05	mg/kg	<0.05	----	----	----	----	
beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	----	----	----	----	
^ Endosulfan (sum)	115-29-7	0.05	mg/kg	<0.05	----	----	----	----	
4,4'-DDD	72-54-8	0.05	mg/kg	<0.05	----	----	----	----	
Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	----	----	----	----	
Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	----	----	----	----	
4,4'-DDT	50-29-3	0.2	mg/kg	<0.2	----	----	----	----	
Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	----	----	----	----	
Methoxychlor	72-43-5	0.2	mg/kg	<0.2	----	----	----	----	
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	<0.05	----	----	----	----	
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-29-3	0.05	mg/kg	<0.05	----	----	----	----	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	QC01	TS	TB	TSC	ASS18
Sampling date / time				08-Mar-2021 00:00	08-Mar-2021 00:00	08-Mar-2021 00:00	08-Mar-2021 00:00	08-Mar-2021 00:00	
Compound	CAS Number	LOR	Unit	ES2108110-083	ES2108110-085	ES2108110-086	ES2108110-087	ES2108110-088	
				Result	Result	Result	Result	Result	
EP068B: Organophosphorus Pesticides (OP)									
Dichlorvos	62-73-7	0.05	mg/kg	<0.05	----	----	----	----	
Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	----	----	----	----	
Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	----	----	----	----	
Dimethoate	60-51-5	0.05	mg/kg	<0.05	----	----	----	----	
Diazinon	333-41-5	0.05	mg/kg	<0.05	----	----	----	----	
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	----	----	----	----	
Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	----	----	----	----	
Malathion	121-75-5	0.05	mg/kg	<0.05	----	----	----	----	
Fenthion	55-38-9	0.05	mg/kg	<0.05	----	----	----	----	
Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	----	----	----	----	
Parathion	56-38-2	0.2	mg/kg	<0.2	----	----	----	----	
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	----	----	----	----	
Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	----	----	----	----	
Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	----	----	----	----	
Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	----	----	----	----	
Prothiofos	34643-46-4	0.05	mg/kg	<0.05	----	----	----	----	
Ethion	563-12-2	0.05	mg/kg	<0.05	----	----	----	----	
Carbophenothion	786-19-6	0.05	mg/kg	<0.05	----	----	----	----	
Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	----	----	----	----	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg	<0.5	----	----	----	----	
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	----	----	----	----	
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	----	----	----	----	
Fluorene	86-73-7	0.5	mg/kg	<0.5	----	----	----	----	
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	----	----	----	----	
Anthracene	120-12-7	0.5	mg/kg	<0.5	----	----	----	----	
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	----	----	----	----	
Pyrene	129-00-0	0.5	mg/kg	<0.5	----	----	----	----	
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	----	----	----	----	
Chrysene	218-01-9	0.5	mg/kg	<0.5	----	----	----	----	
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	----	----	----	----	
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	----	----	----	----	
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	----	----	----	----	
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	----	----	----	----	
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	----	----	----	----	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	QC01	TS	TB	TSC	ASS18
Sampling date / time				08-Mar-2021 00:00	08-Mar-2021 00:00	08-Mar-2021 00:00	08-Mar-2021 00:00	08-Mar-2021 00:00	08-Mar-2021 00:00
Compound	CAS Number	LOR	Unit	ES2108110-083	ES2108110-085	ES2108110-086	ES2108110-087	ES2108110-088	ES2108110-088
				Result	Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	----	----	----	----	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	----	----	----	----	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	----	----	----	----	----
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	0.6	----	----	----	----	----
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	1.2	----	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg	<10	53	<10	58	----	----
C10 - C14 Fraction	----	50	mg/kg	<50	----	----	----	----	----
C15 - C28 Fraction	----	100	mg/kg	<100	----	----	----	----	----
C29 - C36 Fraction	----	100	mg/kg	<100	----	----	----	----	----
^ C10 - C36 Fraction (sum)	----	50	mg/kg	<50	----	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg	<10	63	<10	65	----	----
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	<10	30	<10	28	----	----
>C10 - C16 Fraction	----	50	mg/kg	<50	----	----	----	----	----
>C16 - C34 Fraction	----	100	mg/kg	<100	----	----	----	----	----
>C34 - C40 Fraction	----	100	mg/kg	<100	----	----	----	----	----
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	----	----	----	----	----
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	<50	----	----	----	----	----
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	0.2	----	----
Toluene	108-88-3	0.5	mg/kg	<0.5	13.4	<0.5	15.5	----	----
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	2.3	<0.5	2.7	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	11.9	<0.5	13.0	----	----
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	4.9	<0.5	5.3	----	----
^ Sum of BTEX	----	0.2	mg/kg	<0.2	32.5	<0.2	36.7	----	----
^ Total Xylenes	----	0.5	mg/kg	<0.5	16.8	<0.5	18.3	----	----
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	----	----
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%	78.9	----	----	----	----	----
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%	95.2	----	----	----	----	----



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	QC01	TS	TB	TSC	ASS18
Sampling date / time				08-Mar-2021 00:00	08-Mar-2021 00:00	08-Mar-2021 00:00	08-Mar-2021 00:00	08-Mar-2021 00:00	
Compound	CAS Number	LOR	Unit	ES2108110-083	ES2108110-085	ES2108110-086	ES2108110-087	ES2108110-088	
				Result	Result	Result	Result	Result	
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%	75.7	----	----	----	----	
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%	97.1	----	----	----	----	
2-Chlorophenol-D4	93951-73-6	0.5	%	95.8	----	----	----	----	
2,4,6-Tribromophenol	118-79-6	0.5	%	74.7	----	----	----	----	
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%	104	----	----	----	----	
Anthracene-d10	1719-06-8	0.5	%	101	----	----	----	----	
4-Terphenyl-d14	1718-51-0	0.5	%	95.9	----	----	----	----	
EP080S: TPH(V)/BTEX Surrogates									
1,2-Dichloroethane-D4	17060-07-0	0.2	%	107	120	95.6	117	----	
Toluene-D8	2037-26-5	0.2	%	98.6	109	89.6	107	----	
4-Bromofluorobenzene	460-00-4	0.2	%	105	119	97.8	114	----	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	RINSATE 01	----	----	----	----
Sampling date / time				08-Mar-2021 00:00	----	----	----	----	
Compound	CAS Number	LOR	Unit	ES2108110-084	-----	-----	-----	-----	
				Result	----	----	----	----	
EG020T: Total 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	----	----	----	----	
EG035T: Total Recoverable 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)			Sample ID	RINSATE 01	----	----	----	----
Sampling date / time			08-Mar-2021 00:00	----	----	----	----	
Compound	CAS Number	LOR	Unit	ES2108110-084	-----	-----	-----	-----
				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)				Sample ID	RINSATE 01	----	----	----	----
Sampling date / time				08-Mar-2021 00:00	----	----	----	----	----
Compound	CAS Number	LOR	Unit	ES2108110-084	-----	-----	-----	-----	-----
				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	----	----	----	----	----
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.5	%	93.8	----	----	----	----	----
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.5	%	68.9	----	----	----	----	----



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	RINSATE 01	----	----	----	----
Sampling date / time				08-Mar-2021 00:00	----	----	----	----	
Compound	CAS Number	LOR	Unit	ES2108110-084	-----	-----	-----	-----	
				Result	----	----	----	----	
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	1.0	%	28.6	----	----	----	----	
2-Chlorophenol-D4	93951-73-6	1.0	%	69.6	----	----	----	----	
2,4,6-Tribromophenol	118-79-6	1.0	%	62.6	----	----	----	----	
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	1.0	%	90.5	----	----	----	----	
Anthracene-d10	1719-06-8	1.0	%	101	----	----	----	----	
4-Terphenyl-d14	1718-51-0	1.0	%	107	----	----	----	----	
EP080S: TPH(V)/BTEX Surrogates									
1,2-Dichloroethane-D4	17060-07-0	2	%	126	----	----	----	----	
Toluene-D8	2037-26-5	2	%	99.1	----	----	----	----	
4-Bromofluorobenzene	460-00-4	2	%	87.3	----	----	----	----	

Analytical Results

Descriptive Results

Sub-Matrix: SOIL		
Method: Compound	Sample ID - Sampling date / time	Analytical Results
EA200: AS 4964 - 2004 Identification of Asbestos in Soils		
EA200: Description	TP05_ASB - 08-Mar-2021 00:00	Mid brown soil.
EA200: Description	TP17_ASB - 08-Mar-2021 00:00	Mid brown soil.
EA200: Description	TP24_ASB - 08-Mar-2021 00:00	Mid brown soil.



Surrogate Control Limits

Sub-Matrix: SOIL		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP066S: PCB Surrogate			
Decachlorobiphenyl	2051-24-3	39	149
EP068S: Organochlorine Pesticide Surrogate			
Dibromo-DDE	21655-73-2	49	147
EP068T: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	35	143
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	63	123
2-Chlorophenol-D4	93951-73-6	66	122
2,4,6-Tribromophenol	118-79-6	40	138
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	70	122
Anthracene-d10	1719-06-8	66	128
4-Terphenyl-d14	1718-51-0	65	129
EP080S: TPH(V)/BTEX Surrogates			
1,2-Dichloroethane-D4	17060-07-0	73	133
Toluene-D8	2037-26-5	74	132
4-Bromofluorobenzene	460-00-4	72	130

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



Inter-Laboratory Testing

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

(SOIL) EA033-B: Potential Acidity

(SOIL) EA033-C: Acid Neutralising Capacity

(SOIL) EA033-D: Retained Acidity

(SOIL) EA033-A: Actual Acidity

(SOIL) EA033-E: Acid Base Accounting

(SOIL) EA037: Ass Field Screening Analysis

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

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

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

QUALITY CONTROL REPORT

Work Order	: ES2108110	Page	: 1 of 18
Client	: EP Risk Management	Laboratory	: Environmental Division Sydney
Contact	: LUKE Kerry	Contact	: Hannah White
Address	: 3/19 BOLTON STREET NEWCASTLE NSW 2300	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: +61-2-8784 8555
Project	: Chisholm CRS Due Diligence	Date Samples Received	: 08-Mar-2021
Order number	: EP1995	Date Analysis Commenced	: 10-Mar-2021
C-O-C number	: ----	Issue Date	: 19-Mar-2021
Sampler	: LUKE KERRY		
Site	: ----		
Quote number	: SY/497/20 Primary analysis only		
No. of samples received	: 88		
No. of samples analysed	: 61		



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

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

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

<i>Signatories</i>	<i>Position</i>	<i>Accreditation Category</i>
Alana Smylie	Asbestos Identifier	Newcastle - Asbestos, Mayfield West, NSW
Ankit Joshi	Inorganic Chemist	Sydney Inorganics, Smithfield, NSW
Ben Felgendrejeris	Senior Acid Sulfate Soil Chemist	Brisbane Acid Sulphate Soils, Stafford, QLD
Dian Dao	Senior Chemist - Inorganics	Sydney Inorganics, Smithfield, NSW
Edwandy Fadjar	Organic Coordinator	Sydney Inorganics, Smithfield, NSW
Edwandy Fadjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Evie Sidarta	Inorganic Chemist	Sydney Inorganics, Smithfield, NSW
Ivan Taylor	Analyst	Sydney Inorganics, Smithfield, NSW



General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high

Key :
 Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
 CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
 LOR = Limit of reporting
 RPD = Relative Percentage Difference
 # = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: SOIL

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 3556427)									
ES2108110-025	TP15_0.1	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.00	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	8	8	0.00	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	<2	<2	0.00	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	8	8	0.00	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	6	6	0.00	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	13	13	0.00	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	13	14	0.00	No Limit
		EG005T: Iron	7439-89-6	50	mg/kg	1.97 %	19500	1.22	0% - 20%
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 3565455)									
ES2108110-001	TP01_0.1	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.00	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	5	7	26.3	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	<2	<2	0.00	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	6	11	64.1	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	<5	<5	0.00	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	16	15	0.00	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	17	10	53.4	No Limit
		ES2108110-037	TP26_0.5	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1
EG005T: Chromium	7440-47-3			2	mg/kg	13	14	12.2	No Limit
EG005T: Nickel	7440-02-0			2	mg/kg	4	4	0.00	No Limit
EG005T: Arsenic	7440-38-2			5	mg/kg	<5	13	91.0	No Limit
EG005T: Copper	7440-50-8			5	mg/kg	11	15	27.3	No Limit
EG005T: Lead	7439-92-1			5	mg/kg	30	17	55.1	No Limit
EG005T: Zinc	7440-66-6			5	mg/kg	21	24	13.2	No Limit
EA001: pH in soil using 0.01M CaCl extract (QC Lot: 3561638)									



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EA001: pH in soil using 0.01M CaCl extract (QC Lot: 3561638) - continued									
ES2108110-025	TP15_0.1	EA001: pH (CaCl2)	----	0.1	pH Unit	3.9	4.0	2.51	0% - 20%
EA002: pH 1:5 (Soils) (QC Lot: 3556418)									
ES2108110-025	TP15_0.1	EA002: pH Value	----	0.1	pH Unit	4.8	4.8	0.00	0% - 20%
ES2108410-004	Anonymous	EA002: pH Value	----	0.1	pH Unit	7.2	7.2	0.00	0% - 20%
EA002: pH 1:5 (Soils) (QC Lot: 3563434)									
ES2108110-040	TP04_AGG	EA002: pH Value	----	0.1	pH Unit	4.4	4.4	0.00	0% - 20%
EA010: Conductivity (1:5) (QC Lot: 3556419)									
ES2108110-025	TP15_0.1	EA010: Electrical Conductivity @ 25°C	----	1	µS/cm	116	118	1.36	0% - 20%
ES2108410-004	Anonymous	EA010: Electrical Conductivity @ 25°C	----	1	µS/cm	219	234	6.80	0% - 20%
EA010: Conductivity (1:5) (QC Lot: 3563437)									
ES2108110-040	TP04_AGG	EA010: Electrical Conductivity @ 25°C	----	1	µS/cm	571	498	13.6	0% - 20%
EA033-A: Actual Acidity (QC Lot: 3566651)									
ES2108110-050	ASS05	EA033: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	0.14	0.14	0.00	No Limit
		EA033: Titratable Actual Acidity (23F)	----	2	mole H+ / t	88	86	2.00	0% - 20%
		EA033: pH KCl (23A)	----	0.1	pH Unit	3.8	3.8	0.00	0% - 20%
EM2103802-003	Anonymous	EA033: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA033: Titratable Actual Acidity (23F)	----	2	mole H+ / t	10	8	20.1	No Limit
		EA033: pH KCl (23A)	----	0.1	pH Unit	4.9	4.9	0.00	0% - 20%
EA033-B: Potential Acidity (QC Lot: 3566651)									
ES2108110-050	ASS05	EA033: Chromium Reducible Sulfur (22B)	----	0.005	% S	0.015	0.013	12.5	No Limit
		EA033: acidity - Chromium Reducible Sulfur (a-22B)	----	10	mole H+ / t	<10	<10	0.00	No Limit
EM2103802-003	Anonymous	EA033: Chromium Reducible Sulfur (22B)	----	0.005	% S	0.015	0.017	9.33	No Limit
		EA033: acidity - Chromium Reducible Sulfur (a-22B)	----	10	mole H+ / t	<10	11	0.00	No Limit
EA033-D: Retained Acidity (QC Lot: 3566651)									
ES2108110-050	ASS05	EA033: sulfidic - Net Acid Soluble Sulfur (s-20J)	----	0.02	% pyrite S	0.03	0.03	0.00	No Limit
		EA033: Net Acid Soluble Sulfur (20Je)	----	0.02	% S	0.04	0.04	0.00	No Limit
		EA033: KCl Extractable Sulfur (23Ce)	----	0.02	% S	0.03	0.02	0.00	No Limit
		EA033: HCl Extractable Sulfur (20Be)	----	0.02	% S	0.03	0.03	0.00	No Limit
		EA033: acidity - Net Acid Soluble Sulfur (a-20J)	----	10	mole H+ / t	18	20	6.41	No Limit
EA037: Ass Field Screening Analysis (QC Lot: 3561626)									
EB2106660-007	Anonymous	EA037: pH (F)	----	0.1	pH Unit	7.1	7.2	0.00	0% - 20%
		EA037: pH (Fox)	----	0.1	pH Unit	6.8	6.8	0.00	0% - 20%
ES2108110-047	ASS02	EA037: pH (F)	----	0.1	pH Unit	5.6	5.5	0.00	0% - 20%
		EA037: pH (Fox)	----	0.1	pH Unit	2.9	2.9	0.00	0% - 20%
EA037: Ass Field Screening Analysis (QC Lot: 3561627)									
ES2108110-057	ASS12	EA037: pH (F)	----	0.1	pH Unit	4.9	4.9	0.00	0% - 20%
		EA037: pH (Fox)	----	0.1	pH Unit	1.9	2.0	0.00	0% - 50%



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EA037: Ass Field Screening Analysis (QC Lot: 3561627) - continued									
ES2108110-068	ASS23	EA037: pH (F)	----	0.1	pH Unit	5.2	5.2	0.00	0% - 20%
		EA037: pH (Fox)	----	0.1	pH Unit	2.4	2.5	0.00	0% - 20%
EA037: Ass Field Screening Analysis (QC Lot: 3561628)									
ES2108110-078	ASS33	EA037: pH (F)	----	0.1	pH Unit	4.6	4.7	0.00	0% - 20%
		EA037: pH (Fox)	----	0.1	pH Unit	3.4	3.3	0.00	0% - 20%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 3556428)									
ES2108410-002	Anonymous	EA055: Moisture Content	----	0.1	%	14.4	14.4	0.00	0% - 50%
ES2108411-001	Anonymous	EA055: Moisture Content	----	0.1	%	8.4	13.4	45.6	0% - 50%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 3563440)									
ES2108110-042	TP23_AGG	EA055: Moisture Content	----	0.1	%	16.1	17.0	5.58	0% - 50%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 3565459)									
ES2108110-006	TP03_0.5	EA055: Moisture Content	----	0.1	%	18.5	18.3	0.820	0% - 50%
ES2108765-002	Anonymous	EA055: Moisture Content	----	0.1	%	9.5	10.0	5.20	No Limit
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 3571668)									
ES2108110-027	TP16_0.1	EA055: Moisture Content	----	0.1	%	9.0	9.8	8.06	No Limit
ED007: Exchangeable Cations (QC Lot: 3558931)									
ES2108110-025	TP15_0.1	ED007: Exchangeable Sodium Percent	----	0.1	%	11.6	11.5	0.00	0% - 20%
		ED007: Exchangeable Calcium	----	0.1	meq/100g	2.2	2.2	0.00	0% - 20%
		ED007: Exchangeable Magnesium	----	0.1	meq/100g	8.5	8.6	1.23	0% - 20%
		ED007: Exchangeable Potassium	----	0.1	meq/100g	0.7	0.7	0.00	No Limit
		ED007: Exchangeable Sodium	----	0.1	meq/100g	1.5	1.5	0.00	0% - 50%
		ED007: Cation Exchange Capacity	----	0.1	meq/100g	12.9	13.1	1.17	0% - 20%
ED045G: Chloride by Discrete Analyser (QC Lot: 3563435)									
ES2108110-040	TP04_AGG	ED045G: Chloride	16887-00-6	10	mg/kg	760	770	0.00	0% - 20%
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 3565456)									
ES2108110-001	TP01_0.1	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
ES2108110-037	TP26_0.5	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
EP004: Organic Matter (QC Lot: 3564250)									
ES2108110-025	TP15_0.1	EP004: Organic Matter	----	0.5	%	1.0	1.0	0.00	No Limit
		EP004: Total Organic Carbon	----	0.5	%	0.6	0.6	0.00	No Limit
ES2108316-001	Anonymous	EP004: Organic Matter	----	0.5	%	4.3	4.4	2.96	No Limit
		EP004: Total Organic Carbon	----	0.5	%	2.5	2.6	0.00	No Limit
EP066: Polychlorinated Biphenyls (PCB) (QC Lot: 3554885)									
ES2108110-001	TP01_0.1	EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
EP068A: Organochlorine Pesticides (OC) (QC Lot: 3554884)									
ES2108110-083	QC01	EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	0.00	No Limit



Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report							
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)		
EP068A: Organochlorine Pesticides (OC) (QC Lot: 3554884) - continued											
ES2108110-083	QC01	EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit		
		EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit		
		EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit		
		EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit		
		EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	0.00	No Limit		
		EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit		
		EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit		
		EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit		
		EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit		
		EP068: 4,4'-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit		
		EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit		
		EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit		
		EP068: 4,4'-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit		
		EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	0.00	No Limit		
		EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit		
		EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit		
		EP068: 4,4'-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	0.00	No Limit		
		EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	0.00	No Limit		
		ES2108110-001	TP01_0.1	EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
				EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
EP068: beta-BHC	319-85-7			0.05	mg/kg	<0.05	<0.05	0.00	No Limit		
EP068: gamma-BHC	58-89-9			0.05	mg/kg	<0.05	<0.05	0.00	No Limit		
EP068: delta-BHC	319-86-8			0.05	mg/kg	<0.05	<0.05	0.00	No Limit		
EP068: Heptachlor	76-44-8			0.05	mg/kg	<0.05	<0.05	0.00	No Limit		
EP068: Aldrin	309-00-2			0.05	mg/kg	<0.05	<0.05	0.00	No Limit		
EP068: Heptachlor epoxide	1024-57-3			0.05	mg/kg	<0.05	<0.05	0.00	No Limit		
EP068: trans-Chlordane	5103-74-2			0.05	mg/kg	<0.05	<0.05	0.00	No Limit		
EP068: alpha-Endosulfan	959-98-8			0.05	mg/kg	<0.05	<0.05	0.00	No Limit		
EP068: cis-Chlordane	5103-71-9			0.05	mg/kg	<0.05	<0.05	0.00	No Limit		
EP068: Dieldrin	60-57-1			0.05	mg/kg	<0.05	<0.05	0.00	No Limit		
EP068: 4,4'-DDE	72-55-9			0.05	mg/kg	<0.05	<0.05	0.00	No Limit		
EP068: Endrin	72-20-8			0.05	mg/kg	<0.05	<0.05	0.00	No Limit		
EP068: beta-Endosulfan	33213-65-9			0.05	mg/kg	<0.05	<0.05	0.00	No Limit		
EP068: 4,4'-DDD	72-54-8			0.05	mg/kg	<0.05	<0.05	0.00	No Limit		
EP068: Endrin aldehyde	7421-93-4			0.05	mg/kg	<0.05	<0.05	0.00	No Limit		
EP068: Endosulfan sulfate	1031-07-8			0.05	mg/kg	<0.05	<0.05	0.00	No Limit		
EP068: Endrin ketone	53494-70-5			0.05	mg/kg	<0.05	<0.05	0.00	No Limit		
EP068: 4,4'-DDT	50-29-3			0.2	mg/kg	<0.2	<0.2	0.00	No Limit		
EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	0.00	No Limit				
EP068B: Organophosphorus Pesticides (OP) (QC Lot: 3554884)											



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP068B: Organophosphorus Pesticides (OP) (QC Lot: 3554884) - continued									
ES2108110-083	QC01	EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP068: Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit		
ES2108110-001	TP01_0.1	EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP068: Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit		
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 3554883)									
ES2108110-001	TP01_0.1	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit



Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 3554883) - continued										
ES2108110-001	TP01_0.1	EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
			205-82-3							
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP075(SIM): Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP075(SIM): Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP075(SIM): Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
EP075(SIM): Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	0.00	No Limit			
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 3554882)										
ES2108110-001	TP01_0.1	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit	
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit	
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.00	No Limit	
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 3557284)										
ES2108110-001	TP01_0.1	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.00	No Limit	
ES2108342-002	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.00	No Limit	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3554882)										
ES2108110-001	TP01_0.1	EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit	
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit	
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.00	No Limit	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3557284)										
ES2108110-001	TP01_0.1	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.00	No Limit	
ES2108342-002	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.00	No Limit	
EP080: BTEXN (QC Lot: 3557284)										
ES2108110-001	TP01_0.1	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit	
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP080: meta- & para-Xylene	108-38-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
			106-42-3							



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)	
EP080: BTEXN (QC Lot: 3557284) - continued										
ES2108110-001	TP01_0.1	EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.00	No Limit	
ES2108342-002	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit	
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP080: meta- & para-Xylene	108-38-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
			106-42-3							
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.00	No Limit	
Sub-Matrix: WATER										
Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)	
EG020T: Total Metals by ICP-MS (QC Lot: 3567940)										
EN2101944-001	Anonymous	EG020A-T: Cadmium	7440-43-9	0.0001	mg/L	0.0004	0.0004	0.00	No Limit	
		EG020A-T: Arsenic	7440-38-2	0.001	mg/L	<0.001	<0.001	0.00	No Limit	
		EG020A-T: Chromium	7440-47-3	0.001	mg/L	0.002	0.002	0.00	No Limit	
		EG020A-T: Copper	7440-50-8	0.001	mg/L	0.712	0.730	2.47	0% - 20%	
		EG020A-T: Lead	7439-92-1	0.001	mg/L	0.041	0.039	3.37	0% - 20%	
		EG020A-T: Nickel	7440-02-0	0.001	mg/L	0.001	0.001	0.00	No Limit	
		EG020A-T: Zinc	7440-66-6	0.005	mg/L	0.088	0.087	0.00	0% - 50%	
ES2109136-010	Anonymous	EG020A-T: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	0.00	No Limit	
		EG020A-T: Arsenic	7440-38-2	0.001	mg/L	<0.001	<0.001	0.00	No Limit	
		EG020A-T: Chromium	7440-47-3	0.001	mg/L	0.001	0.001	0.00	No Limit	
		EG020A-T: Copper	7440-50-8	0.001	mg/L	0.026	0.026	0.00	0% - 20%	
		EG020A-T: Lead	7439-92-1	0.001	mg/L	0.001	0.001	0.00	No Limit	
		EG020A-T: Nickel	7440-02-0	0.001	mg/L	<0.001	<0.001	0.00	No Limit	
		EG020A-T: Zinc	7440-66-6	0.005	mg/L	0.010	0.012	18.3	No Limit	
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 3567946)										
ES2108110-084	RINSATE 01	EG035T: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.00	No Limit	
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 3563630)										
ES2108672-001	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.00	No Limit	
ES2108900-002	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.00	No Limit	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3563630)										
ES2108672-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.00	No Limit	
ES2108900-002	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.00	No Limit	
EP080: BTEXN (QC Lot: 3563630)										
ES2108672-001	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	



Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP080: BTEXN (QC Lot: 3563630) - continued									
ES2108672-001	Anonymous	EP080: meta- & para-Xylene	108-38-3	2	µg/L	<2	<2	0.00	No Limit
			106-42-3						
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.00	No Limit
ES2108900-002	Anonymous	EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.00	No Limit
		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	2	µg/L	<2	<2	0.00	No Limit
			106-42-3						
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.00	No Limit
EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.00	No Limit		



Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike Concentration	Spike Recovery (%)		Acceptable Limits (%)	
						LCS	Low	High	
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 3556427)									
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	121.1 mg/kg	102	88.0	113	
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	0.74 mg/kg	75.5	70.0	130	
EG005T: Chromium	7440-47-3	2	mg/kg	<2	20.2 mg/kg	104	68.0	132	
EG005T: Copper	7440-50-8	5	mg/kg	<5	52.9 mg/kg	104	89.0	111	
EG005T: Iron	7439-89-6	50	mg/kg	<50	33227 mg/kg	112	89.0	112	
EG005T: Lead	7439-92-1	5	mg/kg	<5	62.1 mg/kg	95.3	82.0	119	
EG005T: Nickel	7440-02-0	2	mg/kg	<2	15.4 mg/kg	92.4	80.0	120	
EG005T: Zinc	7440-66-6	5	mg/kg	<5	162 mg/kg	81.0	66.0	133	
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 3565455)									
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	121.1 mg/kg	101	88.0	113	
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	0.74 mg/kg	87.3	70.0	130	
EG005T: Chromium	7440-47-3	2	mg/kg	<2	20.2 mg/kg	83.1	68.0	132	
EG005T: Copper	7440-50-8	5	mg/kg	<5	52.9 mg/kg	105	89.0	111	
EG005T: Iron	7439-89-6	50	mg/kg	<50	----	----	----	----	
EG005T: Lead	7439-92-1	5	mg/kg	<5	62.1 mg/kg	94.5	82.0	119	
EG005T: Nickel	7440-02-0	2	mg/kg	<2	15.4 mg/kg	93.8	80.0	120	
EG005T: Zinc	7440-66-6	5	mg/kg	<5	162 mg/kg	67.6	66.0	133	
EA010: Conductivity (1:5) (QCLot: 3556419)									
EA010: Electrical Conductivity @ 25°C	----	1	µS/cm	<1	1412 µS/cm	97.4	92.0	108	
EA010: Conductivity (1:5) (QCLot: 3563437)									
EA010: Electrical Conductivity @ 25°C	----	1	µS/cm	<1	1412 µS/cm	100	92.0	108	
EA033-A: Actual Acidity (QCLot: 3566651)									
EA033: pH KCl (23A)	----	----	pH Unit	----	4.4 pH Unit	97.7	91.0	107	
EA033: Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	15 mole H+ / t	83.0	70.0	124	
EA033: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	----	----	----	----	
EA033-B: Potential Acidity (QCLot: 3566651)									
EA033: Chromium Reducible Sulfur (22B)	----	0.005	% S	<0.005	0.155 % S	104	77.0	121	
EA033: acidity - Chromium Reducible Sulfur (a-22B)	----	10	mole H+ / t	<10	----	----	----	----	
EA033-C: Acid Neutralising Capacity (QCLot: 3566651)									
EA033: Acid Neutralising Capacity (19A2)	----	0.01	% CaCO3	<0.01	10 % CaCO3	99.2	91.0	112	
EA033-D: Retained Acidity (QCLot: 3566651)									
EA033: Net Acid Soluble Sulfur (20Je)	----	0.02	% S	<0.02	----	----	----	----	
EA033: acidity - Net Acid Soluble Sulfur (a-20J)	----	10	mole H+ / t	<10	----	----	----	----	



Sub-Matrix: SOIL

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike	Spike Recovery (%)		Acceptable Limits (%)	
					Concentration	LCS	Low	High	
EA033-D: Retained Acidity (QCLot: 3566651) - continued									
EA033: sulfidic - Net Acid Soluble Sulfur (s-20J)	----	0.02	% pyrite S	<0.02	----	----	----	----	
EA033: KCl Extractable Sulfur (23Ce)	----	0.02	% S	<0.02	0.04779 % S	94.4	70.0	128	
EA033: HCl Extractable Sulfur (20Be)	----	0.02	% S	<0.02	0.6 % S	94.9	70.0	120	
ED007: Exchangeable Cations (QCLot: 3558931)									
ED007: Exchangeable Calcium	----	0.1	meq/100g	<0.1	1 meq/100g	103	75.8	120	
ED007: Exchangeable Magnesium	----	0.1	meq/100g	<0.1	1.67 meq/100g	91.0	74.9	115	
ED007: Exchangeable Potassium	----	0.1	meq/100g	<0.1	0.51 meq/100g	102	80.0	120	
ED007: Exchangeable Sodium	----	0.1	meq/100g	<0.1	0.87 meq/100g	96.6	80.0	120	
ED007: Cation Exchange Capacity	----	0.1	meq/100g	<0.1	----	----	----	----	
ED007: Exchangeable Sodium Percent	----	0.1	%	<0.1	----	----	----	----	
ED040S: Soluble Major Anions (QCLot: 3563436)									
ED040S: Sulfate as SO4 2-	14808-79-8	10	mg/kg	<10	750 mg/kg	97.8	80.0	120	
ED045G: Chloride by Discrete Analyser (QCLot: 3563435)									
ED045G: Chloride	16887-00-6	10	mg/kg	<10	250 mg/kg	95.4	75.0	125	
				<10	5000 mg/kg	97.8	79.0	117	
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3565456)									
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	0.073 mg/kg	87.1	70.0	130	
EP004: Organic Matter (QCLot: 3564250)									
EP004: Organic Matter	----	0.5	%	<0.5	2.53 %	86.2	82.0	98.0	
EP004: Total Organic Carbon	----	0.5	%	<0.5	1.46 %	86.3	81.0	99.0	
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 3554885)									
EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	1 mg/kg	106	62.0	126	
EP068A: Organochlorine Pesticides (OC) (QCLot: 3554884)									
EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	0.5 mg/kg	94.9	69.0	113	
EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	0.5 mg/kg	92.9	65.0	117	
EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	0.5 mg/kg	91.8	67.0	119	
EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	0.5 mg/kg	95.2	68.0	116	
EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	90.3	65.0	117	
EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	0.5 mg/kg	89.1	67.0	115	
EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	0.5 mg/kg	93.3	69.0	115	
EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	0.5 mg/kg	92.8	62.0	118	
EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	0.5 mg/kg	91.8	63.0	117	
EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	0.5 mg/kg	93.3	66.0	116	
EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	0.5 mg/kg	91.9	64.0	116	
EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	0.5 mg/kg	91.1	66.0	116	
EP068: 4,4'-DDE	72-55-9	0.05	mg/kg	<0.05	0.5 mg/kg	94.9	67.0	115	
EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	0.5 mg/kg	89.1	67.0	123	
EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	0.5 mg/kg	90.0	69.0	115	



Sub-Matrix: SOIL

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike	Spike Recovery (%)		Acceptable Limits (%)	
					Concentration	LCS	Low	High	
EP068A: Organochlorine Pesticides (OC) (QCLot: 3554884) - continued									
EP068: 4.4'-DDD	72-54-8	0.05	mg/kg	<0.05	0.5 mg/kg	95.5	69.0	121	
EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	0.5 mg/kg	97.8	56.0	120	
EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	0.5 mg/kg	96.3	62.0	124	
EP068: 4.4'-DDT	50-29-3	0.2	mg/kg	<0.2	0.5 mg/kg	108	66.0	120	
EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	0.5 mg/kg	99.2	64.0	122	
EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	0.5 mg/kg	97.2	54.0	130	
EP068B: Organophosphorus Pesticides (OP) (QCLot: 3554884)									
EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	0.5 mg/kg	82.5	59.0	119	
EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	104	62.0	128	
EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	0.5 mg/kg	105	54.0	126	
EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	0.5 mg/kg	107	67.0	119	
EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	0.5 mg/kg	90.2	70.0	120	
EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	0.5 mg/kg	91.5	72.0	120	
EP068: Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	0.5 mg/kg	89.6	68.0	120	
EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	0.5 mg/kg	93.4	68.0	122	
EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	0.5 mg/kg	90.8	69.0	117	
EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	0.5 mg/kg	91.5	76.0	118	
EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	0.5 mg/kg	88.6	64.0	122	
EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	0.5 mg/kg	91.1	70.0	116	
EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	0.5 mg/kg	90.8	69.0	121	
EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	0.5 mg/kg	91.5	66.0	118	
EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	0.5 mg/kg	87.1	68.0	124	
EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	0.5 mg/kg	88.4	62.0	112	
EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	0.5 mg/kg	91.2	68.0	120	
EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	0.5 mg/kg	98.1	65.0	127	
EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	0.5 mg/kg	86.5	41.0	123	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3554883)									
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	6 mg/kg	103	77.0	125	
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	6 mg/kg	106	72.0	124	
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	6 mg/kg	100	73.0	127	
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	6 mg/kg	103	72.0	126	
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	6 mg/kg	102	75.0	127	
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	6 mg/kg	102	77.0	127	
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	6 mg/kg	106	73.0	127	
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	6 mg/kg	103	74.0	128	
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	6 mg/kg	98.6	69.0	123	
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	6 mg/kg	96.4	75.0	127	
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2	0.5	mg/kg	<0.5	6 mg/kg	92.7	68.0	116	
	205-82-3								



Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report				
					Spike Concentration	Spike Recovery (%)		Acceptable Limits (%)	
						LCS	Low	High	High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3554883) - continued									
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	6 mg/kg	97.6	74.0	126	
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	6 mg/kg	104	70.0	126	
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	6 mg/kg	93.8	61.0	121	
EP075(SIM): Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	6 mg/kg	93.8	62.0	118	
EP075(SIM): Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	6 mg/kg	88.8	63.0	121	
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3554882)									
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	300 mg/kg	99.1	75.0	129	
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	450 mg/kg	96.2	77.0	131	
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	300 mg/kg	93.4	71.0	129	
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3557284)									
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	26 mg/kg	97.4	68.4	128	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3554882)									
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	375 mg/kg	96.6	77.0	125	
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	525 mg/kg	95.8	74.0	138	
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	225 mg/kg	83.6	63.0	131	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3557284)									
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	31 mg/kg	99.2	68.4	128	
EP080: BTEXN (QCLot: 3557284)									
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	97.3	62.0	116	
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	88.5	67.0	121	
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	92.1	65.0	117	
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	2 mg/kg	92.0	66.0	118	
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	90.2	68.0	120	
EP080: Naphthalene	91-20-3	1	mg/kg	<1	1 mg/kg	90.5	63.0	119	

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report				
					Spike Concentration	Spike Recovery (%)		Acceptable Limits (%)	
						LCS	Low	High	High
EG020T: Total Metals by ICP-MS (QCLot: 3567940)									
EG020A-T: Arsenic	7440-38-2	0.001	mg/L	<0.001	0.1 mg/L	102	82.0	114	
EG020A-T: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	0.1 mg/L	98.9	84.0	112	
EG020A-T: Chromium	7440-47-3	0.001	mg/L	<0.001	0.1 mg/L	99.8	86.0	116	
EG020A-T: Copper	7440-50-8	0.001	mg/L	<0.001	0.1 mg/L	104	83.0	118	
EG020A-T: Lead	7439-92-1	0.001	mg/L	<0.001	0.1 mg/L	98.0	85.0	115	
EG020A-T: Nickel	7440-02-0	0.001	mg/L	<0.001	0.1 mg/L	101	84.0	116	
EG020A-T: Zinc	7440-66-6	0.005	mg/L	<0.005	0.1 mg/L	100	79.0	117	
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3567946)									



Sub-Matrix: WATER

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike	Spike Recovery (%)		Acceptable Limits (%)	
					Concentration	LCS	Low	High	
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3567946) - continued									
EG035T: Mercury	7439-97-6	0.0001	mg/L	<0.0001	0.01 mg/L	104	77.0	111	
EP068A: Organochlorine Pesticides (OC) (QCLot: 3556026)									
EP068: alpha-BHC	319-84-6	0.5	µg/L	<0.5	5 µg/L	93.8	64.9	107	
EP068: Hexachlorobenzene (HCB)	118-74-1	0.5	µg/L	<0.5	5 µg/L	89.1	58.3	111	
EP068: beta-BHC	319-85-7	0.5	µg/L	<0.5	5 µg/L	103	69.0	117	
EP068: gamma-BHC	58-89-9	0.5	µg/L	<0.5	5 µg/L	105	70.0	112	
EP068: delta-BHC	319-86-8	0.5	µg/L	<0.5	5 µg/L	105	68.9	110	
EP068: Heptachlor	76-44-8	0.5	µg/L	<0.5	5 µg/L	89.5	65.2	108	
EP068: Aldrin	309-00-2	0.5	µg/L	<0.5	5 µg/L	101	65.8	109	
EP068: Heptachlor epoxide	1024-57-3	0.5	µg/L	<0.5	5 µg/L	91.6	67.1	107	
EP068: trans-Chlordane	5103-74-2	0.5	µg/L	<0.5	5 µg/L	90.0	64.1	110	
EP068: alpha-Endosulfan	959-98-8	0.5	µg/L	<0.5	5 µg/L	108	66.7	112	
EP068: cis-Chlordane	5103-71-9	0.5	µg/L	<0.5	5 µg/L	86.5	63.2	111	
EP068: Dieldrin	60-57-1	0.5	µg/L	<0.5	5 µg/L	97.4	65.2	113	
EP068: 4,4'-DDE	72-55-9	0.5	µg/L	<0.5	5 µg/L	96.5	66.0	112	
EP068: Endrin	72-20-8	0.5	µg/L	<0.5	5 µg/L	97.3	65.2	113	
EP068: beta-Endosulfan	33213-65-9	0.5	µg/L	<0.5	5 µg/L	101	67.3	114	
EP068: 4,4'-DDD	72-54-8	0.5	µg/L	<0.5	5 µg/L	95.8	72.0	122	
EP068: Endrin aldehyde	7421-93-4	0.5	µg/L	<0.5	5 µg/L	77.0	66.9	109	
EP068: Endosulfan sulfate	1031-07-8	0.5	µg/L	<0.5	5 µg/L	81.8	65.2	112	
EP068: 4,4'-DDT	50-29-3	2	µg/L	<2.0	5 µg/L	84.6	65.2	112	
EP068: Endrin ketone	53494-70-5	0.5	µg/L	<0.5	5 µg/L	78.7	63.8	110	
EP068: Methoxychlor	72-43-5	2	µg/L	<2.0	5 µg/L	82.9	61.1	114	
EP068B: Organophosphorus Pesticides (OP) (QCLot: 3556026)									
EP068: Dichlorvos	62-73-7	0.5	µg/L	<0.5	5 µg/L	85.7	65.6	114	
EP068: Demeton-S-methyl	919-86-8	0.5	µg/L	<0.5	5 µg/L	76.5	63.7	113	
EP068: Monocrotophos	6923-22-4	2	µg/L	<2.0	5 µg/L	24.3	19.7	48.0	
EP068: Dimethoate	60-51-5	0.5	µg/L	<0.5	5 µg/L	99.0	69.5	110	
EP068: Diazinon	333-41-5	0.5	µg/L	<0.5	5 µg/L	92.9	71.1	110	
EP068: Chlorpyrifos-methyl	5598-13-0	0.5	µg/L	<0.5	5 µg/L	90.7	77.0	119	
EP068: Parathion-methyl	298-00-0	2	µg/L	<2.0	5 µg/L	90.3	70.0	124	
EP068: Malathion	121-75-5	0.5	µg/L	<0.5	5 µg/L	94.1	68.4	116	
EP068: Fenthion	55-38-9	0.5	µg/L	<0.5	5 µg/L	92.6	68.6	112	
EP068: Chlorpyrifos	2921-88-2	0.5	µg/L	<0.5	5 µg/L	102	75.0	119	
EP068: Parathion	56-38-2	2	µg/L	<2.0	5 µg/L	90.6	67.0	121	
EP068: Pirimphos-ethyl	23505-41-1	0.5	µg/L	<0.5	5 µg/L	87.8	69.0	121	
EP068: Chlorfenvinphos	470-90-6	0.5	µg/L	<0.5	5 µg/L	104	71.8	110	
EP068: Bromophos-ethyl	4824-78-6	0.5	µg/L	<0.5	5 µg/L	90.5	67.5	112	
EP068: Fenamiphos	22224-92-6	0.5	µg/L	<0.5	5 µg/L	92.4	64.1	116	



Sub-Matrix: WATER

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
				Result	Spike	Spike Recovery (%)	Acceptable Limits (%)	
					Concentration	LCS	Low	High
EP068B: Organophosphorus Pesticides (OP) (QCLot: 3556026) - continued								
EP068: Prothiofos	34643-46-4	0.5	µg/L	<0.5	5 µg/L	90.7	67.8	114
EP068: Ethion	563-12-2	0.5	µg/L	<0.5	5 µg/L	93.6	74.0	120
EP068: Carbophenothion	786-19-6	0.5	µg/L	<0.5	5 µg/L	78.2	66.2	114
EP068: Azinphos Methyl	86-50-0	0.5	µg/L	<0.5	5 µg/L	63.8	51.6	128
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3556024)								
EP075(SIM): Naphthalene	91-20-3	1	µg/L	<1.0	5 µg/L	73.1	50.0	94.0
EP075(SIM): Acenaphthylene	208-96-8	1	µg/L	<1.0	5 µg/L	78.1	63.6	114
EP075(SIM): Acenaphthene	83-32-9	1	µg/L	<1.0	5 µg/L	78.4	62.2	113
EP075(SIM): Fluorene	86-73-7	1	µg/L	<1.0	5 µg/L	79.1	63.9	115
EP075(SIM): Phenanthrene	85-01-8	1	µg/L	<1.0	5 µg/L	82.9	62.6	116
EP075(SIM): Anthracene	120-12-7	1	µg/L	<1.0	5 µg/L	82.5	64.3	116
EP075(SIM): Fluoranthene	206-44-0	1	µg/L	<1.0	5 µg/L	85.0	63.6	118
EP075(SIM): Pyrene	129-00-0	1	µg/L	<1.0	5 µg/L	84.5	63.1	118
EP075(SIM): Benz(a)anthracene	56-55-3	1	µg/L	<1.0	5 µg/L	77.0	64.1	117
EP075(SIM): Chrysene	218-01-9	1	µg/L	<1.0	5 µg/L	74.5	62.5	116
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2	1	µg/L	<1.0	5 µg/L	76.7	61.7	119
	205-82-3							
EP075(SIM): Benzo(k)fluoranthene	207-08-9	1	µg/L	<1.0	5 µg/L	70.5	63.0	115
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	5 µg/L	77.8	63.3	117
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L	<1.0	5 µg/L	73.5	59.9	118
EP075(SIM): Dibenz(a,h)anthracene	53-70-3	1	µg/L	<1.0	5 µg/L	78.5	61.2	117
EP075(SIM): Benzo(g,h,i)perylene	191-24-2	1	µg/L	<1.0	5 µg/L	70.4	59.1	118
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3556025)								
EP071: C10 - C14 Fraction	----	50	µg/L	<50	400 µg/L	74.0	55.8	112
EP071: C15 - C28 Fraction	----	100	µg/L	<100	600 µg/L	87.2	71.6	113
EP071: C29 - C36 Fraction	----	50	µg/L	<50	400 µg/L	100	56.0	121
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3563630)								
EP080: C6 - C9 Fraction	----	20	µg/L	<20	260 µg/L	93.5	75.0	127
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3556025)								
EP071: >C10 - C16 Fraction	----	100	µg/L	<100	500 µg/L	91.2	57.9	119
EP071: >C16 - C34 Fraction	----	100	µg/L	<100	700 µg/L	96.7	62.5	110
EP071: >C34 - C40 Fraction	----	100	µg/L	<100	300 µg/L	83.5	61.5	121
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3563630)								
EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	310 µg/L	98.9	75.0	127
EP080: BTEXN (QCLot: 3563630)								
EP080: Benzene	71-43-2	1	µg/L	<1	10 µg/L	95.7	70.0	122
EP080: Toluene	108-88-3	2	µg/L	<2	10 µg/L	95.6	69.0	123
EP080: Ethylbenzene	100-41-4	2	µg/L	<2	10 µg/L	102	70.0	120



Sub-Matrix: WATER

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
				Result	Spike	Spike Recovery (%)	Acceptable Limits (%)	
					Concentration	LCS	Low	High
EP080: BTEXN (QCLot: 3563630) - continued								
EP080: meta- & para-Xylene	108-38-3	2	µg/L	<2	10 µg/L	101	69.0	121
	106-42-3							
EP080: ortho-Xylene	95-47-6	2	µg/L	<2	10 µg/L	110	72.0	122
EP080: Naphthalene	91-20-3	5	µg/L	<5	10 µg/L	109	70.0	120

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: SOIL

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report		
				Spike Concentration	Spike Recovery(%) MS	Acceptable Limits (%) Low High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 3556427)						
ES2108110-025	TP15_0.1	EG005T: Arsenic	7440-38-2	50 mg/kg	95.4	70.0 130
		EG005T: Cadmium	7440-43-9	50 mg/kg	88.4	70.0 130
		EG005T: Chromium	7440-47-3	50 mg/kg	92.1	68.0 132
		EG005T: Copper	7440-50-8	250 mg/kg	86.2	70.0 130
		EG005T: Lead	7439-92-1	250 mg/kg	88.5	70.0 130
		EG005T: Nickel	7440-02-0	50 mg/kg	87.4	70.0 130
		EG005T: Zinc	7440-66-6	250 mg/kg	89.8	66.0 133
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 3565455)						
ES2108110-001	TP01_0.1	EG005T: Arsenic	7440-38-2	50 mg/kg	95.6	70.0 130
		EG005T: Cadmium	7440-43-9	50 mg/kg	75.7	70.0 130
		EG005T: Chromium	7440-47-3	50 mg/kg	77.8	68.0 132
		EG005T: Copper	7440-50-8	250 mg/kg	96.1	70.0 130
		EG005T: Lead	7439-92-1	250 mg/kg	93.0	70.0 130
		EG005T: Nickel	7440-02-0	50 mg/kg	74.5	70.0 130
		EG005T: Zinc	7440-66-6	250 mg/kg	81.9	66.0 133
ED045G: Chloride by Discrete Analyser (QCLot: 3563435)						
ES2108110-040	TP04_AGG	ED045G: Chloride	16887-00-6	250 mg/kg	112	70.0 130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3565456)						
ES2108110-001	TP01_0.1	EG035T: Mercury	7439-97-6	5 mg/kg	76.7	70.0 130
EP004: Organic Matter (QCLot: 3564250)						
ES2108110-025	TP15_0.1	EP004: Organic Matter	----	1.4 %	71.6	70.0 130
		EP004: Total Organic Carbon	----	0.81 %	72.0	70.0 130
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 3554885)						
ES2108110-001	TP01_0.1	EP066: Total Polychlorinated biphenyls	----	1 mg/kg	106	70.0 130



Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report				
				Spike Concentration	SpikeRecovery(%) MS	Acceptable Limits (%)		
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High	
EP068A: Organochlorine Pesticides (OC) (QCLot: 3554884)								
ES2108110-001	TP01_0.1	EP068: gamma-BHC	58-89-9	0.5 mg/kg	102	70.0	130	
		EP068: Heptachlor	76-44-8	0.5 mg/kg	92.4	70.0	130	
		EP068: Aldrin	309-00-2	0.5 mg/kg	113	70.0	130	
		EP068: Dieldrin	60-57-1	0.5 mg/kg	103	70.0	130	
		EP068: Endrin	72-20-8	2 mg/kg	109	70.0	130	
		EP068: 4.4'-DDT	50-29-3	2 mg/kg	86.7	70.0	130	
EP068B: Organophosphorus Pesticides (OP) (QCLot: 3554884)								
ES2108110-001	TP01_0.1	EP068: Diazinon	333-41-5	0.5 mg/kg	79.0	70.0	130	
		EP068: Chlorpyrifos-methyl	5598-13-0	0.5 mg/kg	104	70.0	130	
		EP068: Pirimphos-ethyl	23505-41-1	0.5 mg/kg	93.0	70.0	130	
		EP068: Bromophos-ethyl	4824-78-6	0.5 mg/kg	98.3	70.0	130	
		EP068: Prothiofos	34643-46-4	0.5 mg/kg	86.7	70.0	130	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3554883)								
ES2108110-001	TP01_0.1	EP075(SIM): Acenaphthene	83-32-9	10 mg/kg	89.7	70.0	130	
		EP075(SIM): Pyrene	129-00-0	10 mg/kg	86.8	70.0	130	
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3554882)								
ES2108110-001	TP01_0.1	EP071: C10 - C14 Fraction	----	523 mg/kg	99.4	73.0	137	
		EP071: C15 - C28 Fraction	----	2319 mg/kg	114	53.0	131	
		EP071: C29 - C36 Fraction	----	1714 mg/kg	116	52.0	132	
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3557284)								
ES2108110-001	TP01_0.1	EP080: C6 - C9 Fraction	----	32.5 mg/kg	107	70.0	130	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3554882)								
ES2108110-001	TP01_0.1	EP071: >C10 - C16 Fraction	----	860 mg/kg	105	73.0	137	
		EP071: >C16 - C34 Fraction	----	3223 mg/kg	110	53.0	131	
		EP071: >C34 - C40 Fraction	----	1058 mg/kg	89.7	52.0	132	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3557284)								
ES2108110-001	TP01_0.1	EP080: C6 - C10 Fraction	C6_C10	37.5 mg/kg	106	70.0	130	
EP080: BTEXN (QCLot: 3557284)								
ES2108110-001	TP01_0.1	EP080: Benzene	71-43-2	2.5 mg/kg	101	70.0	130	
		EP080: Toluene	108-88-3	2.5 mg/kg	92.8	70.0	130	
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	98.4	70.0	130	
		EP080: meta- & para-Xylene	108-38-3	2.5 mg/kg	95.9	70.0	130	
			106-42-3					
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	98.9	70.0	130	
		EP080: Naphthalene	91-20-3	2.5 mg/kg	103	70.0	130	

Sub-Matrix: **WATER**

Matrix Spike (MS) Report



Sub-Matrix: WATER

				Matrix Spike (MS) Report				
				Spike	SpikeRecovery(%)	Acceptable Limits (%)		
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High	
EG020T: Total Metals by ICP-MS (QCLot: 3567940)								
EN2101944-002	Anonymous	EG020A-T: Arsenic	7440-38-2	1 mg/L	99.2	70.0	130	
		EG020A-T: Cadmium	7440-43-9	0.25 mg/L	98.7	70.0	130	
		EG020A-T: Chromium	7440-47-3	1 mg/L	101	70.0	130	
		EG020A-T: Copper	7440-50-8	1 mg/L	# Not Determined	70.0	130	
		EG020A-T: Lead	7439-92-1	1 mg/L	97.0	70.0	130	
		EG020A-T: Nickel	7440-02-0	1 mg/L	102	70.0	130	
		EG020A-T: Zinc	7440-66-6	1 mg/L	98.3	70.0	130	
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3567946)								
ES2109136-004	Anonymous	EG035T: Mercury	7439-97-6	0.01 mg/L	103	70.0	130	
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3563630)								
ES2108672-001	Anonymous	EP080: C6 - C9 Fraction	----	325 µg/L	118	70.0	130	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3563630)								
ES2108672-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	375 µg/L	123	70.0	130	
EP080: BTEXN (QCLot: 3563630)								
ES2108672-001	Anonymous	EP080: Benzene	71-43-2	25 µg/L	100	70.0	130	
		EP080: Toluene	108-88-3	25 µg/L	101	70.0	130	
		EP080: Ethylbenzene	100-41-4	25 µg/L	103	70.0	130	
		EP080: meta- & para-Xylene	108-38-3	25 µg/L	103	70.0	130	
			106-42-3					
		EP080: ortho-Xylene	95-47-6	25 µg/L	106	70.0	130	
	EP080: Naphthalene	91-20-3	25 µg/L	109	70.0	130		



QA/QC Compliance Assessment to assist with Quality Review

Work Order	: ES2108110	Page	: 1 of 14
Client	: EP Risk Management	Laboratory	: Environmental Division Sydney
Contact	: LUKE Kerry	Telephone	: +61-2-8784 8555
Project	: Chisholm CRS Due Diligence	Date Samples Received	: 08-Mar-2021
Site	: ----	Issue Date	: 19-Mar-2021
Sampler	: LUKE KERRY	No. of samples received	: 88
Order number	: EP1995	No. of samples analysed	: 61

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** Laboratory Control outliers occur.
- Matrix Spike outliers exist - please see following pages for full details.
- For all regular sample matrices, **NO** surrogate recovery outliers occur.

Outliers : Analysis Holding Time Compliance

- **NO** Analysis Holding Time Outliers exist.

Outliers : Frequency of Quality Control Samples

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



Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **WATER**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Matrix Spike (MS) Recoveries							
EG020T: Total Metals by ICP-MS	EN2101944--002	Anonymous	Copper	7440-50-8	Not Determined	----	MS recovery not determined, background level greater than or equal to 4x spike level.

Outliers : Frequency of Quality Control Samples

Matrix: **SOIL**

Quality Control Sample Type Method	Count		Rate (%)		Quality Control Specification
	QC	Regular	Actual	Expected	
Laboratory Duplicates (DUP)					
Major Anions - Soluble	0	3	0.00	10.00	NEPM 2013 B3 & ALS QC Standard

Matrix: **WATER**

Quality Control Sample Type Method	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
TRH - Semivolatile Fraction	0	2	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
TRH - Semivolatile Fraction	0	2	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 Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA001: pH in soil using 0.01M CaCl extract							
Soil Glass Jar - Unpreserved (EA001) TP15_0.1	08-Mar-2021	12-Mar-2021	15-Mar-2021	✓	12-Mar-2021	13-Mar-2021	✓



Matrix: **SOIL**

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

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EA002: pH 1:5 (Soils)								
Soil Glass Jar - Unpreserved (EA002) TP15_0.1	08-Mar-2021	11-Mar-2021	15-Mar-2021	✓	11-Mar-2021	11-Mar-2021	✓	
Soil Glass Jar - Unpreserved (EA002) TP04_AGG, TP23_AGG	08-Mar-2021	15-Mar-2021	15-Mar-2021	✓	15-Mar-2021	15-Mar-2021	✓	
EA010: Conductivity (1:5)								
Soil Glass Jar - Unpreserved (EA010) TP15_0.1	08-Mar-2021	11-Mar-2021	15-Mar-2021	✓	11-Mar-2021	08-Apr-2021	✓	
Soil Glass Jar - Unpreserved (EA010) TP04_AGG, TP23_AGG	08-Mar-2021	15-Mar-2021	15-Mar-2021	✓	15-Mar-2021	12-Apr-2021	✓	
EA033-A: Actual Acidity								
Snap Lock Bag - frozen on receipt at ALS (EA033) ASS05, ASS24, ASS35	ASS13, ASS28, ASS18	08-Mar-2021	17-Mar-2021	08-Mar-2022	✓	17-Mar-2021	15-Jun-2021	✓
EA033-B: Potential Acidity								
Snap Lock Bag - frozen on receipt at ALS (EA033) ASS05, ASS24, ASS35	ASS13, ASS28, ASS18	08-Mar-2021	17-Mar-2021	08-Mar-2022	✓	17-Mar-2021	15-Jun-2021	✓
EA033-C: Acid Neutralising Capacity								
Snap Lock Bag - frozen on receipt at ALS (EA033) ASS05, ASS24, ASS35	ASS13, ASS28, ASS18	08-Mar-2021	17-Mar-2021	08-Mar-2022	✓	17-Mar-2021	15-Jun-2021	✓
EA033-D: Retained Acidity								
Snap Lock Bag - frozen on receipt at ALS (EA033) ASS05, ASS24, ASS35	ASS13, ASS28, ASS18	08-Mar-2021	17-Mar-2021	08-Mar-2022	✓	17-Mar-2021	15-Jun-2021	✓
EA033-E: Acid Base Accounting								
Snap Lock Bag - frozen on receipt at ALS (EA033) ASS05, ASS24, ASS35	ASS13, ASS28, ASS18	08-Mar-2021	17-Mar-2021	08-Mar-2022	✓	17-Mar-2021	15-Jun-2021	✓



Matrix: SOIL

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

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EA037: Ass Field Screening Analysis								
Snap Lock Bag - frozen on receipt at ALS (EA037)								
ASS01, ASS03, ASS05, ASS07, ASS09, ASS11, ASS13, ASS15, ASS17, ASS20, ASS22, ASS24, ASS26, ASS28, ASS30, ASS32, ASS34, ASS36, ASS18	ASS02, ASS04, ASS06, ASS08, ASS10, ASS12, ASS14, ASS16, ASS19, ASS21, ASS23, ASS25, ASS27, ASS29, ASS31, ASS33, ASS35, ASS37,	08-Mar-2021	15-Mar-2021	04-Sep-2021	✓	15-Mar-2021	04-Sep-2021	✓
EA055: Moisture Content (Dried @ 105-110°C)								
Soil Glass Jar - Unpreserved (EA055)								
TP15_0.1		08-Mar-2021	----	----	----	10-Mar-2021	22-Mar-2021	✓
Soil Glass Jar - Unpreserved (EA055)								
TP04_AGG, TP23_AGG	TP07_AGG,	08-Mar-2021	----	----	----	15-Mar-2021	22-Mar-2021	✓
Soil Glass Jar - Unpreserved (EA055)								
TP01_0.1, TP06_0.1, TP10_0.1, TP13_0.1, TP20_0.1, QC01	TP03_0.5, TP08_0.1, TP11_0.5, TP17_0.1, TP26_0.5,	08-Mar-2021	----	----	----	16-Mar-2021	22-Mar-2021	✓
Soil Glass Jar - Unpreserved (EA055)								
TP16_0.1,	TP24_0.1	08-Mar-2021	----	----	----	18-Mar-2021	22-Mar-2021	✓
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Snap Lock Bag - Friable Asbestos/PSD Bag (EA200)								
TP05_ASB, TP24_ASB	TP17_ASB,	08-Mar-2021	----	----	----	10-Mar-2021	04-Sep-2021	✓



Matrix: SOIL

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

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EA200N: Asbestos Quantification (non-NATA)								
Snap Lock Bag - Friable Asbestos/PSD Bag (EA200N) TP05_ASB, TP24_ASB	TP17_ASB,	08-Mar-2021	----	----	----	10-Mar-2021	04-Sep-2021	✓
ED007: Exchangeable Cations								
Soil Glass Jar - Unpreserved (ED007) TP15_0.1		08-Mar-2021	12-Mar-2021	05-Apr-2021	✓	12-Mar-2021	05-Apr-2021	✓
ED040S : Soluble Sulfate by ICPAES								
Soil Glass Jar - Unpreserved (ED040S) TP04_AGG, TP23_AGG	TP07_AGG,	08-Mar-2021	15-Mar-2021	05-Apr-2021	✓	15-Mar-2021	12-Apr-2021	✓
ED045G: Chloride by Discrete Analyser								
Soil Glass Jar - Unpreserved (ED045G) TP04_AGG, TP23_AGG	TP07_AGG,	08-Mar-2021	15-Mar-2021	05-Apr-2021	✓	15-Mar-2021	12-Apr-2021	✓
EG005(ED093)T: Total Metals by ICP-AES								
Soil Glass Jar - Unpreserved (EG005T) TP15_0.1		08-Mar-2021	10-Mar-2021	04-Sep-2021	✓	12-Mar-2021	04-Sep-2021	✓
Soil Glass Jar - Unpreserved (EG005T) TP01_0.1, TP06_0.1, TP10_0.1, TP13_0.1, TP20_0.1, QC01	TP03_0.5, TP08_0.1, TP11_0.5, TP17_0.1, TP26_0.5,	08-Mar-2021	16-Mar-2021	04-Sep-2021	✓	17-Mar-2021	04-Sep-2021	✓
EG035T: Total Recoverable Mercury by FIMS								
Soil Glass Jar - Unpreserved (EG035T) TP01_0.1, TP06_0.1, TP10_0.1, TP13_0.1, TP20_0.1, QC01	TP03_0.5, TP08_0.1, TP11_0.5, TP17_0.1, TP26_0.5,	08-Mar-2021	16-Mar-2021	05-Apr-2021	✓	18-Mar-2021	05-Apr-2021	✓
EP004: Organic Matter								
Soil Glass Jar - Unpreserved (EP004) TP15_0.1		08-Mar-2021	17-Mar-2021	05-Apr-2021	✓	17-Mar-2021	05-Apr-2021	✓
EP066: Polychlorinated Biphenyls (PCB)								
Soil Glass Jar - Unpreserved (EP066) TP01_0.1, TP10_0.1, TP24_0.1,	TP06_0.1, TP16_0.1, QC01	08-Mar-2021	16-Mar-2021	22-Mar-2021	✓	18-Mar-2021	25-Apr-2021	✓



Matrix: **SOIL**

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

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP068A: Organochlorine Pesticides (OC)								
Soil Glass Jar - Unpreserved (EP068)								
TP01_0.1, TP06_0.1, TP10_0.1, TP13_0.1, TP20_0.1, QC01	TP03_0.5, TP08_0.1, TP11_0.5, TP17_0.1, TP26_0.5	08-Mar-2021	16-Mar-2021	22-Mar-2021	✓	18-Mar-2021	25-Apr-2021	✓
EP068B: Organophosphorus Pesticides (OP)								
Soil Glass Jar - Unpreserved (EP068)								
TP01_0.1, TP06_0.1, TP10_0.1, TP13_0.1, TP20_0.1, QC01	TP03_0.5, TP08_0.1, TP11_0.5, TP17_0.1, TP26_0.5	08-Mar-2021	16-Mar-2021	22-Mar-2021	✓	18-Mar-2021	25-Apr-2021	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Soil Glass Jar - Unpreserved (EP075(SIM))								
TP01_0.1, TP10_0.1, TP24_0.1	TP06_0.1, TP16_0.1, QC01	08-Mar-2021	16-Mar-2021	22-Mar-2021	✓	17-Mar-2021	25-Apr-2021	✓
EP080/071: Total Petroleum Hydrocarbons								
Soil Glass Jar - Unpreserved (EP080)								
TP01_0.1, TP10_0.1, TP24_0.1, TS, TSC	TP06_0.1, TP16_0.1, QC01, TB,	08-Mar-2021	11-Mar-2021	22-Mar-2021	✓	16-Mar-2021	22-Mar-2021	✓
Soil Glass Jar - Unpreserved (EP071)								
TP01_0.1, TP10_0.1, TP24_0.1	TP06_0.1, TP16_0.1, QC01	08-Mar-2021	16-Mar-2021	22-Mar-2021	✓	17-Mar-2021	25-Apr-2021	✓



Matrix: **SOIL**

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

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
Soil Glass Jar - Unpreserved (EP080)								
TP01_0.1, TP10_0.1, TP24_0.1, TS, TSC	TP06_0.1, TP16_0.1, QC01, TB,	08-Mar-2021	11-Mar-2021	22-Mar-2021	✓	16-Mar-2021	22-Mar-2021	✓
Soil Glass Jar - Unpreserved (EP071)								
TP01_0.1, TP10_0.1, TP24_0.1,	TP06_0.1, TP16_0.1, QC01	08-Mar-2021	16-Mar-2021	22-Mar-2021	✓	17-Mar-2021	25-Apr-2021	✓
EP080: BTEXN								
Soil Glass Jar - Unpreserved (EP080)								
TP01_0.1, TP10_0.1, TP24_0.1, TS, TSC	TP06_0.1, TP16_0.1, QC01, TB,	08-Mar-2021	11-Mar-2021	22-Mar-2021	✓	16-Mar-2021	22-Mar-2021	✓

Matrix: **WATER**

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

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG020T: Total Metals by ICP-MS							
Clear Plastic Bottle - Nitric Acid; Unfiltered (EG020A-T)							
RINSATE 01	08-Mar-2021	17-Mar-2021	04-Sep-2021	✓	17-Mar-2021	04-Sep-2021	✓
EG035T: Total Recoverable Mercury by FIMS							
Clear Plastic Bottle - Nitric Acid; Unfiltered (EG035T)							
RINSATE 01	08-Mar-2021	----	----	----	17-Mar-2021	05-Apr-2021	✓
EP068A: Organochlorine Pesticides (OC)							
Amber Glass Bottle - Unpreserved (EP068)							
RINSATE 01	08-Mar-2021	11-Mar-2021	15-Mar-2021	✓	12-Mar-2021	20-Apr-2021	✓
EP068B: Organophosphorus Pesticides (OP)							
Amber Glass Bottle - Unpreserved (EP068)							
RINSATE 01	08-Mar-2021	11-Mar-2021	15-Mar-2021	✓	12-Mar-2021	20-Apr-2021	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP075(SIM))							
RINSATE 01	08-Mar-2021	11-Mar-2021	15-Mar-2021	✓	12-Mar-2021	20-Apr-2021	✓
EP080/071: Total Petroleum Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP071)							
RINSATE 01	08-Mar-2021	11-Mar-2021	15-Mar-2021	✓	11-Mar-2021	20-Apr-2021	✓
Amber TOC Vial - Sulfuric Acid (EP080)							
RINSATE 01	08-Mar-2021	17-Mar-2021	22-Mar-2021	✓	17-Mar-2021	22-Mar-2021	✓



Matrix: **WATER**

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

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions							
Amber Glass Bottle - Unpreserved (EP071)							
RINSATE 01	08-Mar-2021	11-Mar-2021	15-Mar-2021	✓	11-Mar-2021	20-Apr-2021	✓
Amber TOC Vial - Sulfuric Acid (EP080)							
RINSATE 01	08-Mar-2021	17-Mar-2021	22-Mar-2021	✓	17-Mar-2021	22-Mar-2021	✓
EP080: BTEXN							
Amber TOC Vial - Sulfuric Acid (EP080)							
RINSATE 01	08-Mar-2021	17-Mar-2021	22-Mar-2021	✓	17-Mar-2021	22-Mar-2021	✓



Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: ✘ = Quality Control frequency not within specification ; ✔ = Quality Control frequency within specification.

Quality Control Sample Type	Method	Count		Rate (%)			Quality Control Specification
		QC	Reaular	Actual	Expected	Evaluation	
Laboratory Duplicates (DUP)							
ASS Field Screening Analysis	EA037	5	46	10.87	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Chloride Soluble By Discrete Analyser	ED045G	1	3	33.33	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Chromium Suite for Acid Sulphate Soils	EA033	2	17	11.76	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Electrical Conductivity (1:5)	EA010	3	26	11.54	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Exchangeable Cations	ED007	1	1	100.00	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Major Anions - Soluble	ED040S	0	3	0.00	10.00	✘	NEPM 2013 B3 & ALS QC Standard
Moisture Content	EA055	6	48	12.50	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Organic Matter	EP004	2	16	12.50	10.00	✔	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	1	6	16.67	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	2	11	18.18	10.00	✔	NEPM 2013 B3 & ALS QC Standard
pH (1:5)	EA002	3	27	11.11	10.00	✔	NEPM 2013 B3 & ALS QC Standard
pH in soil using a 0.01M CaCl2 extract	EA001	1	1	100.00	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	6	16.67	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	2	18	11.11	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	3	22	13.64	10.00	✔	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	6	16.67	10.00	✔	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	18	11.11	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Chloride Soluble By Discrete Analyser	ED045G	2	3	66.67	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Chromium Suite for Acid Sulphate Soils	EA033	1	17	5.88	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Electrical Conductivity (1:5)	EA010	2	26	7.69	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Exchangeable Cations	ED007	1	1	100.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Major Anions - Soluble	ED040S	1	3	33.33	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Organic Matter	EP004	1	16	6.25	5.00	✔	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	1	6	16.67	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	11	9.09	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	6	16.67	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	18	5.56	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	2	22	9.09	5.00	✔	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	6	16.67	5.00	✔	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	18	5.56	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Chloride Soluble By Discrete Analyser	ED045G	1	3	33.33	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Chromium Suite for Acid Sulphate Soils	EA033	1	17	5.88	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Electrical Conductivity (1:5)	EA010	2	26	7.69	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Exchangeable Cations	ED007	1	1	100.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard



Matrix: **SOIL** Evaluation: ✖ = Quality Control frequency not within specification ; ✔ = Quality Control frequency within specification.

Quality Control Sample Type	Method	Count		Rate (%)			Quality Control Specification
		QC	Regular	Actual	Expected	Evaluation	
Analytical Methods							
Method Blanks (MB) - Continued							
Major Anions - Soluble	ED040S	1	3	33.33	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Organic Matter	EP004	1	16	6.25	5.00	✔	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	1	6	16.67	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	11	9.09	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	6	16.67	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	18	5.56	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	2	22	9.09	5.00	✔	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	6	16.67	5.00	✔	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	18	5.56	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Chloride Soluble By Discrete Analyser	ED045G	1	3	33.33	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Organic Matter	EP004	1	16	6.25	5.00	✔	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	1	6	16.67	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	11	9.09	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	6	16.67	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	18	5.56	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	2	22	9.09	5.00	✔	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	6	16.67	5.00	✔	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	18	5.56	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	
Analytical Methods							
Laboratory Duplicates (DUP)							
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
Total Mercury by FIMS	EG035T	1	9	11.11	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-MS - Suite A	EG020A-T	2	14	14.29	10.00	✔	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	0	2	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)							
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
Total Mercury by FIMS	EG035T	1	9	11.11	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-MS - Suite A	EG020A-T	1	14	7.14	5.00	✔	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	2	50.00	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)							
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



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	
Analytical Methods							
Method Blanks (MB) - Continued							
Total Mercury by FIMS	EG035T	1	9	11.11	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-MS - Suite A	EG020A-T	1	14	7.14	5.00	✔	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	2	50.00	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)							
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
Total Mercury by FIMS	EG035T	1	9	11.11	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-MS - Suite A	EG020A-T	1	14	7.14	5.00	✔	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	0	2	0.00	5.00	✖	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	20	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard



Brief Method Summaries

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

Analytical Methods	Method	Matrix	Method Descriptions
pH in soil using a 0.01M CaCl ₂ extract	EA001	SOIL	In house: Referenced to Rayment and Lyons 4B3 (mod.) or 4B4 (mod.) 10 g of soil is mixed with 50 mL of 0.01M CaCl ₂ and tumbled end over end for 1 hour. pH is measured from the continuous suspension. This method is compliant with NEPM Schedule B(3).
pH (1:5)	EA002	SOIL	In house: Referenced to Rayment and Lyons 4A1 and APHA 4500H+. pH is determined on soil samples after a 1:5 soil/water leach. This method is compliant with NEPM Schedule B(3).
Electrical Conductivity (1:5)	EA010	SOIL	In house: Referenced to Rayment and Lyons 3A1 and APHA 2510. Conductivity is determined on soil samples using a 1:5 soil/water leach. This method is compliant with NEPM Schedule B(3).
Chromium Suite for Acid Sulphate Soils	EA033	SOIL	In house: Referenced to Ahern et al 2004. This method covers the determination of Chromium Reducible Sulfur (SCR); pHKCl; titratable actual acidity (TAA); acid neutralising capacity by back titration (ANC); and net acid soluble sulfur (SNAS) which incorporates peroxide sulfur. It applies to soils and sediments (including sands) derived from coastal regions. Liming Rate is based on results for samples as submitted and incorporates a minimum safety factor of 1.5.
ASS Field Screening Analysis	* EA037	SOIL	In house: Referenced to Acid Sulfate Soils Laboratory Methods Guidelines. As received samples are tested for pH field and pH fox and assessed for a reaction rating.
Moisture Content	EA055	SOIL	In house: A gravimetric procedure based on weight loss over a 12 hour drying period at 105-110 degrees C. This method is compliant with NEPM Schedule B(3).
Asbestos Identification in Soils	EA200	SOIL	AS 4964 Method for the qualitative identification of asbestos in bulk samples Analysis by Polarised Light Microscopy including dispersion staining
Asbestos Classification and Quantitation per NEPM 2013	* EA200N	SOIL	Asbestos Classification and Quantitation per NEPM with Confirmation of Identification by AS 4964 - Gravimetric determination of Asbestos Containing Material, Fibrous Asbestos, Asbestos Fines and sample weight and calculation of percentage concentrations per NEPM protocols. Asbestos (Fines and Fibrous FA+AF) is reported as the equivalent weight in the sample received after accounting for sub-sampling (where applicable for the <7mm and/or <2mm fractions).
Exchangeable Cations	ED007	SOIL	In house: Referenced to Rayment & Lyons Method 15A1. Cations are exchanged from the sample by contact with Ammonium Chloride. They are then quantitated in the final solution by ICPAES and reported as meq/100g of original soil. This method is compliant with NEPM Schedule B(3).
Major Anions - Soluble	ED040S	SOIL	In house: Soluble Anions are determined off a 1:5 soil / water extract by ICPAES.
Chloride Soluble By Discrete Analyser	ED045G	SOIL	In house: Referenced to APHA 4500-Cl- E. The thiocyanate ion is liberated from mercuric thiocyanate through sequestration of mercury by the chloride ion to form non-ionised mercuric chloride.in the presence of ferric ions the liberated thiocyanate forms highly-coloured ferric thiocyanate which is measured at 480 nm. Analysis is performed on a 1:5 soil / water leachate.
Total Metals by ICP-AES	EG005T	SOIL	In house: Referenced to APHA 3120; USEPA SW 846 - 6010. Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM Schedule B(3)



Analytical Methods	Method	Matrix	Method Descriptions
Total Mercury by FIMS	EG035T	SOIL	In house: Referenced to AS 3550, APHA 3112 Hg - B (Flow-injection (SnCl ₂) (Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. Mercury in solids are determined following an appropriate acid digestion. Ionic mercury is reduced online to atomic mercury vapour by 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 Schedule B(3)
Organic Matter	EP004	SOIL	In house: Referenced to AS1289.4.1.1. Dichromate oxidation method after Walkley and Black. This method is compliant with NEPM Schedule B(3)
Polychlorinated Biphenyls (PCB)	EP066	SOIL	In house: Referenced to USEPA SW 846 - 8270 Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3).
Pesticides by GCMS	EP068	SOIL	In house: Referenced to USEPA SW 846 - 8270 Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This technique is compliant with NEPM Schedule B(3).
TRH - Semivolatile Fraction	EP071	SOIL	In house: Referenced to USEPA SW 846 - 8015 Sample extracts are analysed by Capillary GC/FID and quantified against alkane standards over the range C10 - C40. Compliant with NEPM Schedule B(3).
PAH/Phenols (SIM)	EP075(SIM)	SOIL	In house: Referenced to USEPA SW 846 - 8270. Extracts are analysed by Capillary GC/MS in Selective Ion Mode (SIM) and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)
TRH Volatiles/BTEX	EP080	SOIL	In house: Referenced to USEPA SW 846 - 8260. Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve. Compliant with NEPM Schedule B(3) amended.
Total Metals by ICP-MS - Suite A	EG020A-T	WATER	In house: Referenced to APHA 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector.
Total Mercury by FIMS	EG035T	WATER	In house: Referenced to AS 3550, APHA 3112 Hg - B (Flow-injection (SnCl ₂)(Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. A bromate/bromide reagent is used to oxidise any organic mercury compounds in the unfiltered sample. The ionic mercury is reduced online to atomic mercury vapour by 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 Schedule B(3).
Pesticides by GCMS	EP068	WATER	In house: Referenced to USEPA SW 846 - 8270 Sample extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)
TRH - Semivolatile Fraction	EP071	WATER	In house: Referenced to USEPA SW 846 - 8015 The sample extract is analysed by Capillary GC/FID and quantification is by comparison against an established 5 point calibration curve of n-Alkane standards. This method is compliant with the QC requirements of NEPM Schedule B(3)
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	WATER	In house: Referenced to USEPA SW 846 - 8270 Sample extracts are analysed by Capillary GC/MS in SIM Mode and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)



Analytical Methods	Method	Matrix	Method Descriptions
TRH Volatiles/BTEX	EP080	WATER	In house: Referenced to USEPA SW 846 - 8260 Water samples are directly purged prior to analysis by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. Alternatively, a sample is equilibrated in a headspace vial and a portion of the headspace determined by GCMS analysis. This method is compliant with the QC requirements of NEPM Schedule B(3)
Preparation Methods	Method	Matrix	Method Descriptions
pH in soil using a 0.01M CaCl ₂ extract	EA001-PR	SOIL	In house: Referenced to Rayment and Lyons 4B1, 10 g of soil is mixed with 50 mL of 0.01M CaCl ₂ and tumbled end over end for 1 hour. pH is measured from the continuous suspension. This method is compliant with NEPM Schedule B(3).
Exchangeable Cations Preparation Method	ED007PR	SOIL	In house: Referenced to Rayment & Lyons method 15A1. A 1M NH ₄ Cl extraction by end over end tumbling at a ratio of 1:20. There is no pretreatment for soluble salts. Extracts can be run by ICP for cations.
Drying only	EN020D	SOIL	In house
Drying at 85 degrees, bagging and labelling (ASS)	EN020PR	SOIL	In house
1:5 solid / water leach for soluble analytes	EN34	SOIL	10 g of soil is mixed with 50 mL of reagent grade water and tumbled end over end for 1 hour. Water soluble salts are leached from the soil by the continuous suspension. Samples are settled and the water filtered off for analysis.
Hot Block Digest for metals in soils sediments and sludges	EN69	SOIL	In house: Referenced to USEPA 200.2. Hot Block Acid Digestion 1.0g of sample is heated with Nitric and Hydrochloric acids, then cooled. Peroxide is added and samples heated and cooled again before being filtered and bulked to volume for analysis. Digest is appropriate for determination of selected metals in sludge, sediments, and soils. This method is compliant with NEPM Schedule B(3).
Organic Matter	EP004-PR	SOIL	In house: Referenced to AS1289.4.1.1. Dichromate oxidation method after Walkley and Black. This method is compliant with NEPM Schedule B(3).
Methanolic Extraction of Soils for Purge and Trap	ORG16	SOIL	In house: Referenced to USEPA SW 846 - 5030A. 5g of solid is shaken with surrogate and 10mL methanol prior to analysis by Purge and Trap - GC/MS.
Tumbler Extraction of Solids	ORG17	SOIL	In house: Mechanical agitation (tumbler). 10g of sample, Na ₂ SO ₄ and surrogate are extracted with 30mL 1:1 DCM/Acetone by end over end tumble. The solvent is decanted, dehydrated and concentrated (by KD) to the desired volume for analysis.
Digestion for Total Recoverable Metals	EN25	WATER	In house: Referenced to USEPA SW846-3005. Method 3005 is a Nitric/Hydrochloric acid digestion procedure used to prepare surface and ground water samples for analysis by ICPAES or ICPMS. This method is compliant with NEPM Schedule B(3)
Separatory Funnel Extraction of Liquids	ORG14	WATER	In house: Referenced to USEPA SW 846 - 3510 100 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM Schedule B(3) . ALS default excludes sediment which may be resident in the container.
Volatiles Water Preparation	ORG16-W	WATER	A 5 mL aliquot or 5 mL of a diluted sample is added to a 40 mL VOC vial for purging.



CHAIN OF CUSTODY

Sydney: 277 Woodpark Rd. Smithfield NSW 2164
 Ph: 02 8784 8555 E:samplesydney@alsenviro.com
 Newcastle: 5 Rosegum Rd. Warabrook NSW 2304
 Ph: 02 4968 8433 E:samplesnewcastle@alsenviro.com

Brisbane: 32 Sheild St. Stafford QLD 4053
 Ph: 07 5243 7222 E:samplesbrisbane@alsenviro.com
 Townsville: 14-15 Desma Ct. Bohle QLD 4818
 Ph: 07 4790 0600 E:townsville.environmental@alsenviro.com

Melbourne: 2-4 Westall Rd. Springvale VIC 3171
 Ph: 03 8549 9600 E:samplesmelbourne@alsenviro.com
 Adelaide: 2-1 Burma Rd. Pooraka SA 5005
 Ph: 08 8359 0800 E:adelaide@alsenviro.com

CLIENT: EP RISK MANAGEMENT PTY LTD
OFFICE: NEWCASTLE
PROJECT: EP1995
ORDER NUMBER: N/A
PROJECT MANAGER: Luke Kerry
SAMPLER: Gilles Renda
COC emailed to ALS? (YES / NO)
Email Reports to (will default to PM if no other addresses are listed): gilles.renda@eprisk.com.au
Email Invoice to (will default to PM if no other addresses are listed): accounts@eprisk.com.au

TURNAROUND REQUIREMENTS: Standard TAT (List due date): 27/04/21
 (Standard TAT may be longer for some tests)
 (e.g. Ultra Trace Organics)
 Standard TAT (List due date): 27/04/21
 Non Standard or urgent TAT (List due date):

ALS QUOTE NO.: SY/197/20 VZ
CONTACT PH: 0432 266 617
SAMPLER MOBILE: 0420 234 123
EDD FORMAT (or default):

RECEIVED BY: MM 5:10 PM
DATE/TIME: 20/04/21

RELINQUISHED BY: GR
DATE/TIME: 20/04/21 17:06

RECEIVED BY:
DATE/TIME:

SAMPLE DETAILS		CONTAINER INFORMATION		ANALYSIS REQUIRED INCLUDING SUITES (NB. Suite Codes must be listed to attract suite price)		Additional Information	
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL BOTTLES	Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required)	Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
1	TP49a-0.1	20/04/2021	S	Asbestos Bag	1	Asbestos W/W% Fines	
2	TP46a-0.1	20/04/2021	S	Asbestos Bag	1		
3	TP43a-0.1	20/04/2021	S	Asbestos Bag	1		
4	TP42a-0.1	20/04/2021	S	Asbestos Bag	1		
5	TP156a-0.1	20/04/2021	S	Asbestos Bag	1		
6	TP154a-0.1	20/04/2021	S	Asbestos Bag	1		
7	TP37a-0.1	20/04/2021	S	Asbestos Bag	1		
8	TP153a-0.1	20/04/2021	S	Asbestos Bag	1		
9	TP166a-0.1	20/04/2021	S	Asbestos Bag	1		
10	BA157a-0.1	20/04/2021	S	Asbestos Bag	1		
11	BA59a-0.1	20/04/2021	S	Asbestos Bag	1		
12	BA61a-0.1	20/04/2021	S	Asbestos Bag	1		
13	TP87a-0.1	20/04/2021	S	Asbestos Bag	1		
14	TP88a-0.1	20/04/2021	S	Asbestos Bag	1		
TOTAL					14	14	

Environmental Division
 Newcastle
 Work Order Reference
EN2103203



Telephone: + 61 2 4014 2500

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic
 V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl Preserved Plastic; HS = HCl Preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
 Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottle; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

CHAIN OF CUSTODY

Sydney: 277 Woodpark Rd. Smithfield NSW 2164
 Ph: 02 8784 8555 E: sam.ples.sydney@alsenviro.com
 Newcastle: 5 Rosegum Rd. Warabrook NSW 2304
 Ph: 02 4963 8433 E: sam.ples.newcastle@alsenviro.com

Brisbane: 32 Strand St. Stafford QLD 4053
 Ph: 07 3243 7222 E: sam.ples.brisbane@alsenviro.com
 Townsville: 14-15 Deam Ct. Bottle QLD 4815
 Ph: 07 4796 0600 E: townsville.environment@alsenviro.com

Melbourne: 2-4 Westall Rd. Springvale VIC 3171
 Ph: 03 8545 9600 E: sam.ples.melbourne@alsenviro.com
 Adelaide: 2-1 Burma Rd. Pooraka SA 5095
 Ph: 08 8359 0600 E: adelaide@alsenviro.com



CLIENT: EP RISK MANAGEMENT PTY LTD
OFFICE: NEWCASTLE
PROJECT: EP1995
ORDER NUMBER: N/A
PROJECT MANAGER: Luke Kerry
SAMPLER: Gilles Renda
COC emailed to ALS? (YES / NO)
Email Reports to (will default to PM if no other addresses are listed): gilles.renda@eprisk.com.au
Email Invoice to (will default to PM if no other addresses are listed): accounts@eprisk.com.au

TURNAROUND REQUIREMENTS :
 Standard TAT (List due date): 27/4/21
 Non Standard or urgent TAT (List due date):
 SY/497/20 V2

ALS QUOTE NO.:
 CONTACT PH: 0432 288 617
 SAMPLER MOBILE: 0420 234 123
 EDD FORMAT (or default):

RECEIVED BY: MM 5:10pm
DATE/TIME: 20/04/21
RELINQUISHED BY: C.R.
DATE/TIME: 20/04/21

RECEIVED BY:
DATE/TIME:

SAMPLE DETAILS		CONTAINER INFORMATION		ANALYSIS REQUIRED INCLUDING SUITES (NB. Suite Codes must be listed to attract suite price)		Additional Information	
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL BOTTLES	Asbestos w/w% Fines	Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
15	TP9090.1	20/04/2021	S	Asbestos Bag	1	1	
16	TP9200.1	20/04/2021	S	Asbestos Bag	1	1	
17	TP9500.1	20/04/2021	S	Asbestos Bag	1	1	
18	TP9700.1	20/04/2021	S	Asbestos Bag	1	1	
19	TP9800.1	20/04/2021	S	Asbestos Bag	1	1	
20	TP1010.1	20/04/2021	S	Asbestos Bag	1	1	
21	TP1020.1	20/04/2021	S	Asbestos Bag	1	1	
22	TP1030.1	20/04/2021	S	Asbestos Bag	1	1	
23	TP1300.1	20/04/2021	S	Asbestos Bag	1	1	
24	TP1390.1	20/04/2021	S	Asbestos Bag	1	1	
25	TP1450.1	20/04/2021	S	Asbestos Bag	1	1	
26	TP1030.1	20/04/2021	S	Asbestos Bag	1	1	
27	TP1060.1	20/04/2021	S	Asbestos Bag	1	1	
28	TP1120.1	20/04/2021	S	Asbestos Bag	1	1	
TOTAL					14	14	

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
 V = VOA Vial (HCl) Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
 Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.



CHAIN OF CUSTODY

ALS Laboratory: please tick →

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

Newcastle, 5 Rossignol Rd, Warabrook NSW 2304
Ph: 02 4966 9433 E:sam.plc.newcastle@alsenviro.com

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

Townsville, 14-15 Desha Ct, Bohle QLD 4818
Ph: 07 4796 0000 E:townsville.environmental@alsenviro.com

Melbourne, 2-4 Westall Rd, Springvale VIC 3171
Ph: 03 8549 8600 E:sam.plc.melbourne@alsenviro.com

Adelaide, 2-1 Burma Rd, Pooraka SA 5095
Ph: 08 8369 0800 E:adelaide@alsenviro.com

CLIENT: EP RISK MANAGEMENT PTY LTD OFFICE: NEWCASTLE PROJECT: EP1995 ORDER NUMBER: N/A PROJECT MANAGER: Luke Kerry SAMPLER: Gilles Renda COC emailed to ALS? (YES / NO) Email Reports to (will default to PM if no other addresses are listed): gilles.renda@eprisk.com.au Email Invoice to (will default to PM if no other addresses are listed): accounts@eprisk.com.au COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL: Also email luke.kerry@eprisk.com.au		TURNAROUND REQUIREMENTS: (Standard TAT may be longer for some tests e.g. Ultra Trace Organics) ALS QUOTE NO.: SY/497/20 V2 CONTACT PH: 0432 266 617 SAMPLER MOBILE: 0420 234 123 EDD FORMAT (or default):		STANDARD TAT (List due date): 27/04/21 <input checked="" type="checkbox"/> Standard TAT (List due date): 27/04/21 <input type="checkbox"/> Non Standard or Urgent TAT (List due date):		FOR LABORATORY USE ONLY: COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 7 OF: 1 2 3 4 5 6 7 RECEIVED BY: MM 5.19pm DATE/TIME: 20/04/21 RELINQUISHED BY: C.R. DATE/TIME: 20/04/21		RECEIVED BY: DATE/TIME:	
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL BOTTLES	ANALYSIS REQUIRED INCLUDING SUITES (NB. Suite Codes must be listed to attract suite price) <small>When Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required)</small>	Additional Information		
						Asbestos Ww/% Fines	Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.		
29	TP115a-0.1	20/04/2021	S	Asbestos Bag	1	1			
30	TP113a-0.1	20/04/2021	S	Asbestos Bag	1	1			
31	TP116a-0.1	20/04/2021	S	Asbestos Bag	1	1			
32	TP114a-0.1	20/04/2021	S	Asbestos Bag	1	1			
33	TP118a-0.1	20/04/2021	S	Asbestos Bag	1	1			
34	TP117a-0.1	20/04/2021	S	Asbestos Bag	1	1			
35	TP120a-0.1	20/04/2021	S	Asbestos Bag	1	1			
36	TP121a-0.1	20/04/2021	S	Asbestos Bag	1	1			
37	BH78a-0.1	20/04/2021	S	Asbestos Bag	1	1			
38	TP150a-0.1	20/04/2021	S	Asbestos Bag	1	1			
39	TP131a-0.1	20/04/2021	S	Asbestos Bag	1	1			
40	TP135a-0.1	20/04/2021	S	Asbestos Bag	1	1			
41	TP134a-0.1	20/04/2021	S	Asbestos Bag	1	1			
42	TP133a-0.1	20/04/2021	S	Asbestos Bag	1	1			
TOTAL					14	14			

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic
 V = VOA Vial HCl Preserved; VS = VOA Vial Sodium Bisulphate Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl Preserved Plastic; HS = HCl Preserved Plastic; F = Formaldehyde Preserved Glass;
 Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag



CHAIN OF CUSTODY

ALS Laboratory: please tick →
 Sydney: 277 Woodpark Rd, Smithfield NSW 2164
 Ph: 02 8784 8555 E: sam.ples.sydney@alsenviro.com
 Newcastle: 5 Rosegum Rd, Warabeek NSW 2304
 Ph: 02 4986 8433 E: sam.ples.newcastle@alsenviro.com

Brisbane: 32 Shand St, Stafford QLD 4053
 Ph: 07 3243 7222 E: sam.ples.brisbane@alsenviro.com
 Townsville: 14-15 Dasmie Ct, Bohle QLD 4818
 Ph: 07 4786 0000 E: townsville.environmental@alsenviro.com

Melbourne: 2-5 Westall Rd, Springvale VIC 3171
 Ph: 03 8549 9600 E: sam.ples.melbourne@alsenviro.com
 Adelaide: 2-4 Burna Rd, Pooraka SA 5005
 Ph: 08 8369 0000 E: adelaide@alsenviro.com

CLIENT: EP RISK MANAGEMENT PTY LTD
OFFICE: NEWCASTLE
PROJECT: EP1995
ORDER NUMBER: N/A
PROJECT MANAGER: Luke Kerry
SAMPLER: Gilles Renda
CONTACT PH: 0432 286 617
SAMPLER MOBILE: 0420 234 123
EDD FORMAT (or default):
COC emailed to ALS? (YES / NO)
Email Reports to (will default to PM if no other addresses are listed): gilles.renda@eprisk.com.au
Email Invoice to (will default to PM if no other addresses are listed): accounts@eprisk.com.au

TURNAROUND REQUIREMENTS: * Standard TAT (List due date): 27/04/21
 Non Standard or urgent TAT (List due date):
ALS QUOTE NO.: SY49720 V2

RECEIVED BY: MM STOPM
DATE/TIME: 20/04/21
RELINQUISHED BY: G-R
DATE/TIME: 22/04/21

SAMPLE DETAILS		CONTAINER INFORMATION		ANALYSIS REQUIRED INCLUDING SUITES (NB. Suite Codes must be listed to attract suite price)		Additional Information		
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL BOTTLES	Asbestos Ww% Times	Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).	
43	TP123-0.1	20/04/2021	S	Asbestos Bag	1	1		
44	TP152-0.1	20/04/2021	S	Asbestos Bag	1	1		
45	TP141-0.1	20/04/2021	S	Asbestos Bag	1	1		
46	TP111-0.1	20/04/2021	S	Asbestos Bag	1	1		
47	BH67-0.1	20/04/2021	S	Asbestos Bag	1	1		
48	BH65-0.1	20/04/2021	S	Asbestos Bag	1	1		
49	BH63-0.1	20/04/2021	S	Asbestos Bag	1	1		
57	SEDO1a	20/04/2021	Sediment	Asbestos Bag	1	1		
		20/04/2021		Asbestos Bag				
		20/04/2021		Asbestos Bag				
		20/04/2021		Asbestos Bag				
		20/04/2021		Asbestos Bag				
		20/04/2021		Asbestos Bag				
		20/04/2021		Asbestos Bag				
		20/04/2021		Asbestos Bag				
					TOTAL	97	1	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL: Also email luka.kerry@eprisk.com.au

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic; V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial; SG = Sulfuric Preserved Amber Glass; H = HCl Preserved Amber Glass; HS = HCl Preserved Speciation Bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

Hayley Withers

From: Gilles Renda <Gilles.Renda@eprisk.com.au>
Sent: Thursday, 22 April 2021 11:14 AM
To: Hayley Withers
Cc: Luke Kerry
Subject: [EXTERNAL] - Re: Analysis confirmation EP1995 (EN2103203)

CAUTION: This email originated from outside of ALS. Do not click links or open attachments unless you recognize the sender and are sure content is relevant to you.

Hi Hayley,

I just returned your call.

EA150H sieve + Hydrometer analysis please.

Kind Regards,

Gilles Renda
Environmental Scientist
M: 0420 234 123 E: Gilles.Renda@eprisk.com.au

On 22 Apr 2021 11:00 am, Hayley Withers <Hayley.Withers@alsglobal.com> wrote:
Hi Gilles,

I just left you a message. The lab just wanted to confirm the analysis requirement for the sediment samples received as part of EP1995 samples you dropped off Monday night.

Did you require EA150 Sieve only to 75µm or EA150H sieve + Hydrometer analysis?

If you could let me know at your earliest convenience it would be appreciated.

Kind Regards

Hayley Withers

Client Services/Admin Co-Ordinator
ALS Environmental



T +61 2 4014 2500
D +61 2 4014 2510
Hayley.Withers@alsglobal.com
5/585 Maitland Road
Mayfield West NSW 2304
AUSTRALIA



Right Solutions · Right Partner
www.alsglobal.com

CERTIFICATE OF ANALYSIS

Work Order : **EN2103203**
Client : **EP Risk Management**
Contact : LUKE Kerry
Address : 3/19 BOLTON STREET
 NEWCASTLE NSW 2300
Telephone : ----
Project : EP1995
Order number : ----
C-O-C number : ----
Sampler : Gilles Renda
Site : ----
Quote number : SY/497/20 Primary analysis only
No. of samples received : 50
No. of samples analysed : 50

Page : 1 of 14
Laboratory : Environmental Division Newcastle
Contact : Hannah White
Address : 5/585 Maitland Road Mayfield West NSW Australia 2304
Telephone : +61 2 4014 2500
Date Samples Received : 20-Apr-2021 17:10
Date Analysis Commenced : 22-Apr-2021
Issue Date : 27-Apr-2021 15:49



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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Descriptive Results

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>
Alana Smylie	Asbestos Identifier	Newcastle - Asbestos, Mayfield West, NSW
Aleksandar Vujkovic	Laboratory Technician	Newcastle - Inorganics, Mayfield West, 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.

- EA150H: Soil Particle Density required for Hydrometer analysis according to AS 1289.3.5.1 2006 was not requested by the client. Typical sediment SPD values used for calculations and consequently NATA endorsement does not apply to hydrometer results.
- EA200N: Asbestos weights and percentages are not covered under the Scope of NATA Accreditation.
Weights of Asbestos are based on extracted bulk asbestos, fibre bundles, and/or ACM and do not include respirable fibres (if present)
The Asbestos (Fines and Fibrous) weight is calculated from the extracted Fibrous Asbestos and Asbestos Fines as an equivalent weight of 100% Asbestos
Percentages for Asbestos content in ACM are based on the 2013 NEPM default values.
All calculations of percentage Asbestos under this method are approximate and should be used as a guide only.
- EA200 'Am' Amosite (brown asbestos)
- EA200 'Cr' Crocidolite (blue asbestos)
- EA200 'Trace' - Asbestos fibres ("Free Fibres") detected by trace analysis per AS4964. The result can be interpreted that the sample contains detectable 'respirable' asbestos fibres
- EA200: Asbestos Identification Samples were analysed by Polarised Light Microscopy including dispersion staining.
- EA200 Legend
- EA200 'Ch' Chrysotile (white asbestos)
- EA200: 'UMF' Unknown Mineral Fibres. "-" indicates fibres detected may or may not be asbestos fibres. Confirmation by alternative techniques is recommended.
- EA200N: ALS laboratory procedures and methods used for the identification and quantitation of asbestos are consistent with AS4964-2004 and the requirements of the 2013 NEPM for Assessment of Site Contamination
- EA200: For samples larger than 30g, the <2mm fraction may be sub-sampled prior to trace analysis as outlined in ISO23909:2008(E) Sect 6.3.2-2
- EA200: 'Yes' - Asbestos detected by polarised light microscopy including dispersion staining.
- EA200: 'No*' - No asbestos found, at the reporting limit of 0.1g/kg, by polarised light microscopy including dispersion staining. Asbestos material was detected and positively identified at concentrations estimated to be below 0.1g/kg.
- EA200: 'No' - No asbestos found at the reporting limit 0.1g/kg, by polarised light microscopy including dispersion staining.



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TP49a_0.1	TP46a_0.1	TP43a_0.1	TP42a_0.1	TP156a_0.1
				Sampling date / time	20-Apr-2021 00:00	20-Apr-2021 00:00	20-Apr-2021 00:00	20-Apr-2021 00:00	20-Apr-2021 00:00
Compound	CAS Number	LOR	Unit	EN2103203-001	EN2103203-002	EN2103203-003	EN2103203-004	EN2103203-005	
				Result	Result	Result	Result	Result	
EA200: AS 4964 - 2004 Identification of Asbestos in Soils									
Asbestos Detected	1332-21-4	0.1	g/kg	No	No	No	No	No	
Asbestos Type	1332-21-4	-	--	-	-	-	-	-	
Asbestos (Trace)	1332-21-4	5	Fibres	No	No	No	No	No	
Sample weight (dry)	----	0.01	g	415	345	418	345	452	
Synthetic Mineral Fibre	----	0.1	g/kg	No	No	No	No	No	
Organic Fibre	----	0.1	g/kg	No	No	No	No	No	
APPROVED IDENTIFIER:	----	-	--	A. SMYLIE	A. SMYLIE	A. SMYLIE	A. SMYLIE	A. SMYLIE	
EA200N: Asbestos Quantification (non-NATA)									
∅ Asbestos (Fines and Fibrous <7mm)	1332-21-4	0.0004	g	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	
∅ Asbestos (Fines and Fibrous FA+AF)	----	0.001	% (w/w)	<0.001	<0.001	<0.001	<0.001	<0.001	
∅ Weight Used for % Calculation	----	0.0001	kg	0.415	0.345	0.418	0.345	0.452	
∅ Fibrous Asbestos >7mm	----	0.0004	g	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	BH59a_0.1	BH61a_0.1	TP87a_0.1	TP88a_0.1	TP90a_0.1
Sampling date / time				20-Apr-2021 00:00	20-Apr-2021 00:00	20-Apr-2021 00:00	20-Apr-2021 00:00	20-Apr-2021 00:00	
Compound	CAS Number	LOR	Unit	EN2103203-011	EN2103203-012	EN2103203-013	EN2103203-014	EN2103203-015	
				Result	Result	Result	Result	Result	
EA200: AS 4964 - 2004 Identification of Asbestos in Soils									
Asbestos Detected	1332-21-4	0.1	g/kg	No	No	No	No	No	
Asbestos Type	1332-21-4	-	--	-	-	-	-	-	
Asbestos (Trace)	1332-21-4	5	Fibres	No	No	No	No	No	
Sample weight (dry)	----	0.01	g	505	425	534	417	486	
Synthetic Mineral Fibre	----	0.1	g/kg	No	No	No	No	No	
Organic Fibre	----	0.1	g/kg	No	No	No	No	No	
APPROVED IDENTIFIER:	----	-	--	A. SMYLIE	A. SMYLIE	A. SMYLIE	A. SMYLIE	A. SMYLIE	
EA200N: Asbestos Quantification (non-NATA)									
∅ Asbestos (Fines and Fibrous <7mm)	1332-21-4	0.0004	g	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	
∅ Asbestos (Fines and Fibrous FA+AF)	----	0.001	% (w/w)	<0.001	<0.001	<0.001	<0.001	<0.001	
∅ Weight Used for % Calculation	----	0.0001	kg	0.505	0.425	0.534	0.417	0.486	
∅ Fibrous Asbestos >7mm	----	0.0004	g	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TP92a_0.1	TP95a_0.1	TP97a_0.1	TP98a_0.1	TP101a_0.1
Sampling date / time				20-Apr-2021 00:00	20-Apr-2021 00:00	20-Apr-2021 00:00	20-Apr-2021 00:00	20-Apr-2021 00:00	
Compound	CAS Number	LOR	Unit	EN2103203-016	EN2103203-017	EN2103203-018	EN2103203-019	EN2103203-020	
				Result	Result	Result	Result	Result	
EA200: AS 4964 - 2004 Identification of Asbestos in Soils									
Asbestos Detected	1332-21-4	0.1	g/kg	No	No	No	No	No	
Asbestos Type	1332-21-4	-	--	-	-	-	-	-	
Asbestos (Trace)	1332-21-4	5	Fibres	No	No	No	No	No	
Sample weight (dry)	----	0.01	g	414	526	514	466	350	
Synthetic Mineral Fibre	----	0.1	g/kg	No	No	No	No	No	
Organic Fibre	----	0.1	g/kg	No	No	No	No	No	
APPROVED IDENTIFIER:	----	-	--	A. SMYLIE	A. SMYLIE	A. SMYLIE	A. SMYLIE	A. SMYLIE	
EA200N: Asbestos Quantification (non-NATA)									
∅ Asbestos (Fines and Fibrous <7mm)	1332-21-4	0.0004	g	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	
∅ Asbestos (Fines and Fibrous FA+AF)	----	0.001	% (w/w)	<0.001	<0.001	<0.001	<0.001	<0.001	
∅ Weight Used for % Calculation	----	0.0001	kg	0.414	0.526	0.514	0.466	0.350	
∅ Fibrous Asbestos >7mm	----	0.0004	g	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TP102a_0.1	TP30a_0.1	TP130a_0.1	TP139a_0.1	TP145a_0.1
Sampling date / time				20-Apr-2021 00:00	20-Apr-2021 00:00	20-Apr-2021 00:00	20-Apr-2021 00:00	20-Apr-2021 00:00	
Compound	CAS Number	LOR	Unit	EN2103203-021	EN2103203-022	EN2103203-023	EN2103203-024	EN2103203-025	
				Result	Result	Result	Result	Result	
EA200: AS 4964 - 2004 Identification of Asbestos in Soils									
Asbestos Detected	1332-21-4	0.1	g/kg	No	No	No	No	No	
Asbestos Type	1332-21-4	-	--	-	-	-	-	-	
Asbestos (Trace)	1332-21-4	5	Fibres	No	No	No	No	No	
Sample weight (dry)	----	0.01	g	547	386	474	328	444	
Synthetic Mineral Fibre	----	0.1	g/kg	No	No	No	No	No	
Organic Fibre	----	0.1	g/kg	No	No	No	No	No	
APPROVED IDENTIFIER:	----	-	--	A. SMYLIE	A. SMYLIE	A. SMYLIE	A. SMYLIE	A. SMYLIE	
EA200N: Asbestos Quantification (non-NATA)									
∅ Asbestos (Fines and Fibrous <7mm)	1332-21-4	0.0004	g	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	
∅ Asbestos (Fines and Fibrous FA+AF)	----	0.001	% (w/w)	<0.001	<0.001	<0.001	<0.001	<0.001	
∅ Weight Used for % Calculation	----	0.0001	kg	0.547	0.386	0.474	0.328	0.444	
∅ Fibrous Asbestos >7mm	----	0.0004	g	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TP103a_0.1	TP106a_0.1	TP112a_0.1	TP115a_0.1	TP113a_0.1
Sampling date / time				20-Apr-2021 00:00	20-Apr-2021 00:00	20-Apr-2021 00:00	20-Apr-2021 00:00	20-Apr-2021 00:00	
Compound	CAS Number	LOR	Unit	EN2103203-026	EN2103203-027	EN2103203-028	EN2103203-029	EN2103203-030	
				Result	Result	Result	Result	Result	
EA200: AS 4964 - 2004 Identification of Asbestos in Soils									
Asbestos Detected	1332-21-4	0.1	g/kg	No	No	No	No	No	
Asbestos Type	1332-21-4	-	--	-	-	-	-	-	
Asbestos (Trace)	1332-21-4	5	Fibres	No	No	No	No	No	
Sample weight (dry)	----	0.01	g	495	447	502	544	475	
Synthetic Mineral Fibre	----	0.1	g/kg	No	No	No	No	No	
Organic Fibre	----	0.1	g/kg	No	No	No	No	No	
APPROVED IDENTIFIER:	----	-	--	A. SMYLIE	A. SMYLIE	A. SMYLIE	A. SMYLIE	A. SMYLIE	
EA200N: Asbestos Quantification (non-NATA)									
∅ Asbestos (Fines and Fibrous <7mm)	1332-21-4	0.0004	g	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	
∅ Asbestos (Fines and Fibrous FA+AF)	----	0.001	% (w/w)	<0.001	<0.001	<0.001	<0.001	<0.001	
∅ Weight Used for % Calculation	----	0.0001	kg	0.495	0.447	0.502	0.544	0.475	
∅ Fibrous Asbestos >7mm	----	0.0004	g	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	



Analytical Results

Sub-Matrix: SOIL
 (Matrix: SOIL)

Sample ID

				TP116a_0.1	TP114a_0.1	TP118a_0.1	TP117a_0.1	TP120a_0.1
Sampling date / time				20-Apr-2021 00:00	20-Apr-2021 00:00	20-Apr-2021 00:00	20-Apr-2021 00:00	20-Apr-2021 00:00
Compound	CAS Number	LOR	Unit	EN2103203-031	EN2103203-032	EN2103203-033	EN2103203-034	EN2103203-035
				Result	Result	Result	Result	Result
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	No	No	No	No	No
Asbestos Type	1332-21-4	-	--	-	-	-	-	-
Asbestos (Trace)	1332-21-4	5	Fibres	No	No	No	No	No
Sample weight (dry)	----	0.01	g	503	479	490	392	345
Synthetic Mineral Fibre	----	0.1	g/kg	No	No	No	No	No
Organic Fibre	----	0.1	g/kg	No	No	No	No	No
APPROVED IDENTIFIER:	----	-	--	A. SMYLIE	A. SMYLIE	A. SMYLIE	A. SMYLIE	A. SMYLIE
EA200N: Asbestos Quantification (non-NATA)								
∅ Asbestos (Fines and Fibrous <7mm)	1332-21-4	0.0004	g	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004
∅ Asbestos (Fines and Fibrous FA+AF)	----	0.001	% (w/w)	<0.001	<0.001	<0.001	<0.001	<0.001
∅ Weight Used for % Calculation	----	0.0001	kg	0.503	0.479	0.490	0.392	0.345
∅ Fibrous Asbestos >7mm	----	0.0004	g	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TP121a_0.1	BH78a_0.1	TP150a_0.1	TP131a_0.1	TP135a_0.1
Sampling date / time				20-Apr-2021 00:00	20-Apr-2021 00:00	20-Apr-2021 00:00	20-Apr-2021 00:00	20-Apr-2021 00:00	
Compound	CAS Number	LOR	Unit	EN2103203-036	EN2103203-037	EN2103203-038	EN2103203-039	EN2103203-040	
				Result	Result	Result	Result	Result	
EA200: AS 4964 - 2004 Identification of Asbestos in Soils									
Asbestos Detected	1332-21-4	0.1	g/kg	No	No	No	No	No	
Asbestos Type	1332-21-4	-	--	-	-	-	-	-	
Asbestos (Trace)	1332-21-4	5	Fibres	No	No	No	No	No	
Sample weight (dry)	----	0.01	g	404	428	579	448	584	
Synthetic Mineral Fibre	----	0.1	g/kg	No	No	No	No	No	
Organic Fibre	----	0.1	g/kg	No	No	No	No	No	
APPROVED IDENTIFIER:	----	-	--	A. SMYLIE	A. SMYLIE	A. SMYLIE	A. SMYLIE	A. SMYLIE	
EA200N: Asbestos Quantification (non-NATA)									
∅ Asbestos (Fines and Fibrous <7mm)	1332-21-4	0.0004	g	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	
∅ Asbestos (Fines and Fibrous FA+AF)	----	0.001	% (w/w)	<0.001	<0.001	<0.001	<0.001	<0.001	
∅ Weight Used for % Calculation	----	0.0001	kg	0.404	0.428	0.579	0.448	0.584	
∅ Fibrous Asbestos >7mm	----	0.0004	g	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	



Analytical Results

Sub-Matrix: SOIL
 (Matrix: SOIL)

Sample ID

				TP134a_0.1	TP133a_0.1	TP123a_0.1	TP152a_0.1	TP141a_0.1
Sampling date / time				20-Apr-2021 00:00	20-Apr-2021 00:00	20-Apr-2021 00:00	20-Apr-2021 00:00	20-Apr-2021 00:00
Compound	CAS Number	LOR	Unit	EN2103203-041	EN2103203-042	EN2103203-043	EN2103203-044	EN2103203-045
				Result	Result	Result	Result	Result
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	No	No	No	No	No
Asbestos Type	1332-21-4	-	--	-	-	-	-	-
Asbestos (Trace)	1332-21-4	5	Fibres	No	No	No	No	No
Sample weight (dry)	----	0.01	g	600	474	615	442	531
Synthetic Mineral Fibre	----	0.1	g/kg	No	No	No	No	No
Organic Fibre	----	0.1	g/kg	No	No	No	No	No
APPROVED IDENTIFIER:	----	-	--	A. SMYLIE	A. SMYLIE	A. SMYLIE	A. SMYLIE	A. SMYLIE
EA200N: Asbestos Quantification (non-NATA)								
∅ Asbestos (Fines and Fibrous <7mm)	1332-21-4	0.0004	g	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004
∅ Asbestos (Fines and Fibrous FA+AF)	----	0.001	% (w/w)	<0.001	<0.001	<0.001	<0.001	<0.001
∅ Weight Used for % Calculation	----	0.0001	kg	0.600	0.474	0.615	0.442	0.531
∅ Fibrous Asbestos >7mm	----	0.0004	g	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TP111a_0.1	BH67a_0.1	BH65a_0.1	BH63a_0.1	SED01a
Sampling date / time				20-Apr-2021 00:00	20-Apr-2021 00:00	20-Apr-2021 00:00	20-Apr-2021 00:00	20-Apr-2021 00:00	
Compound	CAS Number	LOR	Unit	EN2103203-046	EN2103203-047	EN2103203-048	EN2103203-049	EN2103203-050	
				Result	Result	Result	Result	Result	
EA150: Particle Sizing									
+75µm	----	1	%	----	----	----	----	7	
+150µm	----	1	%	----	----	----	----	4	
+300µm	----	1	%	----	----	----	----	4	
+425µm	----	1	%	----	----	----	----	3	
+600µm	----	1	%	----	----	----	----	3	
+1180µm	----	1	%	----	----	----	----	2	
+2.36mm	----	1	%	----	----	----	----	<1	
+4.75mm	----	1	%	----	----	----	----	<1	
+9.5mm	----	1	%	----	----	----	----	<1	
+19.0mm	----	1	%	----	----	----	----	<1	
+37.5mm	----	1	%	----	----	----	----	<1	
+75.0mm	----	1	%	----	----	----	----	<1	
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%	----	----	----	----	36	
Silt (2-60 µm)	----	1	%	----	----	----	----	54	
Sand (0.06-2.00 mm)	----	1	%	----	----	----	----	9	
Gravel (>2mm)	----	1	%	----	----	----	----	1	
Cobbles (>6cm)	----	1	%	----	----	----	----	<1	
EA200: AS 4964 - 2004 Identification of Asbestos in Soils									
Asbestos Detected	1332-21-4	0.1	g/kg	No	No	No	No	----	
Asbestos Type	1332-21-4	-	--	-	-	-	-	----	
Asbestos (Trace)	1332-21-4	5	Fibres	No	No	No	No	----	
Sample weight (dry)	----	0.01	g	456	527	442	491	----	
Synthetic Mineral Fibre	----	0.1	g/kg	No	No	No	No	----	
Organic Fibre	----	0.1	g/kg	No	No	No	No	----	
APPROVED IDENTIFIER:	----	-	--	A. SMYLIE	A. SMYLIE	A. SMYLIE	A. SMYLIE	----	
EA200N: Asbestos Quantification (non-NATA)									
∅ Asbestos (Fines and Fibrous <7mm)	1332-21-4	0.0004	g	<0.0004	<0.0004	<0.0004	<0.0004	----	
∅ Asbestos (Fines and Fibrous FA+AF)	----	0.001	% (w/w)	<0.001	<0.001	<0.001	<0.001	----	
∅ Weight Used for % Calculation	----	0.0001	kg	0.456	0.527	0.442	0.491	----	
∅ Fibrous Asbestos >7mm	----	0.0004	g	<0.0004	<0.0004	<0.0004	<0.0004	----	



Analytical Results

Descriptive Results

Sub-Matrix: **SOIL**

Method: Compound	Sample ID - Sampling date / time	Analytical Results
EA200: AS 4964 - 2004 Identification of Asbestos in Soils		
EA200: Description	TP49a_0.1 - 20-Apr-2021 00:00	Mid brown soil.
EA200: Description	TP46a_0.1 - 20-Apr-2021 00:00	Mid brown soil.
EA200: Description	TP43a_0.1 - 20-Apr-2021 00:00	Mid brown soil.
EA200: Description	TP42a_0.1 - 20-Apr-2021 00:00	Mid brown soil.
EA200: Description	TP156a_0.1 - 20-Apr-2021 00:00	Mid brown soil.
EA200: Description	TP154a_0.1 - 20-Apr-2021 00:00	Mid brown soil.
EA200: Description	TP37a_0.1 - 20-Apr-2021 00:00	Mid brown soil.
EA200: Description	TP153a_0.1 - 20-Apr-2021 00:00	Mid brown soil.
EA200: Description	TP166a_0.1 - 20-Apr-2021 00:00	Mid brown soil.
EA200: Description	BH157a_0.1 - 20-Apr-2021 00:00	Mid brown soil.
EA200: Description	BH59a_0.1 - 20-Apr-2021 00:00	Mid brown soil.
EA200: Description	BH61a_0.1 - 20-Apr-2021 00:00	Mid brown soil.
EA200: Description	TP87a_0.1 - 20-Apr-2021 00:00	Mid brown soil.
EA200: Description	TP88a_0.1 - 20-Apr-2021 00:00	Mid brown soil.
EA200: Description	TP90a_0.1 - 20-Apr-2021 00:00	Mid brown soil.
EA200: Description	TP92a_0.1 - 20-Apr-2021 00:00	Mid brown soil.
EA200: Description	TP95a_0.1 - 20-Apr-2021 00:00	Mid brown soil.
EA200: Description	TP97a_0.1 - 20-Apr-2021 00:00	Mid brown soil.
EA200: Description	TP98a_0.1 - 20-Apr-2021 00:00	Mid brown soil.
EA200: Description	TP101a_0.1 - 20-Apr-2021 00:00	Mid brown soil.
EA200: Description	TP102a_0.1 - 20-Apr-2021 00:00	Mid brown soil.
EA200: Description	TP30a_0.1 - 20-Apr-2021 00:00	Mid brown soil.
EA200: Description	TP130a_0.1 - 20-Apr-2021 00:00	Mid brown soil.
EA200: Description	TP139a_0.1 - 20-Apr-2021 00:00	Mid brown soil.
EA200: Description	TP145a_0.1 - 20-Apr-2021 00:00	Mid brown soil.
EA200: Description	TP103a_0.1 - 20-Apr-2021 00:00	Mid brown soil.
EA200: Description	TP106a_0.1 - 20-Apr-2021 00:00	Mid brown soil.
EA200: Description	TP112a_0.1 - 20-Apr-2021 00:00	Mid brown soil.
EA200: Description	TP115a_0.1 - 20-Apr-2021 00:00	Mid brown soil.
EA200: Description	TP113a_0.1 - 20-Apr-2021 00:00	Mid brown soil.
EA200: Description	TP116a_0.1 - 20-Apr-2021 00:00	Mid brown soil.
EA200: Description	TP114a_0.1 - 20-Apr-2021 00:00	Mid brown soil.
EA200: Description	TP118a_0.1 - 20-Apr-2021 00:00	Mid brown soil.
EA200: Description	TP117a_0.1 - 20-Apr-2021 00:00	Mid brown soil.
EA200: Description	TP120a_0.1 - 20-Apr-2021 00:00	Mid brown soil.
EA200: Description	TP121a_0.1 - 20-Apr-2021 00:00	Mid brown soil.
EA200: Description	BH78a_0.1 - 20-Apr-2021 00:00	Mid brown soil.
EA200: Description	TP150a_0.1 - 20-Apr-2021 00:00	Mid brown soil.



Sub-Matrix: **SOIL**

<i>Method: Compound</i>	<i>Sample ID - Sampling date / time</i>	<i>Analytical Results</i>
EA200: Description	TP131a_0.1 - 20-Apr-2021 00:00	Mid brown soil.
EA200: Description	TP135a_0.1 - 20-Apr-2021 00:00	Mid brown soil.
EA200: Description	TP134a_0.1 - 20-Apr-2021 00:00	Mid brown soil.
EA200: Description	TP133a_0.1 - 20-Apr-2021 00:00	Mid brown soil.
EA200: Description	TP123a_0.1 - 20-Apr-2021 00:00	Mid brown soil.
EA200: Description	TP152a_0.1 - 20-Apr-2021 00:00	Mid brown soil.
EA200: Description	TP141a_0.1 - 20-Apr-2021 00:00	Mid brown soil.
EA200: Description	TP111a_0.1 - 20-Apr-2021 00:00	Mid brown soil.
EA200: Description	BH67a_0.1 - 20-Apr-2021 00:00	Mid brown soil.
EA200: Description	BH65a_0.1 - 20-Apr-2021 00:00	Mid brown soil.
EA200: Description	BH63a_0.1 - 20-Apr-2021 00:00	Mid brown soil.

QUALITY CONTROL REPORT

Work Order	: EN2103203	Page	: 1 of 3
Client	: EP Risk Management	Laboratory	: Environmental Division Newcastle
Contact	: LUKE Kerry	Contact	: Hannah White
Address	: 3/19 BOLTON STREET NEWCASTLE NSW 2300	Address	: 5/585 Maitland Road Mayfield West NSW Australia 2304
Telephone	: ----	Telephone	: +61 2 4014 2500
Project	: EP1995	Date Samples Received	: 20-Apr-2021
Order number	: ----	Date Analysis Commenced	: 22-Apr-2021
C-O-C number	: ----	Issue Date	: 27-Apr-2021
Sampler	: Gilles Renda		
Site	: ----		
Quote number	: SY/497/20 Primary analysis only		
No. of samples received	: 50		
No. of samples analysed	: 50		



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

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

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

<i>Signatories</i>	<i>Position</i>	<i>Accreditation Category</i>
Alana Smylie	Asbestos Identifier	Newcastle - Asbestos, Mayfield West, NSW
Aleksandar Vujkovic	Laboratory Technician	Newcastle - Inorganics, Mayfield West, 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%.

- **No Laboratory Duplicate (DUP) Results are required to be reported.**
-



Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

- **No Method Blank (MB) or Laboratory Control Spike (LCS) Results are required to be reported.**

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.

- **No Matrix Spike (MS) or Matrix Spike Duplicate (MSD) Results are required to be reported.**
-

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: EN2103203	Page	: 1 of 5
Client	: EP Risk Management	Laboratory	: Environmental Division Newcastle
Contact	: LUKE Kerry	Telephone	: +61 2 4014 2500
Project	: EP1995	Date Samples Received	: 20-Apr-2021
Site	: ----	Issue Date	: 27-Apr-2021
Sampler	: Gilles Renda	No. of samples received	: 50
Order number	: ----	No. of samples analysed	: 50

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** Laboratory Control outliers occur.
- **NO** Matrix Spike outliers occur.
- For all regular sample matrices, **NO** surrogate recovery outliers occur.

Outliers : Analysis Holding Time Compliance

- **NO** Analysis Holding Time Outliers exist.

Outliers : Frequency of Quality Control Samples

- **NO** Quality Control Sample Frequency Outliers exist.



Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for VOC in soils vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

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

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EA150: Particle Sizing								
Snap Lock Bag - Friable Asbestos/PSD Bag (EA150H) SED01a	20-Apr-2021	----	----	----	27-Apr-2021	17-Oct-2021	✓	
EA150: Soil Classification based on Particle Size								
Snap Lock Bag - Friable Asbestos/PSD Bag (EA150H) SED01a	20-Apr-2021	----	----	----	27-Apr-2021	17-Oct-2021	✓	
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Snap Lock Bag - Friable Asbestos/PSD Bag (EA200) TP49a_0.1, TP43a_0.1, TP156a_0.1, TP37a_0.1, TP166a_0.1, BH59a_0.1, TP87a_0.1, TP90a_0.1, TP95a_0.1, TP98a_0.1, TP102a_0.1, TP130a_0.1, TP145a_0.1, TP106a_0.1, TP115a_0.1, TP116a_0.1, TP118a_0.1, TP120a_0.1, BH78a_0.1, TP131a_0.1, TP134a_0.1, TP123a_0.1, TP141a_0.1, BH67a_0.1, BH63a_0.1	TP46a_0.1, TP42a_0.1, TP154a_0.1, TP153a_0.1, BH157a_0.1, BH61a_0.1, TP88a_0.1, TP92a_0.1, TP97a_0.1, TP101a_0.1, TP30a_0.1, TP139a_0.1, TP103a_0.1, TP112a_0.1, TP113a_0.1, TP114a_0.1, TP117a_0.1, TP121a_0.1, TP150a_0.1, TP135a_0.1, TP133a_0.1, TP152a_0.1, TP111a_0.1, BH65a_0.1	20-Apr-2021	----	----	----	22-Apr-2021	17-Oct-2021	✓



Matrix: **SOIL**

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

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EA200: AS 4964 - 2004 Identification of Asbestos in Soils - Continued								
EA200N: Asbestos Quantification (non-NATA)								
Snap Lock Bag - Friable Asbestos/PSD Bag (EA200N)								
TP49a_0.1, TP43a_0.1, TP156a_0.1, TP37a_0.1, TP166a_0.1, BH59a_0.1, TP87a_0.1, TP90a_0.1, TP95a_0.1, TP98a_0.1, TP102a_0.1, TP130a_0.1, TP145a_0.1, TP106a_0.1, TP115a_0.1, TP116a_0.1, TP118a_0.1, TP120a_0.1, BH78a_0.1, TP131a_0.1, TP134a_0.1, TP123a_0.1, TP141a_0.1, BH67a_0.1, BH63a_0.1	TP46a_0.1, TP42a_0.1, TP154a_0.1, TP153a_0.1, BH157a_0.1, BH61a_0.1, TP88a_0.1, TP92a_0.1, TP97a_0.1, TP101a_0.1, TP30a_0.1, TP139a_0.1, TP103a_0.1, TP112a_0.1, TP113a_0.1, TP114a_0.1, TP117a_0.1, TP121a_0.1, TP150a_0.1, TP135a_0.1, TP133a_0.1, TP152a_0.1, TP111a_0.1, BH65a_0.1,	20-Apr-2021	----	----	----	22-Apr-2021	17-Oct-2021	✓



Quality Control Parameter Frequency Compliance

- **No Quality Control data available for this section.**



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
Particle Size Analysis by Hydrometer	EA150H	SOIL	Particle Size Analysis by Hydrometer according to AS1289.3.6.3
Asbestos Identification in Soils	EA200	SOIL	AS 4964 Method for the qualitative identification of asbestos in bulk samples Analysis by Polarised Light Microscopy including dispersion staining
Asbestos Classification and Quantitation per NEPM 2013	* EA200N	SOIL	Asbestos Classification and Quantitation per NEPM with Confirmation of Identification by AS 4964 - Gravimetric determination of Asbestos Containing Material, Fibrous Asbestos, Asbestos Fines and sample weight and calculation of percentage concentrations per NEPM protocols. Asbestos (Fines and Fibrous FA+AF) is reported as the equivalent weight in the sample received after accounting for sub-sampling (where applicable for the <7mm and/or <2mm fractions).

CHAIN OF CUSTODY



ALS Laboratory, please tick →

Sydney: 277 Woodpark Rd, Smithfield NSW 2164
 Ph: 02 8784 8555 E: samples@als.com.au
 Newcastle: 6 Roseglen Rd, Waratah NSW 2204
 Ph: 02 9928 5923 E: samples@als.com.au

Brisbane: 25 Strand St, Stinson QLD 4005
 Ph: 07 3243 7222 E: samples@als.com.au
 Townsville: 1415 Deanna Ct, Doherty QLD 4813
 Ph: 07 4756 0500 E: samples@als.com.au

Melbourne: 2-4 Vaseki Rd, Sunbury VIC 3171
 Ph: 03 8545 9500 E: samples@als.com.au
 Adelaide: 7-9 Burns Rd, Mccoma SA 5095
 Ph: 08 8259 0900 E: samples@als.com.au

CLIENT: EP RISK MANAGEMENT PTY LTD

OFFICE: NEWCASTLE

PROJECT: EP1995

ORDER NUMBER: N/A

PROJECT MANAGER: Luke Kerry

SAMPLER: Gilles Renda

COC emailed to ALS? (YES / NO): EDD FORMAT (or default):

Email Reports to (will default to PM if no other addresses are listed): gilles.renda@eprisk.com.au

Email Invoice to (will default to PM if no other addresses are listed): accounts@eprisk.com.au

COMMENT/SPECIAL HANDLING/STORAGE OR DISPOSAL: Also email luke.kerry@eprisk.com.au

TURNAROUND REQUIREMENTS: Standard TAT may be longer for some tests
 (e.g. Ultra Trace Organics)

ALS QUOTE NO.: SY199520 V2

Standard TAT (List due date)
 Non Standard or Urgent TAT (List due date):

RELINQUISHED BY: DATE/TIME: RECEIVED BY: DATE/TIME:

COC SEQUENCE NUMBER (Circle):

1	2	3	4	5	6	7

FOR LABORATORY USE ONLY (Circle):

Cash/ID Seal Intact? Yes No N/A

Free Ice / Frozen Ice Intact: present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: Yes No N/A

Other handling: Yes No N/A

RECEIVED BY: *Nanda* DATE/TIME: *10/02/21 09:00*

LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (Refer to codes below)	TOTAL BOTTLES	HOLD	ANALYSIS REQUIRED INCLUDING SUITES (NB: Suite Codes must be listed to attract suite price) <small>When Metals are required, specify Total (unfiltered bottle required) or Dissolved (filtered bottle required)</small>	Additional Information
1	TP49_0.1	12/04/2021	S	Glass Jar	1		Heavy metals, TRH, BTEXN, PAH, PCBs, OCP, OPP	<p>Environmental Division Sydney Work Order Reference ES2113382</p> <p>Comments on likely contaminant levels, dilutions, or samples requiring specific OC analysis etc.</p> <p>UPDATED COC</p>
2	TP49_0.5	12/04/2021	S	Glass Jar	1		Asbestos (AF / FA) (w/w %)	
3	TP50_0.1	12/04/2021	S	Glass Jar	1			
4	TP50_0.5	12/04/2021	S	Glass Jar	1			
5	TP51_0.1	12/04/2021	S	Glass Jar	1			
6	TP51_0.5	12/04/2021	S	Glass Jar	1			
7	TP52_0.1	12/04/2021	S	Glass Jar	1			
8	TP52_0.5	12/04/2021	S	Glass Jar	1			
9	TP53_0.1	12/04/2021	S	Glass Jar	1			
10	TP53_0.5	12/04/2021	S	Glass Jar	1			
11	TP54_0.1	12/04/2021	S	Glass Jar	1			
12	TP54_0.5	12/04/2021	S	Glass Jar	1			
13	TP55_0.1	12/04/2021	S	Glass Jar	1			
14	TP55_0.5	12/04/2021	S	Glass Jar	1			
TOTAL					14	11	3	1

Water Container Codes: P = Unpreserved Plastic; N = Nitro Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airflight Unpreserved Plastic; V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Disphosphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airflight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl Preserved Plastic; HS = HCl Preserved Speedation Bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bag for Add Sulphate Solids; B = Unpreserved Bag.



CHAIN OF CUSTODY

ALS Laboratory, please tick →

Sydney 277 Woodpark Rd, Smithfield NSW 2164
 Ph: 02 8754 8555 E: markus.syd@alsenviro.com
 Newcastle 5 Rossjohn Rd, Warrocott NSW 2304
 Ph: 02 4866 8033 E: samples.newcastle@alsenviro.com

Brisbane 32 Strand St, Stafford QLD 4293
 Ph: 07 3213 7212 E: samples.brisbane@alsenviro.com
 Townsville 14-15 Dorrain Ct, Bahle QLD 4818
 Ph: 07 4726 0500 E: townsville.environment@alsenviro.com

Melbourne 24 Weald Rd, Springvale VIC 3171
 Ph: 03 8549 5000 E: samples.melbourne@alsenviro.com
 Adelaide 2-1 Burns Rd, Adelaide SA 5005
 Ph: 08 8359 0950 E: adelaide@alsenviro.com

CLIENT: EP RISK MANAGEMENT PTY LTD

OFFICE: NEWCASTLE

PROJECT: EP1995

ORDER NUMBER: N/A

PROJECT MANAGER: Luke Kerry

SAMPLER: Giles Renda

COC emailed to ALS? (YES / NO)

Email Reports to (will default to PM if no other addresses are listed): giles.renda@eprisk.com.au

Email Invoice to (will default to PM if no other addresses are listed): accounts@eprisk.com.au

COMMENT/SPECIAL HANDLING/STORAGE OR DISPOSAL: Also email luke.kerry@eprisk.com.au

TURNOVER REQUIREMENTS: Standard TAT (last due date); Non Standard or urgent TAT (last due date);

(Standard TAT may be longer for some tests e.g. Ultra Trace Organics)

ALS QUOTE NO.: SY/1995/20 V2

CONTACT PH: 0432 266 617

SAMPLER MOBILE: 0420 234 123

EDD FORMAT (or default):

REINQUISHED BY: DATE/TIME:

RECEIVED BY: DATE/TIME:

REINQUISHED BY: DATE/TIME:

RECEIVED BY: DATE/TIME:

FOR LABORATORY USE ONLY (Circle)

Catchy Seal Intact? Yes No N/A

Free Ice / frozen bag bridges present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comment:

REINQUISHED BY: DATE/TIME:

RECEIVED BY: DATE/TIME:

LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL BOTTLES	HOLD	ANALYSIS REQUIRED INCLUDING SUITES (NB: Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (filtered bottle required)	Additional Information		
15	TP56_0.1	12/04/2021	S	Glass Jar	1		Heavy metals, TRH, BTEXN, PAH, PCBs, OCP, OPP			
16	TP56_0.5	12/04/2021	S	Glass Jar	1					
17	TP57_0.1	12/04/2021	S	Glass Jar	1					
18	TP57_0.5	12/04/2021	S	Glass Jar	1					
19	TP58_0.1	12/04/2021	S	Glass Jar	1					
20	TP58_0.5	12/04/2021	S	Glass Jar	1					
21	TP153_0.1	12/04/2021	S	Glass Jar	1					
22	TP153_0.5	12/04/2021	S	Glass Jar	1					
23	TP154_0.1	12/04/2021	S	Glass Jar	1					
24	TP154_0.5	12/04/2021	S	Glass Jar	1					
25	TP155_0.1	12/04/2021	S	Glass Jar	1					
26	TP155_0.5	12/04/2021	S	Glass Jar	1					
27	TP156_0.1	12/04/2021	S	Glass Jar	1					
28	TP156_0.3	12/04/2021	S	Glass Jar	1					
TOTAL					14	8	4	3	2	1

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide Preserved Plastic; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airtight Unpreserved Plastic
 V = VOA Via HCl Preserved; VB = VOA Via Sodium Bisulfate Preserved; VS = VOA Via Sulfuric Preserved; AV = Airtight Unpreserved Vial; SG = Sulfuric Preserved Amber Glass; H = HCl Preserved Plastic; HS = HCl Preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
 Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Solns; B = Unpreserved Bag.



CHAIN OF CUSTODY

ALS Laboratory, please tick →

Sydney 227 Woodpark Rd, Smithfield NSW 2164
 Ph: 02 8741 8585 E: samples.sydney@alsenviro.com
 Newcastle 5 Rousegum Rd, Waratah NSW 2304
 Ph: 02 4957 5624 E: samples.newcastle@alsenviro.com

Brisbane 30 Shano St, Stafford QLD 4063
 Ph: 07 3543 7222 E: samples.brisbane@alsenviro.com
 Townsville 14-16 Deane Ct, Beane QLD 4815
 Ph: 07 4751 0500 E: townsville@alsenviro.com

Melbourne 2-4 Vesali Rd, Springvale VIC 3171
 Ph: 03 8549 9800 E: samples.melbourne@alsenviro.com
 Adelaide 2-1 Birnie Rd, Port Adelaide SA 5008
 Ph: 08 8559 0800 E: adelaide@alsenviro.com

CLIENT: EP RISK MANAGEMENT PTY LTD
OFFICE: NEWCASTLE
PROJECT: EP1995
ORDER NUMBER: N/A
PROJECT MANAGER: Luke Kerry
SAMPLER: Giles Renda
COC emailed to ALS? (YES / NO): YES / NO
EDD FORMAT (or default): EDD FORMAT (or default):
Email Reports to (will default to PM if no other addresses are listed): accounts@eprisk.com.au
Email Invoice to (will default to PM if no other addresses are listed): accounts@eprisk.com.au

TURNAROUND REQUIREMENTS: Standard TAT may be longer for some tests
 Standard TAT (List due date)
 Non Standard or urgent TAT (List due date)

RELINQUISHED BY: DATE/TIME: RECEIVED BY: DATE/TIME:

RELINQUISHED BY: DATE/TIME: RECEIVED BY: DATE/TIME:

RELINQUISHED BY: DATE/TIME: RECEIVED BY: DATE/TIME:

RELINQUISHED BY: DATE/TIME: RECEIVED BY: DATE/TIME:

RELINQUISHED BY: DATE/TIME: RECEIVED BY: DATE/TIME:

RELINQUISHED BY: DATE/TIME: RECEIVED BY: DATE/TIME:

RELINQUISHED BY: DATE/TIME: RECEIVED BY: DATE/TIME:

RELINQUISHED BY: DATE/TIME: RECEIVED BY: DATE/TIME:

RELINQUISHED BY: DATE/TIME: RECEIVED BY: DATE/TIME:

RELINQUISHED BY: DATE/TIME: RECEIVED BY: DATE/TIME:

RELINQUISHED BY: DATE/TIME: RECEIVED BY: DATE/TIME:

RELINQUISHED BY: DATE/TIME: RECEIVED BY: DATE/TIME:

RELINQUISHED BY: DATE/TIME: RECEIVED BY: DATE/TIME:

RELINQUISHED BY: DATE/TIME: RECEIVED BY: DATE/TIME:

RELINQUISHED BY: DATE/TIME: RECEIVED BY: DATE/TIME:

RELINQUISHED BY: DATE/TIME: RECEIVED BY: DATE/TIME:

RELINQUISHED BY: DATE/TIME: RECEIVED BY: DATE/TIME:

RELINQUISHED BY: DATE/TIME: RECEIVED BY: DATE/TIME:

RELINQUISHED BY: DATE/TIME: RECEIVED BY: DATE/TIME:

RELINQUISHED BY: DATE/TIME: RECEIVED BY: DATE/TIME:

RELINQUISHED BY: DATE/TIME: RECEIVED BY: DATE/TIME:

RELINQUISHED BY: DATE/TIME: RECEIVED BY: DATE/TIME:

RELINQUISHED BY: DATE/TIME: RECEIVED BY: DATE/TIME:

RELINQUISHED BY: DATE/TIME: RECEIVED BY: DATE/TIME:

RELINQUISHED BY: DATE/TIME: RECEIVED BY: DATE/TIME:

RELINQUISHED BY: DATE/TIME: RECEIVED BY: DATE/TIME:

RELINQUISHED BY: DATE/TIME: RECEIVED BY: DATE/TIME:

RELINQUISHED BY: DATE/TIME: RECEIVED BY: DATE/TIME:

FOR LABORATORY USE ONLY (Circle)

Custody Seal Intact? Yes No N/A
 Free Ice / Cooling packs present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C

ALS USE ONLY	SAMPLE DETAILS MATRIX: Solid(S) Water(W)	CONTAINER INFORMATION	ANALYSIS REQUIRED including SUITES (NB: Suite Codes must be listed to attract suite price) Where Matrix are required, specify Total (unfiltered bottles required) or Dissolved (filter filtered bottles required)	Additional Information Comments on likely contaminant levels, dilutions, or samples requiring specific OC analysis etc.
--------------	---	-----------------------	--	--

LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL BOTTLES	HOLD	Heavy metals, TRH, BTEXN, PAH, PCBs, OCP, OPP	Asbestos (AF / FA) (w/w %)	pH & pH fox	Chromium Reducible Sulfur Suite
29	BH157_0.1	12/04/2021	S	Glass Jar	1		1	1		
30	BH157_0.3	12/04/2021	S	Glass Jar	1					
31	TP158_0.1	12/04/2021	S	Glass Jar	1					
32	TP158_0.5	12/04/2021	S	Glass Jar	1					
33	TP159_0.1	12/04/2021	S	Glass Jar	1					
34	TP159_0.5	12/04/2021	S	Glass Jar	1					
35	TP160_0.1	12/04/2021	S	Glass Jar	1					
36	TP160_0.5	12/04/2021	S	Glass Jar	1					
37	TP161_0.1	12/04/2021	S	Glass Jar	1		1			
38	TP161_0.5	12/04/2021	S	Glass Jar	1					
39	TP162_0.1	12/04/2021	S	Glass Jar	1					
40	TP162_0.5	12/04/2021	S	Glass Jar	1					
41	TP163_0.1	12/04/2021	S	Glass Jar	1					
42	TP163_0.5	12/04/2021	S	Glass Jar	1				1	
TOTAL					14	10	2	1	2	1

Under Contaminant Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airtight Unpreserved Plastic
 V = VOA Vial ICH Preserved; VA = VOA Vial Sodium Bisulfate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfree Unpreserved Vial; SG = Sulfuric Preserved Amber Glass; H = HCl Preserved Plastic; HS = HCl Preserved Spedation bottles; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass
 Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Substrate Solids; B = Unpreserved Bag



CHAIN OF CUSTODY

ALS Laboratory, please tick →

Sydney, 277 Macquarie Rd, Southfield NSW 2164
 Ph: 02 8794 8555 E: samples_sydney@alsenviro.com
 Newcastle, 5 Rosegum Rd, Waratah NSW 2250
 Ph: 02 4958 9135 E: samples_newcastle@alsenviro.com

Brisbane, 22 Strand St, Sturges QLD 4053
 Ph: 07 3045 7202 E: samples_brisbane@alsenviro.com
 Townsville, 13-15 Lanning Ct, Banks QLD 4815
 Ph: 07 4758 0500 E: townsville.environment@alsenviro.com

Melbourne, 2-4 Vaseall Rd, Springvale VIC 3171
 Ph: 03 8548 9700 E: samples_melbourne@alsenviro.com
 Adelaide, 2-1 Burns St, Pooraka SA 5095
 Ph: 08 7359 0500 E: adelaide@alsenviro.com

CLIENT: EP RISK MANAGEMENT PTY LTD

OFFICE: NEWCASTLE

PROJECT: EP1995

ORDER NUMBER: N/A

PROJECT MANAGER: Luke Kerry

SAMPLER: Gilles Renda

COC emailed to ALS? (YES / NO)

Email Reports to (will default to PM if no other addresses are listed): gilles.renda@eprisk.com.au

Email Invoice to (will default to PM if no other addresses are listed): accounts@eprisk.com.au

TURNAROUND REQUIREMENTS: Standard TAT may be longer for some tests (e.g. Ultra Trace Organics)

ALS QUOTE NO.: SY/49620 V2

CONTACT PH: 0432 266 617

SAMPLER MOBILE: 0420 234 123

RELINQUISHED BY: DATE/TIME:

EDD FORMAT (for default):

Standard TAT (List due date):

Non Standard or urgent TAT (List due date):

COC SEQUENCE NUMBER (Circle)

RECEIVED BY: DATE/TIME:

RECEIVED BY: DATE/TIME:

RECEIVED BY: DATE/TIME:

RECEIVED BY: DATE/TIME:

RECEIVED BY: DATE/TIME:

FOR LABORATORY USE ONLY (Circle)

Cleanly Seal Intact? Yes/No

Fine Ice / frozen ice brids present upon receipt? Yes/No

Random Sample Temperature or Receipt? Yes/No

Other comment: N/A

COMMENT/SPECIAL HANDLING/STORAGE OR DISPOSAL: Also email luke.kerry@eprisk.com.au

ALS USE ONLY	SAMPLE DETAILS MATRIX: Solid(S) Water(W)	CONTAINER INFORMATION	ANALYSIS REQUIRED INCLUDING SUITES (NB: Suite Codes must be listed to attract suite price) <small>(Where Metals are required, specify Total (combined bottles required) or Dissolved (filter filtered bottle required))</small>	Additional Information
--------------	---	-----------------------	--	------------------------

LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE <small>(refer to codes below)</small>	TOTAL BOTTLES	HOLD	Heavy metals, TRH, BTEXN, PAH, PCBs, OCP, OPP	Asbestos (AF / FA) (w/w %)	Comments on likely contaminant levels, dilutions, or samples requiring specific OC analysis etc.
AP	TP164_0.1	12/04/2021	S	Glass Jar	1	1			
AP	TP164_0.5	12/04/2021	S	Glass Jar	1	1			
AP	TP165_0.1	12/04/2021	S	Glass Jar	1		1		
AP	TP165_0.5	12/04/2021	S	Glass Jar	1	1			
AP	TP166_0.1	12/04/2021	S	Glass Jar	1		1		
AP	TP166_0.5	12/04/2021	S	Glass Jar	1	1			
TOTAL					6	4	2	1	

(After Container Codes: P = Unpreserved Plastic, N = Nitric Preserved Plastic, ORG = Nitric Preserved ORG, SH = Sodium Hydroxide Preserved, S = Sodium Hydroxide Preserved, AG = Amber Glass Unpreserved, AP = Airtight Unpreserved Plastic, V = VOA Vial HCl Preserved, VB = VOA Vial Sodium Bisulfate Preserved, VS = VOA Vial Sulfuric Preserved, VAS = Sulfuric Preserved Amber Glass, H = HCl Preserved Plastic, HS = HCl Preserved Speciation bottles, SP = Sulfuric Preserved Plastic, F = Formaldehyde Preserved Glass, Z = Zinc Acetate Preserved Bottle, E = EDTA Preserved Bottle, ST = Sterile Bottle, ASS = Plastic Bag for Acid Sulphate Solns, B = Unpreserved Bag

CERTIFICATE OF ANALYSIS

Work Order	: ES2113382	Page	: 1 of 17
Client	: EP Risk Management	Laboratory	: Environmental Division Sydney
Contact	: Gilles Renda	Contact	: Hannah White
Address	: 3/19 BOLTON STREET NEWCASTLE NSW 2300	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: +61-2-8784 8555
Project	: EP1995	Date Samples Received	: 13-Apr-2021 13:38
Order number	: ----	Date Analysis Commenced	: 16-Apr-2021
C-O-C number	: ----	Issue Date	: 26-Apr-2021 14:21
Sampler	: GILLES RENDA		
Site	: ----		
Quote number	: SY/497/20 Primary analysis only		
No. of samples received	: 48		
No. of samples analysed	: 15		



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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

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

Signatories

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

<i>Signatories</i>	<i>Position</i>	<i>Accreditation Category</i>
Edwandy Fadjjar	Organic Coordinator	Sydney Inorganics, Smithfield, NSW
Edwandy Fadjjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Ivan Taylor	Analyst	Sydney Inorganics, Smithfield, NSW
Kim McCabe	Senior Inorganic Chemist	Brisbane Acid Sulphate Soils, Stafford, QLD
Satishkumar Trivedi	Senior Acid Sulfate Soil Chemist	Brisbane Acid Sulphate Soils, Stafford, QLD



General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS 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.

- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a,h)anthracene (1.0), Benzo(g,h,i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero, for 'TEQ 1/2LOR' are treated as half the reported LOR, and for 'TEQ LOR' are treated as being equal to the reported LOR. Note: TEQ 1/2LOR and TEQ LOR will calculate as 0.6mg/Kg and 1.2mg/Kg respectively for samples with non-detects for all of the eight TEQ PAHs.
- EP080: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EP068: Where reported, Total Chlordane (sum) is the sum of the reported concentrations of cis-Chlordane and trans-Chlordane at or above the LOR.
- EP068: Where reported, Total OCP is the sum of the reported concentrations of all Organochlorine Pesticides at or above LOR.
- EP075(SIM): Where reported, Total Cresol is the sum of the reported concentrations of 2-Methylphenol and 3- & 4-Methylphenol at or above the LOR.
- EG005: Poor precision was obtained for Zn on sample ES2113382 #47. Results have been confirmed by re-extraction and reanalysis.
- ASS: EA033 (CRS Suite): ANC not required because pH KCl less than 6.5
- ASS: EA037 (Rapid Field and F(ox) screening): pH F(ox) Reaction Rate: 1 - Slight; 2 - Moderate; 3 - Strong; 4 - Extreme
- ASS: EA033 (CRS Suite): Liming rate is calculated and reported on a dry weight basis assuming use of fine agricultural lime (CaCO₃) and using a safety factor of 1.5 to allow for non-homogeneous mixing and poor reactivity of lime. For conversion of Liming Rate from 'kg/t dry weight' to 'kg/m³ in-situ soil', multiply 'reported results' x 'wet bulk density of soil in t/m³'.
- EA037 ASS Field Screening: NATA accreditation does not cover performance of this service.



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TP49_0.1	TP53_0.1	TP54_0.1	TP56_0.1	TP153_0.1
Sampling date / time				12-Apr-2021 00:00	12-Apr-2021 00:00	12-Apr-2021 00:00	12-Apr-2021 00:00	12-Apr-2021 00:00	
Compound	CAS Number	LOR	Unit	ES2113382-001	ES2113382-009	ES2113382-011	ES2113382-015	ES2113382-021	
				Result	Result	Result	Result	Result	
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%	23.7	21.2	18.4	17.5	19.8	
EG005(ED093)T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg	6	<5	6	<5	12	
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1	
Chromium	7440-47-3	2	mg/kg	8	8	10	9	8	
Copper	7440-50-8	5	mg/kg	<5	<5	<5	<5	8	
Lead	7439-92-1	5	mg/kg	18	16	12	11	17	
Nickel	7440-02-0	2	mg/kg	3	2	3	2	2	
Zinc	7440-66-6	5	mg/kg	17	12	11	9	26	
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	
EP066: Polychlorinated Biphenyls (PCB)									
Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	
EP068A: Organochlorine Pesticides (OC)									
alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
^ Total Chlordane (sum)	----	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
4,4'-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
^ Endosulfan (sum)	115-29-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
4,4'-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TP49_0.1	TP53_0.1	TP54_0.1	TP56_0.1	TP153_0.1
Sampling date / time				12-Apr-2021 00:00	12-Apr-2021 00:00	12-Apr-2021 00:00	12-Apr-2021 00:00	12-Apr-2021 00:00	
Compound	CAS Number	LOR	Unit	ES2113382-001	ES2113382-009	ES2113382-011	ES2113382-015	ES2113382-021	
				Result	Result	Result	Result	Result	
EP068A: Organochlorine Pesticides (OC) - Continued									
4.4'-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2	
Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2	
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/5 0-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
EP068B: Organophosphorus Pesticides (OP)									
Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2	
Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2	
Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2	
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TP49_0.1	TP53_0.1	TP54_0.1	TP56_0.1	TP153_0.1
Sampling date / time				12-Apr-2021 00:00	12-Apr-2021 00:00	12-Apr-2021 00:00	12-Apr-2021 00:00	12-Apr-2021 00:00	
Compound	CAS Number	LOR	Unit	ES2113382-001	ES2113382-009	ES2113382-011	ES2113382-015	ES2113382-021	
				Result	Result	Result	Result	Result	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	0.6	0.6	0.6	0.6	0.6	
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	1.2	1.2	1.2	1.2	1.2	
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10	
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50	
C15 - C28 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100	
C29 - C36 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100	
^ C10 - C36 Fraction (sum)	----	50	mg/kg	<50	<50	<50	<50	<50	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	<10	<10	<10	
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	<10	<10	<10	<10	<10	
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50	
>C16 - C34 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100	
>C34 - C40 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100	
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	<50	<50	<50	<50	
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	<50	<50	<50	<50	<50	
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2	
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TP49_0.1	TP53_0.1	TP54_0.1	TP56_0.1	TP153_0.1
Sampling date / time				12-Apr-2021 00:00	12-Apr-2021 00:00	12-Apr-2021 00:00	12-Apr-2021 00:00	12-Apr-2021 00:00	
Compound	CAS Number	LOR	Unit	ES2113382-001	ES2113382-009	ES2113382-011	ES2113382-015	ES2113382-021	
				Result	Result	Result	Result	Result	
EP080: BTEXN - Continued									
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2	
^ Total Xylenes	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1	
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%	109	116	115	113	107	
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%	117	137	111	84.6	79.0	
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%	84.0	102	84.4	88.0	77.2	
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%	89.2	104	101	100	97.7	
2-Chlorophenol-D4	93951-73-6	0.5	%	88.4	104	96.0	98.8	93.6	
2,4,6-Tribromophenol	118-79-6	0.5	%	50.4	64.6	62.0	57.2	77.7	
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%	81.8	105	95.9	103	101	
Anthracene-d10	1719-06-8	0.5	%	96.5	101	111	109	109	
4-Terphenyl-d14	1718-51-0	0.5	%	89.6	105	80.1	104	112	
EP080S: TPH(V)/BTEX Surrogates									
1,2-Dichloroethane-D4	17060-07-0	0.2	%	73.4	121	85.3	79.2	91.7	
Toluene-D8	2037-26-5	0.2	%	74.1	124	75.5	79.2	74.5	
4-Bromofluorobenzene	460-00-4	0.2	%	97.9	126	93.7	104	86.6	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TP153_0.5	TP154_0.1	TP154_0.5	TP156_0.1	BH157_0.1
Sampling date / time				12-Apr-2021 00:00	12-Apr-2021 00:00	12-Apr-2021 00:00	12-Apr-2021 00:00	12-Apr-2021 00:00	
Compound	CAS Number	LOR	Unit	ES2113382-022	ES2113382-023	ES2113382-024	ES2113382-027	ES2113382-029	
				Result	Result	Result	Result	Result	
EA033-A: Actual Acidity									
pH KCl (23A)	----	0.1	pH Unit	4.2	----	----	----	----	
Titratable Actual Acidity (23F)	----	2	mole H+ / t	80	----	----	----	----	
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	0.13	----	----	----	----	
EA033-B: Potential Acidity									
Chromium Reducible Sulfur (22B)	----	0.005	% S	0.011	----	----	----	----	
acidity - Chromium Reducible Sulfur (a-22B)	----	10	mole H+ / t	<10	----	----	----	----	
EA033-D: Retained Acidity									
KCl Extractable Sulfur (23Ce)	----	0.02	% S	<0.02	----	----	----	----	
HCl Extractable Sulfur (20Be)	----	0.02	% S	0.02	----	----	----	----	
Net Acid Soluble Sulfur (20Je)	----	0.02	% S	<0.02	----	----	----	----	
acidity - Net Acid Soluble Sulfur (a-20J)	----	10	mole H+ / t	<10	----	----	----	----	
sulfidic - Net Acid Soluble Sulfur (s-20J)	----	0.02	% pyrite S	<0.02	----	----	----	----	
EA033-E: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-	1.5	----	----	----	----	
Net Acidity (sulfur units)	----	0.02	% S	0.15	----	----	----	----	
Net Acidity (acidity units)	----	10	mole H+ / t	93	----	----	----	----	
Liming Rate	----	1	kg CaCO3/t	7	----	----	----	----	
Net Acidity excluding ANC (sulfur units)	----	0.02	% S	0.15	----	----	----	----	
Net Acidity excluding ANC (acidity units)	----	10	mole H+ / t	93	----	----	----	----	
Liming Rate excluding ANC	----	1	kg CaCO3/t	7	----	----	----	----	
EA037: Ass Field Screening Analysis									
ø pH (F)	----	0.1	pH Unit	4.8	----	4.7	----	----	
ø pH (Fox)	----	0.1	pH Unit	3.7	----	3.8	----	----	
ø Reaction Rate	----	1	-	1	----	1	----	----	
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%	----	13.6	----	11.0	12.9	
EG005(ED093)T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg	----	8	----	9	14	
Cadmium	7440-43-9	1	mg/kg	----	<1	----	<1	<1	
Chromium	7440-47-3	2	mg/kg	----	3	----	8	17	
Copper	7440-50-8	5	mg/kg	----	9	----	<5	9	
Lead	7439-92-1	5	mg/kg	----	9	----	10	15	
Nickel	7440-02-0	2	mg/kg	----	2	----	2	6	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TP153_0.5	TP154_0.1	TP154_0.5	TP156_0.1	BH157_0.1
Sampling date / time				12-Apr-2021 00:00	12-Apr-2021 00:00	12-Apr-2021 00:00	12-Apr-2021 00:00	12-Apr-2021 00:00	
Compound	CAS Number	LOR	Unit	ES2113382-022	ES2113382-023	ES2113382-024	ES2113382-027	ES2113382-029	
				Result	Result	Result	Result	Result	
EG005(ED093)T: Total Metals by ICP-AES - Continued									
Zinc	7440-66-6	5	mg/kg	----	20	----	12	45	
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg	----	<0.1	----	<0.1	<0.1	
EP066: Polychlorinated Biphenyls (PCB)									
Total Polychlorinated biphenyls	----	0.1	mg/kg	----	<0.1	----	<0.1	<0.1	
EP068A: Organochlorine Pesticides (OC)									
alpha-BHC	319-84-6	0.05	mg/kg	----	<0.05	----	<0.05	<0.05	
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	----	<0.05	----	<0.05	<0.05	
beta-BHC	319-85-7	0.05	mg/kg	----	<0.05	----	<0.05	<0.05	
gamma-BHC	58-89-9	0.05	mg/kg	----	<0.05	----	<0.05	<0.05	
delta-BHC	319-86-8	0.05	mg/kg	----	<0.05	----	<0.05	<0.05	
Heptachlor	76-44-8	0.05	mg/kg	----	<0.05	----	<0.05	<0.05	
Aldrin	309-00-2	0.05	mg/kg	----	<0.05	----	<0.05	<0.05	
Heptachlor epoxide	1024-57-3	0.05	mg/kg	----	<0.05	----	<0.05	<0.05	
^ Total Chlordane (sum)	----	0.05	mg/kg	----	<0.05	----	<0.05	<0.05	
trans-Chlordane	5103-74-2	0.05	mg/kg	----	<0.05	----	<0.05	<0.05	
alpha-Endosulfan	959-98-8	0.05	mg/kg	----	<0.05	----	<0.05	<0.05	
cis-Chlordane	5103-71-9	0.05	mg/kg	----	<0.05	----	<0.05	<0.05	
Dieldrin	60-57-1	0.05	mg/kg	----	<0.05	----	<0.05	<0.05	
4,4'-DDE	72-55-9	0.05	mg/kg	----	<0.05	----	<0.05	<0.05	
Endrin	72-20-8	0.05	mg/kg	----	<0.05	----	<0.05	<0.05	
beta-Endosulfan	33213-65-9	0.05	mg/kg	----	<0.05	----	<0.05	<0.05	
^ Endosulfan (sum)	115-29-7	0.05	mg/kg	----	<0.05	----	<0.05	<0.05	
4,4'-DDD	72-54-8	0.05	mg/kg	----	<0.05	----	<0.05	<0.05	
Endrin aldehyde	7421-93-4	0.05	mg/kg	----	<0.05	----	<0.05	<0.05	
Endosulfan sulfate	1031-07-8	0.05	mg/kg	----	<0.05	----	<0.05	<0.05	
4,4'-DDT	50-29-3	0.2	mg/kg	----	<0.2	----	<0.2	<0.2	
Endrin ketone	53494-70-5	0.05	mg/kg	----	<0.05	----	<0.05	<0.05	
Methoxychlor	72-43-5	0.2	mg/kg	----	<0.2	----	<0.2	<0.2	
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	----	<0.05	----	<0.05	<0.05	
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-29-3	0.05	mg/kg	----	<0.05	----	<0.05	<0.05	
EP068B: Organophosphorus Pesticides (OP)									
Dichlorvos	62-73-7	0.05	mg/kg	----	<0.05	----	<0.05	<0.05	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TP153_0.5	TP154_0.1	TP154_0.5	TP156_0.1	BH157_0.1
Sampling date / time				12-Apr-2021 00:00	12-Apr-2021 00:00	12-Apr-2021 00:00	12-Apr-2021 00:00	12-Apr-2021 00:00	
Compound	CAS Number	LOR	Unit	ES2113382-022	ES2113382-023	ES2113382-024	ES2113382-027	ES2113382-029	
				Result	Result	Result	Result	Result	
EP068B: Organophosphorus Pesticides (OP) - Continued									
Demeton-S-methyl	919-86-8	0.05	mg/kg	----	<0.05	----	<0.05	<0.05	
Monocrotophos	6923-22-4	0.2	mg/kg	----	<0.2	----	<0.2	<0.2	
Dimethoate	60-51-5	0.05	mg/kg	----	<0.05	----	<0.05	<0.05	
Diazinon	333-41-5	0.05	mg/kg	----	<0.05	----	<0.05	<0.05	
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	----	<0.05	----	<0.05	<0.05	
Parathion-methyl	298-00-0	0.2	mg/kg	----	<0.2	----	<0.2	<0.2	
Malathion	121-75-5	0.05	mg/kg	----	<0.05	----	<0.05	<0.05	
Fenthion	55-38-9	0.05	mg/kg	----	<0.05	----	<0.05	<0.05	
Chlorpyrifos	2921-88-2	0.05	mg/kg	----	<0.05	----	<0.05	<0.05	
Parathion	56-38-2	0.2	mg/kg	----	<0.2	----	<0.2	<0.2	
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	----	<0.05	----	<0.05	<0.05	
Chlorfenvinphos	470-90-6	0.05	mg/kg	----	<0.05	----	<0.05	<0.05	
Bromophos-ethyl	4824-78-6	0.05	mg/kg	----	<0.05	----	<0.05	<0.05	
Fenamiphos	22224-92-6	0.05	mg/kg	----	<0.05	----	<0.05	<0.05	
Prothiofos	34643-46-4	0.05	mg/kg	----	<0.05	----	<0.05	<0.05	
Ethion	563-12-2	0.05	mg/kg	----	<0.05	----	<0.05	<0.05	
Carbophenothion	786-19-6	0.05	mg/kg	----	<0.05	----	<0.05	<0.05	
Azinphos Methyl	86-50-0	0.05	mg/kg	----	<0.05	----	<0.05	<0.05	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg	----	<0.5	----	<0.5	<0.5	
Acenaphthylene	208-96-8	0.5	mg/kg	----	<0.5	----	<0.5	<0.5	
Acenaphthene	83-32-9	0.5	mg/kg	----	<0.5	----	<0.5	<0.5	
Fluorene	86-73-7	0.5	mg/kg	----	<0.5	----	<0.5	<0.5	
Phenanthrene	85-01-8	0.5	mg/kg	----	<0.5	----	<0.5	<0.5	
Anthracene	120-12-7	0.5	mg/kg	----	<0.5	----	<0.5	<0.5	
Fluoranthene	206-44-0	0.5	mg/kg	----	<0.5	----	<0.5	<0.5	
Pyrene	129-00-0	0.5	mg/kg	----	<0.5	----	<0.5	<0.5	
Benz(a)anthracene	56-55-3	0.5	mg/kg	----	<0.5	----	<0.5	<0.5	
Chrysene	218-01-9	0.5	mg/kg	----	<0.5	----	<0.5	<0.5	
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	----	<0.5	----	<0.5	<0.5	
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	----	<0.5	----	<0.5	<0.5	
Benzo(a)pyrene	50-32-8	0.5	mg/kg	----	<0.5	----	<0.5	<0.5	
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	----	<0.5	----	<0.5	<0.5	
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	----	<0.5	----	<0.5	<0.5	
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	----	<0.5	----	<0.5	<0.5	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TP153_0.5	TP154_0.1	TP154_0.5	TP156_0.1	BH157_0.1
Sampling date / time				12-Apr-2021 00:00	12-Apr-2021 00:00	12-Apr-2021 00:00	12-Apr-2021 00:00	12-Apr-2021 00:00	
Compound	CAS Number	LOR	Unit	ES2113382-022	ES2113382-023	ES2113382-024	ES2113382-027	ES2113382-029	
				Result	Result	Result	Result	Result	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	----	<0.5	----	<0.5	<0.5	
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	----	<0.5	----	<0.5	<0.5	
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	----	0.6	----	0.6	0.6	
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	----	1.2	----	1.2	1.2	
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg	----	<10	----	<10	<10	
C10 - C14 Fraction	----	50	mg/kg	----	<50	----	<50	<50	
C15 - C28 Fraction	----	100	mg/kg	----	<100	----	<100	<100	
C29 - C36 Fraction	----	100	mg/kg	----	<100	----	<100	<100	
^ C10 - C36 Fraction (sum)	----	50	mg/kg	----	<50	----	<50	<50	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg	----	<10	----	<10	<10	
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	----	<10	----	<10	<10	
>C10 - C16 Fraction	----	50	mg/kg	----	<50	----	<50	<50	
>C16 - C34 Fraction	----	100	mg/kg	----	<100	----	<100	<100	
>C34 - C40 Fraction	----	100	mg/kg	----	<100	----	<100	<100	
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	----	<50	----	<50	<50	
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	----	<50	----	<50	<50	
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg	----	<0.2	----	<0.2	<0.2	
Toluene	108-88-3	0.5	mg/kg	----	<0.5	----	<0.5	<0.5	
Ethylbenzene	100-41-4	0.5	mg/kg	----	<0.5	----	<0.5	<0.5	
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	----	<0.5	----	<0.5	<0.5	
ortho-Xylene	95-47-6	0.5	mg/kg	----	<0.5	----	<0.5	<0.5	
^ Sum of BTEX	----	0.2	mg/kg	----	<0.2	----	<0.2	<0.2	
^ Total Xylenes	----	0.5	mg/kg	----	<0.5	----	<0.5	<0.5	
Naphthalene	91-20-3	1	mg/kg	----	<1	----	<1	<1	
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%	----	109	----	110	89.3	
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%	----	73.2	----	95.4	59.9	
EP068T: Organophosphorus Pesticide Surrogate									



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TP153_0.5	TP154_0.1	TP154_0.5	TP156_0.1	BH157_0.1
Sampling date / time				12-Apr-2021 00:00	12-Apr-2021 00:00	12-Apr-2021 00:00	12-Apr-2021 00:00	12-Apr-2021 00:00	
Compound	CAS Number	LOR	Unit	ES2113382-022	ES2113382-023	ES2113382-024	ES2113382-027	ES2113382-029	
				Result	Result	Result	Result	Result	
EP068T: Organophosphorus Pesticide Surrogate - Continued									
DEF	78-48-8	0.05	%	----	82.0	----	87.6	70.7	
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%	----	94.9	----	93.4	103	
2-Chlorophenol-D4	93951-73-6	0.5	%	----	97.5	----	89.5	88.6	
2,4,6-Tribromophenol	118-79-6	0.5	%	----	66.8	----	71.0	80.8	
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%	----	93.1	----	97.0	94.0	
Anthracene-d10	1719-06-8	0.5	%	----	110	----	104	102	
4-Terphenyl-d14	1718-51-0	0.5	%	----	108	----	104	101	
EP080S: TPH(V)/BTEX Surrogates									
1,2-Dichloroethane-D4	17060-07-0	0.2	%	----	85.6	----	87.9	88.5	
Toluene-D8	2037-26-5	0.2	%	----	75.1	----	75.0	76.6	
4-Bromofluorobenzene	460-00-4	0.2	%	----	90.9	----	95.7	88.4	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TP159_0.5	TP161_0.1	TP163_0.5	TP165_0.1	TP166_0.1
Sampling date / time				12-Apr-2021 00:00	12-Apr-2021 00:00	12-Apr-2021 00:00	12-Apr-2021 00:00	12-Apr-2021 00:00	
Compound	CAS Number	LOR	Unit	ES2113382-034	ES2113382-037	ES2113382-042	ES2113382-045	ES2113382-047	
				Result	Result	Result	Result	Result	
EA033-A: Actual Acidity									
pH KCl (23A)	----	0.1	pH Unit	4.3	----	----	----	----	
Titration Actual Acidity (23F)	----	2	mole H+ / t	104	----	----	----	----	
sulfidic - Titration Actual Acidity (s-23F)	----	0.02	% pyrite S	0.17	----	----	----	----	
EA033-B: Potential Acidity									
Chromium Reducible Sulfur (22B)	----	0.005	% S	0.013	----	----	----	----	
acidity - Chromium Reducible Sulfur (a-22B)	----	10	mole H+ / t	<10	----	----	----	----	
EA033-D: Retained Acidity									
KCl Extractable Sulfur (23Ce)	----	0.02	% S	<0.02	----	----	----	----	
HCl Extractable Sulfur (20Be)	----	0.02	% S	0.03	----	----	----	----	
Net Acid Soluble Sulfur (20Je)	----	0.02	% S	0.02	----	----	----	----	
acidity - Net Acid Soluble Sulfur (a-20J)	----	10	mole H+ / t	11	----	----	----	----	
sulfidic - Net Acid Soluble Sulfur (s-20J)	----	0.02	% pyrite S	<0.02	----	----	----	----	
EA033-E: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-	1.5	----	----	----	----	
Net Acidity (sulfur units)	----	0.02	% S	0.20	----	----	----	----	
Net Acidity (acidity units)	----	10	mole H+ / t	124	----	----	----	----	
Liming Rate	----	1	kg CaCO3/t	9	----	----	----	----	
Net Acidity excluding ANC (sulfur units)	----	0.02	% S	0.20	----	----	----	----	
Net Acidity excluding ANC (acidity units)	----	10	mole H+ / t	124	----	----	----	----	
Liming Rate excluding ANC	----	1	kg CaCO3/t	9	----	----	----	----	
EA037: Ass Field Screening Analysis									
ø pH (F)	----	0.1	pH Unit	4.9	----	4.8	----	----	
ø pH (Fox)	----	0.1	pH Unit	3.7	----	4.0	----	----	
ø Reaction Rate	----	1	-	1	----	1	----	----	
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%	----	15.9	----	16.0	15.0	
EG005(ED093)T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg	----	<5	----	14	9	
Cadmium	7440-43-9	1	mg/kg	----	<1	----	<1	4	
Chromium	7440-47-3	2	mg/kg	----	4	----	4	10	
Copper	7440-50-8	5	mg/kg	----	<5	----	9	11	
Lead	7439-92-1	5	mg/kg	----	<5	----	13	137	
Nickel	7440-02-0	2	mg/kg	----	8	----	3	9	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TP159_0.5	TP161_0.1	TP163_0.5	TP165_0.1	TP166_0.1
Sampling date / time				12-Apr-2021 00:00	12-Apr-2021 00:00	12-Apr-2021 00:00	12-Apr-2021 00:00	12-Apr-2021 00:00	
Compound	CAS Number	LOR	Unit	ES2113382-034	ES2113382-037	ES2113382-042	ES2113382-045	ES2113382-047	
				Result	Result	Result	Result	Result	
EG005(ED093)T: Total Metals by ICP-AES - Continued									
Zinc	7440-66-6	5	mg/kg	----	40	----	14	145	
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg	----	<0.1	----	0.2	0.2	
EP066: Polychlorinated Biphenyls (PCB)									
Total Polychlorinated biphenyls	----	0.1	mg/kg	----	<0.1	----	<0.1	<0.1	
EP068A: Organochlorine Pesticides (OC)									
alpha-BHC	319-84-6	0.05	mg/kg	----	<0.05	----	<0.05	<0.05	
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	----	<0.05	----	<0.05	<0.05	
beta-BHC	319-85-7	0.05	mg/kg	----	<0.05	----	<0.05	<0.05	
gamma-BHC	58-89-9	0.05	mg/kg	----	<0.05	----	<0.05	<0.05	
delta-BHC	319-86-8	0.05	mg/kg	----	<0.05	----	<0.05	<0.05	
Heptachlor	76-44-8	0.05	mg/kg	----	<0.05	----	<0.05	<0.05	
Aldrin	309-00-2	0.05	mg/kg	----	<0.05	----	<0.05	<0.05	
Heptachlor epoxide	1024-57-3	0.05	mg/kg	----	<0.05	----	<0.05	<0.05	
^ Total Chlordane (sum)	----	0.05	mg/kg	----	<0.05	----	<0.05	<0.05	
trans-Chlordane	5103-74-2	0.05	mg/kg	----	<0.05	----	<0.05	<0.05	
alpha-Endosulfan	959-98-8	0.05	mg/kg	----	<0.05	----	<0.05	<0.05	
cis-Chlordane	5103-71-9	0.05	mg/kg	----	<0.05	----	<0.05	<0.05	
Dieldrin	60-57-1	0.05	mg/kg	----	<0.05	----	<0.05	<0.05	
4,4'-DDE	72-55-9	0.05	mg/kg	----	<0.05	----	<0.05	<0.05	
Endrin	72-20-8	0.05	mg/kg	----	<0.05	----	<0.05	<0.05	
beta-Endosulfan	33213-65-9	0.05	mg/kg	----	<0.05	----	<0.05	<0.05	
^ Endosulfan (sum)	115-29-7	0.05	mg/kg	----	<0.05	----	<0.05	<0.05	
4,4'-DDD	72-54-8	0.05	mg/kg	----	<0.05	----	<0.05	<0.05	
Endrin aldehyde	7421-93-4	0.05	mg/kg	----	<0.05	----	<0.05	<0.05	
Endosulfan sulfate	1031-07-8	0.05	mg/kg	----	<0.05	----	<0.05	<0.05	
4,4'-DDT	50-29-3	0.2	mg/kg	----	<0.2	----	<0.2	<0.2	
Endrin ketone	53494-70-5	0.05	mg/kg	----	<0.05	----	<0.05	<0.05	
Methoxychlor	72-43-5	0.2	mg/kg	----	<0.2	----	<0.2	<0.2	
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	----	<0.05	----	<0.05	<0.05	
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-29-3	0.05	mg/kg	----	<0.05	----	<0.05	<0.05	
EP068B: Organophosphorus Pesticides (OP)									
Dichlorvos	62-73-7	0.05	mg/kg	----	<0.05	----	<0.05	<0.05	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TP159_0.5	TP161_0.1	TP163_0.5	TP165_0.1	TP166_0.1
Sampling date / time				12-Apr-2021 00:00	12-Apr-2021 00:00	12-Apr-2021 00:00	12-Apr-2021 00:00	12-Apr-2021 00:00	
Compound	CAS Number	LOR	Unit	ES2113382-034	ES2113382-037	ES2113382-042	ES2113382-045	ES2113382-047	
				Result	Result	Result	Result	Result	
EP068B: Organophosphorus Pesticides (OP) - Continued									
Demeton-S-methyl	919-86-8	0.05	mg/kg	----	<0.05	----	<0.05	<0.05	
Monocrotophos	6923-22-4	0.2	mg/kg	----	<0.2	----	<0.2	<0.2	
Dimethoate	60-51-5	0.05	mg/kg	----	<0.05	----	<0.05	<0.05	
Diazinon	333-41-5	0.05	mg/kg	----	<0.05	----	<0.05	<0.05	
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	----	<0.05	----	<0.05	<0.05	
Parathion-methyl	298-00-0	0.2	mg/kg	----	<0.2	----	<0.2	<0.2	
Malathion	121-75-5	0.05	mg/kg	----	<0.05	----	<0.05	<0.05	
Fenthion	55-38-9	0.05	mg/kg	----	<0.05	----	<0.05	<0.05	
Chlorpyrifos	2921-88-2	0.05	mg/kg	----	<0.05	----	<0.05	<0.05	
Parathion	56-38-2	0.2	mg/kg	----	<0.2	----	<0.2	<0.2	
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	----	<0.05	----	<0.05	<0.05	
Chlorfenvinphos	470-90-6	0.05	mg/kg	----	<0.05	----	<0.05	<0.05	
Bromophos-ethyl	4824-78-6	0.05	mg/kg	----	<0.05	----	<0.05	<0.05	
Fenamiphos	22224-92-6	0.05	mg/kg	----	<0.05	----	<0.05	<0.05	
Prothiofos	34643-46-4	0.05	mg/kg	----	<0.05	----	<0.05	<0.05	
Ethion	563-12-2	0.05	mg/kg	----	<0.05	----	<0.05	<0.05	
Carbophenothion	786-19-6	0.05	mg/kg	----	<0.05	----	<0.05	<0.05	
Azinphos Methyl	86-50-0	0.05	mg/kg	----	<0.05	----	<0.05	<0.05	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg	----	<0.5	----	<0.5	<0.5	
Acenaphthylene	208-96-8	0.5	mg/kg	----	<0.5	----	<0.5	<0.5	
Acenaphthene	83-32-9	0.5	mg/kg	----	<0.5	----	<0.5	<0.5	
Fluorene	86-73-7	0.5	mg/kg	----	<0.5	----	<0.5	<0.5	
Phenanthrene	85-01-8	0.5	mg/kg	----	<0.5	----	1.2	<0.5	
Anthracene	120-12-7	0.5	mg/kg	----	<0.5	----	<0.5	<0.5	
Fluoranthene	206-44-0	0.5	mg/kg	----	<0.5	----	1.2	<0.5	
Pyrene	129-00-0	0.5	mg/kg	----	<0.5	----	0.8	<0.5	
Benz(a)anthracene	56-55-3	0.5	mg/kg	----	<0.5	----	0.5	<0.5	
Chrysene	218-01-9	0.5	mg/kg	----	<0.5	----	0.6	<0.5	
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	----	<0.5	----	<0.5	<0.5	
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	----	<0.5	----	<0.5	<0.5	
Benzo(a)pyrene	50-32-8	0.5	mg/kg	----	<0.5	----	<0.5	<0.5	
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	----	<0.5	----	<0.5	<0.5	
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	----	<0.5	----	<0.5	<0.5	
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	----	<0.5	----	<0.5	<0.5	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TP159_0.5	TP161_0.1	TP163_0.5	TP165_0.1	TP166_0.1
Sampling date / time				12-Apr-2021 00:00	12-Apr-2021 00:00	12-Apr-2021 00:00	12-Apr-2021 00:00	12-Apr-2021 00:00	
Compound	CAS Number	LOR	Unit	ES2113382-034	ES2113382-037	ES2113382-042	ES2113382-045	ES2113382-047	
				Result	Result	Result	Result	Result	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	----	<0.5	----	4.3	<0.5	
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	----	<0.5	----	<0.5	<0.5	
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	----	0.6	----	0.6	0.6	
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	----	1.2	----	1.2	1.2	
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg	----	<10	----	<10	<10	
C10 - C14 Fraction	----	50	mg/kg	----	<50	----	80	<50	
C15 - C28 Fraction	----	100	mg/kg	----	<100	----	660	<100	
C29 - C36 Fraction	----	100	mg/kg	----	<100	----	280	<100	
^ C10 - C36 Fraction (sum)	----	50	mg/kg	----	<50	----	1020	<50	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg	----	<10	----	<10	<10	
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	----	<10	----	<10	<10	
>C10 - C16 Fraction	----	50	mg/kg	----	<50	----	140	<50	
>C16 - C34 Fraction	----	100	mg/kg	----	<100	----	790	<100	
>C34 - C40 Fraction	----	100	mg/kg	----	<100	----	160	<100	
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	----	<50	----	1090	<50	
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	----	<50	----	140	<50	
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg	----	<0.2	----	<0.2	<0.2	
Toluene	108-88-3	0.5	mg/kg	----	<0.5	----	<0.5	<0.5	
Ethylbenzene	100-41-4	0.5	mg/kg	----	<0.5	----	<0.5	<0.5	
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	----	<0.5	----	<0.5	<0.5	
ortho-Xylene	95-47-6	0.5	mg/kg	----	<0.5	----	<0.5	<0.5	
^ Sum of BTEX	----	0.2	mg/kg	----	<0.2	----	<0.2	<0.2	
^ Total Xylenes	----	0.5	mg/kg	----	<0.5	----	<0.5	<0.5	
Naphthalene	91-20-3	1	mg/kg	----	<1	----	<1	<1	
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%	----	97.1	----	99.0	91.7	
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%	----	76.7	----	64.9	118	
EP068T: Organophosphorus Pesticide Surrogate									



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TP159_0.5	TP161_0.1	TP163_0.5	TP165_0.1	TP166_0.1
Sampling date / time				12-Apr-2021 00:00	12-Apr-2021 00:00	12-Apr-2021 00:00	12-Apr-2021 00:00	12-Apr-2021 00:00	
Compound	CAS Number	LOR	Unit	ES2113382-034	ES2113382-037	ES2113382-042	ES2113382-045	ES2113382-047	
				Result	Result	Result	Result	Result	
EP068T: Organophosphorus Pesticide Surrogate - Continued									
DEF	78-48-8	0.05	%	----	81.8	----	87.7	85.2	
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%	----	99.4	----	100	99.5	
2-Chlorophenol-D4	93951-73-6	0.5	%	----	86.7	----	94.6	95.0	
2,4,6-Tribromophenol	118-79-6	0.5	%	----	79.0	----	87.7	88.4	
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%	----	95.1	----	102	84.3	
Anthracene-d10	1719-06-8	0.5	%	----	108	----	95.5	108	
4-Terphenyl-d14	1718-51-0	0.5	%	----	105	----	108	109	
EP080S: TPH(V)/BTEX Surrogates									
1,2-Dichloroethane-D4	17060-07-0	0.2	%	----	85.8	----	110	96.0	
Toluene-D8	2037-26-5	0.2	%	----	77.8	----	93.5	74.3	
4-Bromofluorobenzene	460-00-4	0.2	%	----	94.4	----	89.3	86.4	



Surrogate Control Limits

Sub-Matrix: SOIL		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP066S: PCB Surrogate			
Decachlorobiphenyl	2051-24-3	39	149
EP068S: Organochlorine Pesticide Surrogate			
Dibromo-DDE	21655-73-2	49	147
EP068T: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	35	143
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	63	123
2-Chlorophenol-D4	93951-73-6	66	122
2,4,6-Tribromophenol	118-79-6	40	138
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	70	122
Anthracene-d10	1719-06-8	66	128
4-Terphenyl-d14	1718-51-0	65	129
EP080S: TPH(V)/BTEX Surrogates			
1,2-Dichloroethane-D4	17060-07-0	73	133
Toluene-D8	2037-26-5	74	132
4-Bromofluorobenzene	460-00-4	72	130

Inter-Laboratory Testing

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

- (SOIL) EA037: Ass Field Screening Analysis
- (SOIL) EA033-B: Potential Acidity
- (SOIL) EA033-C: Acid Neutralising Capacity
- (SOIL) EA033-D: Retained Acidity
- (SOIL) EA033-A: Actual Acidity
- (SOIL) EA033-E: Acid Base Accounting

QUALITY CONTROL REPORT

Work Order	: ES2113382	Page	: 1 of 12
Client	: EP Risk Management	Laboratory	: Environmental Division Sydney
Contact	: Gilles Renda	Contact	: Hannah White
Address	: 3/19 BOLTON STREET NEWCASTLE NSW 2300	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: +61-2-8784 8555
Project	: EP1995	Date Samples Received	: 13-Apr-2021
Order number	: ----	Date Analysis Commenced	: 16-Apr-2021
C-O-C number	: ----	Issue Date	: 26-Apr-2021
Sampler	: GILLES RENDA		
Site	: ----		
Quote number	: SY/497/20 Primary analysis only		
No. of samples received	: 48		
No. of samples analysed	: 15		



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

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

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

<i>Signatories</i>	<i>Position</i>	<i>Accreditation Category</i>
Edwandy Fadjar	Organic Coordinator	Sydney Inorganics, Smithfield, NSW
Edwandy Fadjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Ivan Taylor	Analyst	Sydney Inorganics, Smithfield, NSW
Kim McCabe	Senior Inorganic Chemist	Brisbane Acid Sulphate Soils, Stafford, QLD
Satishkumar Trivedi	Senior Acid Sulfate Soil Chemist	Brisbane Acid Sulphate Soils, Stafford, QLD



General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
 CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
 LOR = Limit of reporting
 RPD = Relative Percentage Difference
 # = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 3636057)									
ES2113382-001	TP49_0.1	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.00	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	8	18	81.8	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	3	3	0.00	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	6	13	70.4	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	<5	<5	0.00	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	18	23	26.7	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	17	16	7.73	No Limit
ES2113382-047	TP166_0.1	EG005T: Cadmium	7440-43-9	1	mg/kg	4	7	48.7	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	10	14	30.7	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	9	11	14.1	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	9	14	39.9	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	11	15	30.7	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	137	163	17.5	0% - 20%
		EG005T: Zinc	7440-66-6	5	mg/kg	145	# 94	42.5	0% - 20%
EA033-A: Actual Acidity (QC Lot: 3625596)									
EM2106396-003	Anonymous	EA033: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA033: Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	<2	0.00	No Limit
		EA033: pH KCl (23A)	----	0.1	pH Unit	7.2	7.2	0.00	0% - 20%
EA033-B: Potential Acidity (QC Lot: 3625596)									
EM2106396-003	Anonymous	EA033: Chromium Reducible Sulfur (22B)	----	0.005	% S	0.011	0.013	12.5	No Limit
		EA033: acidity - Chromium Reducible Sulfur (a-22B)	----	10	mole H+ / t	<10	<10	0.00	No Limit
EA037: Ass Field Screening Analysis (QC Lot: 3626383)									
ES2113270-018	Anonymous	EA037: pH (F)	----	0.1	pH Unit	6.2	6.3	0.00	0% - 20%



Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EA037: Ass Field Screening Analysis (QC Lot: 3626383) - continued									
ES2113270-018	Anonymous	EA037: pH (Fox)	----	0.1	pH Unit	4.6	4.7	0.00	0% - 20%
ES2113382-022	TP153_0.5	EA037: pH (F)	----	0.1	pH Unit	4.8	4.8	0.00	0% - 20%
		EA037: pH (Fox)	----	0.1	pH Unit	3.7	3.7	0.00	0% - 20%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 3636059)									
ES2113382-011	TP54_0.1	EA055: Moisture Content	----	0.1	%	18.4	19.3	4.62	0% - 50%
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 3636058)									
ES2113382-001	TP49_0.1	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
ES2113382-047	TP166_0.1	EG035T: Mercury	7439-97-6	0.1	mg/kg	0.2	0.1	0.00	No Limit
EP066: Polychlorinated Biphenyls (PCB) (QC Lot: 3622152)									
ES2113382-001	TP49_0.1	EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
ES2113382-047	TP166_0.1	EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
EP068A: Organochlorine Pesticides (OC) (QC Lot: 3622151)									
ES2113382-001	TP49_0.1	EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4,4'-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4,4'-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4,4'-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	0.00	No Limit		
ES2113382-047	TP166_0.1	EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP068A: Organochlorine Pesticides (OC) (QC Lot: 3622151) - continued									
ES2113382-047	TP166_0.1	EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4,4'-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4,4'-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4,4'-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	0.00	No Limit		
EP068B: Organophosphorus Pesticides (OP) (QC Lot: 3622151)									
ES2113382-001	TP49_0.1	EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP068: Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit		
ES2113382-047	TP166_0.1	EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	0.00	No Limit



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP068B: Organophosphorus Pesticides (OP) (QC Lot: 3622151) - continued									
ES2113382-047	TP166_0.1	EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP068: Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 3622150)									
ES2113382-001	TP49_0.1	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
ES2113382-047	TP166_0.1	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 3622150) - continued									
ES2113382-047	TP166_0.1	EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Dibenzo(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
EP075(SIM): Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	0.00	No Limit		
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 3621825)									
ES2113382-001	TP49_0.1	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.00	No Limit
ES2113382-047	TP166_0.1	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.00	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 3622149)									
ES2113382-001	TP49_0.1	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.00	No Limit
ES2113382-047	TP166_0.1	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.00	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3621825)									
ES2113382-001	TP49_0.1	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.00	No Limit
ES2113382-047	TP166_0.1	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.00	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3622149)									
ES2113382-001	TP49_0.1	EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.00	No Limit
ES2113382-047	TP166_0.1	EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.00	No Limit
EP080: BTEXN (QC Lot: 3621825)									
ES2113382-001	TP49_0.1	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit



Sub-Matrix: **SOIL**

				<i>Laboratory Duplicate (DUP) Report</i>					
<i>Laboratory sample ID</i>	<i>Sample ID</i>	<i>Method: Compound</i>	<i>CAS Number</i>	<i>LOR</i>	<i>Unit</i>	<i>Original Result</i>	<i>Duplicate Result</i>	<i>RPD (%)</i>	<i>Acceptable RPD (%)</i>
EP080: BTEXN (QC Lot: 3621825) - continued									
ES2113382-001	TP49_0.1	EP080: meta- & para-Xylene	108-38-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
			106-42-3						
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
ES2113382-047	TP166_0.1	EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.00	No Limit
		EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: meta- & para-Xylene	108-38-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
			106-42-3						
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.00	No Limit		



Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike Concentration	Spike Recovery (%)		Acceptable Limits (%)	
						LCS	Low	High	
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 3636057)									
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	121.1 mg/kg	94.9	88.0	113	
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	0.74 mg/kg	104	70.0	130	
EG005T: Chromium	7440-47-3	2	mg/kg	<2	19.6 mg/kg	106	68.0	132	
EG005T: Copper	7440-50-8	5	mg/kg	<5	52.9 mg/kg	100	89.0	111	
EG005T: Lead	7439-92-1	5	mg/kg	<5	60.8 mg/kg	93.4	82.0	119	
EG005T: Nickel	7440-02-0	2	mg/kg	<2	15.3 mg/kg	97.8	80.0	120	
EG005T: Zinc	7440-66-6	5	mg/kg	<5	139.3 mg/kg	88.8	66.0	133	
EA033-A: Actual Acidity (QCLot: 3625596)									
EA033: pH KCl (23A)	----	----	pH Unit	----	4.4 pH Unit	100	91.0	107	
EA033: Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	15 mole H+ / t	91.1	70.0	124	
EA033: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	----	----	----	----	
EA033-B: Potential Acidity (QCLot: 3625596)									
EA033: Chromium Reducible Sulfur (22B)	----	0.005	% S	<0.005	0.155 % S	102	77.0	121	
EA033: acidity - Chromium Reducible Sulfur (a-22B)	----	10	mole H+ / t	<10	----	----	----	----	
EA033-D: Retained Acidity (QCLot: 3625596)									
EA033: Net Acid Soluble Sulfur (20Je)	----	0.02	% S	<0.02	----	----	----	----	
EA033: acidity - Net Acid Soluble Sulfur (a-20J)	----	10	mole H+ / t	<10	----	----	----	----	
EA033: sulfidic - Net Acid Soluble Sulfur (s-20J)	----	0.02	% pyrite S	<0.02	----	----	----	----	
EA033: KCl Extractable Sulfur (23Ce)	----	0.02	% S	<0.02	0.04779 % S	84.4	70.0	128	
EA033: HCl Extractable Sulfur (20Be)	----	0.02	% S	<0.02	0.279 % S	90.3	70.0	120	
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3636058)									
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	0.073 mg/kg	100	70.0	130	
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 3622152)									
EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	1 mg/kg	105	62.0	126	
EP068A: Organochlorine Pesticides (OC) (QCLot: 3622151)									
EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	0.5 mg/kg	99.4	69.0	113	
EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	0.5 mg/kg	80.6	65.0	117	
EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	0.5 mg/kg	98.1	67.0	119	
EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	0.5 mg/kg	89.4	68.0	116	
EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	96.1	65.0	117	
EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	0.5 mg/kg	93.6	67.0	115	
EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	0.5 mg/kg	76.3	69.0	115	
EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	0.5 mg/kg	97.5	62.0	118	



Sub-Matrix: SOIL

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report				
					Spike Concentration	Spike Recovery (%)		Acceptable Limits (%)	
						LCS	Low	High	
EP068A: Organochlorine Pesticides (OC) (QCLot: 3622151) - continued									
EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	0.5 mg/kg	96.9	63.0	117	
EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	0.5 mg/kg	94.9	66.0	116	
EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	0.5 mg/kg	98.9	64.0	116	
EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	0.5 mg/kg	84.7	66.0	116	
EP068: 4.4'-DDE	72-55-9	0.05	mg/kg	<0.05	0.5 mg/kg	90.6	67.0	115	
EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	0.5 mg/kg	82.0	67.0	123	
EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	0.5 mg/kg	87.5	69.0	115	
EP068: 4.4'-DDD	72-54-8	0.05	mg/kg	<0.05	0.5 mg/kg	92.8	69.0	121	
EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	0.5 mg/kg	95.7	56.0	120	
EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	0.5 mg/kg	82.3	62.0	124	
EP068: 4.4'-DDT	50-29-3	0.2	mg/kg	<0.2	0.5 mg/kg	83.1	66.0	120	
EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	0.5 mg/kg	82.4	64.0	122	
EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	0.5 mg/kg	78.0	54.0	130	
EP068B: Organophosphorus Pesticides (OP) (QCLot: 3622151)									
EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	0.5 mg/kg	82.3	59.0	119	
EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	80.6	62.0	128	
EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	0.5 mg/kg	79.9	54.0	126	
EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	0.5 mg/kg	76.3	67.0	119	
EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	0.5 mg/kg	85.6	70.0	120	
EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	0.5 mg/kg	99.9	72.0	120	
EP068: Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	0.5 mg/kg	86.8	68.0	120	
EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	0.5 mg/kg	89.3	68.0	122	
EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	0.5 mg/kg	91.3	69.0	117	
EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	0.5 mg/kg	93.0	76.0	118	
EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	0.5 mg/kg	83.9	64.0	122	
EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	0.5 mg/kg	79.1	70.0	116	
EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	0.5 mg/kg	92.0	69.0	121	
EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	0.5 mg/kg	90.6	66.0	118	
EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	0.5 mg/kg	78.1	68.0	124	
EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	0.5 mg/kg	92.2	62.0	112	
EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	0.5 mg/kg	94.8	68.0	120	
EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	0.5 mg/kg	83.5	65.0	127	
EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	0.5 mg/kg	75.3	41.0	123	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3622150)									
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	6 mg/kg	98.0	77.0	125	
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	6 mg/kg	93.0	72.0	124	
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	6 mg/kg	96.3	73.0	127	
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	6 mg/kg	75.9	72.0	126	
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	6 mg/kg	104	75.0	127	



Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike	Spike Recovery (%)		Acceptable Limits (%)	
					Concentration	LCS	Low	High	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3622150) - continued									
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	6 mg/kg	106	77.0	127	
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	6 mg/kg	89.6	73.0	127	
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	6 mg/kg	105	74.0	128	
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	6 mg/kg	95.5	69.0	123	
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	6 mg/kg	90.1	75.0	127	
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	6 mg/kg	98.8	68.0	116	
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	6 mg/kg	96.4	74.0	126	
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	6 mg/kg	94.5	70.0	126	
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	6 mg/kg	102	61.0	121	
EP075(SIM): Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	6 mg/kg	99.1	62.0	118	
EP075(SIM): Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	6 mg/kg	95.6	63.0	121	
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3621825)									
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	26 mg/kg	86.8	68.4	128	
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3622149)									
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	300 mg/kg	90.0	75.0	129	
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	450 mg/kg	91.4	77.0	131	
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	300 mg/kg	86.4	71.0	129	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3621825)									
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	31 mg/kg	85.8	68.4	128	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3622149)									
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	375 mg/kg	90.8	77.0	125	
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	525 mg/kg	89.8	74.0	138	
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	225 mg/kg	83.1	63.0	131	
EP080: BTEXN (QCLot: 3621825)									
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	82.8	62.0	116	
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	92.3	67.0	121	
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	90.3	65.0	117	
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	2 mg/kg	91.5	66.0	118	
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	93.5	68.0	120	
EP080: Naphthalene	91-20-3	1	mg/kg	<1	1 mg/kg	106	63.0	119	

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

Matrix Spike (MS) Report



Sub-Matrix: SOIL

				Matrix Spike (MS) Report			
				Spike Concentration	SpikeRecovery(%) MS	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 3636057)							
ES2113382-001	TP49_0.1	EG005T: Arsenic	7440-38-2	50 mg/kg	87.9	70.0	130
		EG005T: Cadmium	7440-43-9	50 mg/kg	92.5	70.0	130
		EG005T: Chromium	7440-47-3	50 mg/kg	90.0	68.0	132
		EG005T: Copper	7440-50-8	250 mg/kg	91.6	70.0	130
		EG005T: Lead	7439-92-1	250 mg/kg	92.1	70.0	130
		EG005T: Nickel	7440-02-0	50 mg/kg	89.7	70.0	130
		EG005T: Zinc	7440-66-6	250 mg/kg	89.8	66.0	133
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3636058)							
ES2113382-001	TP49_0.1	EG035T: Mercury	7439-97-6	5 mg/kg	72.8	70.0	130
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 3622152)							
ES2113382-001	TP49_0.1	EP066: Total Polychlorinated biphenyls	----	1 mg/kg	97.7	70.0	130
EP068A: Organochlorine Pesticides (OC) (QCLot: 3622151)							
ES2113382-001	TP49_0.1	EP068: gamma-BHC	58-89-9	0.5 mg/kg	114	70.0	130
		EP068: Heptachlor	76-44-8	0.5 mg/kg	92.4	70.0	130
		EP068: Aldrin	309-00-2	0.5 mg/kg	93.8	70.0	130
		EP068: Dieldrin	60-57-1	0.5 mg/kg	114	70.0	130
		EP068: Endrin	72-20-8	2 mg/kg	93.8	70.0	130
		EP068: 4.4'-DDT	50-29-3	2 mg/kg	86.8	70.0	130
EP068B: Organophosphorus Pesticides (OP) (QCLot: 3622151)							
ES2113382-001	TP49_0.1	EP068: Diazinon	333-41-5	0.5 mg/kg	88.0	70.0	130
		EP068: Chlorpyrifos-methyl	5598-13-0	0.5 mg/kg	103	70.0	130
		EP068: Pirimphos-ethyl	23505-41-1	0.5 mg/kg	79.0	70.0	130
		EP068: Bromophos-ethyl	4824-78-6	0.5 mg/kg	86.2	70.0	130
		EP068: Prothiofos	34643-46-4	0.5 mg/kg	114	70.0	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3622150)							
ES2113382-001	TP49_0.1	EP075(SIM): Acenaphthene	83-32-9	10 mg/kg	96.0	70.0	130
		EP075(SIM): Pyrene	129-00-0	10 mg/kg	86.9	70.0	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3621825)							
ES2113382-001	TP49_0.1	EP080: C6 - C9 Fraction	----	32.5 mg/kg	88.8	70.0	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3622149)							
ES2113382-001	TP49_0.1	EP071: C10 - C14 Fraction	----	523 mg/kg	106	73.0	137
		EP071: C15 - C28 Fraction	----	2319 mg/kg	111	53.0	131
		EP071: C29 - C36 Fraction	----	1714 mg/kg	108	52.0	132
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3621825)							
ES2113382-001	TP49_0.1	EP080: C6 - C10 Fraction	C6_C10	37.5 mg/kg	85.9	70.0	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3622149)							



Sub-Matrix: **SOIL**

				<i>Matrix Spike (MS) Report</i>				
				<i>Spike</i>	<i>SpikeRecovery(%)</i>	<i>Acceptable Limits (%)</i>		
<i>Laboratory sample ID</i>	<i>Sample ID</i>	<i>Method: Compound</i>	<i>CAS Number</i>	<i>Concentration</i>	<i>MS</i>	<i>Low</i>	<i>High</i>	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3622149) - continued								
ES2113382-001	TP49_0.1	EP071: >C10 - C16 Fraction	----	860 mg/kg	103	73.0	137	
		EP071: >C16 - C34 Fraction	----	3223 mg/kg	119	53.0	131	
		EP071: >C34 - C40 Fraction	----	1058 mg/kg	102	52.0	132	
EP080: BTEXN (QCLot: 3621825)								
ES2113382-001	TP49_0.1	EP080: Benzene	71-43-2	2.5 mg/kg	71.0	70.0	130	
		EP080: Toluene	108-88-3	2.5 mg/kg	77.7	70.0	130	
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	80.4	70.0	130	
		EP080: meta- & para-Xylene	108-38-3	2.5 mg/kg	78.9	70.0	130	
			106-42-3					
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	81.2	70.0	130	
	EP080: Naphthalene	91-20-3		2.5 mg/kg	87.0	70.0	130	

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: ES2113382	Page	: 1 of 8
Client	: EP Risk Management	Laboratory	: Environmental Division Sydney
Contact	: Gilles Renda	Telephone	: +61-2-8784 8555
Project	: EP1995	Date Samples Received	: 13-Apr-2021
Site	: ----	Issue Date	: 26-Apr-2021
Sampler	: GILLES RENDA	No. of samples received	: 48
Order number	: ----	No. of samples analysed	: 15

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Laboratory Control outliers occur.**
- **NO Matrix Spike outliers occur.**
- Duplicate outliers exist - please see following pages for full details.
- For all regular sample matrices, **NO** surrogate recovery outliers occur.

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

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



Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Duplicate (DUP) RPDs							
EG005(ED093)T: Total Metals by ICP-AES	ES2113382--047	TP166_0.1	Zinc	7440-66-6	42.5 %	0% - 20%	RPD exceeds LOR based limits

Outliers : Frequency of Quality Control Samples

Matrix: **SOIL**

Quality Control Sample Type	Count		Rate (%)		Quality Control Specification
	QC	Regular	Actual	Expected	
Laboratory Duplicates (DUP)					
Moisture Content	1	11	9.09	10.00	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	
EA033-A: Actual Acidity								
80* dried soil (EA033) TP153_0.5,	TP159_0.5	12-Apr-2021	19-Apr-2021	12-Apr-2022	✓	19-Apr-2021	18-Jul-2021	✓
EA033-B: Potential Acidity								
80* dried soil (EA033) TP153_0.5,	TP159_0.5	12-Apr-2021	19-Apr-2021	12-Apr-2022	✓	19-Apr-2021	18-Jul-2021	✓
EA033-C: Acid Neutralising Capacity								
80* dried soil (EA033) TP153_0.5,	TP159_0.5	12-Apr-2021	19-Apr-2021	12-Apr-2022	✓	19-Apr-2021	18-Jul-2021	✓
EA033-D: Retained Acidity								
80* dried soil (EA033) TP153_0.5,	TP159_0.5	12-Apr-2021	19-Apr-2021	12-Apr-2022	✓	19-Apr-2021	18-Jul-2021	✓
EA033-E: Acid Base Accounting								
80* dried soil (EA033) TP153_0.5,	TP159_0.5	12-Apr-2021	19-Apr-2021	12-Apr-2022	✓	19-Apr-2021	18-Jul-2021	✓
EA037: Ass Field Screening Analysis								
Soil Glass Jar - Frozen on receipt (EA037) TP153_0.5, TP159_0.5,	TP154_0.5, TP163_0.5	12-Apr-2021	19-Apr-2021	09-Oct-2021	✓	19-Apr-2021	09-Oct-2021	✓



Matrix: SOIL

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

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA055: Moisture Content (Dried @ 105-110°C)							
Soil Glass Jar - Unpreserved (EA055) TP49_0.1, TP54_0.1, TP153_0.1, TP156_0.1, TP161_0.1, TP166_0.1 TP53_0.1, TP56_0.1, TP154_0.1, BH157_0.1, TP165_0.1	12-Apr-2021	----	----	----	22-Apr-2021	26-Apr-2021	✓
EG005(ED093)T: Total Metals by ICP-AES							
Soil Glass Jar - Unpreserved (EG005T) TP49_0.1, TP54_0.1, TP153_0.1, TP156_0.1, TP161_0.1, TP166_0.1 TP53_0.1, TP56_0.1, TP154_0.1, BH157_0.1, TP165_0.1	12-Apr-2021	22-Apr-2021	09-Oct-2021	✓	22-Apr-2021	09-Oct-2021	✓
EG035T: Total Recoverable Mercury by FIMS							
Soil Glass Jar - Unpreserved (EG035T) TP49_0.1, TP54_0.1, TP153_0.1, TP156_0.1, TP161_0.1, TP166_0.1 TP53_0.1, TP56_0.1, TP154_0.1, BH157_0.1, TP165_0.1	12-Apr-2021	22-Apr-2021	10-May-2021	✓	23-Apr-2021	10-May-2021	✓
EP066: Polychlorinated Biphenyls (PCB)							
Soil Glass Jar - Unpreserved (EP066) TP49_0.1, TP54_0.1, TP153_0.1, TP156_0.1, TP161_0.1, TP166_0.1 TP53_0.1, TP56_0.1, TP154_0.1, BH157_0.1, TP165_0.1	12-Apr-2021	19-Apr-2021	26-Apr-2021	✓	22-Apr-2021	29-May-2021	✓
EP068A: Organochlorine Pesticides (OC)							
Soil Glass Jar - Unpreserved (EP068) TP49_0.1, TP54_0.1, TP153_0.1, TP156_0.1, TP161_0.1, TP166_0.1 TP53_0.1, TP56_0.1, TP154_0.1, BH157_0.1, TP165_0.1	12-Apr-2021	19-Apr-2021	26-Apr-2021	✓	22-Apr-2021	29-May-2021	✓



Matrix: **SOIL**

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

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP068B: Organophosphorus Pesticides (OP)								
Soil Glass Jar - Unpreserved (EP068)								
TP49_0.1, TP54_0.1, TP153_0.1, TP156_0.1, TP161_0.1, TP166_0.1	TP53_0.1, TP56_0.1, TP154_0.1, BH157_0.1, TP165_0.1	12-Apr-2021	19-Apr-2021	26-Apr-2021	✓	22-Apr-2021	29-May-2021	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Soil Glass Jar - Unpreserved (EP075(SIM))								
TP49_0.1, TP54_0.1, TP153_0.1, TP156_0.1, TP161_0.1, TP166_0.1	TP53_0.1, TP56_0.1, TP154_0.1, BH157_0.1, TP165_0.1	12-Apr-2021	19-Apr-2021	26-Apr-2021	✓	21-Apr-2021	29-May-2021	✓
EP080/071: Total Petroleum Hydrocarbons								
Soil Glass Jar - Unpreserved (EP080)								
TP49_0.1, TP54_0.1, TP153_0.1, TP156_0.1, TP161_0.1, TP166_0.1	TP53_0.1, TP56_0.1, TP154_0.1, BH157_0.1, TP165_0.1	12-Apr-2021	16-Apr-2021	26-Apr-2021	✓	21-Apr-2021	26-Apr-2021	✓
Soil Glass Jar - Unpreserved (EP071)								
TP49_0.1, TP54_0.1, TP153_0.1, TP156_0.1, TP161_0.1, TP166_0.1	TP53_0.1, TP56_0.1, TP154_0.1, BH157_0.1, TP165_0.1	12-Apr-2021	19-Apr-2021	26-Apr-2021	✓	21-Apr-2021	29-May-2021	✓



Matrix: SOIL

Evaluation: ✖ = Holding time breach ; ✔ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
Soil Glass Jar - Unpreserved (EP080)								
TP49_0.1, TP54_0.1, TP153_0.1, TP156_0.1, TP161_0.1, TP166_0.1	TP53_0.1, TP56_0.1, TP154_0.1, BH157_0.1, TP165_0.1,	12-Apr-2021	16-Apr-2021	26-Apr-2021	✔	21-Apr-2021	26-Apr-2021	✔
Soil Glass Jar - Unpreserved (EP071)								
TP49_0.1, TP54_0.1, TP153_0.1, TP156_0.1, TP161_0.1, TP166_0.1	TP53_0.1, TP56_0.1, TP154_0.1, BH157_0.1, TP165_0.1,	12-Apr-2021	19-Apr-2021	26-Apr-2021	✔	21-Apr-2021	29-May-2021	✔
EP080: BTEXN								
Soil Glass Jar - Unpreserved (EP080)								
TP49_0.1, TP54_0.1, TP153_0.1, TP156_0.1, TP161_0.1, TP166_0.1	TP53_0.1, TP56_0.1, TP154_0.1, BH157_0.1, TP165_0.1,	12-Apr-2021	16-Apr-2021	26-Apr-2021	✔	21-Apr-2021	26-Apr-2021	✔



Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: ✖ = Quality Control frequency not within specification ; ✔ = Quality Control frequency within specification.

Quality Control Sample Type	Method	Count		Rate (%)			Quality Control Specification
		QC	Reaular	Actual	Expected	Evaluation	
Analytical Methods							
Laboratory Duplicates (DUP)							
ASS Field Screening Analysis	EA037	2	18	11.11	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Chromium Suite for Acid Sulphate Soils	EA033	1	9	11.11	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Moisture Content	EA055	1	11	9.09	10.00	✖	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	2	20	10.00	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	2	20	10.00	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	2	20	10.00	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	2	11	18.18	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	2	11	18.18	10.00	✔	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	2	20	10.00	10.00	✔	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	17	11.76	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Chromium Suite for Acid Sulphate Soils	EA033	1	9	11.11	5.00	✔	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	1	20	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	20	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	20	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	11	9.09	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	11	9.09	5.00	✔	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	20	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	17	5.88	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Chromium Suite for Acid Sulphate Soils	EA033	1	9	11.11	5.00	✔	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	1	20	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	20	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	20	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	11	9.09	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	11	9.09	5.00	✔	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	20	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	17	5.88	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
PAH/Phenols (SIM)	EP075(SIM)	1	20	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	20	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	20	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	11	9.09	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	11	9.09	5.00	✔	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	20	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	17	5.88	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
Chromium Suite for Acid Sulphate Soils	EA033	SOIL	In house: Referenced to Ahern et al 2004. This method covers the determination of Chromium Reducible Sulfur (SCR); pHKCl; titratable actual acidity (TAA); acid neutralising capacity by back titration (ANC); and net acid soluble sulfur (SNAS) which incorporates peroxide sulfur. It applies to soils and sediments (including sands) derived from coastal regions. Liming Rate is based on results for samples as submitted and incorporates a minimum safety factor of 1.5.
ASS Field Screening Analysis	* EA037	SOIL	In house: Referenced to Acid Sulfate Soils Laboratory Methods Guidelines. As received samples are tested for pH field and pH fox and assessed for a reaction rating.
Moisture Content	EA055	SOIL	In house: A gravimetric procedure based on weight loss over a 12 hour drying period at 105-110 degrees C. This method is compliant with NEPM Schedule B(3).
Total Metals by ICP-AES	EG005T	SOIL	In house: Referenced to APHA 3120; USEPA SW 846 - 6010. Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM Schedule B(3)
Total Mercury by FIMS	EG035T	SOIL	In house: Referenced to AS 3550, APHA 3112 Hg - B (Flow-injection (SnCl ₂) (Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. Mercury in solids are determined following an appropriate acid digestion. Ionic mercury is reduced online to atomic mercury vapour by 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 Schedule B(3)
Polychlorinated Biphenyls (PCB)	EP066	SOIL	In house: Referenced to USEPA SW 846 - 8270 Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3).
Pesticides by GCMS	EP068	SOIL	In house: Referenced to USEPA SW 846 - 8270 Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This technique is compliant with NEPM Schedule B(3).
TRH - Semivolatle Fraction	EP071	SOIL	In house: Referenced to USEPA SW 846 - 8015 Sample extracts are analysed by Capillary GC/FID and quantified against alkane standards over the range C10 - C40. Compliant with NEPM Schedule B(3).
PAH/Phenols (SIM)	EP075(SIM)	SOIL	In house: Referenced to USEPA SW 846 - 8270. Extracts are analysed by Capillary GC/MS in Selective Ion Mode (SIM) and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)
TRH Volatiles/BTEX	EP080	SOIL	In house: Referenced to USEPA SW 846 - 8260. Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve. Compliant with NEPM Schedule B(3) amended.

Preparation Methods	Method	Matrix	Method Descriptions
Drying only	EN020D	SOIL	In house
Drying at 85 degrees, bagging and labelling (ASS)	EN020PR	SOIL	In house



<i>Preparation Methods</i>	<i>Method</i>	<i>Matrix</i>	<i>Method Descriptions</i>
Hot Block Digest for metals in soils sediments and sludges	EN69	SOIL	In house: Referenced to USEPA 200.2. Hot Block Acid Digestion 1.0g of sample is heated with Nitric and Hydrochloric acids, then cooled. Peroxide is added and samples heated and cooled again before being filtered and bulked to volume for analysis. Digest is appropriate for determination of selected metals in sludge, sediments, and soils. This method is compliant with NEPM Schedule B(3).
Methanolic Extraction of Soils for Purge and Trap	ORG16	SOIL	In house: Referenced to USEPA SW 846 - 5030A. 5g of solid is shaken with surrogate and 10mL methanol prior to analysis by Purge and Trap - GC/MS.
Tumbler Extraction of Solids	ORG17	SOIL	In house: Mechanical agitation (tumbler). 10g of sample, Na ₂ SO ₄ and surrogate are extracted with 30mL 1:1 DCM/Acetone by end over end tumble. The solvent is decanted, dehydrated and concentrated (by KD) to the desired volume for analysis.



CHAIN OF CUSTODY

ALS Laboratory, please tick →

Sydney 277 Macdougall Rd, Smithfield NSW 2168
Ph: 02 8754 8585 E: sydney@als.com.au

Brisbane 32 Stuart St, St. Leonards QLD 4065
Ph: 07 5543 7222 E: brisbane@als.com.au

Melbourne 241 Vasey Rd, Springvale VIC 3177
Ph: 03 8593 0500 E: melbourne@als.com.au

CLIENT: EP RISK MANAGEMENT PTY LTD
OFFICE: NEWCASTLE
PROJECT: EP1995
ORDER NUMBER: N/A
PROJECT MANAGER: Luke Kerry
SAMPLES: Giles Renda
COC emailed to ALS? (YES / NO) EDD FORMAT (or default):
Email Reports to (will default to PM if no other addresses are listed): giles.renda@eprisk.com.au
Email Invoice to (will default to PM if no other addresses are listed): accounts@eprisk.com.au

TURNAROUND REQUIREMENTS: Standard TAT may be longer for some tests (eg. Ultra Trace Organics) Standard TAT (list due date):
Non Standard or urgent TAT (list due date):
ALS QUOTE NO.: SY/498/20 V2
RECEIVED BY: [Signature]
DATE/TIME: 14/02/21

FOR LABORATORY USE ONLY (Circle)
COC SEQUENCE NUMBER (Circle)
1 2 3 4 5 6 7
RECEIVED BY: [Signature]
DATE/TIME: 14/02/21

LAB ID SAMPLE ID DATE / TIME MATRIX TYPE & PRESERVATIVE (refer to codes below) TOTAL BOTTLES ANALYSIS REQUIRED (Including Suites (NB: Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (filtered bottle required) Additional Information

Table with columns: LAB ID, SAMPLE ID, DATE / TIME, MATRIX, TYPE & PRESERVATIVE, TOTAL BOTTLES, ANALYSIS REQUIRED, Additional Information. Rows 1-10 with handwritten sample IDs and dates.

Water Container Codes: P = Impregnated Plastic, N = Nitric Preserved Plastic, CRG = Nitric Preserved CRG, SH = Sodium Hydroxide Preserved Plastic, AG = Amber Glass Unpreserved, AP = Airtight Unpreserved Plastic
V = VOA via HCl Preserved, VN = VOA via Sodium Disphosphate Preserved, VS = VOA via Sulfuric Preserved, AV = Airtight Unpreserved VOA SG = Sulfuric Preserved Amber Glass, H = HCl Preserved Plastic, HS = HCl Preserved Specimen bottle, SP = Sulfuric Preserved Plastic, F = Formaldehyde Preserved Glass
Z = Zinc Acetate Preserved Bottle, E = EDTA Preserved Bottle, ST = Sterile Bottle, ASS = Plastic Bag for Acid Sulfate Solids, B = Unpreserved Bag



Environmental Division
Sydney
Work Order Reference
ES2113384

Telephone: 81-2-4774 ext.

UPDATED COC



CHAIN OF CUSTODY

ALS Laboratory please tick ->

Sydney: 277 Macquarie Rd, Smithfield NSW 2164
 Newcastle: 5 Roseglen Rd, Warabrook NSW 2304
 Brisbane: 32 Strand St, Sturford QLD 4533
 Melbourne: 7-4 Vasey Rd, Springvale VIC 3171
 Perth: 3050 Albany Hwy, Perth WA 6005
 Adelaide: 2-4 Burma Rd, Moorville SA 5095
 Darwin: 100 Darwin Rd, Darwin NT 0801
 Gold Coast: 1000 McPhee Dr, Gold Coast QLD 4218
 Hobart: 100-110 Ross St, Hobart TAS 7000
 Auckland: 100-110 Ross St, Auckland NZ
 Christchurch: 100-110 Ross St, Christchurch NZ
 Wellington: 100-110 Ross St, Wellington NZ
 Melbourne: 14-15 Deane Ct, Borrie QLD 4818
 Perth: 4795 0500 E, Townsville QLD 4860
 Adelaide: 2-4 Burma Rd, Moorville SA 5095
 Perth: 3050 Albany Hwy, Perth WA 6005
 Darwin: 100 Darwin Rd, Darwin NT 0801
 Gold Coast: 1000 McPhee Dr, Gold Coast QLD 4218
 Hobart: 100-110 Ross St, Hobart TAS 7000
 Auckland: 100-110 Ross St, Auckland NZ
 Christchurch: 100-110 Ross St, Christchurch NZ
 Wellington: 100-110 Ross St, Wellington NZ

CLIENT: EP RISK MANAGEMENT PTY LTD
OFFICE: NEWCASTLE
PROJECT: EP1995
ORDER NUMBER: N/A
PROJECT MANAGER: Luke Kerry
SAMPLER: Giles Renda
COC emailed to ALS? (YES / NO)
Email Reports to (will default to PM if no other addresses are listed): giles.renda@eprisk.com.au
Email Invoices to (will default to PM if no other addresses are listed): accounts@eprisk.com.au

TURNOVER REQUIREMENTS: * Standard TAT (List due date):
 Non Standard or urgent TAT (List due date):
 (Standard TAT may be longer for some tests e.g. Ultra Trace Organics)

ALS QUOTE NO.: SY/498/20 V2
RELINQUISHED BY: _____
RECEIVED BY: _____
DATE/TIME: _____

FOR LABORATORY USE ONLY (Circle)
 Cooled/Sealed/Intact? Yes/No
 Freezer/Refrigerator/Other? Yes/No
 Random Samples/Temperature on Receipt? Yes/No
 Other Comments: _____

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL: Also email lukekerry@eprisk.com.au

LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL BOTTLES	ANALYSIS REQUIRED including SUITES (NB: Suite Codes must be listed to attract suite price) <small>(Where Metals are required, specify Total (unfiltered bottles required) or Dissolved (filtered bottles required))</small>	Additional Information
--------	-----------	-------------	--------	--	---------------	--	------------------------

11	SW01	8/04/2021	W	SG, N, A	4	TRH, BTEX, PAH (ultra-trace), OCP (ultra-trace), OPP (ultra-trace), PCB, Heavy Metals (low level Hg)			
12	SW02	8/04/2021	W	SG, N, A	4	TRH, BTEX, PAH (ultra-trace), OCP (ultra-trace), OPP (ultra-trace), PCB, Heavy Metals (low level Hg)			
13	SW03	8/04/2021	W	SG, N, A	4	TRH, BTEX, PAH (ultra-trace), OCP (ultra-trace), OPP (ultra-trace), PCB, Heavy Metals (low level Hg)			
14	SED01	8/04/2021	Sed	Glass Jar	1	TPH, PAH (trace), OCP (trace), OPP (trace), PCB (trace), Heavy metals			
15	SED02	8/04/2021	Sed	Glass Jar	1	Total organic content (NEPM) & particle size distribution (PSD)			
16	SED03	8/04/2021	Sed	Glass Jar	1				
TOTAL					15	3	3	3	

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORG = Nitric Preserved Plastic; SH = Sodium Hydroxide Preserved Plastic; AG = Amber Glass; UNPRESERVED = AP - Airtight Unpreserved Plastic
 VOA/VIA HCl Preserved: VU = VOA/VIA Sodium Bicarbonate Preserved Plastic; VAS = VOA/VIA Sulphuric Preserved Plastic; VASG = Sulphuric Preserved Plastic; VASGLASS = HCl Preserved Plastic; HS = HCl Preserved Speciation Bottle; SP = Sulphuric Preserved Plastic; F = Formaldehyde Preserved Glass
 Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottle; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphide Solids; B = Unpreserved Bag



CHAIN OF CUSTODY

ALS Laboratory, please tick →

Sydney: 277 Wycecroft Rd, Smithfield NSW 2164
 Ph: 02 8724 5555 E: australia@als.com.au

Newcastle: 5 Progress Rd, Warrawook NSW 2264
 Ph: 02 4956 5430 E: samples.newcastle@als.com.au

Brisbane: 20 Strand St, Sturges QLD 4083
 Ph: 07 3245 7222 E: samples.brisbane@als.com.au

Townsville: 14-16 Deanna Ct, Sothe QLD 4813
 Ph: 07 4791 0500 E: townsville@als.com.au

Melbourne: 3-4 Vespucci Rd, Springvale VIC 3171
 Ph: 03 8049 9500 E: samples.melbourne@als.com.au

Adelaide: 2-1 Burma Rd, Portera SA 5095
 Ph: 08 8359 0500 E: adelaide@als.com.au

FOR LABORATORY USE ONLY (Circle)

Customer Seal intact? Yes No N/A
 Freezer / frozen ice blocks present upon receipt? Yes No N/A
 Reagent Sample Temperature on Receipt? Yes No N/A
 Other comments: _____

CLIENT: EP RISK MANAGEMENT PTY LTD

OFFICE: NEWCASTLE

PROJECT: EP1995

ORDER NUMBER: N/A

PROJECT MANAGER: Luke Kerry

SAMPLER: Giles Renda

COC emailed to ALS? (YES / NO)

Email Reports to (will default to PM if no other addresses are listed): giles.renda@eprisk.com.au

Email Invoice to (will default to PM if no other addresses are listed): accounts@eprisk.com.au

TURNAROUND REQUIREMENTS: Standard TAT (Use due date): Non Standard or urgent TAT (List due date):

(Standard TAT may be longer for some tests e.g. Ultra Trace Organics)

ALS QUOTE NO.: SY/1995/20 V2

CONTACT PH: 0432 266 617

SAMPLER MOBILE: 0420 224 123

EDD FORMAT (or default):

RELINQUISHED BY: DATE/TIME:

RECEIVED BY: DATE/TIME:

RECEIVED BY: Helen DATE/TIME: 14.4.21

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL: Also email luke.kerry@eprisk.com.au

ALS USE ONLY	SAMPLE DETAILS MATRIX: Solid(S) Water(W)	CONTAINER INFORMATION	ANALYSIS REQUIRED INCLUDING SUITES (NB: Suite Codes must be listed to attract suite price) <small>Where Media are required, specify Total (undisturbed bottle required) or Dissolved (filtered bottle required)</small>							Additional Information		
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE <small>(refer to codes below)</small>	TOTAL BOTTLES	TRH, BTEX, PAH (ultra-trace), OCP (ultra-trace), OPP (ultra-trace), PCB, Heavy Metals (low level Hg)	TPH, PAH (trace), OCP (trace), OPP (trace), PCB (trace), Heavy metals	OCP, OPP, Heavy metals	TRH, BTEXN, PAH, PCB	TRH (F1), BTEXN	TRH, BTEXN, PAH, Heavy Metals, OCP, OPP	Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
17	QC9	8/04/2021	S	Glass Jar	1			1	1			Please send to eurofins
	- QC10	8/04/2021	S	Glass Jar	1			1	1			Please send to eurofins
18	QC13	8/04/2021	W	SG, N, A	4	1						Please send to eurofins
	- QC14	8/04/2021	W	SG, N, A	4	1						Please send to eurofins
19	QC11	8/04/2021	Sed	Glass Jar	1	1						Please send to eurofins
	- QC12	8/04/2021	Sed	Glass Jar	1	1						Please send to eurofins
20	TB_S	31/03/2021	S	Glass Jar	1				1			
21	TS_S -15	31/03/2021	S	Glass Jar	1				1			
22	TB_W	31/03/2021	W	Glass Jar	1				1			
23	TS_W	31/03/2021	W	Glass Jar	1				1			
24	Rinsate01	8/04/2021	W	SG	1				1			
25	Rinsate02	8/04/2021	W	SG	1				1			
26	Rinsate03	8/04/2021	W	SG	1				1			
27	Rinsate04	8/04/2021	W	SG	1				1			
TOTAL					20	2	2	2	2	4	4	

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; OHC = Nitric Hydroxide Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airtight Unpreserved Plastic
 V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulfate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airtight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl Preserved Plastic; HS = HCl Preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
 Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Substrate Solids; B = Unpreserved Bag



CHAIN OF CUSTODY

ALS Laboratory please tick →

Sydney: 277 Macquarie Rd, Smithfield NSW 2154
 Ph: 02 9783 8505 E: samples@alsenviro.com
 Newcastle: 5 Rossington Rd, Waratah NSW 2294
 Ph: 02 4968 9438 E: samples.newcastle@alsenviro.com
 Brisbane: 32 Sharns St, Storr QLD 4065
 Ph: 07 3243 7202 E: samples.brisbane@alsenviro.com
 Adelaide: 2-4 Purvis Rd, Prospect SA 5087
 Ph: 08 8389 0830 E: adelaide@alsenviro.com
 Melbourne: 2-4 Wattle Rd, Springvale VIC 3171
 Ph: 03 8545 9500 E: samples.melbourne@alsenviro.com

Townsville: 14-15 Deanna Ct, Banks QLD 4815
 Ph: 07 4795 0500 E: townsville@alsenviro.com
 Perth: 1000 E. Community Environmental@alsenviro.com
 Ph: 08 9389 0830 E: perth@alsenviro.com

Perth: 1000 E. Community Environmental@alsenviro.com
 Ph: 08 9389 0830 E: perth@alsenviro.com

CLIENT: EP RISK MANAGEMENT PTY LTD

OFFICE: NEWCASTLE

PROJECT: EP1995

ORDER NUMBER: N/A

PROJECT MANAGER: Luke Kerry

SAMPLER: Giles Renda

COC emailed to ALS? (YES / NO)

Email Reports to (will default to PM if no other addresses are listed): giles.renda@eprisk.com.au

Email Invoices to (will default to PM if no other addresses are listed): accounts@eprisk.com.au

COMMENT/SPECIAL HANDLING/STORAGE OR DISPOSAL: Also email luke.kerry@eprisk.com.au

TURNOVER REQUIREMENTS: Standard TAT (list due date):

(Standard TAT may be longer for some tests)

ALS QUOTE NO.: SY/49920 V2

CONTACT PH: 0432 266 617

SAMPLER MOBILE: 0420 234 123

EDD FORMAT (for default)

RELINQUISHED BY: DATE/TIME:

RECEIVED BY: DATE/TIME:

COC SEQUENCE NUMBER (Circle)

1 2 3 4 5 6 7

OR: 1 2 3 4 5 6 7

Other comment:

FOR LABORATORY USE ONLY (circle)

Ready/Seal intact? Yes No N/A

Freeze/Freeze required/present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

RECEIVED BY: Iden

DATE/TIME: 14/02/21

RELINQUISHED BY:

DATE/TIME:

Additional Information

Comments on likely contaminant levels, dilutions, or samples requiring specific OC analysis etc.

LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL BOTTLES	HOLD	ANALYSIS REQUIRED INCLUDING SUITES (NB: Suite Codes must be listed to attract suite price) <small>(When Metals are required, specify Total (unfiltered bottle required) or Dissolved (filtered bottle required).)</small>	Additional Information		
28	TP29_0.1	6/04/2021	S	Glass Jar	1		Heavy metals, TRH, BTEXN, PAH, PCBs, OCP, OPP			
29	TP29_0.5	6/04/2021	S	Glass Jar	1		Asbestos (AF / FA) (w/w %)			
80	TP30_0.1	6/04/2021	S	Glass Jar	1		pHf & pH fox			
31	TP30_0.5	6/04/2021	S	Glass Jar	1		Chromium Reducible Sulfur Suite			
32	TP29_0.1	6/04/2021	S	Glass Jar	1					
33	TP29_0.5	6/04/2021	S	Glass Jar	1					
34	TP140_0.1	6/04/2021	S	Glass Jar	1					
35	TP140_0.5	6/04/2021	S	Glass Jar	1					
36	TP141_0.1	6/04/2021	S	Glass Jar	1					
37	TP141_0.5	6/04/2021	S	Glass Jar	1					
38	TP142_0.1	6/04/2021	S	Glass Jar	1					
39	TP142_0.5	6/04/2021	S	Glass Jar	1					
40	TP167_0.1	6/04/2021	S	Glass Jar	1					
41	TP167_0.5	6/04/2021	S	Glass Jar	1					
TOTAL					14	7	6	2	2	1

42 TSC-15

Matrix Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide Preserved Plastic; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved Plastic; AP = Air Tight Unpreserved Plastic
 V = VOA Via HCl Preserved; VB = VOA Via Sediment Bottle Preserved; VS = VOA Via Sulfuric Preserved; VV = Air Tight Preserved Via SG = Sulfuric Preserved Amber Glass; H = HCl Preserved Plastic; HS = HCl Preserved Speciation Bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass
 Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottle; ST = Sterile Bottle; ASS = Plastic Bag for Add Substrate Solids; B = Unpreserved Bag

CERTIFICATE OF ANALYSIS

Work Order : **ES2113384**
Client : **EP Risk Management**
Contact : LUKE Kerry
Address : 3/19 BOLTON STREET
 NEWCASTLE NSW 2300

Telephone : ----
Project : EP1995
Order number : ----
C-O-C number : ----
Sampler : Gilles Renda
Site : ----
Quote number : SY/497/20 Primary analysis only
No. of samples received : 42
No. of samples analysed : 25

Page : 1 of 29
Laboratory : Environmental Division Sydney
Contact : Hannah White
Address : 277-289 Woodpark Road Smithfield NSW Australia 2164

Telephone : +61-2-8784 8555
Date Samples Received : 09-Apr-2021 13:30
Date Analysis Commenced : 15-Apr-2021
Issue Date : 26-Apr-2021 10:06



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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

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

Signatories

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

<i>Signatories</i>	<i>Position</i>	<i>Accreditation Category</i>
Ankit Joshi	Inorganic Chemist	Sydney Inorganics, Smithfield, NSW
Ben Felgendrejeris	Senior Acid Sulfate Soil Chemist	Brisbane Acid Sulphate Soils, Stafford, QLD
Edwandy Fadjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Franco Lentini	LCMS Coordinator	Sydney Inorganics, Smithfield, NSW
Ivan Taylor	Analyst	Sydney Inorganics, Smithfield, NSW
Sanjeshni Jyoti	Senior Chemist Volatiles	Sydney Organics, Smithfield, NSW
Satishkumar Trivedi	Senior Acid Sulfate Soil Chemist	Brisbane Acid Sulphate Soils, Stafford, QLD



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.

- EP075 (SIM): Where reported, Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a,h)anthracene (1.0), Benzo(g,h,i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero.
- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a,h)anthracene (1.0), Benzo(g,h,i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero, for 'TEQ 1/2LOR' are treated as half the reported LOR, and for 'TEQ LOR' are treated as being equal to the reported LOR. Note: TEQ 1/2LOR and TEQ LOR will calculate as 0.6mg/Kg and 1.2mg/Kg respectively for samples with non-detects for all of the eight TEQ PAHs.
- EP080: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EP131A: Where reported, Total Chlordane (sum) is the sum of the reported concentrations of cis-Chlordane and trans-Chlordane at or above the LOR.
- EP068: Where reported, Total Chlordane (sum) is the sum of the reported concentrations of cis-Chlordane and trans-Chlordane at or above the LOR.
- EP068: Where reported, Total OCP is the sum of the reported concentrations of all Organochlorine Pesticides at or above LOR.
- EP080-SD: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EP075(SIM): Where reported, Total Cresol is the sum of the reported concentrations of 2-Methylphenol and 3- & 4-Methylphenol at or above the LOR.
- EG005: Poor precision was obtained for Cr,Cu,Fe,Pb and Zn on sample ES2110361 #5. Results have been confirmed by re-extraction and reanalysis.
- ASS: EA033 (CRS Suite): ANC not required because pH KCl less than 6.5
- EP080: The trip spike and its control have been analysed for volatile TPH and BTEXN only. The trip spike and control were prepared in the lab using reagent grade sand spiked with petrol. The spike was dispatched from the lab and the control retained.
- ASS: EA037 (Rapid Field and F(ox) screening): pH F(ox) Reaction Rate: 1 - Slight; 2 - Moderate; 3 - Strong; 4 - Extreme
- ASS: EA033 (CRS Suite): Liming rate is calculated and reported on a dry weight basis assuming use of fine agricultural lime (CaCO₃) and using a safety factor of 1.5 to allow for non-homogeneous mixing and poor reactivity of lime. For conversion of Liming Rate from 'kg/t dry weight' to 'kg/m³ in-situ soil', multiply 'reported results' x 'wet bulk density of soil in t/m³'.
- EP132: Where reported, Total PAH reported as the sum of Naphthalene, Acenaphthylene, Acenaphthene, Fluorene, Phenanthrene, Anthracene, Fluoranthene, Pyrene, Benz(a)anthracene, Chrysene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzo(a)pyrene, Indeno(1,2,3-cd)pyrene, Dibenz(a,h)anthracene and Benzo(g,h,i)perylene.
- EA037 ASS Field Screening: NATA accreditation does not cover performance of this service.



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	SED01	SED02	SED03	QC9	QC11
Sampling date / time				08-Apr-2021 00:00	08-Apr-2021 00:00	08-Apr-2021 00:00	08-Apr-2021 00:00	08-Apr-2021 00:00	
Compound	CAS Number	LOR	Unit	ES2113384-014	ES2113384-015	ES2113384-016	ES2113384-017	ES2113384-019	
				Result	Result	Result	Result	Result	
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%	37.3	66.8	45.2	20.9	42.8	
EG005(ED093)-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg	6880	13000	7060	----	5790	
Iron	7439-89-6	50	mg/kg	16300	16700	59300	----	12500	
EG005(ED093)T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg	----	----	----	10	----	
Cadmium	7440-43-9	1	mg/kg	----	----	----	<1	----	
Chromium	7440-47-3	2	mg/kg	----	----	----	10	----	
Copper	7440-50-8	5	mg/kg	----	----	----	<5	----	
Lead	7439-92-1	5	mg/kg	----	----	----	22	----	
Nickel	7440-02-0	2	mg/kg	----	----	----	3	----	
Zinc	7440-66-6	5	mg/kg	----	----	----	13	----	
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg	<0.50	<0.50	<0.50	----	<0.50	
Arsenic	7440-38-2	1.00	mg/kg	4.54	5.48	16.0	----	3.57	
Cadmium	7440-43-9	0.1	mg/kg	<0.1	0.2	<0.1	----	<0.1	
Chromium	7440-47-3	1.0	mg/kg	10.1	9.4	21.1	----	8.4	
Copper	7440-50-8	1.0	mg/kg	13.7	17.8	11.7	----	10.9	
Cobalt	7440-48-4	0.5	mg/kg	9.4	15.0	5.7	----	6.6	
Lead	7439-92-1	1.0	mg/kg	10.3	15.3	24.8	----	8.3	
Manganese	7439-96-5	10	mg/kg	84	236	130	----	52	
Nickel	7440-02-0	1.0	mg/kg	13.0	11.3	4.6	----	10.4	
Selenium	7782-49-2	0.1	mg/kg	0.5	0.8	0.5	----	0.4	
Silver	7440-22-4	0.1	mg/kg	<0.1	<0.1	<0.1	----	<0.1	
Vanadium	7440-62-2	2.0	mg/kg	19.0	27.6	78.9	----	15.8	
Zinc	7440-66-6	1.0	mg/kg	51.7	79.7	46.3	----	44.3	
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg	0.02	0.04	0.02	----	0.01	
Mercury	7439-97-6	0.1	mg/kg	----	----	----	<0.1	----	
EP004: Organic Matter									
Total Organic Carbon	----	0.5	%	1.8	6.1	5.1	----	----	
EP066: Polychlorinated Biphenyls (PCB)									
Total Polychlorinated biphenyls	----	0.1	mg/kg	----	----	----	<0.1	----	
EP068A: Organochlorine Pesticides (OC)									



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	SED01	SED02	SED03	QC9	QC11
Sampling date / time				08-Apr-2021 00:00	08-Apr-2021 00:00	08-Apr-2021 00:00	08-Apr-2021 00:00	08-Apr-2021 00:00	
Compound	CAS Number	LOR	Unit	ES2113384-014	ES2113384-015	ES2113384-016	ES2113384-017	ES2113384-019	
				Result	Result	Result	Result	Result	
EP068A: Organochlorine Pesticides (OC) - Continued									
alpha-BHC	319-84-6	0.05	mg/kg	----	----	----	<0.05	----	
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	----	----	----	<0.05	----	
beta-BHC	319-85-7	0.05	mg/kg	----	----	----	<0.05	----	
gamma-BHC	58-89-9	0.05	mg/kg	----	----	----	<0.05	----	
delta-BHC	319-86-8	0.05	mg/kg	----	----	----	<0.05	----	
Heptachlor	76-44-8	0.05	mg/kg	----	----	----	<0.05	----	
Aldrin	309-00-2	0.05	mg/kg	----	----	----	<0.05	----	
Heptachlor epoxide	1024-57-3	0.05	mg/kg	----	----	----	<0.05	----	
^ Total Chlordane (sum)	----	0.05	mg/kg	----	----	----	<0.05	----	
trans-Chlordane	5103-74-2	0.05	mg/kg	----	----	----	<0.05	----	
alpha-Endosulfan	959-98-8	0.05	mg/kg	----	----	----	<0.05	----	
cis-Chlordane	5103-71-9	0.05	mg/kg	----	----	----	<0.05	----	
Dieldrin	60-57-1	0.05	mg/kg	----	----	----	<0.05	----	
4,4'-DDE	72-55-9	0.05	mg/kg	----	----	----	<0.05	----	
Endrin	72-20-8	0.05	mg/kg	----	----	----	<0.05	----	
beta-Endosulfan	33213-65-9	0.05	mg/kg	----	----	----	<0.05	----	
^ Endosulfan (sum)	115-29-7	0.05	mg/kg	----	----	----	<0.05	----	
4,4'-DDD	72-54-8	0.05	mg/kg	----	----	----	<0.05	----	
Endrin aldehyde	7421-93-4	0.05	mg/kg	----	----	----	<0.05	----	
Endosulfan sulfate	1031-07-8	0.05	mg/kg	----	----	----	<0.05	----	
4,4'-DDT	50-29-3	0.2	mg/kg	----	----	----	<0.2	----	
Endrin ketone	53494-70-5	0.05	mg/kg	----	----	----	<0.05	----	
Methoxychlor	72-43-5	0.2	mg/kg	----	----	----	<0.2	----	
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	----	----	----	<0.05	----	
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-29-3	0.05	mg/kg	----	----	----	<0.05	----	
EP068B: Organophosphorus Pesticides (OP)									
Dichlorvos	62-73-7	0.05	mg/kg	----	----	----	<0.05	----	
Demeton-S-methyl	919-86-8	0.05	mg/kg	----	----	----	<0.05	----	
Monocrotophos	6923-22-4	0.2	mg/kg	----	----	----	<0.2	----	
Dimethoate	60-51-5	0.05	mg/kg	----	----	----	<0.05	----	
Diazinon	333-41-5	0.05	mg/kg	----	----	----	<0.05	----	
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	----	----	----	<0.05	----	
Parathion-methyl	298-00-0	0.2	mg/kg	----	----	----	<0.2	----	
Malathion	121-75-5	0.05	mg/kg	----	----	----	<0.05	----	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	SED01	SED02	SED03	QC9	QC11
Sampling date / time				08-Apr-2021 00:00	08-Apr-2021 00:00	08-Apr-2021 00:00	08-Apr-2021 00:00	08-Apr-2021 00:00	
Compound	CAS Number	LOR	Unit	ES2113384-014	ES2113384-015	ES2113384-016	ES2113384-017	ES2113384-019	
				Result	Result	Result	Result	Result	
EP068B: Organophosphorus Pesticides (OP) - Continued									
Fenthion	55-38-9	0.05	mg/kg	----	----	----	<0.05	----	
Chlorpyrifos	2921-88-2	0.05	mg/kg	----	----	----	<0.05	----	
Parathion	56-38-2	0.2	mg/kg	----	----	----	<0.2	----	
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	----	----	----	<0.05	----	
Chlorfenvinphos	470-90-6	0.05	mg/kg	----	----	----	<0.05	----	
Bromophos-ethyl	4824-78-6	0.05	mg/kg	----	----	----	<0.05	----	
Fenamiphos	22224-92-6	0.05	mg/kg	----	----	----	<0.05	----	
Prothiofos	34643-46-4	0.05	mg/kg	----	----	----	<0.05	----	
Ethion	563-12-2	0.05	mg/kg	----	----	----	<0.05	----	
Carbophenothion	786-19-6	0.05	mg/kg	----	----	----	<0.05	----	
Azinphos Methyl	86-50-0	0.05	mg/kg	----	----	----	<0.05	----	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg	----	----	----	<0.5	----	
Acenaphthylene	208-96-8	0.5	mg/kg	----	----	----	<0.5	----	
Acenaphthene	83-32-9	0.5	mg/kg	----	----	----	<0.5	----	
Fluorene	86-73-7	0.5	mg/kg	----	----	----	<0.5	----	
Phenanthrene	85-01-8	0.5	mg/kg	----	----	----	<0.5	----	
Anthracene	120-12-7	0.5	mg/kg	----	----	----	<0.5	----	
Fluoranthene	206-44-0	0.5	mg/kg	----	----	----	<0.5	----	
Pyrene	129-00-0	0.5	mg/kg	----	----	----	<0.5	----	
Benz(a)anthracene	56-55-3	0.5	mg/kg	----	----	----	<0.5	----	
Chrysene	218-01-9	0.5	mg/kg	----	----	----	<0.5	----	
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	----	----	----	<0.5	----	
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	----	----	----	<0.5	----	
Benzo(a)pyrene	50-32-8	0.5	mg/kg	----	----	----	<0.5	----	
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	----	----	----	<0.5	----	
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	----	----	----	<0.5	----	
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	----	----	----	<0.5	----	
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	----	----	----	<0.5	----	
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	----	----	----	<0.5	----	
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	----	----	----	0.6	----	
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	----	----	----	1.2	----	
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg	----	----	----	<10	----	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	SED01	SED02	SED03	QC9	QC11
Sampling date / time				08-Apr-2021 00:00	08-Apr-2021 00:00	08-Apr-2021 00:00	08-Apr-2021 00:00	08-Apr-2021 00:00	
Compound	CAS Number	LOR	Unit	ES2113384-014	ES2113384-015	ES2113384-016	ES2113384-017	ES2113384-019	
				Result	Result	Result	Result	Result	
EP080/071: Total Petroleum Hydrocarbons - Continued									
C10 - C14 Fraction	----	50	mg/kg	----	----	----	<50	----	
C15 - C28 Fraction	----	100	mg/kg	----	----	----	<100	----	
C29 - C36 Fraction	----	100	mg/kg	----	----	----	<100	----	
^ C10 - C36 Fraction (sum)	----	50	mg/kg	----	----	----	<50	----	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg	----	----	----	<10	----	
>C10 - C16 Fraction	----	3	mg/kg	9	49	35	----	13	
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	----	----	----	<10	----	
>C10 - C16 Fraction	----	50	mg/kg	----	----	----	<50	----	
>C16 - C34 Fraction	----	3	mg/kg	68	388	235	----	84	
>C16 - C34 Fraction	----	100	mg/kg	----	----	----	<100	----	
>C34 - C40 Fraction	----	5	mg/kg	26	225	169	----	34	
>C10 - C40 Fraction (sum)	----	3	mg/kg	103	662	439	----	131	
>C34 - C40 Fraction	----	100	mg/kg	----	----	----	<100	----	
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	----	----	----	<50	----	
>C10 - C16 Fraction minus Naphthalene (F2)	----	3	mg/kg	9	49	35	----	13	
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	----	----	----	<50	----	
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg	----	----	----	<0.2	----	
Toluene	108-88-3	0.5	mg/kg	----	----	----	<0.5	----	
Ethylbenzene	100-41-4	0.5	mg/kg	----	----	----	<0.5	----	
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	----	----	----	<0.5	----	
ortho-Xylene	95-47-6	0.5	mg/kg	----	----	----	<0.5	----	
^ Sum of BTEX	----	0.2	mg/kg	----	----	----	<0.2	----	
^ Total Xylenes	----	0.5	mg/kg	----	----	----	<0.5	----	
Naphthalene	91-20-3	1	mg/kg	----	----	----	<1	----	
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg	<3	6	<3	----	<3	
C10 - C14 Fraction	----	3	mg/kg	4	31	23	----	8	
C15 - C28 Fraction	----	3	mg/kg	46	183	132	----	56	
C29 - C36 Fraction	----	5	mg/kg	43	365	219	----	53	
^ C10 - C36 Fraction (sum)	----	3	mg/kg	93	579	374	----	117	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	SED01	SED02	SED03	QC9	QC11
Sampling date / time				08-Apr-2021 00:00	08-Apr-2021 00:00	08-Apr-2021 00:00	08-Apr-2021 00:00	08-Apr-2021 00:00	
Compound	CAS Number	LOR	Unit	ES2113384-014	ES2113384-015	ES2113384-016	ES2113384-017	ES2113384-019	
				Result	Result	Result	Result	Result	
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg	<3	38	<3	----	<3	
C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	3.0	mg/kg	<3.0	37.8	<3.0	----	<3.0	
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	----	<0.2	
Toluene	108-88-3	0.2	mg/kg	<0.2	0.2	<0.2	----	<0.2	
Ethylbenzene	100-41-4	0.2	mg/kg	<0.2	<0.2	<0.2	----	<0.2	
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg	<0.2	<0.2	<0.2	----	<0.2	
ortho-Xylene	95-47-6	0.2	mg/kg	<0.2	<0.2	<0.2	----	<0.2	
^ Total Xylenes	----	0.5	mg/kg	<0.5	<0.5	<0.5	----	<0.5	
^ Sum of BTEX	----	0.2	mg/kg	<0.2	0.2	<0.2	----	<0.2	
Naphthalene	91-20-3	0.2	mg/kg	<0.2	<0.2	<0.2	----	<0.2	
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg	<10	<10	<10	----	<10	
Carbophenothion	786-19-6	10	µg/kg	<10	<10	<10	----	<10	
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg	<10.0	<10.0	<10.0	----	<10.0	
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg	<10	<10	<10	----	<10	
Chlorpyrifos	2921-88-2	10	µg/kg	<10	<10	<10	----	<10	
Chlorpyrifos-methyl	5598-13-0	10	µg/kg	<10	<10	<10	----	<10	
Demeton-S-methyl	919-86-8	10	µg/kg	<10	<10	<10	----	<10	
Diazinon	333-41-5	10	µg/kg	<10	<10	<10	----	<10	
Dichlorvos	62-73-7	10	µg/kg	<10	<10	<10	----	<10	
Dimethoate	60-51-5	10	µg/kg	<10	<10	<10	----	<10	
Ethion	563-12-2	10	µg/kg	<10	<10	<10	----	<10	
Fenamiphos	22224-92-6	10	µg/kg	<10	<10	<10	----	<10	
Fenthion	55-38-9	10	µg/kg	<10	<10	<10	----	<10	
Malathion	121-75-5	10	µg/kg	<10	<10	<10	----	<10	
Azinphos Methyl	86-50-0	10	µg/kg	<10	<10	<10	----	<10	
Monocrotophos	6923-22-4	10	µg/kg	<10	<10	<10	----	<10	
Parathion	56-38-2	10	µg/kg	<10	<10	<10	----	<10	
Parathion-methyl	298-00-0	10	µg/kg	<10	<10	<10	----	<10	
Pirimphos-ethyl	23505-41-1	10	µg/kg	<10	<10	<10	----	<10	
Prothiofos	34643-46-4	10	µg/kg	<10	<10	<10	----	<10	
EP131A: Organochlorine Pesticides									



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	SED01	SED02	SED03	QC9	QC11
Sampling date / time				08-Apr-2021 00:00	08-Apr-2021 00:00	08-Apr-2021 00:00	08-Apr-2021 00:00	08-Apr-2021 00:00	
Compound	CAS Number	LOR	Unit	ES2113384-014	ES2113384-015	ES2113384-016	ES2113384-017	ES2113384-019	
				Result	Result	Result	Result	Result	
EP131A: Organochlorine Pesticides - Continued									
Aldrin	309-00-2	0.50	µg/kg	<0.50	<0.50	<0.50	----	<0.50	
alpha-BHC	319-84-6	0.50	µg/kg	<0.50	<0.50	<0.50	----	<0.50	
beta-BHC	319-85-7	0.50	µg/kg	<0.50	<0.50	<0.50	----	<0.50	
delta-BHC	319-86-8	0.50	µg/kg	<0.50	<0.50	<0.50	----	<0.50	
4.4`-DDD	72-54-8	0.50	µg/kg	<0.50	<0.50	<0.50	----	<0.50	
4.4`-DDE	72-55-9	0.50	µg/kg	<0.50	<0.50	<0.50	----	<0.50	
4.4`-DDT	50-29-3	0.50	µg/kg	<0.50	<0.50	<0.50	----	<0.50	
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-29-3	0.50	µg/kg	<0.50	<0.50	<0.50	----	<0.50	
Dieldrin	60-57-1	0.50	µg/kg	<0.50	<0.50	<0.50	----	<0.50	
alpha-Endosulfan	959-98-8	0.50	µg/kg	<0.50	<0.50	<0.50	----	<0.50	
beta-Endosulfan	33213-65-9	0.50	µg/kg	<0.50	<0.50	<0.50	----	<0.50	
Endosulfan sulfate	1031-07-8	0.50	µg/kg	<0.50	<0.50	<0.50	----	<0.50	
^ Endosulfan (sum)	115-29-7	0.50	µg/kg	<0.50	<0.50	<0.50	----	<0.50	
Endrin	72-20-8	0.50	µg/kg	<0.50	<0.50	<0.50	----	<0.50	
Endrin aldehyde	7421-93-4	0.50	µg/kg	<0.50	<0.50	<0.50	----	<0.50	
Endrin ketone	53494-70-5	0.50	µg/kg	<0.50	<0.50	<0.50	----	<0.50	
Heptachlor	76-44-8	0.50	µg/kg	<0.50	<0.50	<0.50	----	<0.50	
Heptachlor epoxide	1024-57-3	0.50	µg/kg	<0.50	<0.50	<0.50	----	<0.50	
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg	<0.50	<0.50	<0.50	----	<0.50	
gamma-BHC	58-89-9	0.25	µg/kg	<0.25	<0.25	<0.25	----	<0.25	
Methoxychlor	72-43-5	0.50	µg/kg	<0.50	<0.50	<0.50	----	<0.50	
cis-Chlordane	5103-71-9	0.25	µg/kg	<0.25	<0.25	<0.25	----	<0.25	
trans-Chlordane	5103-74-2	0.25	µg/kg	<0.25	<0.25	<0.25	----	<0.25	
^ Total Chlordane (sum)	----	0.25	µg/kg	<0.25	<0.25	<0.25	----	<0.25	
Oxychlordane	27304-13-8	0.50	µg/kg	<0.50	<0.50	<0.50	----	<0.50	
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ Total Polychlorinated biphenyls	----	5.0	µg/kg	<5.0	<6.2	<5.0	----	<5.0	
Aroclor 1016	12674-11-2	5.0	µg/kg	<5.0	<6.2	<5.0	----	<5.0	
Aroclor 1221	11104-28-2	5.0	µg/kg	<5.0	<6.2	<5.0	----	<5.0	
Aroclor 1232	11141-16-5	5.0	µg/kg	<5.0	<6.2	<5.0	----	<5.0	
Aroclor 1242	53469-21-9	5.0	µg/kg	<5.0	<6.2	<5.0	----	<5.0	
Aroclor 1248	12672-29-6	5.0	µg/kg	<5.0	<6.2	<5.0	----	<5.0	
Aroclor 1254	11097-69-1	5.0	µg/kg	<5.0	<6.2	<5.0	----	<5.0	
Aroclor 1260	11096-82-5	5.0	µg/kg	<5.0	<6.2	<5.0	----	<5.0	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	SED01	SED02	SED03	QC9	QC11
Sampling date / time				08-Apr-2021 00:00	08-Apr-2021 00:00	08-Apr-2021 00:00	08-Apr-2021 00:00	08-Apr-2021 00:00	
Compound	CAS Number	LOR	Unit	ES2113384-014	ES2113384-015	ES2113384-016	ES2113384-017	ES2113384-019	
				Result	Result	Result	Result	Result	
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg	15	20	<5	----	14	
2-Methylnaphthalene	91-57-6	5	µg/kg	29	40	8	----	23	
Acenaphthylene	208-96-8	4	µg/kg	<4	<5	<4	----	<4	
Acenaphthene	83-32-9	4	µg/kg	<4	<5	<4	----	<4	
Fluorene	86-73-7	4	µg/kg	<4	<5	<4	----	<4	
Phenanthrene	85-01-8	4	µg/kg	21	66	25	----	19	
Anthracene	120-12-7	4	µg/kg	<4	<5	<4	----	<4	
Fluoranthene	206-44-0	4	µg/kg	6	42	38	----	5	
Pyrene	129-00-0	4	µg/kg	6	41	36	----	5	
Benzo(a)anthracene	56-55-3	4	µg/kg	<4	20	18	----	<4	
Chrysene	218-01-9	4	µg/kg	14	38	21	----	12	
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg	12	41	30	----	10	
Benzo(k)fluoranthene	207-08-9	4	µg/kg	<4	7	8	----	<4	
Benzo(e)pyrene	192-97-2	4	µg/kg	14	32	19	----	12	
Benzo(a)pyrene	50-32-8	4	µg/kg	<4	27	26	----	<4	
Perylene	198-55-0	4	µg/kg	<4	<5	<4	----	<4	
Benzo(g,h,i)perylene	191-24-2	4	µg/kg	6	29	21	----	5	
Dibenz(a,h)anthracene	53-70-3	4	µg/kg	<4	<5	<4	----	<4	
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg	<4	<5	17	----	<4	
Coronene	191-07-1	5	µg/kg	<5	<5	<5	----	<5	
^ Sum of PAHs	----	4	µg/kg	123	403	267	----	105	
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%	----	----	----	109	----	
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%	----	----	----	103	----	
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%	----	----	----	102	----	
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%	----	----	----	82.4	----	
2-Chlorophenol-D4	93951-73-6	0.5	%	----	----	----	93.0	----	
2,4,6-Tribromophenol	118-79-6	0.5	%	----	----	----	94.8	----	
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%	----	----	----	99.4	----	
Anthracene-d10	1719-06-8	0.5	%	----	----	----	88.2	----	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	SED01	SED02	SED03	QC9	QC11
Sampling date / time				08-Apr-2021 00:00	08-Apr-2021 00:00	08-Apr-2021 00:00	08-Apr-2021 00:00	08-Apr-2021 00:00	
Compound	CAS Number	LOR	Unit	ES2113384-014	ES2113384-015	ES2113384-016	ES2113384-017	ES2113384-019	
				Result	Result	Result	Result	Result	
EP075(SIM)T: PAH Surrogates - Continued									
4-Terphenyl-d14	1718-51-0	0.5	%	----	----	----	106	----	
EP080S: TPH(V)/BTEX Surrogates									
1,2-Dichloroethane-D4	17060-07-0	0.2	%	----	----	----	77.0	----	
Toluene-D8	2037-26-5	0.2	%	----	----	----	88.9	----	
4-Bromofluorobenzene	460-00-4	0.2	%	----	----	----	93.4	----	
EP080-SD: TPH(V)/BTEX Surrogates									
1,2-Dichloroethane-D4	17060-07-0	0.2	%	78.2	81.8	80.3	----	79.1	
Toluene-D8	2037-26-5	0.2	%	81.8	92.9	83.0	----	85.8	
4-Bromofluorobenzene	460-00-4	0.2	%	82.9	91.4	82.9	----	84.5	
EP130S: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	10	%	48.5	46.0	48.5	----	37.2	
EP131S: OC Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.50	%	53.6	51.2	71.2	----	46.1	
EP131T: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.5	%	68.2	86.5	65.6	----	49.4	
EP132T: Base/Neutral Extractable Surrogates									
2-Fluorobiphenyl	321-60-8	10	%	106	64.8	76.4	----	113	
Anthracene-d10	1719-06-8	10	%	90.0	109	111	----	104	
4-Terphenyl-d14	1718-51-0	10	%	74.2	90.6	91.2	----	84.4	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TB_S	TS_S TS15	TP29_0.1	TP29_0.5	TP30_0.1
Sampling date / time				31-Mar-2021 00:00	29-Mar-2021 00:00	08-Apr-2021 00:00	08-Apr-2021 00:00	08-Apr-2021 00:00	
Compound	CAS Number	LOR	Unit	ES2113384-020	ES2113384-021	ES2113384-028	ES2113384-029	ES2113384-030	
				Result	Result	Result	Result	Result	
EA033-A: Actual Acidity									
pH KCl (23A)	----	0.1	pH Unit	----	----	----	4.3	----	
Titrateable Actual Acidity (23F)	----	2	mole H+ / t	----	----	----	64	----	
sulfidic - Titrateable Actual Acidity (s-23F)	----	0.02	% pyrite S	----	----	----	0.10	----	
EA033-B: Potential Acidity									
Chromium Reducible Sulfur (22B)	----	0.005	% S	----	----	----	0.009	----	
acidity - Chromium Reducible Sulfur (a-22B)	----	10	mole H+ / t	----	----	----	<10	----	
EA033-D: Retained Acidity									
KCl Extractable Sulfur (23Ce)	----	0.02	% S	----	----	----	0.03	----	
HCl Extractable Sulfur (20Be)	----	0.02	% S	----	----	----	0.05	----	
Net Acid Soluble Sulfur (20Je)	----	0.02	% S	----	----	----	0.04	----	
acidity - Net Acid Soluble Sulfur (a-20J)	----	10	mole H+ / t	----	----	----	17	----	
sulfidic - Net Acid Soluble Sulfur (s-20J)	----	0.02	% pyrite S	----	----	----	0.03	----	
EA033-E: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-	----	----	----	1.5	----	
Net Acidity (sulfur units)	----	0.02	% S	----	----	----	0.14	----	
Net Acidity (acidity units)	----	10	mole H+ / t	----	----	----	86	----	
Liming Rate	----	1	kg CaCO3/t	----	----	----	6	----	
Net Acidity excluding ANC (sulfur units)	----	0.02	% S	----	----	----	0.14	----	
Net Acidity excluding ANC (acidity units)	----	10	mole H+ / t	----	----	----	86	----	
Liming Rate excluding ANC	----	1	kg CaCO3/t	----	----	----	6	----	
EA037: Ass Field Screening Analysis									
ø pH (F)	----	0.1	pH Unit	----	----	----	5.5	----	
ø pH (Fox)	----	0.1	pH Unit	----	----	----	3.8	----	
ø Reaction Rate	----	1	-	----	----	----	1	----	
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%	----	----	6.8	----	11.5	
EG005(ED093)T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg	----	----	<5	----	13	
Cadmium	7440-43-9	1	mg/kg	----	----	<1	----	<1	
Chromium	7440-47-3	2	mg/kg	----	----	11	----	25	
Copper	7440-50-8	5	mg/kg	----	----	<5	----	6	
Lead	7439-92-1	5	mg/kg	----	----	9	----	21	
Nickel	7440-02-0	2	mg/kg	----	----	3	----	5	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TB_S	TS_S TS15	TP29_0.1	TP29_0.5	TP30_0.1
Sampling date / time				31-Mar-2021 00:00	29-Mar-2021 00:00	08-Apr-2021 00:00	08-Apr-2021 00:00	08-Apr-2021 00:00	
Compound	CAS Number	LOR	Unit	ES2113384-020	ES2113384-021	ES2113384-028	ES2113384-029	ES2113384-030	
				Result	Result	Result	Result	Result	
EG005(ED093)T: Total Metals by ICP-AES - Continued									
Zinc	7440-66-6	5	mg/kg	----	----	9	----	24	
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg	----	----	<0.1	----	<0.1	
EP066: Polychlorinated Biphenyls (PCB)									
Total Polychlorinated biphenyls	----	0.1	mg/kg	----	----	<0.1	----	<0.1	
EP068A: Organochlorine Pesticides (OC)									
alpha-BHC	319-84-6	0.05	mg/kg	----	----	<0.05	----	<0.05	
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	----	----	<0.05	----	<0.05	
beta-BHC	319-85-7	0.05	mg/kg	----	----	<0.05	----	<0.05	
gamma-BHC	58-89-9	0.05	mg/kg	----	----	<0.05	----	<0.05	
delta-BHC	319-86-8	0.05	mg/kg	----	----	<0.05	----	<0.05	
Heptachlor	76-44-8	0.05	mg/kg	----	----	<0.05	----	<0.05	
Aldrin	309-00-2	0.05	mg/kg	----	----	<0.05	----	<0.05	
Heptachlor epoxide	1024-57-3	0.05	mg/kg	----	----	<0.05	----	<0.05	
^ Total Chlordane (sum)	----	0.05	mg/kg	----	----	<0.05	----	<0.05	
trans-Chlordane	5103-74-2	0.05	mg/kg	----	----	<0.05	----	<0.05	
alpha-Endosulfan	959-98-8	0.05	mg/kg	----	----	<0.05	----	<0.05	
cis-Chlordane	5103-71-9	0.05	mg/kg	----	----	<0.05	----	<0.05	
Dieldrin	60-57-1	0.05	mg/kg	----	----	<0.05	----	<0.05	
4,4'-DDE	72-55-9	0.05	mg/kg	----	----	<0.05	----	<0.05	
Endrin	72-20-8	0.05	mg/kg	----	----	<0.05	----	<0.05	
beta-Endosulfan	33213-65-9	0.05	mg/kg	----	----	<0.05	----	<0.05	
^ Endosulfan (sum)	115-29-7	0.05	mg/kg	----	----	<0.05	----	<0.05	
4,4'-DDD	72-54-8	0.05	mg/kg	----	----	<0.05	----	<0.05	
Endrin aldehyde	7421-93-4	0.05	mg/kg	----	----	<0.05	----	<0.05	
Endosulfan sulfate	1031-07-8	0.05	mg/kg	----	----	<0.05	----	<0.05	
4,4'-DDT	50-29-3	0.2	mg/kg	----	----	<0.2	----	<0.2	
Endrin ketone	53494-70-5	0.05	mg/kg	----	----	<0.05	----	<0.05	
Methoxychlor	72-43-5	0.2	mg/kg	----	----	<0.2	----	<0.2	
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	----	----	<0.05	----	<0.05	
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.05	mg/kg	----	----	<0.05	----	<0.05	
EP068B: Organophosphorus Pesticides (OP)									
Dichlorvos	62-73-7	0.05	mg/kg	----	----	<0.05	----	<0.05	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TB_S	TS_S TS15	TP29_0.1	TP29_0.5	TP30_0.1
Sampling date / time				31-Mar-2021 00:00	29-Mar-2021 00:00	08-Apr-2021 00:00	08-Apr-2021 00:00	08-Apr-2021 00:00	
Compound	CAS Number	LOR	Unit	ES2113384-020	ES2113384-021	ES2113384-028	ES2113384-029	ES2113384-030	
				Result	Result	Result	Result	Result	
EP068B: Organophosphorus Pesticides (OP) - Continued									
Demeton-S-methyl	919-86-8	0.05	mg/kg	----	----	<0.05	----	<0.05	
Monocrotophos	6923-22-4	0.2	mg/kg	----	----	<0.2	----	<0.2	
Dimethoate	60-51-5	0.05	mg/kg	----	----	<0.05	----	<0.05	
Diazinon	333-41-5	0.05	mg/kg	----	----	<0.05	----	<0.05	
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	----	----	<0.05	----	<0.05	
Parathion-methyl	298-00-0	0.2	mg/kg	----	----	<0.2	----	<0.2	
Malathion	121-75-5	0.05	mg/kg	----	----	<0.05	----	<0.05	
Fenthion	55-38-9	0.05	mg/kg	----	----	<0.05	----	<0.05	
Chlorpyrifos	2921-88-2	0.05	mg/kg	----	----	<0.05	----	<0.05	
Parathion	56-38-2	0.2	mg/kg	----	----	<0.2	----	<0.2	
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	----	----	<0.05	----	<0.05	
Chlorfenvinphos	470-90-6	0.05	mg/kg	----	----	<0.05	----	<0.05	
Bromophos-ethyl	4824-78-6	0.05	mg/kg	----	----	<0.05	----	<0.05	
Fenamiphos	22224-92-6	0.05	mg/kg	----	----	<0.05	----	<0.05	
Prothiofos	34643-46-4	0.05	mg/kg	----	----	<0.05	----	<0.05	
Ethion	563-12-2	0.05	mg/kg	----	----	<0.05	----	<0.05	
Carbophenothion	786-19-6	0.05	mg/kg	----	----	<0.05	----	<0.05	
Azinphos Methyl	86-50-0	0.05	mg/kg	----	----	<0.05	----	<0.05	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg	----	----	<0.5	----	<0.5	
Acenaphthylene	208-96-8	0.5	mg/kg	----	----	<0.5	----	<0.5	
Acenaphthene	83-32-9	0.5	mg/kg	----	----	<0.5	----	<0.5	
Fluorene	86-73-7	0.5	mg/kg	----	----	<0.5	----	<0.5	
Phenanthrene	85-01-8	0.5	mg/kg	----	----	<0.5	----	<0.5	
Anthracene	120-12-7	0.5	mg/kg	----	----	<0.5	----	<0.5	
Fluoranthene	206-44-0	0.5	mg/kg	----	----	<0.5	----	<0.5	
Pyrene	129-00-0	0.5	mg/kg	----	----	<0.5	----	<0.5	
Benz(a)anthracene	56-55-3	0.5	mg/kg	----	----	<0.5	----	<0.5	
Chrysene	218-01-9	0.5	mg/kg	----	----	<0.5	----	<0.5	
Benzo(b+)fluoranthene	205-99-2	0.5	mg/kg	----	----	<0.5	----	<0.5	
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	----	----	<0.5	----	<0.5	
Benzo(a)pyrene	50-32-8	0.5	mg/kg	----	----	<0.5	----	<0.5	
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	----	----	<0.5	----	<0.5	
Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	----	----	<0.5	----	<0.5	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TB_S	TS_S TS15	TP29_0.1	TP29_0.5	TP30_0.1
Sampling date / time				31-Mar-2021 00:00	29-Mar-2021 00:00	08-Apr-2021 00:00	08-Apr-2021 00:00	08-Apr-2021 00:00	
Compound	CAS Number	LOR	Unit	ES2113384-020	ES2113384-021	ES2113384-028	ES2113384-029	ES2113384-030	
				Result	Result	Result	Result	Result	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	----	----	<0.5	----	<0.5	
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	----	----	<0.5	----	<0.5	
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	----	----	<0.5	----	<0.5	
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	----	----	0.6	----	0.6	
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	----	----	1.2	----	1.2	
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg	<10	31	<10	----	<10	
C10 - C14 Fraction	----	50	mg/kg	----	----	<50	----	<50	
C15 - C28 Fraction	----	100	mg/kg	----	----	<100	----	<100	
C29 - C36 Fraction	----	100	mg/kg	----	----	<100	----	<100	
^ C10 - C36 Fraction (sum)	----	50	mg/kg	----	----	<50	----	<50	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg	<10	41	<10	----	<10	
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	<10	19	<10	----	<10	
>C10 - C16 Fraction	----	50	mg/kg	----	----	<50	----	<50	
>C16 - C34 Fraction	----	100	mg/kg	----	----	<100	----	<100	
>C34 - C40 Fraction	----	100	mg/kg	----	----	<100	----	<100	
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	----	----	<50	----	<50	
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	----	----	<50	----	<50	
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	----	<0.2	
Toluene	108-88-3	0.5	mg/kg	<0.5	7.7	<0.5	----	<0.5	
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1.5	<0.5	----	<0.5	
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	8.6	<0.5	----	<0.5	
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	3.8	<0.5	----	<0.5	
^ Sum of BTEX	----	0.2	mg/kg	<0.2	21.6	<0.2	----	<0.2	
^ Total Xylenes	----	0.5	mg/kg	<0.5	12.4	<0.5	----	<0.5	
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	----	<1	
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%	----	----	123	----	95.0	
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%	----	----	114	----	93.4	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TB_S	TS_S TS15	TP29_0.1	TP29_0.5	TP30_0.1
Sampling date / time				31-Mar-2021 00:00	29-Mar-2021 00:00	08-Apr-2021 00:00	08-Apr-2021 00:00	08-Apr-2021 00:00	
Compound	CAS Number	LOR	Unit	ES2113384-020	ES2113384-021	ES2113384-028	ES2113384-029	ES2113384-030	
				Result	Result	Result	Result	Result	
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%	----	----	109	----	92.6	
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%	----	----	82.6	----	86.8	
2-Chlorophenol-D4	93951-73-6	0.5	%	----	----	99.4	----	97.0	
2,4,6-Tribromophenol	118-79-6	0.5	%	----	----	100	----	87.9	
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%	----	----	81.4	----	95.9	
Anthracene-d10	1719-06-8	0.5	%	----	----	88.8	----	89.5	
4-Terphenyl-d14	1718-51-0	0.5	%	----	----	100	----	105	
EP080S: TPH(V)/BTEX Surrogates									
1,2-Dichloroethane-D4	17060-07-0	0.2	%	85.4	90.9	90.0	----	83.5	
Toluene-D8	2037-26-5	0.2	%	85.7	94.8	92.6	----	86.3	
4-Bromofluorobenzene	460-00-4	0.2	%	97.4	108	105	----	97.9	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TP129_0.1	TP140_0.1	TP141_0.1	TP142_0.1	TSC_S
Sampling date / time				08-Apr-2021 00:00	08-Apr-2021 00:00	08-Apr-2021 00:00	08-Apr-2021 00:00	29-Mar-2021 00:00	
Compound	CAS Number	LOR	Unit	ES2113384-032	ES2113384-034	ES2113384-036	ES2113384-038	ES2113384-042	
				Result	Result	Result	Result	Result	
EA037: Ass Field Screening Analysis									
ø pH (F)	----	0.1	pH Unit	----	----	6.3	----	----	
ø pH (Fox)	----	0.1	pH Unit	----	----	4.6	----	----	
ø Reaction Rate	----	1	-	----	----	1	----	----	
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%	16.7	18.1	15.6	15.8	----	
EG005(ED093)T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg	6	10	5	<5	----	
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	----	
Chromium	7440-47-3	2	mg/kg	18	26	10	8	----	
Copper	7440-50-8	5	mg/kg	18	12	9	<5	----	
Lead	7439-92-1	5	mg/kg	12	8	15	<5	----	
Nickel	7440-02-0	2	mg/kg	18	16	11	6	----	
Zinc	7440-66-6	5	mg/kg	80	60	65	57	----	
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg	<0.1	0.2	<0.1	0.2	----	
EP066: Polychlorinated Biphenyls (PCB)									
Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	----	
EP068A: Organochlorine Pesticides (OC)									
alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----	
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----	
beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----	
gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----	
delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----	
Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----	
Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----	
Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----	
[^] Total Chlordane (sum)	----	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----	
trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----	
alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----	
cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----	
Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----	
4,4'-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----	
Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----	
beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TP129_0.1	TP140_0.1	TP141_0.1	TP142_0.1	TSC_S
Sampling date / time				08-Apr-2021 00:00	08-Apr-2021 00:00	08-Apr-2021 00:00	08-Apr-2021 00:00	29-Mar-2021 00:00	
Compound	CAS Number	LOR	Unit	ES2113384-032	ES2113384-034	ES2113384-036	ES2113384-038	ES2113384-042	
				Result	Result	Result	Result	Result	
EP068A: Organochlorine Pesticides (OC) - Continued									
^ Endosulfan (sum)	115-29-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----	
4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----	
Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----	
Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----	
4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	----	
Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----	
Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	----	
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----	
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----	
EP068B: Organophosphorus Pesticides (OP)									
Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----	
Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----	
Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	----	
Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----	
Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----	
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----	
Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	----	
Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----	
Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----	
Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----	
Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	----	
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----	
Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----	
Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----	
Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----	
Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----	
Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----	
Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----	
Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----	
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----	
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----	
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TP129_0.1	TP140_0.1	TP141_0.1	TP142_0.1	TSC_S
Sampling date / time				08-Apr-2021 00:00	08-Apr-2021 00:00	08-Apr-2021 00:00	08-Apr-2021 00:00	29-Mar-2021 00:00	
Compound	CAS Number	LOR	Unit	ES2113384-032	ES2113384-034	ES2113384-036	ES2113384-038	ES2113384-042	
				Result	Result	Result	Result	Result	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----	
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----	
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----	
Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----	
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----	
Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----	
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----	
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----	
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----	
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----	
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----	
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----	
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----	
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----	
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	0.6	0.6	0.6	0.6	----	
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	1.2	1.2	1.2	1.2	----	
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	38	
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	----	
C15 - C28 Fraction	----	100	mg/kg	<100	<100	<100	<100	----	
C29 - C36 Fraction	----	100	mg/kg	<100	<100	<100	<100	----	
^ C10 - C36 Fraction (sum)	----	50	mg/kg	<50	<50	<50	<50	----	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	<10	<10	48	
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	<10	<10	<10	<10	22	
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	<50	<50	----	
>C16 - C34 Fraction	----	100	mg/kg	<100	<100	<100	<100	----	
>C34 - C40 Fraction	----	100	mg/kg	<100	<100	<100	<100	----	
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	<50	<50	<50	----	
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	<50	<50	<50	<50	----	
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TP129_0.1	TP140_0.1	TP141_0.1	TP142_0.1	TSC_S
Sampling date / time				08-Apr-2021 00:00	08-Apr-2021 00:00	08-Apr-2021 00:00	08-Apr-2021 00:00	29-Mar-2021 00:00	
Compound	CAS Number	LOR	Unit	ES2113384-032	ES2113384-034	ES2113384-036	ES2113384-038	ES2113384-042	
				Result	Result	Result	Result	Result	
EP080: BTEXN - Continued									
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	10.8	
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	1.7	
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	9.5	
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	3.8	
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	25.8	
^ Total Xylenes	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	13.3	
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1	
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%	106	99.8	112	120	----	
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%	102	91.7	92.2	109	----	
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%	79.6	77.7	55.9	75.7	----	
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%	83.5	81.4	82.6	80.2	----	
2-Chlorophenol-D4	93951-73-6	0.5	%	92.3	90.8	94.3	96.1	----	
2,4,6-Tribromophenol	118-79-6	0.5	%	86.3	95.6	84.2	73.4	----	
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%	95.6	87.6	102	96.4	----	
Anthracene-d10	1719-06-8	0.5	%	86.2	94.0	89.3	87.6	----	
4-Terphenyl-d14	1718-51-0	0.5	%	88.0	110	80.1	109	----	
EP080S: TPH(V)/BTEX Surrogates									
1,2-Dichloroethane-D4	17060-07-0	0.2	%	78.5	81.3	87.0	78.6	92.3	
Toluene-D8	2037-26-5	0.2	%	83.6	84.2	87.6	85.0	95.2	
4-Bromofluorobenzene	460-00-4	0.2	%	97.8	99.6	91.6	99.8	106	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	SW01	SW02	SW03	QC13	TB_W
Sampling date / time				08-Apr-2021 00:00	08-Apr-2021 00:00	08-Apr-2021 00:00	08-Apr-2021 00:00	31-Mar-2021 00:00	
Compound	CAS Number	LOR	Unit	ES2113384-011	ES2113384-012	ES2113384-013	ES2113384-018	ES2113384-022	
				Result	Result	Result	Result	Result	
EG020F: Dissolved Metals by ICP-MS									
Arsenic	7440-38-2	0.001	mg/L	0.005	0.007	0.004	0.005	----	
Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	----	
Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	<0.001	<0.001	----	
Copper	7440-50-8	0.001	mg/L	<0.001	<0.001	0.001	<0.001	----	
Nickel	7440-02-0	0.001	mg/L	0.015	0.003	0.001	0.014	----	
Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	<0.001	<0.001	----	
Zinc	7440-66-6	0.005	mg/L	<0.005	<0.005	<0.005	<0.005	----	
EG035F: Dissolved Mercury by FIMS									
Mercury	7439-97-6	0.00004	mg/L	<0.00004	<0.00004	<0.00004	<0.00004	----	
EP066: Polychlorinated Biphenyls (PCB)									
^ Total Polychlorinated biphenyls	----	1	µg/L	<1	<1	<1	<1	----	
EP068B: Organophosphorus Pesticides (OP)									
Dichlorvos	62-73-7	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	----	
Demeton-S-methyl	919-86-8	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	----	
Monocrotophos	6923-22-4	2.0	µg/L	<2.0	<2.0	<2.0	<2.0	----	
Dimethoate	60-51-5	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	----	
Diazinon	333-41-5	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	----	
Chlorpyrifos-methyl	5598-13-0	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	----	
Parathion-methyl	298-00-0	2.0	µg/L	<2.0	<2.0	<2.0	<2.0	----	
Malathion	121-75-5	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	----	
Fenthion	55-38-9	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	----	
Chlorpyrifos	2921-88-2	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	----	
Parathion	56-38-2	2.0	µg/L	<2.0	<2.0	<2.0	<2.0	----	
Pirimphos-ethyl	23505-41-1	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	----	
Chlorfenvinphos	470-90-6	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	----	
Bromophos-ethyl	4824-78-6	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	----	
Fenamiphos	22224-92-6	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	----	
Prothiofos	34643-46-4	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	----	
Ethion	563-12-2	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	----	
Carbophenothion	786-19-6	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	----	
Azinphos Methyl	86-50-0	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	----	
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	20	µg/L	<20	<20	<20	<20	<20	
C10 - C14 Fraction	----	50	µg/L	<50	120	<50	<50	----	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	SW01	SW02	SW03	QC13	TB_W
Sampling date / time				08-Apr-2021 00:00	08-Apr-2021 00:00	08-Apr-2021 00:00	08-Apr-2021 00:00	31-Mar-2021 00:00	
Compound	CAS Number	LOR	Unit	ES2113384-011	ES2113384-012	ES2113384-013	ES2113384-018	ES2113384-022	
				Result	Result	Result	Result	Result	
EP080/071: Total Petroleum Hydrocarbons - Continued									
C15 - C28 Fraction	----	100	µg/L	<100	190	<100	<100	----	
C29 - C36 Fraction	----	50	µg/L	<50	200	<50	<50	----	
^ C10 - C36 Fraction (sum)	----	50	µg/L	<50	510	<50	<50	----	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	<20	<20	<20	
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	20	µg/L	<20	<20	<20	<20	<20	
>C10 - C16 Fraction	----	100	µg/L	<100	<100	<100	<100	----	
>C16 - C34 Fraction	----	100	µg/L	<100	310	<100	<100	----	
>C34 - C40 Fraction	----	100	µg/L	<100	<100	<100	<100	----	
^ >C10 - C40 Fraction (sum)	----	100	µg/L	<100	310	<100	<100	----	
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	100	µg/L	<100	<100	<100	<100	----	
EP080: BTEXN									
Benzene	71-43-2	1	µg/L	<1	<1	<1	<1	<1	
Toluene	108-88-3	2	µg/L	<2	<2	<2	<2	<2	
Ethylbenzene	100-41-4	2	µg/L	<2	<2	<2	<2	<2	
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	<2	<2	<2	
ortho-Xylene	95-47-6	2	µg/L	<2	<2	<2	<2	<2	
^ Total Xylenes	----	2	µg/L	<2	<2	<2	<2	<2	
^ Sum of BTEX	----	1	µg/L	<1	<1	<1	<1	<1	
Naphthalene	91-20-3	5	µg/L	<5	<5	<5	<5	<5	
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.010	µg/L	<0.010	<0.010	<0.010	<0.010	----	
alpha-BHC	319-84-6	0.010	µg/L	<0.010	<0.010	<0.010	<0.010	----	
beta-BHC	319-85-7	0.010	µg/L	<0.010	<0.010	<0.010	<0.010	----	
delta-BHC	319-86-8	0.010	µg/L	<0.010	<0.010	<0.010	<0.010	----	
4,4`-DDD	72-54-8	0.010	µg/L	<0.010	<0.010	<0.010	<0.010	----	
4,4`-DDE	72-55-9	0.010	µg/L	<0.010	<0.010	<0.010	<0.010	----	
4,4`-DDT	50-29-3	0.010	µg/L	<0.010	<0.010	<0.010	<0.010	----	
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.010	µg/L	<0.010	<0.010	<0.010	<0.010	----	
Dieldrin	60-57-1	0.010	µg/L	<0.010	<0.010	<0.010	<0.010	----	
alpha-Endosulfan	959-98-8	0.010	µg/L	<0.010	<0.010	<0.010	<0.010	----	
beta-Endosulfan	33213-65-9	0.010	µg/L	<0.010	<0.010	<0.010	<0.010	----	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	SW01	SW02	SW03	QC13	TB_W
Sampling date / time				08-Apr-2021 00:00	08-Apr-2021 00:00	08-Apr-2021 00:00	08-Apr-2021 00:00	31-Mar-2021 00:00	
Compound	CAS Number	LOR	Unit	ES2113384-011	ES2113384-012	ES2113384-013	ES2113384-018	ES2113384-022	
				Result	Result	Result	Result	Result	
EP131A: Organochlorine Pesticides - Continued									
Endosulfan sulfate	1031-07-8	0.010	µg/L	<0.010	<0.010	<0.010	<0.010	----	
^ Endosulfan (sum)	115-29-7	0.010	µg/L	<0.010	<0.010	<0.010	<0.010	----	
Endrin	72-20-8	0.010	µg/L	<0.010	<0.010	<0.010	<0.010	----	
Endrin aldehyde	7421-93-4	0.010	µg/L	<0.010	<0.010	<0.010	<0.010	----	
Endrin ketone	53494-70-5	0.010	µg/L	<0.010	<0.010	<0.010	<0.010	----	
Heptachlor	76-44-8	0.005	µg/L	<0.005	<0.005	<0.005	<0.005	----	
Heptachlor epoxide	1024-57-3	0.010	µg/L	<0.010	<0.010	<0.010	<0.010	----	
Hexachlorobenzene (HCB)	118-74-1	0.010	µg/L	<0.010	<0.010	<0.010	<0.010	----	
gamma-BHC	58-89-9	0.010	µg/L	<0.010	<0.010	<0.010	<0.010	----	
Methoxychlor	72-43-5	0.010	µg/L	<0.010	<0.010	<0.010	<0.010	----	
cis-Chlordane	5103-71-9	0.010	µg/L	<0.010	<0.010	<0.010	<0.010	----	
trans-Chlordane	5103-74-2	0.010	µg/L	<0.010	<0.010	<0.010	<0.010	----	
^ Total Chlordane (sum)	----	0.010	µg/L	<0.010	<0.010	<0.010	<0.010	----	
Oxychlorane	27304-13-8	0.010	µg/L	<0.010	<0.010	<0.010	<0.010	----	
EP132B: Polynuclear Aromatic Hydrocarbons									
3-Methylcholanthrene	56-49-5	0.1	µg/L	<0.1	<0.1	<0.1	<0.1	----	
2-Methylnaphthalene	91-57-6	0.1	µg/L	<0.1	<0.1	<0.1	<0.1	----	
7.12-Dimethylbenz(a)anthracene	57-97-6	0.1	µg/L	<0.1	<0.1	<0.1	<0.1	----	
Acenaphthene	83-32-9	0.1	µg/L	<0.1	<0.1	<0.1	<0.1	----	
Acenaphthylene	208-96-8	0.1	µg/L	<0.1	<0.1	<0.1	<0.1	----	
Anthracene	120-12-7	0.1	µg/L	<0.1	<0.1	<0.1	<0.1	----	
Benz(a)anthracene	56-55-3	0.1	µg/L	<0.1	<0.1	<0.1	<0.1	----	
Benzo(a)pyrene	50-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	----	
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.1	µg/L	<0.1	<0.1	<0.1	<0.1	----	
Benzo(e)pyrene	192-97-2	0.1	µg/L	<0.1	<0.1	<0.1	<0.1	----	
Benzo(g,h,i)perylene	191-24-2	0.1	µg/L	<0.1	<0.1	<0.1	<0.1	----	
Benzo(k)fluoranthene	207-08-9	0.1	µg/L	<0.1	<0.1	<0.1	<0.1	----	
Chrysene	218-01-9	0.1	µg/L	<0.1	<0.1	<0.1	<0.1	----	
Coronene	191-07-1	0.1	µg/L	<0.1	<0.1	<0.1	<0.1	----	
Dibenz(a,h)anthracene	53-70-3	0.1	µg/L	<0.1	<0.1	<0.1	<0.1	----	
Fluoranthene	206-44-0	0.1	µg/L	<0.1	<0.1	<0.1	<0.1	----	
Fluorene	86-73-7	0.1	µg/L	<0.1	<0.1	<0.1	<0.1	----	
Indeno(1.2.3.cd)pyrene	193-39-5	0.1	µg/L	<0.1	<0.1	<0.1	<0.1	----	
Naphthalene	91-20-3	0.1	µg/L	<0.1	<0.1	<0.1	<0.1	----	
Perylene	198-55-0	0.1	µg/L	<0.1	<0.1	<0.1	<0.1	----	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	SW01	SW02	SW03	QC13	TB_W
Sampling date / time				08-Apr-2021 00:00	08-Apr-2021 00:00	08-Apr-2021 00:00	08-Apr-2021 00:00	31-Mar-2021 00:00	
Compound	CAS Number	LOR	Unit	ES2113384-011	ES2113384-012	ES2113384-013	ES2113384-018	ES2113384-022	
				Result	Result	Result	Result	Result	
EP132B: Polynuclear Aromatic Hydrocarbons - Continued									
Phenanthrene	85-01-8	0.1	µg/L	<0.1	<0.1	<0.1	<0.1	----	
Pyrene	129-00-0	0.1	µg/L	<0.1	<0.1	<0.1	<0.1	----	
^ Sum of PAHs	----	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	----	
^ Benzo(a)pyrene TEQ (zero)	----	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	----	
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	1	%	117	104	118	113	----	
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.5	%	78.1	69.6	68.6	75.5	----	
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.5	%	81.7	76.0	68.9	72.6	----	
EP080S: TPH(V)/BTEX Surrogates									
1,2-Dichloroethane-D4	17060-07-0	2	%	101	94.1	106	106	101	
Toluene-D8	2037-26-5	2	%	108	94.3	107	106	104	
4-Bromofluorobenzene	460-00-4	2	%	111	104	114	112	113	
EP131S: OC Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.010	%	118	117	108	110	----	
EP132T: Base/Neutral Extractable Surrogates									
2-Fluorobiphenyl	321-60-8	0.1	%	60.0	62.8	54.3	50.3	----	
Anthracene-d10	1719-06-8	0.1	%	69.0	67.4	59.9	60.5	----	
4-Terphenyl-d14	1718-51-0	0.1	%	77.2	74.0	66.7	67.8	----	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	TS_W	RINSATE01	RINSATE02	RINSATE03	RINSATE04
Sampling date / time					26-Mar-2021 00:00	08-Apr-2021 00:00	08-Apr-2021 00:00	08-Apr-2021 00:00	08-Apr-2021 00:00
Compound	CAS Number	LOR	Unit	ES2113384-023	ES2113384-024	ES2113384-025	ES2113384-026	ES2113384-027	
				Result	Result	Result	Result	Result	
EG020T: Total Metals by ICP-MS									
Arsenic	7440-38-2	0.001	mg/L	----	<0.001	<0.001	<0.001	<0.001	
Cadmium	7440-43-9	0.0001	mg/L	----	<0.0001	<0.0001	<0.0001	<0.0001	
Chromium	7440-47-3	0.001	mg/L	----	<0.001	<0.001	<0.001	<0.001	
Copper	7440-50-8	0.001	mg/L	----	<0.001	<0.001	<0.001	<0.001	
Lead	7439-92-1	0.001	mg/L	----	<0.001	<0.001	<0.001	<0.001	
Nickel	7440-02-0	0.001	mg/L	----	<0.001	<0.001	<0.001	<0.001	
Zinc	7440-66-6	0.005	mg/L	----	<0.005	<0.005	<0.005	<0.005	
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.0001	mg/L	----	<0.0001	<0.0001	<0.0001	<0.0001	
EP068A: Organochlorine Pesticides (OC)									
alpha-BHC	319-84-6	0.5	µg/L	----	<0.5	<0.5	<0.5	<0.5	
Hexachlorobenzene (HCB)	118-74-1	0.5	µg/L	----	<0.5	<0.5	<0.5	<0.5	
beta-BHC	319-85-7	0.5	µg/L	----	<0.5	<0.5	<0.5	<0.5	
gamma-BHC	58-89-9	0.5	µg/L	----	<0.5	<0.5	<0.5	<0.5	
delta-BHC	319-86-8	0.5	µg/L	----	<0.5	<0.5	<0.5	<0.5	
Heptachlor	76-44-8	0.5	µg/L	----	<0.5	<0.5	<0.5	<0.5	
Aldrin	309-00-2	0.5	µg/L	----	<0.5	<0.5	<0.5	<0.5	
Heptachlor epoxide	1024-57-3	0.5	µg/L	----	<0.5	<0.5	<0.5	<0.5	
trans-Chlordane	5103-74-2	0.5	µg/L	----	<0.5	<0.5	<0.5	<0.5	
alpha-Endosulfan	959-98-8	0.5	µg/L	----	<0.5	<0.5	<0.5	<0.5	
cis-Chlordane	5103-71-9	0.5	µg/L	----	<0.5	<0.5	<0.5	<0.5	
Dieldrin	60-57-1	0.5	µg/L	----	<0.5	<0.5	<0.5	<0.5	
4,4'-DDE	72-55-9	0.5	µg/L	----	<0.5	<0.5	<0.5	<0.5	
Endrin	72-20-8	0.5	µg/L	----	<0.5	<0.5	<0.5	<0.5	
beta-Endosulfan	33213-65-9	0.5	µg/L	----	<0.5	<0.5	<0.5	<0.5	
4,4'-DDD	72-54-8	0.5	µg/L	----	<0.5	<0.5	<0.5	<0.5	
Endrin aldehyde	7421-93-4	0.5	µg/L	----	<0.5	<0.5	<0.5	<0.5	
Endosulfan sulfate	1031-07-8	0.5	µg/L	----	<0.5	<0.5	<0.5	<0.5	
4,4'-DDT	50-29-3	2.0	µg/L	----	<2.0	<2.0	<2.0	<2.0	
Endrin ketone	53494-70-5	0.5	µg/L	----	<0.5	<0.5	<0.5	<0.5	
Methoxychlor	72-43-5	2.0	µg/L	----	<2.0	<2.0	<2.0	<2.0	
^ Total Chlordane (sum)	----	0.5	µg/L	----	<0.5	<0.5	<0.5	<0.5	
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.5	µg/L	----	<0.5	<0.5	<0.5	<0.5	
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.5	µg/L	----	<0.5	<0.5	<0.5	<0.5	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	TS_W	RINSATE01	RINSATE02	RINSATE03	RINSATE04
Sampling date / time					26-Mar-2021 00:00	08-Apr-2021 00:00	08-Apr-2021 00:00	08-Apr-2021 00:00	08-Apr-2021 00:00
Compound	CAS Number	LOR	Unit		ES2113384-023	ES2113384-024	ES2113384-025	ES2113384-026	ES2113384-027
					Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued									
EP068B: Organophosphorus Pesticides (OP)									
Dichlorvos	62-73-7	0.5	µg/L	----	<0.5	<0.5	<0.5	<0.5	<0.5
Demeton-S-methyl	919-86-8	0.5	µg/L	----	<0.5	<0.5	<0.5	<0.5	<0.5
Monocrotophos	6923-22-4	2.0	µg/L	----	<2.0	<2.0	<2.0	<2.0	<2.0
Dimethoate	60-51-5	0.5	µg/L	----	<0.5	<0.5	<0.5	<0.5	<0.5
Diazinon	333-41-5	0.5	µg/L	----	<0.5	<0.5	<0.5	<0.5	<0.5
Chlorpyrifos-methyl	5598-13-0	0.5	µg/L	----	<0.5	<0.5	<0.5	<0.5	<0.5
Parathion-methyl	298-00-0	2.0	µg/L	----	<2.0	<2.0	<2.0	<2.0	<2.0
Malathion	121-75-5	0.5	µg/L	----	<0.5	<0.5	<0.5	<0.5	<0.5
Fenthion	55-38-9	0.5	µg/L	----	<0.5	<0.5	<0.5	<0.5	<0.5
Chlorpyrifos	2921-88-2	0.5	µg/L	----	<0.5	<0.5	<0.5	<0.5	<0.5
Parathion	56-38-2	2.0	µg/L	----	<2.0	<2.0	<2.0	<2.0	<2.0
Pirimphos-ethyl	23505-41-1	0.5	µg/L	----	<0.5	<0.5	<0.5	<0.5	<0.5
Chlorfenvinphos	470-90-6	0.5	µg/L	----	<0.5	<0.5	<0.5	<0.5	<0.5
Bromophos-ethyl	4824-78-6	0.5	µg/L	----	<0.5	<0.5	<0.5	<0.5	<0.5
Fenamiphos	22224-92-6	0.5	µg/L	----	<0.5	<0.5	<0.5	<0.5	<0.5
Prothiofos	34643-46-4	0.5	µg/L	----	<0.5	<0.5	<0.5	<0.5	<0.5
Ethion	563-12-2	0.5	µg/L	----	<0.5	<0.5	<0.5	<0.5	<0.5
Carbophenothion	786-19-6	0.5	µg/L	----	<0.5	<0.5	<0.5	<0.5	<0.5
Azinphos Methyl	86-50-0	0.5	µg/L	----	<0.5	<0.5	<0.5	<0.5	<0.5
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	1.0	µg/L	----	<1.0	<1.0	<1.0	<1.0	<1.0
Acenaphthylene	208-96-8	1.0	µg/L	----	<1.0	<1.0	<1.0	<1.0	<1.0
Acenaphthene	83-32-9	1.0	µg/L	----	<1.0	<1.0	<1.0	<1.0	<1.0
Fluorene	86-73-7	1.0	µg/L	----	<1.0	<1.0	<1.0	<1.0	<1.0
Phenanthrene	85-01-8	1.0	µg/L	----	<1.0	<1.0	<1.0	<1.0	<1.0
Anthracene	120-12-7	1.0	µg/L	----	<1.0	<1.0	<1.0	<1.0	<1.0
Fluoranthene	206-44-0	1.0	µg/L	----	<1.0	<1.0	<1.0	<1.0	<1.0
Pyrene	129-00-0	1.0	µg/L	----	<1.0	<1.0	<1.0	<1.0	<1.0
Benz(a)anthracene	56-55-3	1.0	µg/L	----	<1.0	<1.0	<1.0	<1.0	<1.0
Chrysene	218-01-9	1.0	µg/L	----	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(b+j)fluoranthene	205-99-2	205-82-3	1.0	µg/L	----	<1.0	<1.0	<1.0	<1.0
Benzo(k)fluoranthene	207-08-9	1.0	µg/L	----	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(a)pyrene	50-32-8	0.5	µg/L	----	<0.5	<0.5	<0.5	<0.5	<0.5



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	TS_W	RINSATE01	RINSATE02	RINSATE03	RINSATE04
Sampling date / time				26-Mar-2021 00:00	08-Apr-2021 00:00	08-Apr-2021 00:00	08-Apr-2021 00:00	08-Apr-2021 00:00	08-Apr-2021 00:00
Compound	CAS Number	LOR	Unit	ES2113384-023	ES2113384-024	ES2113384-025	ES2113384-026	ES2113384-027	ES2113384-027
				Result	Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L	----	<1.0	<1.0	<1.0	<1.0	<1.0
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L	----	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L	----	<1.0	<1.0	<1.0	<1.0	<1.0
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	µg/L	----	<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	µg/L	----	<0.5	<0.5	<0.5	<0.5	<0.5
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	20	µg/L	140	<20	<20	<20	<20	<20
C10 - C14 Fraction	----	50	µg/L	----	<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	µg/L	----	<100	<100	<100	<100	<100
C29 - C36 Fraction	----	50	µg/L	----	<50	<50	<50	<50	<50
^ C10 - C36 Fraction (sum)	----	50	µg/L	----	<50	<50	<50	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	20	µg/L	140	<20	<20	<20	<20	<20
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	20	µg/L	70	<20	<20	<20	<20	<20
>C10 - C16 Fraction	----	100	µg/L	----	<100	<100	<100	<100	<100
>C16 - C34 Fraction	----	100	µg/L	----	<100	<100	<100	<100	<100
>C34 - C40 Fraction	----	100	µg/L	----	<100	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	100	µg/L	----	<100	<100	<100	<100	<100
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	100	µg/L	----	<100	<100	<100	<100	<100
EP080: BTEXN									
Benzene	71-43-2	1	µg/L	14	<1	<1	<1	<1	<1
Toluene	108-88-3	2	µg/L	15	<2	<2	<2	<2	<2
Ethylbenzene	100-41-4	2	µg/L	14	<2	<2	<2	<2	<2
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	14	<2	<2	<2	<2	<2
ortho-Xylene	95-47-6	2	µg/L	15	<2	<2	<2	<2	<2
^ Total Xylenes	----	2	µg/L	29	<2	<2	<2	<2	<2
^ Sum of BTEX	----	1	µg/L	72	<1	<1	<1	<1	<1
Naphthalene	91-20-3	5	µg/L	17	<5	<5	<5	<5	<5
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.5	%	----	76.4	81.7	82.1	93.3	93.3
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.5	%	----	70.2	72.0	91.9	106	106



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	TS_W	RINSATE01	RINSATE02	RINSATE03	RINSATE04
Sampling date / time				26-Mar-2021 00:00	08-Apr-2021 00:00	08-Apr-2021 00:00	08-Apr-2021 00:00	08-Apr-2021 00:00	08-Apr-2021 00:00
Compound	CAS Number	LOR	Unit	ES2113384-023	ES2113384-024	ES2113384-025	ES2113384-026	ES2113384-027	ES2113384-027
				Result	Result	Result	Result	Result	Result
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	1.0	%	----	29.2	23.6	20.8	21.0	
2-Chlorophenol-D4	93951-73-6	1.0	%	----	65.1	53.0	46.0	45.6	
2,4,6-Tribromophenol	118-79-6	1.0	%	----	47.2	38.7	47.3	42.3	
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	1.0	%	----	71.0	52.1	52.7	50.7	
Anthracene-d10	1719-06-8	1.0	%	----	77.3	71.1	75.6	73.4	
4-Terphenyl-d14	1718-51-0	1.0	%	----	83.8	88.1	87.2	96.6	
EP080S: TPH(V)/BTEX Surrogates									
1,2-Dichloroethane-D4	17060-07-0	2	%	105	102	105	106	103	
Toluene-D8	2037-26-5	2	%	102	104	104	106	106	
4-Bromofluorobenzene	460-00-4	2	%	112	114	114	117	114	



Surrogate Control Limits

Sub-Matrix: SOIL		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP066S: PCB Surrogate			
Decachlorobiphenyl	2051-24-3	39	149
EP068S: Organochlorine Pesticide Surrogate			
Dibromo-DDE	21655-73-2	49	147
EP068T: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	35	143
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	63	123
2-Chlorophenol-D4	93951-73-6	66	122
2,4,6-Tribromophenol	118-79-6	40	138
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	70	122
Anthracene-d10	1719-06-8	66	128
4-Terphenyl-d14	1718-51-0	65	129
EP080S: TPH(V)/BTEX Surrogates			
1,2-Dichloroethane-D4	17060-07-0	73	133
Toluene-D8	2037-26-5	74	132
4-Bromofluorobenzene	460-00-4	72	130
EP080-SD: TPH(V)/BTEX Surrogates			
1,2-Dichloroethane-D4	17060-07-0	67	137
Toluene-D8	2037-26-5	74	134
4-Bromofluorobenzene	460-00-4	73	137
EP130S: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	14	102
EP131S: OC Pesticide Surrogate			
Dibromo-DDE	21655-73-2	10	119
EP131T: PCB Surrogate			
Decachlorobiphenyl	2051-24-3	10	106
EP132T: Base/Neutral Extractable Surrogates			
2-Fluorobiphenyl	321-60-8	55	135
Anthracene-d10	1719-06-8	70	136
4-Terphenyl-d14	1718-51-0	57	127
Sub-Matrix: WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP066S: PCB Surrogate			
Decachlorobiphenyl	2051-24-3	45	134
EP068S: Organochlorine Pesticide Surrogate			



Sub-Matrix: WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP068S: Organochlorine Pesticide Surrogate - Continued			
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
EP131S: OC Pesticide Surrogate			
Dibromo-DDE	21655-73-2	14	166
EP132T: Base/Neutral Extractable Surrogates			
2-Fluorobiphenyl	321-60-8	43	135
Anthracene-d10	1719-06-8	48	138
4-Terphenyl-d14	1718-51-0	48	144

Inter-Laboratory Testing

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

- (SOIL) EA037: Ass Field Screening Analysis
- (SOIL) EA033-B: Potential Acidity
- (SOIL) EA033-C: Acid Neutralising Capacity
- (SOIL) EA033-D: Retained Acidity
- (SOIL) EA033-A: Actual Acidity
- (SOIL) EA033-E: Acid Base Accounting

QUALITY CONTROL REPORT

Work Order	: ES2113384	Page	: 1 of 31
Client	: EP Risk Management	Laboratory	: Environmental Division Sydney
Contact	: LUKE Kerry	Contact	: Hannah White
Address	: 3/19 BOLTON STREET NEWCASTLE NSW 2300	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: +61-2-8784 8555
Project	: EP1995	Date Samples Received	: 09-Apr-2021
Order number	: ----	Date Analysis Commenced	: 15-Apr-2021
C-O-C number	: ----	Issue Date	: 26-Apr-2021
Sampler	: Gilles Renda		
Site	: ----		
Quote number	: SY/497/20 Primary analysis only		
No. of samples received	: 42		
No. of samples analysed	: 25		



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

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

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

Signatories	Position	Accreditation Category
Ankit Joshi	Inorganic Chemist	Sydney Inorganics, Smithfield, NSW
Ben Felgendrejeris	Senior Acid Sulfate Soil Chemist	Brisbane Acid Sulphate Soils, Stafford, QLD
Edwandy Fadjjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Franco Lentini	LCMS Coordinator	Sydney Inorganics, Smithfield, NSW
Ivan Taylor	Analyst	Sydney Inorganics, Smithfield, NSW
Sanjeshni Jyoti	Senior Chemist Volatiles	Sydney Organics, Smithfield, NSW
Satishkumar Trivedi	Senior Acid Sulfate Soil Chemist	Brisbane Acid Sulphate Soils, Stafford, QLD



General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high

Key :
 Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
 CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
 LOR = Limit of reporting
 RPD = Relative Percentage Difference
 # = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: SOIL

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EG005(ED093)-SD: Total Metals in Sediments by ICP-AES (QC Lot: 3633530)									
ES2113186-004	Anonymous	EG005-SD: Aluminium	7429-90-5	50	mg/kg	1000	1070	7.06	0% - 20%
		EG005-SD: Iron	7439-89-6	50	mg/kg	810	800	0.00	0% - 50%
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 3632966)									
ES2112448-003	Anonymous	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.00	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	7	9	26.4	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	3	5	49.9	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.00	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	<5	<5	0.00	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	9	16	51.9	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	34	44	24.1	No Limit
ES2113223-002	Anonymous	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.00	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	7	7	0.00	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	4	5	0.00	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.00	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	<5	<5	0.00	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	35	35	0.00	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	17	19	12.6	No Limit
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 3632967)									
ES2113384-032	TP129_0.1	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.00	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	18	23	25.8	0% - 50%
		EG005T: Nickel	7440-02-0	2	mg/kg	18	23	28.0	0% - 50%
		EG005T: Arsenic	7440-38-2	5	mg/kg	6	6	0.00	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	18	21	16.0	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	12	15	23.0	No Limit



Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 3632967) - continued									
ES2113384-032	TP129_0.1	EG005T: Zinc	7440-66-6	5	mg/kg	80	76	5.52	0% - 50%
ES2113386-027	Anonymous	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.00	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	12	6	58.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	4	3	0.00	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	5	<5	0.00	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	<5	<5	0.00	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	16	16	0.00	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	24	32	25.5	No Limit
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 3633528)									
ES2110361-005	Anonymous	EG005T: Cadmium	7440-43-9	1	mg/kg	2	<1	0.00	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	38	# 49	23.6	0% - 20%
		EG005T: Nickel	7440-02-0	2	mg/kg	30	21	34.2	0% - 50%
		EG005T: Arsenic	7440-38-2	5	mg/kg	6	<5	24.9	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	340	# 254	28.9	0% - 20%
		EG005T: Lead	7439-92-1	5	mg/kg	412	# 274	40.3	0% - 20%
		EG005T: Zinc	7440-66-6	5	mg/kg	3150	# 2290	31.5	0% - 20%
ES2114354-003	Anonymous	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.00	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	3	3	0.00	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	4	7	52.7	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.00	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	10	9	13.7	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	180	163	9.95	0% - 20%
		EG005T: Zinc	7440-66-6	5	mg/kg	143	137	4.79	0% - 20%
EG035T: Total Recoverable Mercury by FIMS (Low Level) (QC Lot: 3633532)									
ES2113186-004	Anonymous	EG035T-LL: Mercury	7439-97-6	0.01	mg/kg	<0.01	<0.01	0.00	No Limit
EA033-A: Actual Acidity (QC Lot: 3633917)									
EM2106588-005	Anonymous	EA033: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA033: Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	<2	0.00	No Limit
		EA033: pH KCl (23A)	----	0.1	pH Unit	6.7	6.8	1.48	0% - 20%
ES2113384-029	TP29_0.5	EA033: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	0.10	0.10	0.00	No Limit
		EA033: Titratable Actual Acidity (23F)	----	2	mole H+ / t	64	64	0.00	0% - 20%
		EA033: pH KCl (23A)	----	0.1	pH Unit	4.3	4.3	0.00	0% - 20%
EA033-B: Potential Acidity (QC Lot: 3633917)									
EM2106588-005	Anonymous	EA033: Chromium Reducible Sulfur (22B)	----	0.005	% S	<0.005	0.008	42.3	No Limit
		EA033: acidity - Chromium Reducible Sulfur (a-22B)	----	10	mole H+ / t	<10	<10	0.00	No Limit
ES2113384-029	TP29_0.5	EA033: Chromium Reducible Sulfur (22B)	----	0.005	% S	0.009	0.008	0.00	No Limit
		EA033: acidity - Chromium Reducible Sulfur (a-22B)	----	10	mole H+ / t	<10	<10	0.00	No Limit



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EA033-D: Retained Acidity (QC Lot: 3633917)									
ES2113384-029	TP29_0.5	EA033: sulfidic - Net Acid Soluble Sulfur (s-20J)	----	0.02	% pyrite S	0.03	0.02	0.00	No Limit
		EA033: Net Acid Soluble Sulfur (20Je)	----	0.02	% S	0.04	0.03	0.00	No Limit
		EA033: KCl Extractable Sulfur (23Ce)	----	0.02	% S	0.03	0.03	0.00	No Limit
		EA033: HCl Extractable Sulfur (20Be)	----	0.02	% S	0.05	0.05	0.00	No Limit
		EA033: acidity - Net Acid Soluble Sulfur (a-20J)	----	10	mole H+ / t	17	14	19.9	No Limit
EA037: Ass Field Screening Analysis (QC Lot: 3633452)									
EB2110144-001	Anonymous	EA037: pH (F)	----	0.1	pH Unit	6.4	6.4	0.00	0% - 20%
		EA037: pH (Fox)	----	0.1	pH Unit	2.5	2.4	4.03	0% - 20%
ES2113633-014	Anonymous	EA037: pH (F)	----	0.1	pH Unit	5.3	5.4	0.00	0% - 20%
		EA037: pH (Fox)	----	0.1	pH Unit	3.4	3.5	2.87	0% - 20%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 3633536)									
ES2113384-015	SED02	EA055: Moisture Content	----	0.1	%	66.8	69.4	3.82	0% - 20%
ES2114239-013	Anonymous	EA055: Moisture Content	----	0.1	%	16.6	17.9	7.56	0% - 50%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 3634877)									
ES2113384-032	TP129_0.1	EA055: Moisture Content	----	0.1	%	16.7	16.4	1.65	0% - 50%
ES2114014-006	Anonymous	EA055: Moisture Content	----	0.1	%	6.2	6.7	8.36	0% - 20%
EG020-SD: Total Metals in Sediments by ICPMS (QC Lot: 3633531)									
ES2113186-004	Anonymous	EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
		EG020-SD: Selenium	7782-49-2	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
		EG020-SD: Silver	7440-22-4	0.1	mg/kg	<0.1	0.1	0.00	No Limit
		EG020-SD: Antimony	7440-36-0	0.5	mg/kg	<0.50	<0.50	0.00	No Limit
		EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EG020-SD: Arsenic	7440-38-2	1	mg/kg	1.06	1.15	8.54	No Limit
		EG020-SD: Chromium	7440-47-3	1	mg/kg	1.0	1.0	0.00	No Limit
		EG020-SD: Copper	7440-50-8	1	mg/kg	<1.0	<1.0	0.00	No Limit
		EG020-SD: Lead	7439-92-1	1	mg/kg	<1.0	<1.0	0.00	No Limit
		EG020-SD: Nickel	7440-02-0	1	mg/kg	<1.0	<1.0	0.00	No Limit
		EG020-SD: Zinc	7440-66-6	1	mg/kg	2.3	2.1	9.14	No Limit
		EG020-SD: Manganese	7439-96-5	10	mg/kg	<10	<10	0.00	No Limit
		EG020-SD: Vanadium	7440-62-2	2	mg/kg	<2.0	<2.0	0.00	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 3632965)									
ES2112448-003	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
ES2113223-002	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 3632968)									
ES2113384-032	TP129_0.1	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
ES2113386-027	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 3633529)									
ES2110361-005	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	0.5	0.3	45.9	No Limit
ES2114354-003	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.00	No Limit



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP004: Organic Matter (QC Lot: 3622836)									
ES2113384-014	SED01	EP004: Total Organic Carbon	----	0.5	%	1.8	1.8	0.00	No Limit
EW2101670-008	Anonymous	EP004: Total Organic Carbon	----	0.5	%	3.1	3.1	0.00	No Limit
EP066: Polychlorinated Biphenyls (PCB) (QC Lot: 3622093)									
ES2113384-017	QC9	EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
ES2113386-013	Anonymous	EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
EP068A: Organochlorine Pesticides (OC) (QC Lot: 3622092)									
ES2113384-017	QC9	EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4,4'-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4,4'-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4,4'-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	0.00	No Limit		
ES2113386-013	Anonymous	EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4,4'-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP068A: Organochlorine Pesticides (OC) (QC Lot: 3622092) - continued									
ES2113386-013	Anonymous	EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4.4'-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4.4'-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
EP068B: Organophosphorus Pesticides (OP) (QC Lot: 3622092)									
ES2113384-017	QC9	EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP068: Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		ES2113386-013	Anonymous	EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05
EP068: Demeton-S-methyl	919-86-8			0.05	mg/kg	<0.05	<0.05	0.00	No Limit
EP068: Dimethoate	60-51-5			0.05	mg/kg	<0.05	<0.05	0.00	No Limit
EP068: Diazinon	333-41-5			0.05	mg/kg	<0.05	<0.05	0.00	No Limit
EP068: Chlorpyrifos-methyl	5598-13-0			0.05	mg/kg	<0.05	<0.05	0.00	No Limit
EP068: Malathion	121-75-5			0.05	mg/kg	<0.05	<0.05	0.00	No Limit
EP068: Fenthion	55-38-9			0.05	mg/kg	<0.05	<0.05	0.00	No Limit
EP068: Chlorpyrifos	2921-88-2			0.05	mg/kg	<0.05	<0.05	0.00	No Limit
EP068: Pirimphos-ethyl	23505-41-1			0.05	mg/kg	<0.05	<0.05	0.00	No Limit
EP068: Chlorfenvinphos	470-90-6			0.05	mg/kg	<0.05	<0.05	0.00	No Limit
EP068: Bromophos-ethyl	4824-78-6			0.05	mg/kg	<0.05	<0.05	0.00	No Limit
EP068: Fenamiphos	22224-92-6			0.05	mg/kg	<0.05	<0.05	0.00	No Limit



Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)	
EP068B: Organophosphorus Pesticides (OP) (QC Lot: 3622092) - continued										
ES2113386-013	Anonymous	EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	0.00	No Limit	
		EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit	
		EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit	
		EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	0.00	No Limit	
		EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	0.00	No Limit	
		EP068: Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	0.00	No Limit	
		EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 3622091)										
ES2113384-017	QC9	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP075(SIM): Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP075(SIM): Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP075(SIM): Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
EP075(SIM): Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	0.00	No Limit			
ES2113386-013	Anonymous	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
				205-82-3						



Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP080: BTEXN (QC Lot: 3621842) - continued									
ES2113386-037	Anonymous	EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.00	No Limit
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QC Lot: 3621847)									
ES2113384-014	SED01	EP080-SD: C6 - C9 Fraction	----	3	mg/kg	<3	<3	0.00	No Limit
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QC Lot: 3624930)									
ES2113384-014	SED01	EP071-SD: C10 - C14 Fraction	----	3	mg/kg	4	4	0.00	No Limit
		EP071-SD: C15 - C28 Fraction	----	3	mg/kg	46	48	5.20	0% - 50%
		EP071-SD: C10 - C36 Fraction (sum)	----	3	mg/kg	93	98	5.24	0% - 20%
		EP071-SD: C29 - C36 Fraction	----	5	mg/kg	43	46	5.68	No Limit
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons (QC Lot: 3624930)									
ES2113384-014	SED01	EP071-SD: >C10 - C16 Fraction	----	3	mg/kg	9	9	0.00	No Limit
		EP071-SD: >C16 - C34 Fraction	----	3	mg/kg	68	72	5.88	0% - 20%
		EP071-SD: >C10 - C40 Fraction (sum)	----	3	mg/kg	103	111	7.48	0% - 20%
		EP071-SD: >C34 - C40 Fraction	----	5	mg/kg	26	30	11.2	No Limit
EP080-SD: BTEXN (QC Lot: 3621847)									
ES2113384-014	SED01	EP080-SD: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP080-SD: Toluene	108-88-3	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP080-SD: Ethylbenzene	100-41-4	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP080-SD: meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP080-SD: ortho-Xylene	95-47-6	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
EP130A: Organophosphorus Pesticides (Ultra-trace) (QC Lot: 3624929)									
ES2113384-014	SED01	EP130: Bromophos-ethyl	4824-78-6	10	µg/kg	<10	<10	0.00	No Limit
		EP130: Carbophenothion	786-19-6	10	µg/kg	<10	<10	0.00	No Limit
		EP130: Chlorfenvinphos (E)	18708-86-6	10	µg/kg	<10.0	<10.0	0.00	No Limit
		EP130: Chlorfenvinphos (Z)	18708-87-7	10	µg/kg	<10	<10	0.00	No Limit
		EP130: Chlorpyrifos	2921-88-2	10	µg/kg	<10	<10	0.00	No Limit
		EP130: Chlorpyrifos-methyl	5598-13-0	10	µg/kg	<10	<10	0.00	No Limit
		EP130: Demeton-S-methyl	919-86-8	10	µg/kg	<10	<10	0.00	No Limit
		EP130: Diazinon	333-41-5	10	µg/kg	<10	<10	0.00	No Limit
		EP130: Dichlorvos	62-73-7	10	µg/kg	<10	<10	0.00	No Limit
		EP130: Dimethoate	60-51-5	10	µg/kg	<10	<10	0.00	No Limit
		EP130: Ethion	563-12-2	10	µg/kg	<10	<10	0.00	No Limit
		EP130: Fenamiphos	22224-92-6	10	µg/kg	<10	<10	0.00	No Limit
		EP130: Fenthion	55-38-9	10	µg/kg	<10	<10	0.00	No Limit
		EP130: Malathion	121-75-5	10	µg/kg	<10	<10	0.00	No Limit
		EP130: Azinphos Methyl	86-50-0	10	µg/kg	<10	<10	0.00	No Limit



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP130A: Organophosphorus Pesticides (Ultra-trace) (QC Lot: 3624929) - continued									
ES2113384-014	SED01	EP130: Monocrotophos	6923-22-4	10	µg/kg	<10	<10	0.00	No Limit
		EP130: Parathion	56-38-2	10	µg/kg	<10	<10	0.00	No Limit
		EP130: Parathion-methyl	298-00-0	10	µg/kg	<10	<10	0.00	No Limit
		EP130: Pirimphos-ethyl	23505-41-1	10	µg/kg	<10	<10	0.00	No Limit
		EP130: Prothiofos	34643-46-4	10	µg/kg	<10	<10	0.00	No Limit
EP131A: Organochlorine Pesticides (QC Lot: 3624928)									
ES2113384-014	SED01	EP131A: gamma-BHC	58-89-9	0.25	µg/kg	<0.25	<0.25	0.00	No Limit
		EP131A: cis-Chlordane	5103-71-9	0.25	µg/kg	<0.25	<0.25	0.00	No Limit
		EP131A: trans-Chlordane	5103-74-2	0.25	µg/kg	<0.25	<0.25	0.00	No Limit
		EP131A: Total Chlordane (sum)	----	0.25	µg/kg	<0.25	<0.25	0.00	No Limit
		EP131A: Aldrin	309-00-2	0.5	µg/kg	<0.50	<0.50	0.00	No Limit
		EP131A: alpha-BHC	319-84-6	0.5	µg/kg	<0.50	<0.50	0.00	No Limit
		EP131A: beta-BHC	319-85-7	0.5	µg/kg	<0.50	<0.50	0.00	No Limit
		EP131A: delta-BHC	319-86-8	0.5	µg/kg	<0.50	<0.50	0.00	No Limit
		EP131A: 4.4'-DDD	72-54-8	0.5	µg/kg	<0.50	<0.50	0.00	No Limit
		EP131A: 4.4'-DDE	72-55-9	0.5	µg/kg	<0.50	<0.50	0.00	No Limit
		EP131A: 4.4'-DDT	50-29-3	0.5	µg/kg	<0.50	<0.50	0.00	No Limit
		EP131A: Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.5	µg/kg	<0.50	<0.50	0.00	No Limit
		EP131A: Dieldrin	60-57-1	0.5	µg/kg	<0.50	<0.50	0.00	No Limit
		EP131A: alpha-Endosulfan	959-98-8	0.5	µg/kg	<0.50	<0.50	0.00	No Limit
		EP131A: beta-Endosulfan	33213-65-9	0.5	µg/kg	<0.50	<0.50	0.00	No Limit
		EP131A: Endosulfan sulfate	1031-07-8	0.5	µg/kg	<0.50	<0.50	0.00	No Limit
		EP131A: Endosulfan (sum)	115-29-7	0.5	µg/kg	<0.50	<0.50	0.00	No Limit
		EP131A: Endrin	72-20-8	0.5	µg/kg	<0.50	<0.50	0.00	No Limit
		EP131A: Endrin aldehyde	7421-93-4	0.5	µg/kg	<0.50	<0.50	0.00	No Limit
		EP131A: Endrin ketone	53494-70-5	0.5	µg/kg	<0.50	<0.50	0.00	No Limit
		EP131A: Heptachlor	76-44-8	0.5	µg/kg	<0.50	<0.50	0.00	No Limit
		EP131A: Heptachlor epoxide	1024-57-3	0.5	µg/kg	<0.50	<0.50	0.00	No Limit
		EP131A: Hexachlorobenzene (HCB)	118-74-1	0.5	µg/kg	<0.50	<0.50	0.00	No Limit
EP131A: Methoxychlor	72-43-5	0.5	µg/kg	<0.50	<0.50	0.00	No Limit		
EP131B: Polychlorinated Biphenyls (as Aroclors) (QC Lot: 3624927)									
ES2113384-014	SED01	EP131B: Total Polychlorinated biphenyls	----	5	µg/kg	<5.0	<5.0	0.00	No Limit
		EP131B: Aroclor 1016	12674-11-2	5	µg/kg	<5.0	<5.0	0.00	No Limit
		EP131B: Aroclor 1221	11104-28-2	5	µg/kg	<5.0	<5.0	0.00	No Limit
		EP131B: Aroclor 1232	11141-16-5	5	µg/kg	<5.0	<5.0	0.00	No Limit
		EP131B: Aroclor 1242	53469-21-9	5	µg/kg	<5.0	<5.0	0.00	No Limit
		EP131B: Aroclor 1248	12672-29-6	5	µg/kg	<5.0	<5.0	0.00	No Limit
		EP131B: Aroclor 1254	11097-69-1	5	µg/kg	<5.0	<5.0	0.00	No Limit
		EP131B: Aroclor 1260	11096-82-5	5	µg/kg	<5.0	<5.0	0.00	No Limit



Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)	
EP132B: Polynuclear Aromatic Hydrocarbons (QC Lot: 3624931)										
ES2113384-014	SED01	EP132B-SD: Acenaphthylene	208-96-8	4	µg/kg	<4	<4	0.00	No Limit	
		EP132B-SD: Acenaphthene	83-32-9	4	µg/kg	<4	<4	0.00	No Limit	
		EP132B-SD: Fluorene	86-73-7	4	µg/kg	<4	<4	0.00	No Limit	
		EP132B-SD: Phenanthrene	85-01-8	4	µg/kg	21	28	27.6	No Limit	
		EP132B-SD: Anthracene	120-12-7	4	µg/kg	<4	<4	0.00	No Limit	
		EP132B-SD: Fluoranthene	206-44-0	4	µg/kg	6	7	0.00	No Limit	
		EP132B-SD: Pyrene	129-00-0	4	µg/kg	6	7	16.6	No Limit	
		EP132B-SD: Benz(a)anthracene	56-55-3	4	µg/kg	<4	<4	0.00	No Limit	
		EP132B-SD: Chrysene	218-01-9	4	µg/kg	14	17	15.5	No Limit	
		EP132B-SD: Benzo(b+j)fluoranthene	205-99-2	4	µg/kg	12	13	13.3	No Limit	
			205-82-3							
		EP132B-SD: Benzo(k)fluoranthene	207-08-9	4	µg/kg	<4	<4	0.00	No Limit	
		EP132B-SD: Benzo(e)pyrene	192-97-2	4	µg/kg	14	16	20.1	No Limit	
		EP132B-SD: Benzo(a)pyrene	50-32-8	4	µg/kg	<4	<4	0.00	No Limit	
		EP132B-SD: Perylene	198-55-0	4	µg/kg	<4	<4	0.00	No Limit	
		EP132B-SD: Benzo(g,h,i)perylene	191-24-2	4	µg/kg	6	7	18.0	No Limit	
		EP132B-SD: Dibenz(a,h)anthracene	53-70-3	4	µg/kg	<4	<4	0.00	No Limit	
		EP132B-SD: Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg	<4	<4	0.00	No Limit	
		EP132B-SD: Sum of PAHs	----	4	µg/kg	123	# 152	21.1	0% - 20%	
		EP132B-SD: Naphthalene	91-20-3	5	µg/kg	15	22	37.7	No Limit	
EP132B-SD: 2-Methylnaphthalene	91-57-6	5	µg/kg	29	35	18.1	No Limit			
EP132B-SD: Coronene	191-07-1	5	µg/kg	<5	<5	0.00	No Limit			

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EG020F: Dissolved Metals by ICP-MS (QC Lot: 3632666)									
ES2113733-009	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	0.007	0.007	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
		ES2113282-001	Anonymous	EG020A-F: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001
		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	0.002	0.002	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	0.002	0.006	115	No Limit
		EG020A-F: Zinc	7440-66-6	0.005	mg/L	<0.005	0.010	63.0	No Limit

EG020T: Total Metals by ICP-MS (QC Lot: 3631812)



Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)	
EG020T: Total Metals by ICP-MS (QC Lot: 3631812) - continued										
ES2113836-003	Anonymous	EG020A-T: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	0.00	No Limit	
		EG020A-T: Arsenic	7440-38-2	0.001	mg/L	0.001	0.001	0.00	No Limit	
		EG020A-T: Chromium	7440-47-3	0.001	mg/L	<0.001	0.001	0.00	No Limit	
		EG020A-T: Copper	7440-50-8	0.001	mg/L	<0.001	<0.001	0.00	No Limit	
		EG020A-T: Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	0.00	No Limit	
		EG020A-T: Nickel	7440-02-0	0.001	mg/L	<0.001	<0.001	0.00	No Limit	
		EG020A-T: Zinc	7440-66-6	0.005	mg/L	0.008	0.008	0.00	No Limit	
ES2113823-001	Anonymous	EG020A-T: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	0.00	No Limit	
		EG020A-T: Arsenic	7440-38-2	0.001	mg/L	<0.001	<0.001	0.00	No Limit	
		EG020A-T: Chromium	7440-47-3	0.001	mg/L	0.002	0.001	0.00	No Limit	
		EG020A-T: Copper	7440-50-8	0.001	mg/L	<0.001	<0.001	0.00	No Limit	
		EG020A-T: Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	0.00	No Limit	
		EG020A-T: Nickel	7440-02-0	0.001	mg/L	0.003	0.003	0.00	No Limit	
		EG020A-T: Zinc	7440-66-6	0.005	mg/L	0.014	0.014	0.00	No Limit	
EG035F: Dissolved Mercury by FIMS (QC Lot: 3627598)										
ES2113143-011	Anonymous	EG035F-LL: Mercury	7439-97-6	0.00004	mg/L	<0.00004	<0.00004	0.00	No Limit	
ES2113143-021	Anonymous	EG035F-LL: Mercury	7439-97-6	0.00004	mg/L	<0.00004	<0.00004	0.00	No Limit	
EG035F: Dissolved Mercury by FIMS (QC Lot: 3627599)										
ES2113384-012	SW02	EG035F-LL: Mercury	7439-97-6	0.00004	mg/L	<0.00004	<0.00004	0.00	No Limit	
ES2113961-003	Anonymous	EG035F-LL: Mercury	7439-97-6	0.00004	mg/L	<0.00004	<0.00004	0.00	No Limit	
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 3627931)										
ES2113282-001	Anonymous	EG035T: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.00	No Limit	
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 3629630)										
ES2113384-011	SW01	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.00	No Limit	
ES2114026-001	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.00	No Limit	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3629630)										
ES2113384-011	SW01	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.00	No Limit	
ES2114026-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.00	No Limit	
EP080: BTEXN (QC Lot: 3629630)										
ES2113384-011	SW01	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.00	No Limit	
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.00	No Limit	
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.00	No Limit	
		EP080: meta- & para-Xylene	108-38-3	2	µg/L	<2	<2	0.00	No Limit	
			106-42-3							
		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	
ES2114026-001	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	

Page : 13 of 31
 Work Order : ES2113384
 Client : EP Risk Management
 Project : EP1995



Sub-Matrix: **WATER**

				<i>Laboratory Duplicate (DUP) Report</i>					
<i>Laboratory sample ID</i>	<i>Sample ID</i>	<i>Method: Compound</i>	<i>CAS Number</i>	<i>LOR</i>	<i>Unit</i>	<i>Original Result</i>	<i>Duplicate Result</i>	<i>RPD (%)</i>	<i>Acceptable RPD (%)</i>
EP080: BTEXN (QC Lot: 3629630) - continued									
ES2114026-001	Anonymous	EP080: meta- & para-Xylene	108-38-3	2	µg/L	<2	<2	0.00	No Limit
			106-42-3						
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.00	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.00	No Limit



Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
				Result	Spike Concentration	Spike Recovery (%)	Acceptable Limits (%)	
						LCS	Low	High
EG005(ED093)-SD: Total Metals in Sediments by ICP-AES (QCLot: 3633530)								
EG005-SD: Aluminium	7429-90-5	50	mg/kg	<50	15910 mg/kg	88.8	88.2	136
EG005-SD: Iron	7439-89-6	50	mg/kg	<50	33227 mg/kg	90.1	70.0	109
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 3632966)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	121.1 mg/kg	97.8	88.0	113
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	0.74 mg/kg	120	70.0	130
EG005T: Chromium	7440-47-3	2	mg/kg	<2	20.2 mg/kg	119	68.0	132
EG005T: Copper	7440-50-8	5	mg/kg	<5	52.9 mg/kg	103	89.0	111
EG005T: Lead	7439-92-1	5	mg/kg	<5	62.1 mg/kg	114	82.0	119
EG005T: Nickel	7440-02-0	2	mg/kg	<2	15.4 mg/kg	107	80.0	120
EG005T: Zinc	7440-66-6	5	mg/kg	<5	162 mg/kg	89.9	66.0	133
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 3632967)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	121.1 mg/kg	109	88.0	113
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	0.74 mg/kg	130	70.0	130
EG005T: Chromium	7440-47-3	2	mg/kg	<2	20.2 mg/kg	132	68.0	132
EG005T: Copper	7440-50-8	5	mg/kg	<5	52.9 mg/kg	110	89.0	111
EG005T: Lead	7439-92-1	5	mg/kg	<5	62.1 mg/kg	119	82.0	119
EG005T: Nickel	7440-02-0	2	mg/kg	<2	15.4 mg/kg	118	80.0	120
EG005T: Zinc	7440-66-6	5	mg/kg	<5	162 mg/kg	99.8	66.0	133
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 3633528)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	121.1 mg/kg	102	88.0	113
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	0.74 mg/kg	94.8	70.0	130
EG005T: Chromium	7440-47-3	2	mg/kg	<2	20.2 mg/kg	87.7	68.0	132
EG005T: Copper	7440-50-8	5	mg/kg	<5	52.9 mg/kg	98.6	89.0	111
EG005T: Lead	7439-92-1	5	mg/kg	<5	62.1 mg/kg	84.8	82.0	119
EG005T: Nickel	7440-02-0	2	mg/kg	<2	15.4 mg/kg	85.7	80.0	120
EG005T: Zinc	7440-66-6	5	mg/kg	<5	162 mg/kg	66.1	66.0	133
EG035T: Total Recoverable Mercury by FIMS (Low Level) (QCLot: 3633532)								
EG035T-LL: Mercury	7439-97-6	0.01	mg/kg	<0.01	0.073 mg/kg	110	72.0	116
EA033-A: Actual Acidity (QCLot: 3633917)								
EA033: pH KCl (23A)	----	----	pH Unit	----	4.4 pH Unit	97.7	91.0	107
EA033: Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	15 mole H+ / t	98.5	70.0	124
EA033: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	----	----	----	----
EA033-B: Potential Acidity (QCLot: 3633917)								



Sub-Matrix: SOIL

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike	Spike Recovery (%)		Acceptable Limits (%)	
					Concentration	LCS	Low	High	
EA033-B: Potential Acidity (QCLot: 3633917) - continued									
EA033: Chromium Reducible Sulfur (22B)	----	0.005	% S	<0.005	0.155 % S	93.7	77.0	121	
EA033: acidity - Chromium Reducible Sulfur (a-22B)	----	10	mole H+ / t	<10	----	----	----	----	
EA033-D: Retained Acidity (QCLot: 3633917)									
EA033: Net Acid Soluble Sulfur (20Je)	----	0.02	% S	<0.02	----	----	----	----	
EA033: acidity - Net Acid Soluble Sulfur (a-20J)	----	10	mole H+ / t	<10	----	----	----	----	
EA033: sulfidic - Net Acid Soluble Sulfur (s-20J)	----	0.02	% pyrite S	<0.02	----	----	----	----	
EA033: KCl Extractable Sulfur (23Ce)	----	0.02	% S	<0.02	0.04779 % S	92.8	70.0	128	
EA033: HCl Extractable Sulfur (20Be)	----	0.02	% S	<0.02	0.279 % S	86.8	70.0	120	
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3633531)									
EG020-SD: Antimony	7440-36-0	0.5	mg/kg	<0.50	1.24 mg/kg	106	70.0	130	
EG020-SD: Arsenic	7440-38-2	1	mg/kg	<1.00	98 mg/kg	114	80.0	139	
EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	<0.1	0.74 mg/kg	105	83.0	127	
EG020-SD: Chromium	7440-47-3	1	mg/kg	<1.0	15.4 mg/kg	124	73.0	130	
EG020-SD: Copper	7440-50-8	1	mg/kg	<1.0	48 mg/kg	107	76.0	130	
EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	<0.5	9.8 mg/kg	112	81.0	130	
EG020-SD: Lead	7439-92-1	1	mg/kg	<1.0	50 mg/kg	118	74.0	130	
EG020-SD: Manganese	7439-96-5	10	mg/kg	<10	482 mg/kg	129	76.0	130	
EG020-SD: Nickel	7440-02-0	1	mg/kg	<1.0	12.4 mg/kg	122	83.0	130	
EG020-SD: Selenium	7782-49-2	0.1	mg/kg	<0.1	1.24 mg/kg	75.4	71.0	130	
EG020-SD: Silver	7440-22-4	0.1	mg/kg	<0.1	2.4 mg/kg	83.0	64.0	148	
EG020-SD: Vanadium	7440-62-2	2	mg/kg	<2.0	42 mg/kg	131	84.0	131	
EG020-SD: Zinc	7440-66-6	1	mg/kg	<1.0	115 mg/kg	115	82.0	137	
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3632965)									
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	0.073 mg/kg	129	70.0	130	
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3632968)									
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	0.073 mg/kg	119	70.0	130	
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3633529)									
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	0.073 mg/kg	110	70.0	130	
EP004: Organic Matter (QCLot: 3622836)									
EP004: Total Organic Carbon	----	0.5	%	<0.5	1.46 %	86.3	81.0	99.0	
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 3622093)									
EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	1 mg/kg	81.2	62.0	126	
EP068A: Organochlorine Pesticides (OC) (QCLot: 3622092)									
EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	0.5 mg/kg	85.7	69.0	113	
EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	0.5 mg/kg	92.8	65.0	117	
EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	0.5 mg/kg	87.9	67.0	119	
EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	0.5 mg/kg	77.7	68.0	116	



Sub-Matrix: SOIL

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
				Result	Spike	Spike Recovery (%)		
					Concentration	LCS	Acceptable Limits (%)	
						Low	High	
EP068A: Organochlorine Pesticides (OC) (QCLot: 3622092) - continued								
EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	81.6	65.0	117
EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	0.5 mg/kg	82.4	67.0	115
EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	0.5 mg/kg	82.2	69.0	115
EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	0.5 mg/kg	88.7	62.0	118
EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	0.5 mg/kg	88.4	63.0	117
EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	0.5 mg/kg	87.2	66.0	116
EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	0.5 mg/kg	90.2	64.0	116
EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	0.5 mg/kg	91.8	66.0	116
EP068: 4,4'-DDE	72-55-9	0.05	mg/kg	<0.05	0.5 mg/kg	84.1	67.0	115
EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	0.5 mg/kg	78.1	67.0	123
EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	0.5 mg/kg	88.2	69.0	115
EP068: 4,4'-DDD	72-54-8	0.05	mg/kg	<0.05	0.5 mg/kg	93.8	69.0	121
EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	0.5 mg/kg	94.0	56.0	120
EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	0.5 mg/kg	81.5	62.0	124
EP068: 4,4'-DDT	50-29-3	0.2	mg/kg	<0.2	0.5 mg/kg	88.6	66.0	120
EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	0.5 mg/kg	86.7	64.0	122
EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	0.5 mg/kg	82.0	54.0	130
EP068B: Organophosphorus Pesticides (OP) (QCLot: 3622092)								
EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	0.5 mg/kg	85.5	59.0	119
EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	85.0	62.0	128
EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	0.5 mg/kg	91.5	54.0	126
EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	0.5 mg/kg	90.2	67.0	119
EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	0.5 mg/kg	82.5	70.0	120
EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	0.5 mg/kg	88.2	72.0	120
EP068: Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	0.5 mg/kg	84.5	68.0	120
EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	0.5 mg/kg	86.8	68.0	122
EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	0.5 mg/kg	82.6	69.0	117
EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	0.5 mg/kg	80.6	76.0	118
EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	0.5 mg/kg	79.1	64.0	122
EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	0.5 mg/kg	75.6	70.0	116
EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	0.5 mg/kg	91.7	69.0	121
EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	0.5 mg/kg	84.1	66.0	118
EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	0.5 mg/kg	76.6	68.0	124
EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	0.5 mg/kg	90.3	62.0	112
EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	0.5 mg/kg	97.0	68.0	120
EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	0.5 mg/kg	87.9	65.0	127
EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	0.5 mg/kg	71.6	41.0	123
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3622091)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	6 mg/kg	96.4	77.0	125



Sub-Matrix: SOIL

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike	Spike Recovery (%)		Acceptable Limits (%)	
					Concentration	LCS	Low	High	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3622091) - continued									
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	6 mg/kg	93.2	72.0	124	
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	6 mg/kg	101	73.0	127	
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	6 mg/kg	92.0	72.0	126	
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	6 mg/kg	103	75.0	127	
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	6 mg/kg	96.8	77.0	127	
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	6 mg/kg	104	73.0	127	
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	6 mg/kg	95.5	74.0	128	
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	6 mg/kg	100	69.0	123	
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	6 mg/kg	104	75.0	127	
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	6 mg/kg	92.4	68.0	116	
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	6 mg/kg	93.8	74.0	126	
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	6 mg/kg	100	70.0	126	
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	6 mg/kg	90.5	61.0	121	
EP075(SIM): Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	6 mg/kg	87.0	62.0	118	
EP075(SIM): Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	6 mg/kg	88.6	63.0	121	
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3621842)									
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	26 mg/kg	89.4	68.4	128	
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3622090)									
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	300 mg/kg	102	75.0	129	
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	450 mg/kg	102	77.0	131	
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	300 mg/kg	104	71.0	129	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3621842)									
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	31 mg/kg	91.8	68.4	128	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3622090)									
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	375 mg/kg	99.2	77.0	125	
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	525 mg/kg	105	74.0	138	
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	225 mg/kg	88.3	63.0	131	
EP080: BTEXN (QCLot: 3621842)									
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	88.6	62.0	116	
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	92.2	67.0	121	
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	90.6	65.0	117	
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	2 mg/kg	93.9	66.0	118	
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	94.1	68.0	120	
EP080: Naphthalene	91-20-3	1	mg/kg	<1	1 mg/kg	93.9	63.0	119	
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3621847)									
EP080-SD: C6 - C9 Fraction	----	3	mg/kg	<3	6.2 mg/kg	76.2	61.0	133	



Sub-Matrix: SOIL

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report				
					Spike Concentration	Spike Recovery (%)		Acceptable Limits (%)	
						LCS	Low	High	High
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3624930)									
EP071-SD: C10 - C14 Fraction	----	3	mg/kg	<3	5 mg/kg	92.1	78.0	118	
EP071-SD: C15 - C28 Fraction	----	3	mg/kg	<3	7.5 mg/kg	94.5	84.0	118	
EP071-SD: C29 - C36 Fraction	----	5	mg/kg	<5	5 mg/kg	102	73.0	119	
EP071-SD: C10 - C36 Fraction (sum)	----	3	mg/kg	<3	----	----	----	----	
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons (QCLot: 3624930)									
EP071-SD: >C10 - C16 Fraction	----	3	mg/kg	<3	6.25 mg/kg	94.9	70.0	130	
EP071-SD: >C16 - C34 Fraction	----	3	mg/kg	<3	8.75 mg/kg	97.3	74.0	138	
EP071-SD: >C34 - C40 Fraction	----	5	mg/kg	<5	3.75 mg/kg	98.7	63.0	131	
EP071-SD: >C10 - C40 Fraction (sum)	----	3	mg/kg	<3	----	----	----	----	
EP080-SD: BTEXN (QCLot: 3621847)									
EP080-SD: Benzene	71-43-2	0.2	mg/kg	<0.2	0.2 mg/kg	84.2	66.0	122	
EP080-SD: Toluene	108-88-3	0.2	mg/kg	<0.2	0.2 mg/kg	82.3	70.0	130	
EP080-SD: Ethylbenzene	100-41-4	0.2	mg/kg	<0.2	0.2 mg/kg	80.6	66.0	126	
EP080-SD: meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg	<0.2	0.4 mg/kg	82.8	59.0	129	
EP080-SD: ortho-Xylene	95-47-6	0.2	mg/kg	<0.2	0.2 mg/kg	83.4	66.0	126	
EP130A: Organophosphorus Pesticides (Ultra-trace) (QCLot: 3624929)									
EP130: Bromophos-ethyl	4824-78-6	10	µg/kg	<10	50 µg/kg	81.6	49.0	117	
EP130: Carbophenothion	786-19-6	10	µg/kg	<10	50 µg/kg	90.7	54.0	104	
EP130: Chlorfenvinphos (E)	18708-86-6	10	µg/kg	<10.0	5 µg/kg	97.0	48.0	156	
EP130: Chlorfenvinphos (Z)	18708-87-7	10	µg/kg	<10	50 µg/kg	95.8	53.0	119	
EP130: Chlorpyrifos	2921-88-2	10	µg/kg	<10	50 µg/kg	84.5	54.0	112	
EP130: Chlorpyrifos-methyl	5598-13-0	10	µg/kg	<10	50 µg/kg	81.8	52.0	108	
EP130: Demeton-S-methyl	919-86-8	10	µg/kg	<10	50 µg/kg	81.3	51.0	109	
EP130: Diazinon	333-41-5	10	µg/kg	<10	50 µg/kg	83.1	57.0	121	
EP130: Dichlorvos	62-73-7	10	µg/kg	<10	50 µg/kg	85.0	48.0	104	
EP130: Dimethoate	60-51-5	10	µg/kg	<10	50 µg/kg	78.7	52.0	120	
EP130: Ethion	563-12-2	10	µg/kg	<10	50 µg/kg	82.2	51.0	121	
EP130: Fenamiphos	22224-92-6	10	µg/kg	<10	50 µg/kg	89.8	50.0	120	
EP130: Fenthion	55-38-9	10	µg/kg	<10	50 µg/kg	82.2	48.0	112	
EP130: Malathion	121-75-5	10	µg/kg	<10	50 µg/kg	89.8	51.0	121	
EP130: Azinphos Methyl	86-50-0	10	µg/kg	<10	50 µg/kg	84.9	45.0	127	
EP130: Monocrotophos	6923-22-4	10	µg/kg	<10	50 µg/kg	81.3	48.0	128	
EP130: Parathion	56-38-2	10	µg/kg	<10	50 µg/kg	81.3	49.0	125	
EP130: Parathion-methyl	298-00-0	10	µg/kg	<10	50 µg/kg	94.6	51.0	119	
EP130: Pirimphos-ethyl	23505-41-1	10	µg/kg	<10	50 µg/kg	78.0	48.0	120	
EP130: Prothiofos	34643-46-4	10	µg/kg	<10	50 µg/kg	82.2	51.0	117	
EP131A: Organochlorine Pesticides (QCLot: 3624928)									



Sub-Matrix: SOIL

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike	Spike Recovery (%)		Acceptable Limits (%)	
					Concentration	LCS	Low	High	
EP131A: Organochlorine Pesticides (QCLot: 3624928) - continued									
EP131A: Aldrin	309-00-2	0.5	µg/kg	<0.50	5 µg/kg	105	38.0	139	
EP131A: alpha-BHC	319-84-6	0.5	µg/kg	<0.50	5 µg/kg	76.4	17.6	136	
EP131A: beta-BHC	319-85-7	0.5	µg/kg	<0.50	5 µg/kg	84.8	30.5	131	
EP131A: delta-BHC	319-86-8	0.5	µg/kg	<0.50	5 µg/kg	86.2	37.0	140	
EP131A: 4.4'-DDD	72-54-8	0.5	µg/kg	<0.50	5 µg/kg	95.7	25.9	141	
EP131A: 4.4'-DDE	72-55-9	0.5	µg/kg	<0.50	5 µg/kg	70.0	35.0	129	
EP131A: 4.4'-DDT	50-29-3	0.5	µg/kg	<0.50	5 µg/kg	74.4	23.4	138	
EP131A: Sum of DDD + DDE + DDT	72-54-8/72-5-9/50-2	0.5	µg/kg	<0.50	----	----	----	----	
EP131A: Dieldrin	60-57-1	0.5	µg/kg	<0.50	5 µg/kg	90.0	30.2	140	
EP131A: alpha-Endosulfan	959-98-8	0.5	µg/kg	<0.50	5 µg/kg	95.0	38.0	140	
EP131A: beta-Endosulfan	33213-65-9	0.5	µg/kg	<0.50	5 µg/kg	92.0	32.0	152	
EP131A: Endosulfan sulfate	1031-07-8	0.5	µg/kg	<0.50	5 µg/kg	55.2	36.0	155	
EP131A: Endosulfan (sum)	115-29-7	0.5	µg/kg	<0.50	----	----	----	----	
EP131A: Endrin	72-20-8	0.5	µg/kg	<0.50	5 µg/kg	113	25.8	158	
EP131A: Endrin aldehyde	7421-93-4	0.5	µg/kg	<0.50	5 µg/kg	92.4	20.1	118	
EP131A: Endrin ketone	53494-70-5	0.5	µg/kg	<0.50	5 µg/kg	96.9	13.4	135	
EP131A: Heptachlor	76-44-8	0.5	µg/kg	<0.50	5 µg/kg	88.8	39.0	155	
EP131A: Heptachlor epoxide	1024-57-3	0.5	µg/kg	<0.50	5 µg/kg	97.5	34.0	148	
EP131A: Hexachlorobenzene (HCB)	118-74-1	0.5	µg/kg	<0.50	5 µg/kg	93.1	26.1	152	
EP131A: gamma-BHC	58-89-9	0.25	µg/kg	<0.25	5 µg/kg	81.6	31.2	137	
EP131A: Methoxychlor	72-43-5	0.5	µg/kg	<0.50	5 µg/kg	126	36.0	152	
EP131A: cis-Chlordane	5103-71-9	0.25	µg/kg	<0.25	5 µg/kg	110	36.0	142	
EP131A: trans-Chlordane	5103-74-2	0.25	µg/kg	<0.25	5 µg/kg	91.3	29.5	138	
EP131A: Total Chlordane (sum)	----	0.25	µg/kg	<0.25	----	----	----	----	
EP131B: Polychlorinated Biphenyls (as Aroclors) (QCLot: 3624927)									
EP131B: Total Polychlorinated biphenyls	----	5	µg/kg	<5.0	50 µg/kg	66.8	45.0	115	
EP131B: Aroclor 1016	12674-11-2	5	µg/kg	<5.0	----	----	----	----	
EP131B: Aroclor 1221	11104-28-2	5	µg/kg	<5.0	----	----	----	----	
EP131B: Aroclor 1232	11141-16-5	5	µg/kg	<5.0	----	----	----	----	
EP131B: Aroclor 1242	53469-21-9	5	µg/kg	<5.0	----	----	----	----	
EP131B: Aroclor 1248	12672-29-6	5	µg/kg	<5.0	----	----	----	----	
EP131B: Aroclor 1254	11097-69-1	5	µg/kg	<5.0	50 µg/kg	66.8	45.0	115	
EP131B: Aroclor 1260	11096-82-5	5	µg/kg	<5.0	----	----	----	----	
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3624931)									
EP132B-SD: Naphthalene	91-20-3	5	µg/kg	<5	25 µg/kg	103	63.0	129	
EP132B-SD: 2-Methylnaphthalene	91-57-6	5	µg/kg	<5	25 µg/kg	102	64.0	128	
EP132B-SD: Acenaphthylene	208-96-8	4	µg/kg	<4	25 µg/kg	69.1	65.0	129	
EP132B-SD: Acenaphthene	83-32-9	4	µg/kg	<4	25 µg/kg	78.9	68.0	132	



Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report				
					Spike Concentration	Spike Recovery (%)		Acceptable Limits (%)	
						LCS	Low	High	
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3624931) - continued									
EP132B-SD: Fluorene	86-73-7	4	µg/kg	<4	25 µg/kg	68.9	68.0	124	
EP132B-SD: Phenanthrene	85-01-8	4	µg/kg	<4	25 µg/kg	94.5	64.0	134	
EP132B-SD: Anthracene	120-12-7	4	µg/kg	<4	25 µg/kg	94.0	65.0	131	
EP132B-SD: Fluoranthene	206-44-0	4	µg/kg	<4	25 µg/kg	98.8	64.0	130	
EP132B-SD: Pyrene	129-00-0	4	µg/kg	<4	25 µg/kg	99.6	67.0	133	
EP132B-SD: Benz(a)anthracene	56-55-3	4	µg/kg	<4	25 µg/kg	94.4	62.0	130	
EP132B-SD: Chrysene	218-01-9	4	µg/kg	<4	25 µg/kg	92.3	65.0	133	
EP132B-SD: Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg	<4	25 µg/kg	94.4	68.0	120	
EP132B-SD: Benzo(k)fluoranthene	207-08-9	4	µg/kg	<4	25 µg/kg	89.3	61.0	133	
EP132B-SD: Benzo(e)pyrene	192-97-2	4	µg/kg	<4	25 µg/kg	93.8	63.0	127	
EP132B-SD: Benzo(a)pyrene	50-32-8	4	µg/kg	<4	25 µg/kg	91.7	66.0	118	
EP132B-SD: Perylene	198-55-0	4	µg/kg	<4	25 µg/kg	93.3	69.0	119	
EP132B-SD: Benzene(g,h,i)perylene	191-24-2	4	µg/kg	<4	25 µg/kg	92.2	66.0	120	
EP132B-SD: Dibenz(a,h)anthracene	53-70-3	4	µg/kg	<4	25 µg/kg	93.4	64.0	122	
EP132B-SD: Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg	<4	25 µg/kg	91.8	64.0	120	
EP132B-SD: Coronene	191-07-1	5	µg/kg	<5	25 µg/kg	92.9	68.0	136	
EP132B-SD: Sum of PAHs	----	4	µg/kg	<4	----	----	----	----	

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report				
					Spike Concentration	Spike Recovery (%)		Acceptable Limits (%)	
						LCS	Low	High	
EG020F: Dissolved Metals by ICP-MS (QCLot: 3632666)									
EG020A-F: Arsenic	7440-38-2	0.001	mg/L	<0.001	0.1 mg/L	95.3	85.0	114	
EG020A-F: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	0.1 mg/L	95.2	84.0	110	
EG020A-F: Chromium	7440-47-3	0.001	mg/L	<0.001	0.1 mg/L	93.7	85.0	111	
EG020A-F: Copper	7440-50-8	0.001	mg/L	<0.001	0.1 mg/L	93.4	81.0	111	
EG020A-F: Lead	7439-92-1	0.001	mg/L	<0.001	0.1 mg/L	93.4	83.0	111	
EG020A-F: Nickel	7440-02-0	0.001	mg/L	<0.001	0.1 mg/L	93.9	82.0	112	
EG020A-F: Zinc	7440-66-6	0.005	mg/L	<0.005	0.1 mg/L	92.9	81.0	117	
EG020T: Total Metals by ICP-MS (QCLot: 3631812)									
EG020A-T: Arsenic	7440-38-2	0.001	mg/L	<0.001	0.1 mg/L	97.7	82.0	114	
EG020A-T: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	0.1 mg/L	95.3	84.0	112	
EG020A-T: Chromium	7440-47-3	0.001	mg/L	<0.001	0.1 mg/L	95.0	86.0	116	
EG020A-T: Copper	7440-50-8	0.001	mg/L	<0.001	0.1 mg/L	95.9	83.0	118	
EG020A-T: Lead	7439-92-1	0.001	mg/L	<0.001	0.1 mg/L	95.5	85.0	115	
EG020A-T: Nickel	7440-02-0	0.001	mg/L	<0.001	0.1 mg/L	96.0	84.0	116	
EG020A-T: Zinc	7440-66-6	0.005	mg/L	<0.005	0.1 mg/L	96.2	79.0	117	
EG035F: Dissolved Mercury by FIMS (QCLot: 3627598)									



Sub-Matrix: WATER

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
				Result	Spike Concentration	Spike Recovery (%)	Acceptable Limits (%)	
					LCS	Low	High	
EG035F: Dissolved Mercury by FIMS (QCLot: 3627598) - continued								
EG035F-LL: Mercury	7439-97-6	0.00004	mg/L	<0.00004	0.0001 mg/L	100	83.0	105
EG035F: Dissolved Mercury by FIMS (QCLot: 3627599)								
EG035F-LL: Mercury	7439-97-6	0.00004	mg/L	<0.00004	0.0001 mg/L	101	83.0	105
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3627931)								
EG035T: Mercury	7439-97-6	0.0001	mg/L	<0.0001	0.01 mg/L	95.3	77.0	111
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 3621975)								
EP066: Total Polychlorinated biphenyls	----	1	µg/L	<1	10 µg/L	85.8	68.9	113
EP068A: Organochlorine Pesticides (OC) (QCLot: 3622020)								
EP068: alpha-BHC	319-84-6	0.5	µg/L	<0.5	5 µg/L	87.0	64.9	107
EP068: Hexachlorobenzene (HCB)	118-74-1	0.5	µg/L	<0.5	5 µg/L	82.6	58.3	111
EP068: beta-BHC	319-85-7	0.5	µg/L	<0.5	5 µg/L	84.7	69.0	117
EP068: gamma-BHC	58-89-9	0.5	µg/L	<0.5	5 µg/L	103	70.0	112
EP068: delta-BHC	319-86-8	0.5	µg/L	<0.5	5 µg/L	95.3	68.9	110
EP068: Heptachlor	76-44-8	0.5	µg/L	<0.5	5 µg/L	89.8	65.2	108
EP068: Aldrin	309-00-2	0.5	µg/L	<0.5	5 µg/L	88.4	65.8	109
EP068: Heptachlor epoxide	1024-57-3	0.5	µg/L	<0.5	5 µg/L	88.6	67.1	107
EP068: trans-Chlordane	5103-74-2	0.5	µg/L	<0.5	5 µg/L	90.2	64.1	110
EP068: alpha-Endosulfan	959-98-8	0.5	µg/L	<0.5	5 µg/L	89.6	66.7	112
EP068: cis-Chlordane	5103-71-9	0.5	µg/L	<0.5	5 µg/L	87.9	63.2	111
EP068: Dieldrin	60-57-1	0.5	µg/L	<0.5	5 µg/L	93.4	65.2	113
EP068: 4,4'-DDE	72-55-9	0.5	µg/L	<0.5	5 µg/L	81.2	66.0	112
EP068: Endrin	72-20-8	0.5	µg/L	<0.5	5 µg/L	91.1	65.2	113
EP068: beta-Endosulfan	33213-65-9	0.5	µg/L	<0.5	5 µg/L	96.3	67.3	114
EP068: 4,4'-DDD	72-54-8	0.5	µg/L	<0.5	5 µg/L	94.9	72.0	122
EP068: Endrin aldehyde	7421-93-4	0.5	µg/L	<0.5	5 µg/L	90.1	66.9	109
EP068: Endosulfan sulfate	1031-07-8	0.5	µg/L	<0.5	5 µg/L	105	65.2	112
EP068: 4,4'-DDT	50-29-3	2	µg/L	<2.0	5 µg/L	88.7	65.2	112
EP068: Endrin ketone	53494-70-5	0.5	µg/L	<0.5	5 µg/L	99.2	63.8	110
EP068: Methoxychlor	72-43-5	2	µg/L	<2.0	5 µg/L	85.9	61.1	114
EP068A: Organochlorine Pesticides (OC) (QCLot: 3637242)								
EP068: alpha-BHC	319-84-6	0.5	µg/L	<0.5	5 µg/L	91.6	64.9	107
EP068: Hexachlorobenzene (HCB)	118-74-1	0.5	µg/L	<0.5	5 µg/L	87.3	58.3	111
EP068: beta-BHC	319-85-7	0.5	µg/L	<0.5	5 µg/L	93.4	69.0	117
EP068: gamma-BHC	58-89-9	0.5	µg/L	<0.5	5 µg/L	93.7	70.0	112
EP068: delta-BHC	319-86-8	0.5	µg/L	<0.5	5 µg/L	103	68.9	110
EP068: Heptachlor	76-44-8	0.5	µg/L	<0.5	5 µg/L	91.7	65.2	108
EP068: Aldrin	309-00-2	0.5	µg/L	<0.5	5 µg/L	94.7	65.8	109
EP068: Heptachlor epoxide	1024-57-3	0.5	µg/L	<0.5	5 µg/L	97.8	67.1	107



Sub-Matrix: WATER

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
				Result	Spike	Spike Recovery (%)	Acceptable Limits (%)	
					Concentration	LCS	Low	High
EP068A: Organochlorine Pesticides (OC) (QCLot: 3637242) - continued								
EP068: trans-Chlordane	5103-74-2	0.5	µg/L	<0.5	5 µg/L	91.2	64.1	110
EP068: alpha-Endosulfan	959-98-8	0.5	µg/L	<0.5	5 µg/L	99.0	66.7	112
EP068: cis-Chlordane	5103-71-9	0.5	µg/L	<0.5	5 µg/L	99.7	63.2	111
EP068: Dieldrin	60-57-1	0.5	µg/L	<0.5	5 µg/L	102	65.2	113
EP068: 4.4'-DDE	72-55-9	0.5	µg/L	<0.5	5 µg/L	103	66.0	112
EP068: Endrin	72-20-8	0.5	µg/L	<0.5	5 µg/L	99.2	65.2	113
EP068: beta-Endosulfan	33213-65-9	0.5	µg/L	<0.5	5 µg/L	99.8	67.3	114
EP068: 4.4'-DDD	72-54-8	0.5	µg/L	<0.5	5 µg/L	103	72.0	122
EP068: Endrin aldehyde	7421-93-4	0.5	µg/L	<0.5	5 µg/L	104	66.9	109
EP068: Endosulfan sulfate	1031-07-8	0.5	µg/L	<0.5	5 µg/L	102	65.2	112
EP068: 4.4'-DDT	50-29-3	2	µg/L	<2.0	5 µg/L	97.4	65.2	112
EP068: Endrin ketone	53494-70-5	0.5	µg/L	<0.5	5 µg/L	105	63.8	110
EP068: Methoxychlor	72-43-5	2	µg/L	<2.0	5 µg/L	103	61.1	114
EP068B: Organophosphorus Pesticides (OP) (QCLot: 3622020)								
EP068: Dichlorvos	62-73-7	0.5	µg/L	<0.5	5 µg/L	98.4	65.6	114
EP068: Demeton-S-methyl	919-86-8	0.5	µg/L	<0.5	5 µg/L	107	63.7	113
EP068: Monocrotophos	6923-22-4	2	µg/L	<2.0	5 µg/L	25.3	19.7	48.0
EP068: Dimethoate	60-51-5	0.5	µg/L	<0.5	5 µg/L	108	69.5	110
EP068: Diazinon	333-41-5	0.5	µg/L	<0.5	5 µg/L	91.0	71.1	110
EP068: Chlorpyrifos-methyl	5598-13-0	0.5	µg/L	<0.5	5 µg/L	93.5	77.0	119
EP068: Parathion-methyl	298-00-0	2	µg/L	<2.0	5 µg/L	97.3	70.0	124
EP068: Malathion	121-75-5	0.5	µg/L	<0.5	5 µg/L	98.0	68.4	116
EP068: Fenthion	55-38-9	0.5	µg/L	<0.5	5 µg/L	94.8	68.6	112
EP068: Chlorpyrifos	2921-88-2	0.5	µg/L	<0.5	5 µg/L	94.0	75.0	119
EP068: Parathion	56-38-2	2	µg/L	<2.0	5 µg/L	92.7	67.0	121
EP068: Pirimphos-ethyl	23505-41-1	0.5	µg/L	<0.5	5 µg/L	86.7	69.0	121
EP068: Chlorfenvinphos	470-90-6	0.5	µg/L	<0.5	5 µg/L	106	71.8	110
EP068: Bromophos-ethyl	4824-78-6	0.5	µg/L	<0.5	5 µg/L	90.0	67.5	112
EP068: Fenamiphos	22224-92-6	0.5	µg/L	<0.5	5 µg/L	106	64.1	116
EP068: Prothiofos	34643-46-4	0.5	µg/L	<0.5	5 µg/L	91.2	67.8	114
EP068: Ethion	563-12-2	0.5	µg/L	<0.5	5 µg/L	90.9	74.0	120
EP068: Carbophenothion	786-19-6	0.5	µg/L	<0.5	5 µg/L	99.5	66.2	114
EP068: Azinphos Methyl	86-50-0	0.5	µg/L	<0.5	5 µg/L	102	51.6	128
EP068B: Organophosphorus Pesticides (OP) (QCLot: 3637242)								
EP068: Dichlorvos	62-73-7	0.5	µg/L	<0.5	5 µg/L	83.5	65.6	114
EP068: Demeton-S-methyl	919-86-8	0.5	µg/L	<0.5	5 µg/L	100	63.7	113
EP068: Monocrotophos	6923-22-4	2	µg/L	<2.0	5 µg/L	26.4	19.7	48.0
EP068: Dimethoate	60-51-5	0.5	µg/L	<0.5	5 µg/L	93.3	69.5	110
EP068: Diazinon	333-41-5	0.5	µg/L	<0.5	5 µg/L	93.4	71.1	110



Sub-Matrix: WATER

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike	Spike Recovery (%)		Acceptable Limits (%)	
					Concentration	LCS	Low	High	
EP068B: Organophosphorus Pesticides (OP) (QCLot: 3637242) - continued									
EP068: Chlorpyrifos-methyl	5598-13-0	0.5	µg/L	<0.5	5 µg/L	97.8	77.0	119	
EP068: Parathion-methyl	298-00-0	2	µg/L	<2.0	5 µg/L	92.8	70.0	124	
EP068: Malathion	121-75-5	0.5	µg/L	<0.5	5 µg/L	100	68.4	116	
EP068: Fenthion	55-38-9	0.5	µg/L	<0.5	5 µg/L	94.0	68.6	112	
EP068: Chlorpyrifos	2921-88-2	0.5	µg/L	<0.5	5 µg/L	99.5	75.0	119	
EP068: Parathion	56-38-2	2	µg/L	<2.0	5 µg/L	95.1	67.0	121	
EP068: Pirimphos-ethyl	23505-41-1	0.5	µg/L	<0.5	5 µg/L	98.5	69.0	121	
EP068: Chlorfenvinphos	470-90-6	0.5	µg/L	<0.5	5 µg/L	90.6	71.8	110	
EP068: Bromophos-ethyl	4824-78-6	0.5	µg/L	<0.5	5 µg/L	99.5	67.5	112	
EP068: Fenamiphos	22224-92-6	0.5	µg/L	<0.5	5 µg/L	87.0	64.1	116	
EP068: Prothiofos	34643-46-4	0.5	µg/L	<0.5	5 µg/L	95.7	67.8	114	
EP068: Ethion	563-12-2	0.5	µg/L	<0.5	5 µg/L	101	74.0	120	
EP068: Carbophenothion	786-19-6	0.5	µg/L	<0.5	5 µg/L	106	66.2	114	
EP068: Azinphos Methyl	86-50-0	0.5	µg/L	<0.5	5 µg/L	104	51.6	128	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3622019)									
EP075(SIM): Naphthalene	91-20-3	1	µg/L	<1.0	5 µg/L	70.5	50.0	94.0	
EP075(SIM): Acenaphthylene	208-96-8	1	µg/L	<1.0	5 µg/L	79.2	63.6	114	
EP075(SIM): Acenaphthene	83-32-9	1	µg/L	<1.0	5 µg/L	85.2	62.2	113	
EP075(SIM): Fluorene	86-73-7	1	µg/L	<1.0	5 µg/L	80.0	63.9	115	
EP075(SIM): Phenanthrene	85-01-8	1	µg/L	<1.0	5 µg/L	88.4	62.6	116	
EP075(SIM): Anthracene	120-12-7	1	µg/L	<1.0	5 µg/L	85.6	64.3	116	
EP075(SIM): Fluoranthene	206-44-0	1	µg/L	<1.0	5 µg/L	83.2	63.6	118	
EP075(SIM): Pyrene	129-00-0	1	µg/L	<1.0	5 µg/L	85.3	63.1	118	
EP075(SIM): Benz(a)anthracene	56-55-3	1	µg/L	<1.0	5 µg/L	79.5	64.1	117	
EP075(SIM): Chrysene	218-01-9	1	µg/L	<1.0	5 µg/L	82.5	62.5	116	
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2	1	µg/L	<1.0	5 µg/L	85.6	61.7	119	
	205-82-3								
EP075(SIM): Benzo(k)fluoranthene	207-08-9	1	µg/L	<1.0	5 µg/L	74.6	63.0	115	
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	5 µg/L	80.4	63.3	117	
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L	<1.0	5 µg/L	79.5	59.9	118	
EP075(SIM): Dibenz(a,h)anthracene	53-70-3	1	µg/L	<1.0	5 µg/L	84.6	61.2	117	
EP075(SIM): Benzo(g,h,i)perylene	191-24-2	1	µg/L	<1.0	5 µg/L	78.3	59.1	118	
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3621974)									
EP071: C10 - C14 Fraction	----	50	µg/L	<50	400 µg/L	84.9	55.8	112	
EP071: C15 - C28 Fraction	----	100	µg/L	<100	600 µg/L	106	71.6	113	
EP071: C29 - C36 Fraction	----	50	µg/L	<50	400 µg/L	106	56.0	121	
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3622018)									
EP071: C10 - C14 Fraction	----	50	µg/L	<50	400 µg/L	87.7	55.8	112	



Sub-Matrix: WATER

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB)	Laboratory Control Spike (LCS) Report				
				Report	Spike Concentration	Spike Recovery (%)		Acceptable Limits (%)	
				Result		LCS	Low	High	
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3622018) - continued									
EP071: C15 - C28 Fraction	----	100	µg/L	<100	600 µg/L	95.2	71.6	113	
EP071: C29 - C36 Fraction	----	50	µg/L	<50	400 µg/L	94.3	56.0	121	
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3629630)									
EP080: C6 - C9 Fraction	----	20	µg/L	<20	260 µg/L	80.9	75.0	127	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3621974)									
EP071: >C10 - C16 Fraction	----	100	µg/L	<100	500 µg/L	88.4	57.9	119	
EP071: >C16 - C34 Fraction	----	100	µg/L	<100	700 µg/L	85.5	62.5	110	
EP071: >C34 - C40 Fraction	----	100	µg/L	<100	300 µg/L	100	61.5	121	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3622018)									
EP071: >C10 - C16 Fraction	----	100	µg/L	<100	500 µg/L	69.5	57.9	119	
EP071: >C16 - C34 Fraction	----	100	µg/L	<100	700 µg/L	99.4	62.5	110	
EP071: >C34 - C40 Fraction	----	100	µg/L	<100	300 µg/L	79.1	61.5	121	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3629630)									
EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	310 µg/L	83.5	75.0	127	
EP080: BTEXN (QCLot: 3629630)									
EP080: Benzene	71-43-2	1	µg/L	<1	10 µg/L	77.8	70.0	122	
EP080: Toluene	108-88-3	2	µg/L	<2	10 µg/L	87.0	69.0	123	
EP080: Ethylbenzene	100-41-4	2	µg/L	<2	10 µg/L	89.2	70.0	120	
EP080: meta- & para-Xylene	108-38-3	2	µg/L	<2	10 µg/L	91.6	69.0	121	
	106-42-3								
EP080: ortho-Xylene	95-47-6	2	µg/L	<2	10 µg/L	93.5	72.0	122	
EP080: Naphthalene	91-20-3	5	µg/L	<5	10 µg/L	89.9	70.0	120	
EP131A: Organochlorine Pesticides (QCLot: 3621977)									
EP131A: Aldrin	309-00-2	0.01	µg/L	<0.010	1.1 µg/L	115	34.0	145	
EP131A: alpha-BHC	319-84-6	0.01	µg/L	<0.010	1.1 µg/L	90.2	27.2	131	
EP131A: beta-BHC	319-85-7	0.01	µg/L	<0.010	1.1 µg/L	90.8	28.6	133	
EP131A: delta-BHC	319-86-8	0.01	µg/L	<0.010	1.1 µg/L	105	36.0	131	
EP131A: 4,4'-DDD	72-54-8	0.01	µg/L	<0.010	1.1 µg/L	106	36.0	142	
EP131A: 4,4'-DDE	72-55-9	0.01	µg/L	<0.010	1.1 µg/L	95.3	30.4	112	
EP131A: 4,4'-DDT	50-29-3	0.01	µg/L	<0.010	1.1 µg/L	98.6	29.5	142	
EP131A: Dieldrin	60-57-1	0.01	µg/L	<0.010	1.1 µg/L	105	28.1	122	
EP131A: alpha-Endosulfan	959-98-8	0.01	µg/L	<0.010	1.1 µg/L	86.8	34.0	119	
EP131A: beta-Endosulfan	33213-65-9	0.01	µg/L	<0.010	1.1 µg/L	108	31.6	128	
EP131A: Endosulfan sulfate	1031-07-8	0.01	µg/L	<0.010	1.1 µg/L	108	35.0	159	
EP131A: Endrin	72-20-8	0.01	µg/L	<0.010	1.1 µg/L	83.9	21.5	165	
EP131A: Endosulfan (sum)	115-29-7	0.01	µg/L	<0.010	----	----	----	----	
EP131A: Endrin aldehyde	7421-93-4	0.01	µg/L	<0.010	1.1 µg/L	91.3	22.7	123	
EP131A: Endrin ketone	53494-70-5	0.01	µg/L	<0.010	1.1 µg/L	124	16.3	144	



Sub-Matrix: WATER

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike	Spike Recovery (%)		Acceptable Limits (%)	
					Concentration	LCS	Low	High	
EP131A: Organochlorine Pesticides (QCLot: 3621977) - continued									
EP131A: Heptachlor	76-44-8	0.005	µg/L	<0.005	1.1 µg/L	79.0	33.0	160	
EP131A: Heptachlor epoxide	1024-57-3	0.01	µg/L	<0.010	1.1 µg/L	97.1	33.0	117	
EP131A: Hexachlorobenzene (HCB)	118-74-1	0.01	µg/L	<0.010	1.1 µg/L	82.2	23.6	126	
EP131A: gamma-BHC	58-89-9	0.01	µg/L	<0.010	1.1 µg/L	86.5	28.7	134	
EP131A: Methoxychlor	72-43-5	0.01	µg/L	<0.010	1.1 µg/L	103	29.5	150	
EP131A: cis-Chlordane	5103-71-9	0.01	µg/L	<0.010	1.1 µg/L	103	27.0	116	
EP131A: trans-Chlordane	5103-74-2	0.01	µg/L	<0.010	1.1 µg/L	99.0	31.2	119	
EP131A: Total Chlordane (sum)	----	0.01	µg/L	<0.010	----	----	----	----	
EP131A: Sum of DDD + DDE + DDT	72-54-8/72-5 5-9/50-2	0.01	µg/L	<0.010	----	----	----	----	
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3621982)									
EP132: 3-Methylcholanthrene	56-49-5	0.1	µg/L	<0.1	2 µg/L	98.4	60.0	120	
EP132: 2-Methylnaphthalene	91-57-6	0.1	µg/L	<0.1	2 µg/L	73.0	59.0	123	
EP132: 7,12-Dimethylbenz(a)anthracene	57-97-6	0.1	µg/L	<0.1	2 µg/L	101	36.0	144	
EP132: Acenaphthene	83-32-9	0.1	µg/L	<0.1	2 µg/L	80.7	64.0	122	
EP132: Acenaphthylene	208-96-8	0.1	µg/L	<0.1	2 µg/L	86.7	64.0	126	
EP132: Anthracene	120-12-7	0.1	µg/L	<0.1	2 µg/L	83.8	65.0	127	
EP132: Benz(a)anthracene	56-55-3	0.1	µg/L	<0.1	2 µg/L	88.0	64.0	130	
EP132: Benzo(a)pyrene	50-32-8	0.05	µg/L	<0.05	2 µg/L	91.4	64.0	126	
EP132: Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.1	µg/L	<0.1	2 µg/L	89.7	62.0	126	
EP132: Benzo(e)pyrene	192-97-2	0.1	µg/L	<0.1	2 µg/L	87.4	62.0	126	
EP132: Benzo(g,h,i)perylene	191-24-2	0.1	µg/L	<0.1	2 µg/L	88.9	56.0	126	
EP132: Benzo(k)fluoranthene	207-08-9	0.1	µg/L	<0.1	2 µg/L	88.0	68.0	130	
EP132: Chrysene	218-01-9	0.1	µg/L	<0.1	2 µg/L	84.0	66.0	130	
EP132: Coronene	191-07-1	0.1	µg/L	<0.1	2 µg/L	91.4	35.0	133	
EP132: Dibenz(a,h)anthracene	53-70-3	0.1	µg/L	<0.1	2 µg/L	89.5	58.0	128	
EP132: Fluoranthene	206-44-0	0.1	µg/L	<0.1	2 µg/L	89.3	65.0	127	
EP132: Fluorene	86-73-7	0.1	µg/L	<0.1	2 µg/L	82.8	64.0	124	
EP132: Indeno(1,2,3-cd)pyrene	193-39-5	0.1	µg/L	<0.1	2 µg/L	90.4	57.0	127	
EP132: Naphthalene	91-20-3	0.1	µg/L	<0.1	2 µg/L	69.9	54.0	128	
EP132: Perylene	198-55-0	0.1	µg/L	<0.1	2 µg/L	88.4	66.0	130	
EP132: Phenanthrene	85-01-8	0.1	µg/L	<0.1	2 µg/L	83.6	65.0	129	
EP132: Pyrene	129-00-0	0.1	µg/L	<0.1	2 µg/L	87.8	66.0	128	

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.



Sub-Matrix: SOIL

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 3632966)							
ES2112448-003	Anonymous	EG005T: Arsenic	7440-38-2	50 mg/kg	85.3	70.0	130
		EG005T: Cadmium	7440-43-9	50 mg/kg	92.0	70.0	130
		EG005T: Chromium	7440-47-3	50 mg/kg	95.7	68.0	132
		EG005T: Copper	7440-50-8	250 mg/kg	82.9	70.0	130
		EG005T: Lead	7439-92-1	250 mg/kg	102	70.0	130
		EG005T: Nickel	7440-02-0	50 mg/kg	90.3	70.0	130
		EG005T: Zinc	7440-66-6	250 mg/kg	99.3	66.0	133
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 3632967)							
ES2113384-032	TP129_0.1	EG005T: Arsenic	7440-38-2	50 mg/kg	73.7	70.0	130
		EG005T: Cadmium	7440-43-9	50 mg/kg	83.0	70.0	130
		EG005T: Chromium	7440-47-3	50 mg/kg	82.3	68.0	132
		EG005T: Copper	7440-50-8	250 mg/kg	74.0	70.0	130
		EG005T: Lead	7439-92-1	250 mg/kg	87.7	70.0	130
		EG005T: Nickel	7440-02-0	50 mg/kg	82.0	70.0	130
		EG005T: Zinc	7440-66-6	250 mg/kg	86.0	66.0	133
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 3633528)							
ES2110361-005	Anonymous	EG005T: Arsenic	7440-38-2	50 mg/kg	121	70.0	130
		EG005T: Cadmium	7440-43-9	50 mg/kg	104	70.0	130
		EG005T: Chromium	7440-47-3	50 mg/kg	96.1	68.0	132
		EG005T: Copper	7440-50-8	250 mg/kg	104	70.0	130
		EG005T: Lead	7439-92-1	250 mg/kg	102	70.0	130
		EG005T: Nickel	7440-02-0	50 mg/kg	95.9	70.0	130
		EG005T: Zinc	7440-66-6	250 mg/kg	# Not Determined	66.0	133
EG035T: Total Recoverable Mercury by FIMS (Low Level) (QCLot: 3633532)							
ES2113186-004	Anonymous	EG035T-LL: Mercury	7439-97-6	0.05 mg/kg	103	70.0	130
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3633531)							
ES2113186-004	Anonymous	EG020-SD: Arsenic	7440-38-2	50 mg/kg	86.7	70.0	130
		EG020-SD: Cadmium	7440-43-9	50 mg/kg	87.2	70.0	130
		EG020-SD: Chromium	7440-47-3	50 mg/kg	88.1	70.0	130
		EG020-SD: Copper	7440-50-8	250 mg/kg	87.7	70.0	130
		EG020-SD: Lead	7439-92-1	250 mg/kg	93.7	70.0	130
		EG020-SD: Nickel	7440-02-0	50 mg/kg	86.0	70.0	130
		EG020-SD: Zinc	7440-66-6	250 mg/kg	86.1	70.0	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3632965)							
ES2112448-003	Anonymous	EG035T: Mercury	7439-97-6	5 mg/kg	78.5	70.0	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3632968)							



Sub-Matrix: SOIL

				Matrix Spike (MS) Report			
				Spike Concentration	Spike Recovery(%) MS	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3632968) - continued							
ES2113384-032	TP129_0.1	EG035T: Mercury	7439-97-6	5 mg/kg	77.4	70.0	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3633529)							
ES2110361-005	Anonymous	EG035T: Mercury	7439-97-6	5 mg/kg	79.0	70.0	130
EP004: Organic Matter (QCLot: 3622836)							
ES2113384-014	SED01	EP004: Total Organic Carbon	----	0.61 %	89.4	70.0	130
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 3622093)							
ES2113384-017	QC9	EP066: Total Polychlorinated biphenyls	----	1 mg/kg	80.8	70.0	130
EP068A: Organochlorine Pesticides (OC) (QCLot: 3622092)							
ES2113384-017	QC9	EP068: gamma-BHC	58-89-9	0.5 mg/kg	94.2	70.0	130
		EP068: Heptachlor	76-44-8	0.5 mg/kg	81.2	70.0	130
		EP068: Aldrin	309-00-2	0.5 mg/kg	94.5	70.0	130
		EP068: Dieldrin	60-57-1	0.5 mg/kg	90.0	70.0	130
		EP068: Endrin	72-20-8	2 mg/kg	88.1	70.0	130
		EP068: 4,4'-DDT	50-29-3	2 mg/kg	80.6	70.0	130
EP068B: Organophosphorus Pesticides (OP) (QCLot: 3622092)							
ES2113384-017	QC9	EP068: Diazinon	333-41-5	0.5 mg/kg	83.5	70.0	130
		EP068: Chlorpyrifos-methyl	5598-13-0	0.5 mg/kg	82.9	70.0	130
		EP068: Pirimphos-ethyl	23505-41-1	0.5 mg/kg	77.2	70.0	130
		EP068: Bromophos-ethyl	4824-78-6	0.5 mg/kg	82.2	70.0	130
		EP068: Prothiofos	34643-46-4	0.5 mg/kg	79.2	70.0	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3622091)							
ES2113384-017	QC9	EP075(SIM): Acenaphthene	83-32-9	10 mg/kg	95.3	70.0	130
		EP075(SIM): Pyrene	129-00-0	10 mg/kg	87.3	70.0	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3621842)							
ES2113386-055	Anonymous	EP080: C6 - C9 Fraction	----	32.5 mg/kg	104	70.0	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3622090)							
ES2113384-017	QC9	EP071: C10 - C14 Fraction	----	523 mg/kg	110	73.0	137
		EP071: C15 - C28 Fraction	----	2319 mg/kg	113	53.0	131
		EP071: C29 - C36 Fraction	----	1714 mg/kg	117	52.0	132
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3621842)							
ES2113386-055	Anonymous	EP080: C6 - C10 Fraction	C6_C10	37.5 mg/kg	107	70.0	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3622090)							
ES2113384-017	QC9	EP071: >C10 - C16 Fraction	----	860 mg/kg	109	73.0	137
		EP071: >C16 - C34 Fraction	----	3223 mg/kg	123	53.0	131
		EP071: >C34 - C40 Fraction	----	1058 mg/kg	102	52.0	132



Sub-Matrix: SOIL

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report				
				Spike Concentration	SpikeRecovery(%) MS	Acceptable Limits (%)		
				Low	High			
EP080: BTEXN (QCLot: 3621842)								
ES2113386-055	Anonymous	EP080: Benzene	71-43-2	2.5 mg/kg	82.8	70.0	130	
		EP080: Toluene	108-88-3	2.5 mg/kg	92.2	70.0	130	
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	97.6	70.0	130	
		EP080: meta- & para-Xylene	108-38-3	2.5 mg/kg	94.7	70.0	130	
			106-42-3					
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	94.6	70.0	130	
	EP080: Naphthalene	91-20-3	2.5 mg/kg	78.2	70.0	130		
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3621847)								
ES2113384-014	SED01	EP080-SD: C6 - C9 Fraction	----	6.5 mg/kg	98.5	70.0	130	
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3624930)								
ES2113384-014	SED01	EP071-SD: C10 - C14 Fraction	----	14 mg/kg	79.8	70.0	130	
		EP071-SD: C15 - C28 Fraction	----	59 mg/kg	87.9	70.0	130	
		EP071-SD: C29 - C36 Fraction	----	42 mg/kg	72.7	70.0	130	
EP080-SD: BTEXN (QCLot: 3621847)								
ES2113384-014	SED01	EP080-SD: Benzene	71-43-2	0.5 mg/kg	88.0	70.0	130	
		EP080-SD: Toluene	108-88-3	0.5 mg/kg	97.3	70.0	130	
		EP080-SD: Ethylbenzene	100-41-4	0.5 mg/kg	102	70.0	130	
		EP080-SD: meta- & para-Xylene	108-38-3	0.5 mg/kg	108	70.0	130	
			106-42-3					
	EP080-SD: ortho-Xylene	95-47-6	0.5 mg/kg	110	70.0	130		
EP130A: Organophosphorus Pesticides (Ultra-trace) (QCLot: 3624929)								
ES2113384-014	SED01	EP130: Bromophos-ethyl	4824-78-6	50 µg/kg	57.6	36.0	144	
		EP130: Carbophenothion	786-19-6	50 µg/kg	58.9	38.0	120	
		EP130: Chlorfenvinphos (E)	18708-86-6	5 µg/kg	69.5	49.0	157	
		EP130: Chlorfenvinphos (Z)	18708-87-7	50 µg/kg	53.8	53.0	145	
		EP130: Chlorpyrifos	2921-88-2	50 µg/kg	72.0	60.0	140	
		EP130: Chlorpyrifos-methyl	5598-13-0	50 µg/kg	59.5	56.0	126	
		EP130: Demeton-S-methyl	919-86-8	50 µg/kg	57.2	9.70	148	
		EP130: Diazinon	333-41-5	50 µg/kg	61.6	60.0	122	
		EP130: Dichlorvos	62-73-7	50 µg/kg	53.7	33.0	123	
		EP130: Dimethoate	60-51-5	50 µg/kg	53.2	36.0	142	
		EP130: Ethion	563-12-2	50 µg/kg	56.8	48.0	136	
		EP130: Fenamiphos	22224-92-6	50 µg/kg	53.9	42.0	136	
		EP130: Fenthion	55-38-9	50 µg/kg	56.6	35.0	131	
		EP130: Malathion	121-75-5	50 µg/kg	73.7	55.0	141	
		EP130: Azinphos Methyl	86-50-0	50 µg/kg	51.9	23.5	132	
		EP130: Monocrotophos	6923-22-4	50 µg/kg	55.0	35.0	153	
EP130: Parathion	56-38-2	50 µg/kg	67.2	57.0	147			



Sub-Matrix: SOIL

				Matrix Spike (MS) Report			
				Spike	Spike Recovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP130A: Organophosphorus Pesticides (Ultra-trace) (QCLot: 3624929) - continued							
ES2113384-014	SED01	EP130: Parathion-methyl	298-00-0	50 µg/kg	72.0	48.0	140
		EP130: Pirimphos-ethyl	23505-41-1	50 µg/kg	73.5	45.0	137
		EP130: Prothiofos	34643-46-4	50 µg/kg	72.6	51.0	137
EP131A: Organochlorine Pesticides (QCLot: 3624928)							
ES2113384-014	SED01	EP131A: Aldrin	309-00-2	5 µg/kg	51.6	23.4	153
		EP131A: alpha-BHC	319-84-6	5 µg/kg	39.7	17.6	156
		EP131A: beta-BHC	319-85-7	5 µg/kg	39.7	24.9	153
		EP131A: delta-BHC	319-86-8	5 µg/kg	47.5	25.2	147
		EP131A: 4,4'-DDD	72-54-8	5 µg/kg	62.2	25.9	150
		EP131A: 4,4'-DDE	72-55-9	5 µg/kg	46.0	31.2	125
		EP131A: 4,4'-DDT	50-29-3	5 µg/kg	42.4	23.4	163
		EP131A: Dieldrin	60-57-1	5 µg/kg	43.6	30.2	140
		EP131A: alpha-Endosulfan	959-98-8	5 µg/kg	56.1	28.8	135
		EP131A: beta-Endosulfan	33213-65-9	5 µg/kg	44.8	22.6	141
		EP131A: Endosulfan sulfate	1031-07-8	5 µg/kg	50.4	16.1	156
		EP131A: Endrin	72-20-8	5 µg/kg	68.0	17.7	162
		EP131A: Endrin aldehyde	7421-93-4	5 µg/kg	46.1	20.1	116
		EP131A: Endrin ketone	53494-70-5	5 µg/kg	42.0	13.4	151
		EP131A: Heptachlor	76-44-8	5 µg/kg	49.1	23.8	170
		EP131A: Heptachlor epoxide	1024-57-3	5 µg/kg	47.9	28.3	140
		EP131A: Hexachlorobenzene (HCB)	118-74-1	5 µg/kg	73.1	17.7	144
		EP131A: gamma-BHC	58-89-9	5 µg/kg	71.5	21.8	158
		EP131A: Methoxychlor	72-43-5	5 µg/kg	40.6	24.4	158
EP131A: cis-Chlordane	5103-71-9	5 µg/kg	58.3	27.3	139		
EP131A: trans-Chlordane	5103-74-2	5 µg/kg	39.6	29.5	138		
EP131B: Polychlorinated Biphenyls (as Aroclors) (QCLot: 3624927)							
ES2113384-014	SED01	EP131B: Total Polychlorinated biphenyls	----	50 µg/kg	67.6	44.0	136
		EP131B: Aroclor 1254	11097-69-1	50 µg/kg	67.6	44.0	136
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3624931)							
ES2113384-014	SED01	EP132B-SD: Naphthalene	91-20-3	25 µg/kg	88.8	70.0	130
		EP132B-SD: 2-Methylnaphthalene	91-57-6	25 µg/kg	85.5	70.0	130
		EP132B-SD: Acenaphthylene	208-96-8	25 µg/kg	85.0	70.0	130
		EP132B-SD: Acenaphthene	83-32-9	25 µg/kg	80.0	70.0	130
		EP132B-SD: Fluorene	86-73-7	25 µg/kg	70.0	70.0	130
		EP132B-SD: Phenanthrene	85-01-8	25 µg/kg	93.7	70.0	130
		EP132B-SD: Anthracene	120-12-7	25 µg/kg	91.1	70.0	130
		EP132B-SD: Fluoranthene	206-44-0	25 µg/kg	83.7	70.0	130
		EP132B-SD: Pyrene	129-00-0	25 µg/kg	83.4	70.0	130



Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report				
				Spike	SpikeRecovery(%)	Acceptable Limits (%)		
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High	
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3624931) - continued								
ES2113384-014	SED01	EP132B-SD: Benz(a)anthracene	56-55-3	25 µg/kg	97.2	70.0	130	
		EP132B-SD: Chrysene	218-01-9	25 µg/kg	79.2	70.0	130	
		EP132B-SD: Benzo(b+j)fluoranthene	205-99-2	25 µg/kg	86.4	70.0	130	
			205-82-3					
		EP132B-SD: Benzo(k)fluoranthene	207-08-9	25 µg/kg	# 69.2	70.0	130	
		EP132B-SD: Benzo(e)pyrene	192-97-2	25 µg/kg	79.9	70.0	130	
		EP132B-SD: Benzo(a)pyrene	50-32-8	25 µg/kg	83.7	70.0	130	
		EP132B-SD: Perylene	198-55-0	25 µg/kg	86.4	70.0	130	
		EP132B-SD: Benzo(g,h,i)perylene	191-24-2	25 µg/kg	83.0	70.0	130	
		EP132B-SD: Dibenz(a,h)anthracene	53-70-3	25 µg/kg	88.2	70.0	130	
		EP132B-SD: Indeno(1.2.3.cd)pyrene	193-39-5	25 µg/kg	91.1	70.0	130	
EP132B-SD: Coronene	191-07-1	25 µg/kg	98.8	70.0	130			

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG020F: Dissolved Metals by ICP-MS (QCLot: 3632666)							
ES2113384-011	SW01	EG020A-F: Arsenic	7440-38-2	1 mg/L	82.5	70.0	130
		EG020A-F: Cadmium	7440-43-9	0.25 mg/L	83.9	70.0	130
		EG020A-F: Chromium	7440-47-3	1 mg/L	83.9	70.0	130
		EG020A-F: Copper	7440-50-8	1 mg/L	81.8	70.0	130
		EG020A-F: Lead	7439-92-1	1 mg/L	80.9	70.0	130
		EG020A-F: Nickel	7440-02-0	1 mg/L	82.8	70.0	130
		EG020A-F: Zinc	7440-66-6	1 mg/L	83.6	70.0	130
		EG020T: Total Metals by ICP-MS (QCLot: 3631812)					
ES2113384-025	RINSATE02	EG020A-T: Arsenic	7440-38-2	1 mg/L	95.6	70.0	130
		EG020A-T: Cadmium	7440-43-9	0.25 mg/L	96.7	70.0	130
		EG020A-T: Chromium	7440-47-3	1 mg/L	95.3	70.0	130
		EG020A-T: Copper	7440-50-8	1 mg/L	94.3	70.0	130
		EG020A-T: Lead	7439-92-1	1 mg/L	95.0	70.0	130
		EG020A-T: Nickel	7440-02-0	1 mg/L	96.2	70.0	130
		EG020A-T: Zinc	7440-66-6	1 mg/L	95.3	70.0	130
EG035F: Dissolved Mercury by FIMS (QCLot: 3627598)							
ES2113143-012	Anonymous	EG035F-LL: Mercury	7439-97-6	0.0001 mg/L	94.0	70.0	130
EG035F: Dissolved Mercury by FIMS (QCLot: 3627599)							
ES2113384-013	SW03	EG035F-LL: Mercury	7439-97-6	0.0001 mg/L	100	70.0	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3627931)							
ES2113384-024	RINSATE01	EG035T: Mercury	7439-97-6	0.01 mg/L	88.9	70.0	130



Sub-Matrix: WATER

				Matrix Spike (MS) Report				
				Spike	SpikeRecovery(%)	Acceptable Limits (%)		
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High	
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3629630)								
ES2113384-011	SW01	EP080: C6 - C9 Fraction	----	325 µg/L	90.1	70.0	130	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3629630)								
ES2113384-011	SW01	EP080: C6 - C10 Fraction	C6_C10	375 µg/L	88.8	70.0	130	
EP080: BTEXN (QCLot: 3629630)								
ES2113384-011	SW01	EP080: Benzene	71-43-2	25 µg/L	73.2	70.0	130	
		EP080: Toluene	108-88-3	25 µg/L	80.9	70.0	130	
		EP080: Ethylbenzene	100-41-4	25 µg/L	84.1	70.0	130	
		EP080: meta- & para-Xylene	108-38-3	25 µg/L	85.0	70.0	130	
			106-42-3					
		EP080: ortho-Xylene	95-47-6	25 µg/L	84.2	70.0	130	
	EP080: Naphthalene	91-20-3	25 µg/L	86.7	70.0	130		

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: ES2113384	Page	: 1 of 18
Client	: EP Risk Management	Laboratory	: Environmental Division Sydney
Contact	: LUKE Kerry	Telephone	: +61-2-8784 8555
Project	: EP1995	Date Samples Received	: 09-Apr-2021
Site	: ----	Issue Date	: 26-Apr-2021
Sampler	: Gilles Renda	No. of samples received	: 42
Order number	: ----	No. of samples analysed	: 25

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO** Method Blank value outliers occur.
- **NO** Laboratory Control outliers occur.
- Duplicate outliers exist - please see following pages for full details.
- Matrix Spike outliers exist - please see following pages for full details.
- For all regular sample matrices, **NO** surrogate recovery outliers occur.

Outliers : Analysis Holding Time Compliance

- Analysis Holding Time Outliers exist - please see following pages for full details.

Outliers : Frequency of Quality Control Samples

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



Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Duplicate (DUP) RPDs							
EG005(ED093)T: Total Metals by ICP-AES	ES2110361--005	Anonymous	Chromium	7440-47-3	23.6 %	0% - 20%	RPD exceeds LOR based limits
EG005(ED093)T: Total Metals by ICP-AES	ES2110361--005	Anonymous	Copper	7440-50-8	28.9 %	0% - 20%	RPD exceeds LOR based limits
EG005(ED093)T: Total Metals by ICP-AES	ES2110361--005	Anonymous	Lead	7439-92-1	40.3 %	0% - 20%	RPD exceeds LOR based limits
EG005(ED093)T: Total Metals by ICP-AES	ES2110361--005	Anonymous	Zinc	7440-66-6	31.5 %	0% - 20%	RPD exceeds LOR based limits
EP132B: Polynuclear Aromatic Hydrocarbons	ES2113384--014	SED01	Sum of PAHs	----	21.1 %	0% - 20%	RPD exceeds LOR based limits
Matrix Spike (MS) Recoveries							
EG005(ED093)T: Total Metals by ICP-AES	ES2110361--005	Anonymous	Zinc	7440-66-6	Not Determined	----	MS recovery not determined, background level greater than or equal to 4x spike level.
EP132B: Polynuclear Aromatic Hydrocarbons	ES2113384--014	SED01	Benzo(k)fluoranthene	207-08-9	69.2 %	70.0-130%	Recovery less than lower data quality objective

Outliers : Analysis Holding Time Compliance

Matrix: **SOIL**

Method	Container / Client Sample ID(s)	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Days overdue	Date analysed	Due for analysis	Days overdue
EP080/071: Total Petroleum Hydrocarbons							
Soil Glass Jar - Unpreserved	TS_S - TS15, TSC_S	15-Apr-2021	12-Apr-2021	3	19-Apr-2021	12-Apr-2021	7
Soil Glass Jar - Unpreserved		15-Apr-2021	14-Apr-2021	1	19-Apr-2021	14-Apr-2021	5
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions							
Soil Glass Jar - Unpreserved	TS_S - TS15, TSC_S	15-Apr-2021	12-Apr-2021	3	19-Apr-2021	12-Apr-2021	7
Soil Glass Jar - Unpreserved		15-Apr-2021	14-Apr-2021	1	19-Apr-2021	14-Apr-2021	5
EP080: BTEXN							
Soil Glass Jar - Unpreserved	TS_S - TS15, TSC_S	15-Apr-2021	12-Apr-2021	3	19-Apr-2021	12-Apr-2021	7
Soil Glass Jar - Unpreserved		15-Apr-2021	14-Apr-2021	1	19-Apr-2021	14-Apr-2021	5

Matrix: **WATER**

Method	Container / Client Sample ID(s)	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Days overdue	Date analysed	Due for analysis	Days overdue
EP080/071: Total Petroleum Hydrocarbons							
Amber VOC Vial - Sulfuric Acid	TS_W	21-Apr-2021	09-Apr-2021	12	21-Apr-2021	09-Apr-2021	12



Matrix: **WATER**

Method Container / Client Sample ID(s)	Extraction / Preparation			Analysis		
	Date extracted	Due for extraction	Days overdue	Date analysed	Due for analysis	Days overdue
EP080/071: Total Petroleum Hydrocarbons - Analysis Holding Time Compliance						
Amber VOC Vial - Sulfuric Acid TB_W	21-Apr-2021	14-Apr-2021	7	21-Apr-2021	14-Apr-2021	7
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions						
Amber VOC Vial - Sulfuric Acid TS_W	21-Apr-2021	09-Apr-2021	12	21-Apr-2021	09-Apr-2021	12
Amber VOC Vial - Sulfuric Acid TB_W	21-Apr-2021	14-Apr-2021	7	21-Apr-2021	14-Apr-2021	7
EP080: BTEXN						
Amber VOC Vial - Sulfuric Acid TS_W	21-Apr-2021	09-Apr-2021	12	21-Apr-2021	09-Apr-2021	12
Amber VOC Vial - Sulfuric Acid TB_W	21-Apr-2021	14-Apr-2021	7	21-Apr-2021	14-Apr-2021	7

Outliers : Frequency of Quality Control Samples

Matrix: **WATER**

Quality Control Sample Type Method	Count		Rate (%)		Quality Control Specification
	QC	Regular	Actual	Expected	
Laboratory Duplicates (DUP)					
Organochlorine Pesticides (Ultra-trace)	0	4	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (GC/MS - SIM)	0	8	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	0	9	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	0	4	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
Semivolatile Compounds by GCMS(SIM - Ultra-trace)	0	4	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	0	12	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)					
Organochlorine Pesticides (Ultra-trace)	0	4	0.00	5.00	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (GC/MS - SIM)	0	8	0.00	5.00	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	0	9	0.00	5.00	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	0	4	0.00	5.00	NEPM 2013 B3 & ALS QC Standard
Semivolatile Compounds by GCMS(SIM - Ultra-trace)	0	4	0.00	5.00	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	0	12	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 Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA033-A: Actual Acidity							
Snap Lock Bag - frozen on receipt at ALS (EA033) TP29_0.5	08-Apr-2021	22-Apr-2021	08-Apr-2022	✓	22-Apr-2021	21-Jul-2021	✓
EA033-B: Potential Acidity							
Snap Lock Bag - frozen on receipt at ALS (EA033) TP29_0.5	08-Apr-2021	22-Apr-2021	08-Apr-2022	✓	22-Apr-2021	21-Jul-2021	✓
EA033-C: Acid Neutralising Capacity							
Snap Lock Bag - frozen on receipt at ALS (EA033) TP29_0.5	08-Apr-2021	22-Apr-2021	08-Apr-2022	✓	22-Apr-2021	21-Jul-2021	✓
EA033-D: Retained Acidity							
Snap Lock Bag - frozen on receipt at ALS (EA033) TP29_0.5	08-Apr-2021	22-Apr-2021	08-Apr-2022	✓	22-Apr-2021	21-Jul-2021	✓
EA033-E: Acid Base Accounting							
Snap Lock Bag - frozen on receipt at ALS (EA033) TP29_0.5	08-Apr-2021	22-Apr-2021	08-Apr-2022	✓	22-Apr-2021	21-Jul-2021	✓
EA037: Ass Field Screening Analysis							
Snap Lock Bag - frozen on receipt at ALS (EA037) TP29_0.5, TP141_0.1	08-Apr-2021	21-Apr-2021	05-Oct-2021	✓	21-Apr-2021	05-Oct-2021	✓
EA055: Moisture Content (Dried @ 105-110°C)							
Soil Glass Jar - Unpreserved (EA055) SED01, SED03, QC11, TP30_0.1, TP140_0.1, TP142_0.1 SED02, QC9, TP29_0.1, TP129_0.1, TP141_0.1	08-Apr-2021	----	----	----	21-Apr-2021	22-Apr-2021	✓
EG005(ED093)-SD: Total Metals in Sediments by ICP-AES							
Soil Glass Jar - Unpreserved (EG005-SD) SED01, SED03, QC11	08-Apr-2021	21-Apr-2021	05-Oct-2021	✓	21-Apr-2021	05-Oct-2021	✓
EG005(ED093)T: Total Metals by ICP-AES							
Soil Glass Jar - Unpreserved (EG005T) QC9, TP30_0.1, TP140_0.1, TP142_0.1 TP29_0.1, TP129_0.1, TP141_0.1	08-Apr-2021	21-Apr-2021	05-Oct-2021	✓	21-Apr-2021	05-Oct-2021	✓
EG020-SD: Total Metals in Sediments by ICPMS							
Soil Glass Jar - Unpreserved (EG020-SD) SED01, SED03, QC11	08-Apr-2021	21-Apr-2021	05-Oct-2021	✓	21-Apr-2021	05-Oct-2021	✓



Matrix: **SOIL**

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

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EG035T: Total Recoverable Mercury by FIMS								
Soil Glass Jar - Unpreserved (EG035T) SED01, SED03, QC11, TP30_0.1, TP140_0.1, TP142_0.1 SED02, QC9, TP29_0.1, TP129_0.1, TP141_0.1	08-Apr-2021	21-Apr-2021	06-May-2021	✓	22-Apr-2021	06-May-2021	✓	
EP004: Organic Matter								
Soil Glass Jar - Unpreserved (EP004) SED01, SED03 SED02	08-Apr-2021	19-Apr-2021	06-May-2021	✓	19-Apr-2021	06-May-2021	✓	
EP066: Polychlorinated Biphenyls (PCB)								
Soil Glass Jar - Unpreserved (EP066) QC9, TP30_0.1, TP140_0.1, TP142_0.1 TP29_0.1, TP129_0.1, TP141_0.1	08-Apr-2021	16-Apr-2021	22-Apr-2021	✓	20-Apr-2021	26-May-2021	✓	
EP068A: Organochlorine Pesticides (OC)								
Soil Glass Jar - Unpreserved (EP068) QC9, TP30_0.1, TP140_0.1, TP142_0.1 TP29_0.1, TP129_0.1, TP141_0.1	08-Apr-2021	16-Apr-2021	22-Apr-2021	✓	20-Apr-2021	26-May-2021	✓	
EP068B: Organophosphorus Pesticides (OP)								
Soil Glass Jar - Unpreserved (EP068) QC9, TP30_0.1, TP140_0.1, TP142_0.1 TP29_0.1, TP129_0.1, TP141_0.1	08-Apr-2021	16-Apr-2021	22-Apr-2021	✓	20-Apr-2021	26-May-2021	✓	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Soil Glass Jar - Unpreserved (EP075(SIM)) QC9, TP30_0.1, TP140_0.1, TP142_0.1 TP29_0.1, TP129_0.1, TP141_0.1	08-Apr-2021	16-Apr-2021	22-Apr-2021	✓	19-Apr-2021	26-May-2021	✓	



Matrix: SOIL

Evaluation: ✘ = Holding time breach ; ✔ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP080/071: Total Petroleum Hydrocarbons								
Soil Glass Jar - Unpreserved (EP080) QC9, TP30_0.1, TP140_0.1, TP142_0.1	TP29_0.1, TP129_0.1, TP141_0.1	08-Apr-2021	15-Apr-2021	22-Apr-2021	✔	19-Apr-2021	22-Apr-2021	✔
Soil Glass Jar - Unpreserved (EP071) QC9, TP30_0.1, TP140_0.1, TP142_0.1	TP29_0.1, TP129_0.1, TP141_0.1	08-Apr-2021	16-Apr-2021	22-Apr-2021	✔	19-Apr-2021	26-May-2021	✔
Soil Glass Jar - Unpreserved (EP080) TS_S - TS15,	TSC_S	29-Mar-2021	15-Apr-2021	12-Apr-2021	✘	19-Apr-2021	12-Apr-2021	✘
Soil Glass Jar - Unpreserved (EP080) TB_S		31-Mar-2021	15-Apr-2021	14-Apr-2021	✘	19-Apr-2021	14-Apr-2021	✘
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
Soil Glass Jar - Unpreserved (EP080) QC9, TP30_0.1, TP140_0.1, TP142_0.1	TP29_0.1, TP129_0.1, TP141_0.1	08-Apr-2021	15-Apr-2021	22-Apr-2021	✔	19-Apr-2021	22-Apr-2021	✔
Soil Glass Jar - Unpreserved (EP071) QC9, TP30_0.1, TP140_0.1, TP142_0.1	TP29_0.1, TP129_0.1, TP141_0.1	08-Apr-2021	16-Apr-2021	22-Apr-2021	✔	19-Apr-2021	26-May-2021	✔
Soil Glass Jar - Unpreserved (EP071-SD) SED01, SED03,	SED02, QC11	08-Apr-2021	16-Apr-2021	22-Apr-2021	✔	21-Apr-2021	26-May-2021	✔
Soil Glass Jar - Unpreserved (EP080) TS_S - TS15,	TSC_S	29-Mar-2021	15-Apr-2021	12-Apr-2021	✘	19-Apr-2021	12-Apr-2021	✘
Soil Glass Jar - Unpreserved (EP080) TB_S		31-Mar-2021	15-Apr-2021	14-Apr-2021	✘	19-Apr-2021	14-Apr-2021	✘
EP080: BTEXN								
Soil Glass Jar - Unpreserved (EP080) QC9, TP30_0.1, TP140_0.1, TP142_0.1	TP29_0.1, TP129_0.1, TP141_0.1	08-Apr-2021	15-Apr-2021	22-Apr-2021	✔	19-Apr-2021	22-Apr-2021	✔
Soil Glass Jar - Unpreserved (EP080) TS_S - TS15,	TSC_S	29-Mar-2021	15-Apr-2021	12-Apr-2021	✘	19-Apr-2021	12-Apr-2021	✘
Soil Glass Jar - Unpreserved (EP080) TB_S		31-Mar-2021	15-Apr-2021	14-Apr-2021	✘	19-Apr-2021	14-Apr-2021	✘



Matrix: **SOIL**

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

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons							
Soil Glass Jar - Unpreserved (EP080-SD) SED01, SED03, QC11	08-Apr-2021	15-Apr-2021	22-Apr-2021	✓	20-Apr-2021	22-Apr-2021	✓
Soil Glass Jar - Unpreserved (EP071-SD) SED01, SED03, QC11	08-Apr-2021	16-Apr-2021	22-Apr-2021	✓	21-Apr-2021	26-May-2021	✓
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons							
Soil Glass Jar - Unpreserved (EP080-SD) SED01, SED03, QC11	08-Apr-2021	15-Apr-2021	22-Apr-2021	✓	20-Apr-2021	22-Apr-2021	✓
EP080-SD: BTEXN							
Soil Glass Jar - Unpreserved (EP080-SD) SED01, SED03, QC11	08-Apr-2021	15-Apr-2021	22-Apr-2021	✓	20-Apr-2021	22-Apr-2021	✓
EP130A: Organophosphorus Pesticides (Ultra-trace)							
Soil Glass Jar - Unpreserved (EP130) SED01, SED03, QC11	08-Apr-2021	16-Apr-2021	22-Apr-2021	✓	20-Apr-2021	26-May-2021	✓
EP131A: Organochlorine Pesticides							
Soil Glass Jar - Unpreserved (EP131A) SED01, SED03, QC11	08-Apr-2021	16-Apr-2021	22-Apr-2021	✓	20-Apr-2021	26-May-2021	✓
EP131B: Polychlorinated Biphenyls (as Aroclors)							
Soil Glass Jar - Unpreserved (EP131B) SED01, SED03, QC11	08-Apr-2021	16-Apr-2021	22-Apr-2021	✓	20-Apr-2021	26-May-2021	✓
EP132B: Polynuclear Aromatic Hydrocarbons							
Soil Glass Jar - Unpreserved (EP132B-SD) SED01, SED03, QC11	08-Apr-2021	16-Apr-2021	22-Apr-2021	✓	21-Apr-2021	26-May-2021	✓

Matrix: **WATER**

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

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG020F: Dissolved Metals by ICP-MS							
Clear Plastic Bottle - Nitric Acid; Filtered (EG020A-F) SW01, SW03, QC13	08-Apr-2021	----	----	----	21-Apr-2021	05-Oct-2021	✓



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

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EG020T: Total Metals by ICP-MS								
Clear Plastic Bottle - Nitric Acid; Unfiltered (EG020A-T) RINSATE01, RINSATE03,	RINSATE02, RINSATE04	08-Apr-2021	20-Apr-2021	05-Oct-2021	✓	20-Apr-2021	05-Oct-2021	✓
EG035F: Dissolved Mercury by FIMS								
Clear Plastic Bottle - Nitric Acid; Filtered (EG035F-LL) SW01, SW03,	SW02, QC13	08-Apr-2021	----	----	----	18-Apr-2021	06-May-2021	✓
EG035T: Total Recoverable Mercury by FIMS								
Clear Plastic Bottle - Nitric Acid; Unfiltered (EG035T) RINSATE01, RINSATE03,	RINSATE02, RINSATE04	08-Apr-2021	----	----	----	20-Apr-2021	06-May-2021	✓
EP066: Polychlorinated Biphenyls (PCB)								
Amber Glass Bottle - Unpreserved (EP066) SW01, SW03,	SW02, QC13	08-Apr-2021	15-Apr-2021	15-Apr-2021	✓	16-Apr-2021	25-May-2021	✓
EP068A: Organochlorine Pesticides (OC)								
Amber Glass Bottle - Unpreserved (EP068) RINSATE01, RINSATE03,	RINSATE02, RINSATE04	08-Apr-2021	15-Apr-2021	15-Apr-2021	✓	20-Apr-2021	25-May-2021	✓
EP068B: Organophosphorus Pesticides (OP)								
Amber Glass Bottle - Unpreserved (EP068) RINSATE01, RINSATE03,	RINSATE02, RINSATE04	08-Apr-2021	15-Apr-2021	15-Apr-2021	✓	20-Apr-2021	25-May-2021	✓
Amber Glass Bottle - Unpreserved (EP068) SW01, SW03,	SW02, QC13	08-Apr-2021	15-Apr-2021	15-Apr-2021	✓	23-Apr-2021	25-May-2021	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Amber Glass Bottle - Unpreserved (EP075(SIM)) RINSATE01, RINSATE03,	RINSATE02, RINSATE04	08-Apr-2021	15-Apr-2021	15-Apr-2021	✓	20-Apr-2021	25-May-2021	✓



Matrix: **WATER** Evaluation: ✘ = Holding time breach ; ✔ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP080/071: Total Petroleum Hydrocarbons								
Amber Glass Bottle - Unpreserved (EP071) SW01, SW03,	SW02, QC13	08-Apr-2021	15-Apr-2021	15-Apr-2021	✔	16-Apr-2021	25-May-2021	✔
Amber Glass Bottle - Unpreserved (EP071) RINSATE01, RINSATE03,	RINSATE02, RINSATE04	08-Apr-2021	15-Apr-2021	15-Apr-2021	✔	20-Apr-2021	25-May-2021	✔
Amber VOC Vial - Sulfuric Acid (EP080) SW01, SW03, RINSATE01, RINSATE03,	SW02, QC13, RINSATE02, RINSATE04	08-Apr-2021	21-Apr-2021	22-Apr-2021	✔	21-Apr-2021	22-Apr-2021	✔
Amber VOC Vial - Sulfuric Acid (EP080) TS_W		26-Mar-2021	21-Apr-2021	09-Apr-2021	✘	21-Apr-2021	09-Apr-2021	✘
Amber VOC Vial - Sulfuric Acid (EP080) TB_W		31-Mar-2021	21-Apr-2021	14-Apr-2021	✘	21-Apr-2021	14-Apr-2021	✘
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
Amber Glass Bottle - Unpreserved (EP071) SW01, SW03,	SW02, QC13	08-Apr-2021	15-Apr-2021	15-Apr-2021	✔	16-Apr-2021	25-May-2021	✔
Amber Glass Bottle - Unpreserved (EP071) RINSATE01, RINSATE03,	RINSATE02, RINSATE04	08-Apr-2021	15-Apr-2021	15-Apr-2021	✔	20-Apr-2021	25-May-2021	✔
Amber VOC Vial - Sulfuric Acid (EP080) SW01, SW03, RINSATE01, RINSATE03,	SW02, QC13, RINSATE02, RINSATE04	08-Apr-2021	21-Apr-2021	22-Apr-2021	✔	21-Apr-2021	22-Apr-2021	✔
Amber VOC Vial - Sulfuric Acid (EP080) TS_W		26-Mar-2021	21-Apr-2021	09-Apr-2021	✘	21-Apr-2021	09-Apr-2021	✘
Amber VOC Vial - Sulfuric Acid (EP080) TB_W		31-Mar-2021	21-Apr-2021	14-Apr-2021	✘	21-Apr-2021	14-Apr-2021	✘
EP080: BTEXN								
Amber VOC Vial - Sulfuric Acid (EP080) SW01, SW03, RINSATE01, RINSATE03,	SW02, QC13, RINSATE02, RINSATE04	08-Apr-2021	21-Apr-2021	22-Apr-2021	✔	21-Apr-2021	22-Apr-2021	✔
Amber VOC Vial - Sulfuric Acid (EP080) TS_W		26-Mar-2021	21-Apr-2021	09-Apr-2021	✘	21-Apr-2021	09-Apr-2021	✘
Amber VOC Vial - Sulfuric Acid (EP080) TB_W		31-Mar-2021	21-Apr-2021	14-Apr-2021	✘	21-Apr-2021	14-Apr-2021	✘



Matrix: **WATER**

Evaluation: ✖ = Holding time breach ; ✔ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP131A: Organochlorine Pesticides								
Amber Glass Bottle - Unpreserved (EP131A) SW01, SW03,	SW02, QC13	08-Apr-2021	15-Apr-2021	15-Apr-2021	✔	16-Apr-2021	25-May-2021	✔
EP132B: Polynuclear Aromatic Hydrocarbons								
Amber Glass Bottle - Unpreserved (EP132) SW01, SW03,	SW02, QC13	08-Apr-2021	15-Apr-2021	15-Apr-2021	✔	16-Apr-2021	25-May-2021	✔



Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: * = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type	Method	Count		Rate (%)			Quality Control Specification
		QC	Reaular	Actual	Expected	Evaluation	
Laboratory Duplicates (DUP)							
ASS Field Screening Analysis	EA037	2	20	10.00	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Chromium Suite for Acid Sulphate Soils	EA033	2	18	11.11	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Moisture Content	EA055	4	40	10.00	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Organic Matter	EP004	2	13	15.38	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Organochlorine Pesticides (Ultra-trace)	EP131A	1	5	20.00	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Organophosphorus Pesticides (Ultra-trace)	EP130	1	5	20.00	10.00	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	2	20	10.00	10.00	✓	NEPM 2013 B3 & ALS QC Standard
PAHs in Sediments by GCMS(SIM)	EP132B-SD	1	4	25.00	10.00	✓	NEPM 2013 B3 & ALS QC Standard
PCB's (Ultra-trace)	EP131B	1	5	20.00	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	2	20	10.00	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	2	20	10.00	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Fe and Al in Sediments by ICPAES	EG005-SD	1	9	11.11	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	6	60	10.00	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS (Low Level)	EG035T-LL	1	9	11.11	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	6	60	10.00	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals in Sediments by ICPMS	EG020-SD	1	9	11.11	10.00	✓	NEPM 2013 B3 & ALS QC Standard
TPH - Semivolatile Fraction	EP071-SD	1	4	25.00	10.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	2	20	10.00	10.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	20	10.00	10.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX in Sediments	EP080-SD	1	4	25.00	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Chromium Suite for Acid Sulphate Soils	EA033	1	18	5.56	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Organic Matter	EP004	1	13	7.69	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Organochlorine Pesticides (Ultra-trace)	EP131A	1	5	20.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Organophosphorus Pesticides (Ultra-trace)	EP130	1	5	20.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
PAHs in Sediments by GCMS(SIM)	EP132B-SD	1	4	25.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
PCB's (Ultra-trace)	EP131B	1	5	20.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Fe and Al in Sediments by ICPAES	EG005-SD	1	9	11.11	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	3	60	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS (Low Level)	EG035T-LL	1	9	11.11	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	3	60	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals in Sediments by ICPMS	EG020-SD	1	9	11.11	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TPH - Semivolatile Fraction	EP071-SD	1	4	25.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard



Matrix: **SOIL** Evaluation: * = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type	Method	Count		Rate (%)			Quality Control Specification
		QC	Regular	Actual	Expected	Evaluation	
Analytical Methods							
Laboratory Control Samples (LCS) - Continued							
TRH - Semivolatile Fraction	EP071	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX in Sediments	EP080-SD	1	4	25.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Chromium Suite for Acid Sulphate Soils	EA033	1	18	5.56	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Organic Matter	EP004	1	13	7.69	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Organochlorine Pesticides (Ultra-trace)	EP131A	1	5	20.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Organophosphorus Pesticides (Ultra-trace)	EP130	1	5	20.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
PAHs in Sediments by GCMS(SIM)	EP132B-SD	1	4	25.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
PCB's (Ultra-trace)	EP131B	1	5	20.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Fe and Al in Sediments by ICPAES	EG005-SD	1	9	11.11	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	3	60	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS (Low Level)	EG035T-LL	1	9	11.11	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	3	60	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals in Sediments by ICPMS	EG020-SD	1	9	11.11	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TPH - Semivolatile Fraction	EP071-SD	1	4	25.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX in Sediments	EP080-SD	1	4	25.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Organic Matter	EP004	1	13	7.69	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Organochlorine Pesticides (Ultra-trace)	EP131A	1	5	20.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Organophosphorus Pesticides (Ultra-trace)	EP130	1	5	20.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
PAHs in Sediments by GCMS(SIM)	EP132B-SD	1	4	25.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
PCB's (Ultra-trace)	EP131B	1	5	20.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	3	60	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS (Low Level)	EG035T-LL	1	9	11.11	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	3	60	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals in Sediments by ICPMS	EG020-SD	1	9	11.11	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TPH - Semivolatile Fraction	EP071-SD	1	4	25.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX in Sediments	EP080-SD	1	4	25.00	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	
Analytical Methods							
Laboratory Duplicates (DUP)							
Dissolved Mercury by FIMS - Low Level	EG035F-LL	4	36	11.11	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Dissolved Metals by ICP-MS - Suite A	EG020A-F	2	20	10.00	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Organochlorine Pesticides (Ultra-trace)	EP131A	0	4	0.00	10.00	✖	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	0	8	0.00	10.00	✖	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	0	9	0.00	10.00	✖	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	0	4	0.00	10.00	✖	NEPM 2013 B3 & ALS QC Standard
Semivolatile Compounds by GCMS(SIM - Ultra-trace)	EP132	0	4	0.00	10.00	✖	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	6	16.67	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-MS - Suite A	EG020A-T	2	14	14.29	10.00	✔	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	0	12	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 - Low Level	EG035F-LL	2	36	5.56	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Dissolved Metals by ICP-MS - Suite A	EG020A-F	1	20	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Organochlorine Pesticides (Ultra-trace)	EP131A	1	4	25.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	8	12.50	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	2	9	22.22	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	4	25.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Semivolatile Compounds by GCMS(SIM - Ultra-trace)	EP132	1	4	25.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	6	16.67	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-MS - Suite A	EG020A-T	1	14	7.14	5.00	✔	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	2	12	16.67	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 - Low Level	EG035F-LL	2	36	5.56	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Dissolved Metals by ICP-MS - Suite A	EG020A-F	1	20	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Organochlorine Pesticides (Ultra-trace)	EP131A	1	4	25.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	8	12.50	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	2	9	22.22	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	4	25.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Semivolatile Compounds by GCMS(SIM - Ultra-trace)	EP132	1	4	25.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	6	16.67	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-MS - Suite A	EG020A-T	1	14	7.14	5.00	✔	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	2	12	16.67	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 - Low Level	EG035F-LL	2	36	5.56	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Dissolved Metals by ICP-MS - Suite A	EG020A-F	1	20	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Organochlorine Pesticides (Ultra-trace)	EP131A	0	4	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	
Matrix Spikes (MS) - Continued							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	0	8	0.00	5.00	✖	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	0	9	0.00	5.00	✖	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	0	4	0.00	5.00	✖	NEPM 2013 B3 & ALS QC Standard
Semivolatile Compounds by GCMS(SIM - Ultra-trace)	EP132	0	4	0.00	5.00	✖	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	6	16.67	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-MS - Suite A	EG020A-T	1	14	7.14	5.00	✔	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	0	12	0.00	5.00	✖	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	20	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard



Brief Method Summaries

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

Analytical Methods	Method	Matrix	Method Descriptions
Chromium Suite for Acid Sulphate Soils	EA033	SOIL	In house: Referenced to Ahern et al 2004. This method covers the determination of Chromium Reducible Sulfur (SCR); pHKCl; titratable actual acidity (TAA); acid neutralising capacity by back titration (ANC); and net acid soluble sulfur (SNAS) which incorporates peroxide sulfur. It applies to soils and sediments (including sands) derived from coastal regions. Liming Rate is based on results for samples as submitted and incorporates a minimum safety factor of 1.5.
ASS Field Screening Analysis	* EA037	SOIL	In house: Referenced to Acid Sulfate Soils Laboratory Methods Guidelines. As received samples are tested for pH field and pH fox and assessed for a reaction rating.
Moisture Content	EA055	SOIL	In house: A gravimetric procedure based on weight loss over a 12 hour drying period at 105-110 degrees C. This method is compliant with NEPM Schedule B(3).
Total Fe and Al in Sediments by ICPAES	EG005-SD	SOIL	In house: Referenced to APHA 3120; USEPA SW 846 - 6010. Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM Schedule B(3). LORs per NODG
Total Metals by ICP-AES	EG005T	SOIL	In house: Referenced to APHA 3120; USEPA SW 846 - 6010. Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM Schedule B(3)
Total Metals in Sediments by ICPMS	EG020-SD	SOIL	In house: Referenced to APHA 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector. Analyte list and LORs per NODG.
Total Mercury by FIMS	EG035T	SOIL	In house: Referenced to AS 3550, APHA 3112 Hg - B (Flow-injection (SnCl ₂) (Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. Mercury in solids are determined following an appropriate acid digestion. Ionic mercury is reduced online to atomic mercury vapour by 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 Schedule B(3)
Total Mercury by FIMS (Low Level)	EG035T-LL	SOIL	In house: Referenced to AS 3550, APHA 3112 Hg - B (Flow-injection (SnCl ₂)(Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. Mercury in solids are determined following an appropriate acid digestion. Ionic mercury is reduced online to atomic mercury vapour by 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 Schedule B(3)
Organic Matter	EP004	SOIL	In house: Referenced to AS1289.4.1.1. Dichromate oxidation method after Walkley and Black. This method is compliant with NEPM Schedule B(3)
Polychlorinated Biphenyls (PCB)	EP066	SOIL	In house: Referenced to USEPA SW 846 - 8270 Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3).



Analytical Methods	Method	Matrix	Method Descriptions
Pesticides by GCMS	EP068	SOIL	In house: Referenced to USEPA SW 846 - 8270 Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This technique is compliant with NEPM Schedule B(3).
TRH - Semivolatile Fraction	EP071	SOIL	In house: Referenced to USEPA SW 846 - 8015 Sample extracts are analysed by Capillary GC/FID and quantified against alkane standards over the range C10 - C40. Compliant with NEPM Schedule B(3).
TPH - Semivolatile Fraction	EP071-SD	SOIL	In house: Referenced to USEPA SW 846 - 8270. Extracts are analysed by Capillary GC/FID and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)
PAH/Phenols (SIM)	EP075(SIM)	SOIL	In house: Referenced to USEPA SW 846 - 8270. Extracts are analysed by Capillary GC/MS in Selective Ion Mode (SIM) and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)
TRH Volatiles/BTEX	EP080	SOIL	In house: Referenced to USEPA SW 846 - 8260. Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve. Compliant with NEPM Schedule B(3) amended.
TRH Volatiles/BTEX in Sediments	EP080-SD	SOIL	In house: Referenced to USEPA SW 846 - 8260 Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve.
Organophosphorus Pesticides (Ultra-trace)	EP130	SOIL	In house: Referenced to USEPA Method 3640 (GPC cleanup), 8141 (GC/FPD - Capillary Column) This technique is compliant with NEPM Schedule B(3)
Organochlorine Pesticides (Ultra-trace)	EP131A	SOIL	In house: Referenced to USEPA Method 3640 (GPC cleanup),3620 (Florisil), 8081/8082 (GC/μECD/μECD) This technique is compliant with NEPM Schedule B(3)
PCB's (Ultra-trace)	EP131B	SOIL	In house: Referenced to USEPA Method 3640 (GPC cleanup),3620 (Florisil), 8081/8082 (GC/μECD/μECD) This technique is compliant with NEPM Schedule B(3)
PAHs in Sediments by GCMS(SIM)	EP132B-SD	SOIL	In house: Referenced to USEPA 8270 GCMS Capillary column, SIM mode using large volume programmed temperature vaporisation injection.
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.
Total Metals by ICP-MS - Suite A	EG020A-T	WATER	In house: Referenced to APHA 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector.
Dissolved Mercury by FIMS - Low Level	EG035F-LL	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 Schedule B(3).



Analytical Methods	Method	Matrix	Method Descriptions
Total Mercury by FIMS	EG035T	WATER	In house: Referenced to AS 3550, APHA 3112 Hg - B (Flow-injection (SnCl ₂)(Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. A bromate/bromide reagent is used to oxidise any organic mercury compounds in the unfiltered sample. The ionic mercury is reduced online to atomic mercury vapour by 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 Schedule B(3).
Polychlorinated Biphenyls (PCB)	EP066	WATER	In house: Referenced to USEPA SW 846 - 8270 Sample extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)
Pesticides by GCMS	EP068	WATER	In house: Referenced to USEPA SW 846 - 8270 Sample extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)
TRH - Semivolatile Fraction	EP071	WATER	In house: Referenced to USEPA SW 846 - 8015 The sample extract is analysed by Capillary GC/FID and quantification is by comparison against an established 5 point calibration curve of n-Alkane standards. This method is compliant with the QC requirements of NEPM Schedule B(3)
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	WATER	In house: Referenced to USEPA SW 846 - 8270 Sample extracts are analysed by Capillary GC/MS in SIM Mode and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)
TRH Volatiles/BTEX	EP080	WATER	In house: Referenced to USEPA SW 846 - 8260 Water samples are directly purged prior to analysis by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. Alternatively, a sample is equilibrated in a headspace vial and a portion of the headspace determined by GCMS analysis. This method is compliant with the QC requirements of NEPM Schedule B(3)
Organochlorine Pesticides (Ultra-trace)	EP131A	WATER	In house: Referenced to USEPA Method 3640 (GPC cleanup), 3620 (Florisil), 8081/8082 (GC/μECD/uECD). This method is compliant with NEPM Schedule B(3)
Semivolatile Compounds by GCMS(SIM - Ultra-trace)	EP132	WATER	In house: Referenced to USEPA 3640 (GPC Cleanup), 8270 GCMS Capillary column, SIM mode. This method is compliant with NEPM Schedule B(3)

Preparation Methods	Method	Matrix	Method Descriptions
Drying only	EN020D	SOIL	In house
Drying at 85 degrees, bagging and labelling (ASS)	EN020PR	SOIL	In house
Hot Block Digest for metals in soils sediments and sludges	EN69	SOIL	In house: Referenced to USEPA 200.2. Hot Block Acid Digestion 1.0g of sample is heated with Nitric and Hydrochloric acids, then cooled. Peroxide is added and samples heated and cooled again before being filtered and bulked to volume for analysis. Digest is appropriate for determination of selected metals in sludge, sediments, and soils. This method is compliant with NEPM Schedule B(3).
Organic Matter	EP004-PR	SOIL	In house: Referenced to AS1289.4.1.1. Dichromate oxidation method after Walkley and Black. This method is compliant with NEPM Schedule B(3).
Methanolic Extraction of Soils for Purge and Trap	ORG16	SOIL	In house: Referenced to USEPA SW 846 - 5030A. 5g of solid is shaken with surrogate and 10mL methanol prior to analysis by Purge and Trap - GC/MS.
Tumbler Extraction of Solids	ORG17	SOIL	In house: Mechanical agitation (tumbler). 10g of sample, Na ₂ SO ₄ and surrogate are extracted with 30mL 1:1 DCM/Acetone by end over end tumble. The solvent is decanted, dehydrated and concentrated (by KD) to the desired volume for analysis.



Preparation Methods	Method	Matrix	Method Descriptions
Tumbler Extraction of Solids/ Sample Cleanup	ORG17A-UTP	SOIL	In house: Mechanical agitation (tumbler). 20g of sample, Na ₂ SO ₄ and surrogate are extracted with 150mL 1:1 DCM/Acetone by end over end tumble. Samples are extracted, concentrated (by KD) and exchanged into an appropriate solvent for GPC and florisil cleanup as required.
Tumbler Extraction of Solids for LVI (Non-concentrating)	ORG17D	SOIL	In house: 10g of sample, Na ₂ SO ₄ and surrogate are extracted with 50mL 1:1 DCM/Acetone by end over end tumbling. An aliquot is concentrated by nitrogen blowdown to a reduced volume for analysis if required.
Digestion for Total Recoverable Metals	EN25	WATER	In house: Referenced to USEPA SW846-3005. Method 3005 is a Nitric/Hydrochloric acid digestion procedure used to prepare surface and ground water samples for analysis by ICPAES or ICPMS. This method is compliant with NEPM Schedule B(3)
Separatory Funnel Extraction of Liquids	ORG14	WATER	In house: Referenced to USEPA SW 846 - 3510 100 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM Schedule B(3) . ALS default excludes sediment which may be resident in the container.
Sep. Funnel Extraction /Acetylation of Phenolic Compounds	ORG14-AC	WATER	In house: Referenced to USEPA 3510 (Extraction) / In-house (Acetylation): A 1L sample is extracted into dichloromethane and concentrated to 1 mL with 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 Schedule B(3) . ALS default excludes sediment which may be resident in the container.
Sep. Funnel Extraction of Liquids (Ultra-trace pesticides.)	ORG14-UTP	WATER	In house: Referenced to USEPA 3510 Samples are extracted into dichloromethane, concentrated and exchanged into an appropriate solvent for GPC and florisil cleanup as required. This method is compliant with NEPM Schedule B(3) . ALS default excludes sediment which may be resident in the container.
Volatiles Water Preparation	ORG16-W	WATER	A 5 mL aliquot or 5 mL of a diluted sample is added to a 40 mL VOC vial for purging.



CHAIN OF CUSTODY

ALS Laboratory, please tick ->
Sydney 277 Westpark Rd, Smithfield NSW 2168
Ph: 02 8784 8865 E: samples@alsenviro.com

Brisbane 30 Strand St, Stafford QLD 4065
Ph: 07 3243 7222 E: samples@alsenviro.com
Townsville 14-16 Deane Ct, Birkba QLD 4816
Ph: 07 4759 0570 E: samples@alsenviro.com

Melbourne 2-4 Vesgali Pl, Springvale VIC 3171
Ph: 03 8590 0900 E: samples@alsenviro.com
Adelaide 2-4 Burns Pl, Port Adelaide SA 5005
Ph: 08 8369 0950 E: samples@alsenviro.com

CLIENT: ER RISK MANAGEMENT PTY LTD
OFFICE: NEWCASTLE
PROJECT: EP1995
ORDER NUMBER: N/A
PROJECT MANAGER: Luke Kerry
CONTRACT PH: 0432 266 617
SAMPLER: Gilles Renda
SAMPLER MOBILE: 0420 234 123
COC emailed to ALS? (YES / NO) EDD FORMAT (or default):
Email Reports to (will default to PM if no other addresses are listed): gilles.renda@eprisk.com.au
Email Invoice to (will default to PM if no other addresses are listed): accounts@eprisk.com.au

TURNAROUND REQUIREMENTS:
Standard TAT may be longer for some tests
Non Standard or urgent TAT (list due date):
COC SEQUENCE NUMBER (Circle)
RECEIVED BY:
DATE/TIME:
RELINQUISHED BY:
DATE/TIME:

FOR LABORATORY USE ONLY (Circle)
Custody Seal intact? Yes/No
Freeze / frozen indicator present upon receipt? Yes/No
Random Sample Temperature on Receipt: C
Other comments:
RECEIVED BY:
DATE/TIME:
RELINQUISHED BY:
DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL: Also email luke.kerry@eprisk.com.au
ANALYSIS REQUIRED INCLUDING SUITES (N/A, Suite Codes must be listed to attract suite price)
Where Metals are required, specify Total (unfiltered) or Dissolved (filtered bottle required).

Table with columns: LAB ID, SAMPLE ID, DATE / TIME, MATRIX, TYPE & PRESERVATIVE, TOTAL BOTTLES, ANALYSIS REQUIRED, and Additional Information. Includes handwritten notes and a barcode.

Water Container Codes: P = Unpreserved Plastic; N = Nitro Preserved Plastic; CRC = Nitro Preserved Plastic; SH = Sodium Hydroxide Preserved Plastic; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airflight Unpreserved Plastic; V = VOA / VIA HCl Preserved; VB = VOA / VIA Sodium Bisulphate Preserved; VS = VOA / VIA Sulphuric Preserved; AV = Airflight Unpreserved / Via SG = Sulfuric Preserved Amber Glass; H = HCl Preserved Plastic; HS = HCl Preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formallydehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottle; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Solids; B = Unpreserved Bag.



CHAIN OF CUSTODY

ALS Laboratory, please tick →

Sydney 277 Macquarie St, North Sydney, NSW 1585
 Ph: 02 9781 5000 E: alslab@als.com.au
 Newcastle 6 Rossington Rd, Waratah, NSW 2204
 Ph: 02 4988 5400 E: alslab@als.com.au
 Brisbane 52 Grand St, Stafford QLD 4053
 Ph: 07 3213 7222 E: alslab@als.com.au
 Townsville 14 IS Drive, QLD 4810
 Ph: 07 4736 0500 E: alslab@als.com.au

Melbourne 2-4 Vasey St, St Albans VIC 3171
 Ph: 03 8519 0500 E: alslab@als.com.au
 Adelaide 2-4 Dunn Rd, Moorook SA 5053
 Ph: 08 8505 0500 E: alslab@als.com.au

Perth 2-4 Vasey St, St Albans VIC 3171
 Ph: 03 8519 0500 E: alslab@als.com.au
 Adelaide 2-4 Dunn Rd, Moorook SA 5053
 Ph: 08 8505 0500 E: alslab@als.com.au

FOR LABORATORY USE ONLY (Circle)

Cased/Seal Intact? Yes No N/A
 Freezer/Freezer Icebricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: C F

CLIENT: EP RISK MANAGEMENT PTY LTD
OFFICE: NEWCASTLE
PROJECT: EP1995
ORDER NUMBER: N/A
PROJECT MANAGER: Luke Kerry
SAMPLER: Gillis Renda
COC emailed to ALS? (YES / NO)
Email Reports to: (will default to PM if no other addresses are listed): gillis.renda@eprisk.com.au
Email Invoice to: (will default to PM if no other addresses are listed): accounts@eprisk.com.au

TURNAROUND REQUIREMENTS:
 Standard TAT may be longer for some tests
 Standard TAT (list due date):
 Non Standard or urgent TAT (list due date):

ALS QUOTE NO.: SY/49920 V2
RELINQUISHED BY:
 DATE/TIME:

RECEIVED BY:
 DATE/TIME:

RELINQUISHED BY:
 DATE/TIME:

RECEIVED BY:
 DATE/TIME:

RELINQUISHED BY:
 DATE/TIME:

RECEIVED BY:
 DATE/TIME:

COMMENT/SPECIAL HANDLING/STORAGE OR DISPOSAL: Also email luke.kerry@eprisk.com.au

LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL BOTTLES	HOLD	ANALYSIS REQUIRED INCLUDING SITES (NB: Suite Codes must be listed to attract suite price) <small>(Where Metals are required, specify Total (unfiltered bottles required) or Dissolved (filtered bottles required).)</small>	Additional Information	
15	TP41_0.1	6/04/2021	S	Glass Jar	1	1	Heavy metals, TRH, BTEXN, PAH, PCBs, OCP, OPP		
16	TP41_0.5	6/04/2021	S	Glass Jar	1	1	Asbestos (AF / FA) (w/w %)		
17	TP42_0.1	6/04/2021	S	Glass Jar	1	1			
18	TP42_0.5	6/04/2021	S	Glass Jar	1	1			
19	TP43_0.1	6/04/2021	S	Glass Jar	1	1			
20	TP43_0.5	6/04/2021	S	Glass Jar	1	1			
21	TP44_0.1	6/04/2021	S	Glass Jar	1	1			
22	TP44_0.5	6/04/2021	S	Glass Jar	1	1			
23	TP45_0.1	6/04/2021	S	Glass Jar	1	1			
24	TP45_0.5	6/04/2021	S	Glass Jar	1	1			
25	TP46_0.1	6/04/2021	S	Glass Jar	1	1			
26	TP46_0.5	6/04/2021	S	Glass Jar	1	1			
27	TP47_0.1	6/04/2021	S	Glass Jar	1	1			
28	TP47_0.5	6/04/2021	S	Glass Jar	1	1			
TOTAL					14	11	3	3	

Water Container Codes: P = Unpreserved Plastic, N = Nitric Preserved Plastic, ORC = Nitric Preserved ORC, SI = Sodium Hydroxide Preserved, S = Sodium Hydroxide Preserved Plastic, AG = Amber Glass Unpreserved, AP = Air-tight Unpreserved Plastic
V = VOA Via HCl Preserved, VB = VOA Via Sodium Bisulfate Preserved, VS = VOA Via Sulfuric Preserved, AV = Air-tight Unpreserved Via, SG = Sulfuric Preserved Amber Glass, H = HCl Preserved Plastic, HS = HCl Preserved Speciation bottle, SP = Sulfuric Preserved Plastic, F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle, E = EDTA Preserved Bottles, ST = Sterile Bottle, ASS = Plastic Bag for Acid Soluble Solids, B = Unpreserved Bag.

RECEIVED BY: Helen
 DATE/TIME: 14-4-21 9am



CHAIN OF CUSTODY

ALS Laboratory, please tick ->

Sydney 277 Woodford Rd, Northfield NSW 2164
Ph: 02 8744 5555 E: admin@als.com.au
Newcastle 3 Rosequinn Rd, Warrock NSW 2301
Ph: 02 5558 5435 E: samples.newcastle@als.com.au

Brisbane 22 Sand St, Stafford QLD 4055
Ph: 07 3243 7222 E: samples.brisbane@als.com.au
Townsville 14 15 Deanna Ct, Bchng QLD 4818
Ph: 07 4799 0500 E: townsville@als.com.au

Melbourne 3 4 Vesta Rd, Somerville VIC 3121
Ph: 03 9345 5900 E: samples.melbourne@als.com.au
Adelaide 2 1 Burns Rd, Prospect SA 5095
Ph: 08 8359 0800 E: adelaide@als.com.au

CLIENT: EP RISK MANAGEMENT PTY LTD

OFFICE: NEWCASTLE

PROJECT: EP1995

ORDER NUMBER: N/A

PROJECT MANAGER: Luke Kerry

SAMPLER: Giles Renda

COC emailed to ALS? (YES / NO)

Email Reports to (will default to PM if no other addresses are listed): giles.renda@eprisk.com.au

Email Invoice to (will default to PM if no other addresses are listed): accounts@eprisk.com.au

COMMENT/SPECIAL HANDLING/STORAGE OR DISPOSAL: Also email luke.kerry@eprisk.com.au

TURNOVER REQUIREMENTS: Standard TAT (List due date):
Standard TAT may be longer for some tests (e.g. Ultra Trace Organics)

ALS QUOTE NO.: SY/49920 V2

CONTACT PH: 0432 266 617

SAMPLER MOBILE: 0420 234 123

EDD FORMAT (or default):

RELINQUISHED BY: DATE/TIME:

RECEIVED BY: DATE/TIME:

RECEIVED BY: DATE/TIME:

RECEIVED BY: DATE/TIME:

FOR LABORATORY USE ONLY (Circle)
Cocok / Seal Intact? Yes/No
Freeze / frozen ice / Inds present upon receipt? Yes/No
Refrigeration Sample Temperature on Receipt: C
Other comment:

COC SEQUENCE NUMBER (Circle)

RECEIVED BY: DATE/TIME:

RECEIVED BY: DATE/TIME:

RECEIVED BY: DATE/TIME:

RECEIVED BY: DATE/TIME:

RECEIVED BY: DATE/TIME:

RECEIVED BY: DATE/TIME:

RECEIVED BY: DATE/TIME:

ALS USE ONLY	SAMPLE DETAILS MATRIX: Solid(S) Water(W)	CONTAINER INFORMATION	ANALYSIS REQUIRED INCLUDING SUITES (NB: Suite Codes must be listed to attract suite price) When Metals are required, specify Total (unfiltered bottle required) or Dissolved (filtered bottle required).	Additional Information
				Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.

LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL BOTTLES	HOLD	Heavy metals, TRH, BTEXN, PAH, PCBs, OCP, OPP	Asbestos (AF / FA) (w/w %)
29	TP48_0.1	6/04/2021	S	Glass Jar	1	1		
30	TP48_0.5	6/04/2021	S	Glass Jar	1	1		
31	BH59_0.1	8/04/2021	S	Glass Jar	1	1	1	1
32	BH59_0.5	8/04/2021	S	Glass Jar	1	1		
33	BH60_0.1	8/04/2021	S	Glass Jar	1	1		
34	BH60_0.5	8/04/2021	S	Glass Jar	1	1		
35	BH61_0.1	8/04/2021	S	Glass Jar	1	1	1	1
36	BH61_0.5	8/04/2021	S	Glass Jar	1	1		
37	BH62_0.1	8/04/2021	S	Glass Jar	1	1		
38	BH62_0.5	8/04/2021	S	Glass Jar	1	1		
39	BH63_0.1	8/04/2021	S	Glass Jar	1	1	1	1
40	BH63_0.5	8/04/2021	S	Glass Jar	1	1		
41	BH64_0.1	8/04/2021	S	Glass Jar	1	1	1	1
42	BH64_0.5	8/04/2021	S	Glass Jar	1	1		
TOTAL					14	10	4	4

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORG = Nitric Preserved ORG; SH = Sodium Hydroxide Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AF = Airtight Unpreserved Plastic
V = NOA Vial ICH Preserved; VB = NOA Vial Sodium Bisulfate Preserved; VS = NOA Vial Sulfuric Preserved; AV = Airtight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speedikon bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass.
Z = Zinc Acidide Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Solids; B = Unpreserved Bag.

RECEIVED BY: Helen
DATE/TIME: 14.4.21 9am



CHAIN OF CUSTODY

ALS Laboratory, please tick →

Sydney, 277 Woodpark Rd, Smithfield, NSW 2158
 Ph: 02 9786 8800, Site: 61, Email: als@als.com.au
 Newcastle, 5 Parkington Rd, Waratah, NSW 2294
 Ph: 02 4968 3435, E: samples.newcastle@als.com.au

Brisbane, 32 Sharn, St. Sturford, QLD 4033
 Ph: 07 3343 7200, E: samples.brisbane@als.com.au
 Townsville, 14-15 Deering Ct, Borne, QLD 4815
 Ph: 07 4788 0500, E: townsville@als.com.au

Melbourne, 5-4 Vasey Rd, Springvale, VIC 3171
 Ph: 03 8546 9000, E: samples.melbourne@als.com.au
 Adelaide, 2-1 Bulmer Rd, Fowler's SA 5053
 Ph: 08 8359 0850, E: adelaide@als.com.au

CLIENT: EP RISK MANAGEMENT PTY LTD

OFFICE: NEWCASTLE

PROJECT: EP1995

ORDER NUMBER: N/A

PROJECT MANAGER: Luke Kerry

SAMPLER: Gillis Renaud

COC emailed to ALS? (YES / NO)

Email Reports to (will default to PM if no other addresses are listed): gillis.renaud@eprisk.com.au

Email Invoice to (will default to PM if no other addresses are listed): accounts@eprisk.com.au

COMMENT/SPECIAL HANDLING/STORAGE OR DISPOSAL: Also email luke.kerry@eprisk.com.au

TURNOVER REQUIREMENTS :
 Standard TAT (list due date):
 Non Standard or urgent TAT (list due date):
 (Standard TAT may be longer for some tests e.g. Ultra Trace Organics)

ALS QUOTE NO.: SY/49820 V2
 CONTACT PH: 0432 266 617
 SAMP LER MOBILE: 0420 234 123
 EDD FORMAT (or default):

RELINQUISHED BY: _____ DATE/TIME: _____
 RECEIVED BY: _____ DATE/TIME: _____

FOR LABORATORY USE ONLY (Circle)
 Cockey Steel Ingot? Yes No N/A
 Free Ice / frozen Ice Inlets present upon receipt? Yes No N/A
 Random Sample? (required only on Receipt) Yes No N/A
 Other container? Yes No N/A

LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL BOTTLES	HOLD	ANALYSIS REQUIRED including SUITES (NB: Suite Codes must be listed to attract suite price) <small>Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (acid filtered bottle required).</small>		Additional Information <small>Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.</small>	
							Heavy metals, TRH, BTEXN, PAH, PCBs, OCP, OPP	Asbestos (AF / FA) (w/w %)		
43	BH65_0.1	8/04/2021	S	Glass Jar	1	1				
44	BH65_0.5	8/04/2021	S	Glass Jar	1	1				
45	BH66_0.1	8/04/2021	S	Glass Jar	1	1				
46	BH66_0.5	8/04/2021	S	Glass Jar	1	1				
47	BH67_0.1	8/04/2021	S	Glass Jar	1	1				
48	BH67_0.5	8/04/2021	S	Glass Jar	1	1				
49	BH68_0.1	8/04/2021	S	Glass Jar	1	1				
50	BH68_0.5	8/04/2021	S	Glass Jar	1	1				
51	BH69_0.1	8/04/2021	S	Glass Jar	1	1				
52	BH69_0.5	8/04/2021	S	Glass Jar	1	1				
53	BH70_0.1	8/04/2021	S	Glass Jar	1	1				
54	BH70_0.5	8/04/2021	S	Glass Jar	1	1				
55	BH71_0.1	8/04/2021	S	Glass Jar	1	1				
56	BH71_0.5	8/04/2021	S	Glass Jar	1	1				
TOTAL					14	13	1	1		

RECEIVED BY: Helen
 DATE/TIME: 19.4.21 9am

Water Container Codes: P = Unpreserved Plastic, N = Nitric Preserved Plastic, ORC = Nitric Preserved ORC, SH = Sodium Hydroxide Preserved, S = Sodium Hydroxide Preserved Plastic, AG = Amber Glass Unpreserved, AF = Airtight Unpreserved Plastic
 V = VOA Via HCl Preserved, VB = VOA Via Sodium Bisulfate Preserved, AV = Airtight Unpreserved Via, SG = Sulfuric Preserved Amber Glass, H = HCl Preserved Plastic, HS = HCl Preserved Speciation bottle, SP = Sulfuric Preserved Plastic, F = Formaldhyde's Preserved Glass,
 Z = Zinc Acetate Preserved Bottle, E = EDTA Preserved Bottle, ST = Sterile Bottle, ASS = Plastic Bag for Acid Sulphate Soils, B = Unpreserved Bag



CHAIN OF CUSTODY

ALS Laboratory, please tick →

Sydney, 227 Woodpark Rd, Smithfield NSW 2154
 Ph: 02 8784 8555 E: samples.sydney@alsenviro.com
 Newcastle, 5 Pritchard Rd, Warabook NSW 2204
 Ph: 02 4966 5435 E: samples.newcastle@alsenviro.com

Brisbane, 32 Strand St, Stafford QLD 4003
 Ph: 07 3043 7200 E: samples.brisbane@alsenviro.com
 Townsville, 14-15 Darwin Ct, Epping QLD 4518
 Ph: 07 4756 0500 E: townsville@alsenviro.com

Melbourne, 241 Warrall Rd, Springvale VIC 3171
 Ph: 03 8549 5000 E: samples.melbourne@alsenviro.com
 Adelaide, 2-11 Murray Rd, Port Adelaide SA 5005
 Ph: 08 8559 0500 E: adelaide@alsenviro.com

CLIENT: EP RISK MANAGEMENT PTY LTD

OFFICE: NEWCASTLE

PROJECT: EP1995

ORDER NUMBER: N/A

PROJECT MANAGER: Luke Kerry

SAMPLER: Giles Renda

COC emailed to ALS? (YES / NO)

Email Reports to (will default to PM if no other addresses are listed): giles.renda@eprisk.com.au

Email Invoice to (will default to PM if no other addresses are listed): accounts@eprisk.com.au

COMMENT/SPECIAL HANDLING/STORAGE OR DISPOSAL: Also email luke.kerry@eprisk.com.au

TURNAROUND REQUIREMENTS: Standard TAT may be longer for some tests (e.g. Ultra Trace Organics)

ALS QUOTE NO.: SY/498/20 V2

CONTACT PH: 0432 266 817

SAMPLER MOBILE: 0420 234 123

EDD FORMAT (or default):

REINQUISHED BY: DATE/TIME:

RECEIVED BY: DATE/TIME:

REINQUISHED BY: DATE/TIME:

RECEIVED BY: DATE/TIME:

ALS USE ONLY

SAMPLE DETAILS

MATRIX: Solid(S) Water(W)

CONTAINER INFORMATION

ANALYSIS REQUIRED INCLUDING SUITES (NB: Suite Codes must be listed to attract suite price)

Where Media are required, specify Total (unfilled bottle required) or Disinfect (field filled bottle required).

Additional Information

Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.

FOR LABORATORY USE ONLY (Circle)

Customer Seal intact? Yes No N/A

Freezer/Refrigerator checked present upon receipt? Yes No N/A

Random Sample Temperature on Receipt? Other comment: C

RECEIVED BY: HELLEN

DATE/TIME: 14/4/21 9am

LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL BOTTLES	HOLD	Heavy metals, TRH, BTEXN, PAH, PCBs, OCP, OPP	Asbestos (AF / FA) (w/w %)	RECEIVED BY:	DATE/TIME:
57	BH72_0.1	8/04/2021	S	Glass Jar	1	1				
58	BH72_0.5	8/04/2021	S	Glass Jar	1	1				
59	BH73_0.1	8/04/2021	S	Glass Jar	1	1				
60	BH73_0.5	8/04/2021	S	Glass Jar	1	1				
61	BH74_0.1	8/04/2021	S	Glass Jar	1	1				
62	BH74_0.5	8/04/2021	S	Glass Jar	1	1				
63	BH75_0.1	8/04/2021	S	Glass Jar	1	1				
64	BH75_0.5	8/04/2021	S	Glass Jar	1	1				
65	BH76_0.1	8/04/2021	S	Glass Jar	1	1				
66	BH76_0.5	8/04/2021	S	Glass Jar	1	1				
67	BH77_0.1	8/04/2021	S	Glass Jar	1	1				
68	BH77_0.5	8/04/2021	S	Glass Jar	1	1				
69	BH78_0.1	8/04/2021	S	Glass Jar	1	1				
70	BH78_0.5	8/04/2021	S	Glass Jar	1	1				
TOTAL					14	13	1	1		

Water Container Codes: P = Unpreserved Plastic, N = Nitric Preserved Plastic, ORG = Nitric Preserved ORG, SH = Sodium Hydroxide Preserved, S = Sodium Hydroxide Preserved Plastic, AG = Amber Glass Unpreserved, AP = Airtight Unpreserved Plastic
 V = VOA, Vial HCl Preserved, VB = VOA, Vial Sediment, Benthic Preserved, VS = VOA, Vial Sulfide Preserved, AV = Air-tight HCl Preserved, Vial SC = Sulfide Preserved Amber Glass, H = HCl Preserved Plastic, HS = HCl Preserved Specimen bottles, SP = Sulfide Preserved Plastic, F = Formaldehyde Preserved Glass,
 Z = Zinc Acetate Preserved Bottle, E = EDTA Preserved Bottles, ST = Sterile Bottle, ASS = Plastic Bag for Acid Sulphate Salts, B = Unpreserved Bag

CERTIFICATE OF ANALYSIS

Work Order : ES2113385 Client : EP Risk Management Contact : LUKE Kerry Address : 3/19 BOLTON STREET NEWCASTLE NSW 2300 Telephone : ---- Project : EP1995 Order number : ---- C-O-C number : ---- Sampler : Gilles Renda Site : ---- Quote number : SY/497/20 Primary analysis only No. of samples received : 70 No. of samples analysed : 11	Page : 1 of 15 Laboratory : Environmental Division Sydney Contact : Hannah White Address : 277-289 Woodpark Road Smithfield NSW Australia 2164 Telephone : +61-2-8784 8555 Date Samples Received : 09-Apr-2021 15:30 Date Analysis Commenced : 15-Apr-2021 Issue Date : 21-Apr-2021 17:37
---	--



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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

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

Signatories

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

<i>Signatories</i>	<i>Position</i>	<i>Accreditation Category</i>
Edwandy Fadjjar	Organic Coordinator	Sydney Inorganics, Smithfield, NSW
Edwandy Fadjjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Ivan Taylor	Analyst	Sydney Inorganics, Smithfield, NSW
Sanjeshni Jyoti	Senior Chemist Volatiles	Sydney Organics, 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.

- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a,h)anthracene (1.0), Benzo(g,h,i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero, for 'TEQ 1/2LOR' are treated as half the reported LOR, and for 'TEQ LOR' are treated as being equal to the reported LOR. Note: TEQ 1/2LOR and TEQ LOR will calculate as 0.6mg/Kg and 1.2mg/Kg respectively for samples with non-detects for all of the eight TEQ PAHs.
- EP080: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EP068: Where reported, Total Chlordane (sum) is the sum of the reported concentrations of cis-Chlordane and trans-Chlordane at or above the LOR.
- EP068: Where reported, Total OCP is the sum of the reported concentrations of all Organochlorine Pesticides at or above LOR.
- EP075(SIM): Where reported, Total Cresol is the sum of the reported concentrations of 2-Methylphenol and 3- & 4-Methylphenol at or above the LOR.



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TP36_0.1	TP37_0.1	TP42_0.1	TP43_0.1	TP46_0.1
Sampling date / time				06-Apr-2021 00:00	06-Apr-2021 00:00	06-Apr-2021 00:00	06-Apr-2021 00:00	06-Apr-2021 00:00	
Compound	CAS Number	LOR	Unit	ES2113385-005	ES2113385-007	ES2113385-017	ES2113385-019	ES2113385-025	
				Result	Result	Result	Result	Result	
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%	12.7	23.2	22.5	26.1	19.6	
EG005(ED093)T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg	<5	7	6	7	<5	
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1	
Chromium	7440-47-3	2	mg/kg	6	7	9	7	5	
Copper	7440-50-8	5	mg/kg	<5	6	<5	6	<5	
Lead	7439-92-1	5	mg/kg	7	20	10	28	10	
Nickel	7440-02-0	2	mg/kg	<2	4	<2	5	<2	
Zinc	7440-66-6	5	mg/kg	8	28	14	30	9	
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	
EP066: Polychlorinated Biphenyls (PCB)									
Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	
EP068A: Organochlorine Pesticides (OC)									
alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
^ Total Chlordane (sum)	----	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
4,4'-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
^ Endosulfan (sum)	115-29-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
4,4'-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TP36_0.1	TP37_0.1	TP42_0.1	TP43_0.1	TP46_0.1
Sampling date / time				06-Apr-2021 00:00	06-Apr-2021 00:00	06-Apr-2021 00:00	06-Apr-2021 00:00	06-Apr-2021 00:00	
Compound	CAS Number	LOR	Unit	ES2113385-005	ES2113385-007	ES2113385-017	ES2113385-019	ES2113385-025	
				Result	Result	Result	Result	Result	
EP068A: Organochlorine Pesticides (OC) - Continued									
4,4'-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2	
Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2	
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/5 0-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
EP068B: Organophosphorus Pesticides (OP)									
Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2	
Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2	
Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2	
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TP36_0.1	TP37_0.1	TP42_0.1	TP43_0.1	TP46_0.1
Sampling date / time				06-Apr-2021 00:00	06-Apr-2021 00:00	06-Apr-2021 00:00	06-Apr-2021 00:00	06-Apr-2021 00:00	
Compound	CAS Number	LOR	Unit	ES2113385-005	ES2113385-007	ES2113385-017	ES2113385-019	ES2113385-025	
				Result	Result	Result	Result	Result	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	0.6	0.6	0.6	0.6	0.6	
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	1.2	1.2	1.2	1.2	1.2	
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10	
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50	
C15 - C28 Fraction	----	100	mg/kg	<100	<100	<100	220	<100	
C29 - C36 Fraction	----	100	mg/kg	<100	<100	<100	350	<100	
^ C10 - C36 Fraction (sum)	----	50	mg/kg	<50	<50	<50	570	<50	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	<10	<10	<10	
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	<10	<10	<10	<10	<10	
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	<50	60	<50	
>C16 - C34 Fraction	----	100	mg/kg	<100	<100	<100	420	<100	
>C34 - C40 Fraction	----	100	mg/kg	<100	<100	<100	230	<100	
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	<50	<50	710	<50	
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	<50	<50	<50	60	<50	
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2	
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TP36_0.1	TP37_0.1	TP42_0.1	TP43_0.1	TP46_0.1
Sampling date / time				06-Apr-2021 00:00	06-Apr-2021 00:00	06-Apr-2021 00:00	06-Apr-2021 00:00	06-Apr-2021 00:00	
Compound	CAS Number	LOR	Unit	ES2113385-005	ES2113385-007	ES2113385-017	ES2113385-019	ES2113385-025	
				Result	Result	Result	Result	Result	
EP080: BTEXN - Continued									
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2	
^ Total Xylenes	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1	
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%	76.6	113	108	91.4	90.2	
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%	89.9	93.4	104	84.0	80.8	
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%	93.2	99.1	110	86.6	85.5	
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%	102	106	105	100	105	
2-Chlorophenol-D4	93951-73-6	0.5	%	90.2	93.7	93.6	88.6	92.7	
2,4,6-Tribromophenol	118-79-6	0.5	%	62.4	66.1	67.6	75.4	74.0	
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%	95.8	100.0	98.2	93.9	97.2	
Anthracene-d10	1719-06-8	0.5	%	105	108	107	104	108	
4-Terphenyl-d14	1718-51-0	0.5	%	93.2	97.1	96.6	93.4	95.4	
EP080S: TPH(V)/BTEX Surrogates									
1,2-Dichloroethane-D4	17060-07-0	0.2	%	79.8	81.6	103	86.2	87.0	
Toluene-D8	2037-26-5	0.2	%	78.2	82.6	106	87.2	86.4	
4-Bromofluorobenzene	460-00-4	0.2	%	84.8	82.3	111	88.5	90.4	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	BH59_0.1	BH61_0.1	BH63_0.1	BH64_0.1	BH67_0.1
Sampling date / time				08-Apr-2021 00:00	08-Apr-2021 00:00	08-Apr-2021 00:00	08-Apr-2021 00:00	08-Apr-2021 00:00	
Compound	CAS Number	LOR	Unit	ES2113385-031	ES2113385-035	ES2113385-039	ES2113385-041	ES2113385-047	
				Result	Result	Result	Result	Result	
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%	28.9	17.7	21.2	42.6	25.1	
EG005(ED093)T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg	<5	<5	<5	<5	5	
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1	
Chromium	7440-47-3	2	mg/kg	4	3	8	13	7	
Copper	7440-50-8	5	mg/kg	<5	<5	7	6	<5	
Lead	7439-92-1	5	mg/kg	13	15	20	19	27	
Nickel	7440-02-0	2	mg/kg	<2	<2	4	7	4	
Zinc	7440-66-6	5	mg/kg	11	10	25	31	27	
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	
EP066: Polychlorinated Biphenyls (PCB)									
Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	
EP068A: Organochlorine Pesticides (OC)									
alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
^ Total Chlordane (sum)	----	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
4,4'-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
^ Endosulfan (sum)	115-29-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
4,4'-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	BH59_0.1	BH61_0.1	BH63_0.1	BH64_0.1	BH67_0.1
Sampling date / time				08-Apr-2021 00:00	08-Apr-2021 00:00	08-Apr-2021 00:00	08-Apr-2021 00:00	08-Apr-2021 00:00	
Compound	CAS Number	LOR	Unit	ES2113385-031	ES2113385-035	ES2113385-039	ES2113385-041	ES2113385-047	
				Result	Result	Result	Result	Result	
EP068A: Organochlorine Pesticides (OC) - Continued									
4,4'-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2	
Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2	
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/5 0-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
EP068B: Organophosphorus Pesticides (OP)									
Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2	
Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2	
Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2	
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	BH59_0.1	BH61_0.1	BH63_0.1	BH64_0.1	BH67_0.1
Sampling date / time				08-Apr-2021 00:00	08-Apr-2021 00:00	08-Apr-2021 00:00	08-Apr-2021 00:00	08-Apr-2021 00:00	
Compound	CAS Number	LOR	Unit	ES2113385-031	ES2113385-035	ES2113385-039	ES2113385-041	ES2113385-047	
				Result	Result	Result	Result	Result	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	0.6	0.6	0.6	0.6	0.6	
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	1.2	1.2	1.2	1.2	1.2	
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10	
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50	
C15 - C28 Fraction	----	100	mg/kg	<100	<100	<100	290	110	
C29 - C36 Fraction	----	100	mg/kg	<100	120	130	310	160	
^ C10 - C36 Fraction (sum)	----	50	mg/kg	<50	120	130	600	270	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	<10	<10	<10	
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	<10	<10	<10	<10	<10	
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	<50	50	<50	
>C16 - C34 Fraction	----	100	mg/kg	100	130	140	430	190	
>C34 - C40 Fraction	----	100	mg/kg	<100	<100	100	250	130	
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	100	130	240	730	320	
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	<50	<50	<50	50	<50	
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2	
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	BH59_0.1	BH61_0.1	BH63_0.1	BH64_0.1	BH67_0.1
Sampling date / time				08-Apr-2021 00:00	08-Apr-2021 00:00	08-Apr-2021 00:00	08-Apr-2021 00:00	08-Apr-2021 00:00	
Compound	CAS Number	LOR	Unit	ES2113385-031	ES2113385-035	ES2113385-039	ES2113385-041	ES2113385-047	
				Result	Result	Result	Result	Result	
EP080: BTEXN - Continued									
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2	
^ Total Xylenes	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1	
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%	85.8	84.3	82.0	72.4	79.6	
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%	74.4	73.3	71.3	68.2	74.1	
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%	79.8	79.6	76.9	69.0	74.0	
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%	103	100	99.2	102	98.8	
2-Chlorophenol-D4	93951-73-6	0.5	%	91.2	89.8	87.7	90.2	88.4	
2,4,6-Tribromophenol	118-79-6	0.5	%	73.9	74.0	76.7	78.8	74.4	
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%	98.4	94.5	94.0	94.3	93.5	
Anthracene-d10	1719-06-8	0.5	%	108	102	105	104	104	
4-Terphenyl-d14	1718-51-0	0.5	%	97.3	93.2	94.2	94.6	93.2	
EP080S: TPH(V)/BTEX Surrogates									
1,2-Dichloroethane-D4	17060-07-0	0.2	%	86.8	92.6	97.6	85.2	86.1	
Toluene-D8	2037-26-5	0.2	%	81.5	92.9	97.1	82.1	83.2	
4-Bromofluorobenzene	460-00-4	0.2	%	81.6	90.3	92.2	79.5	83.1	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)		Sample ID		BH78_0.1	----	----	----	----
		Sampling date / time		08-Apr-2021 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit	ES2113385-069	-----	-----	-----	-----
				Result	----	----	----	----
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	19.7	----	----	----	----
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	10	----	----	----	----
Cadmium	7440-43-9	1	mg/kg	<1	----	----	----	----
Chromium	7440-47-3	2	mg/kg	17	----	----	----	----
Copper	7440-50-8	5	mg/kg	17	----	----	----	----
Lead	7439-92-1	5	mg/kg	17	----	----	----	----
Nickel	7440-02-0	2	mg/kg	9	----	----	----	----
Zinc	7440-66-6	5	mg/kg	45	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	----	----	----	----
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	----	----	----	----
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	<0.05	----	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	----	----	----	----
beta-BHC	319-85-7	0.05	mg/kg	<0.05	----	----	----	----
gamma-BHC	58-89-9	0.05	mg/kg	<0.05	----	----	----	----
delta-BHC	319-86-8	0.05	mg/kg	<0.05	----	----	----	----
Heptachlor	76-44-8	0.05	mg/kg	<0.05	----	----	----	----
Aldrin	309-00-2	0.05	mg/kg	<0.05	----	----	----	----
Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	----	----	----	----
^ Total Chlordane (sum)	----	0.05	mg/kg	<0.05	----	----	----	----
trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	----	----	----	----
alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	----	----	----	----
cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	----	----	----	----
Dieldrin	60-57-1	0.05	mg/kg	<0.05	----	----	----	----
4,4'-DDE	72-55-9	0.05	mg/kg	<0.05	----	----	----	----
Endrin	72-20-8	0.05	mg/kg	<0.05	----	----	----	----
beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	----	----	----	----
^ Endosulfan (sum)	115-29-7	0.05	mg/kg	<0.05	----	----	----	----
4,4'-DDD	72-54-8	0.05	mg/kg	<0.05	----	----	----	----
Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	----	----	----	----
Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	----	----	----	----



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	BH78_0.1	----	----	----	----
Sampling date / time				08-Apr-2021 00:00	----	----	----	----	----
Compound	CAS Number	LOR	Unit	ES2113385-069	-----	-----	-----	-----	-----
				Result	----	----	----	----	----
EP068A: Organochlorine Pesticides (OC) - Continued									
4,4'-DDT	50-29-3	0.2	mg/kg	<0.2	----	----	----	----	----
Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	----	----	----	----	----
Methoxychlor	72-43-5	0.2	mg/kg	<0.2	----	----	----	----	----
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	<0.05	----	----	----	----	----
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/5 0-2	0.05	mg/kg	<0.05	----	----	----	----	----
EP068B: Organophosphorus Pesticides (OP)									
Dichlorvos	62-73-7	0.05	mg/kg	<0.05	----	----	----	----	----
Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	----	----	----	----	----
Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	----	----	----	----	----
Dimethoate	60-51-5	0.05	mg/kg	<0.05	----	----	----	----	----
Diazinon	333-41-5	0.05	mg/kg	<0.05	----	----	----	----	----
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	----	----	----	----	----
Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	----	----	----	----	----
Malathion	121-75-5	0.05	mg/kg	<0.05	----	----	----	----	----
Fenthion	55-38-9	0.05	mg/kg	<0.05	----	----	----	----	----
Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	----	----	----	----	----
Parathion	56-38-2	0.2	mg/kg	<0.2	----	----	----	----	----
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	----	----	----	----	----
Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	----	----	----	----	----
Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	----	----	----	----	----
Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	----	----	----	----	----
Prothiofos	34643-46-4	0.05	mg/kg	<0.05	----	----	----	----	----
Ethion	563-12-2	0.05	mg/kg	<0.05	----	----	----	----	----
Carbophenothion	786-19-6	0.05	mg/kg	<0.05	----	----	----	----	----
Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	----	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg	<0.5	----	----	----	----	----
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	----	----	----	----	----
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	----	----	----	----	----
Fluorene	86-73-7	0.5	mg/kg	<0.5	----	----	----	----	----
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	----	----	----	----	----
Anthracene	120-12-7	0.5	mg/kg	<0.5	----	----	----	----	----
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	----	----	----	----	----
Pyrene	129-00-0	0.5	mg/kg	<0.5	----	----	----	----	----



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH78_0.1	----	----	----	----
Sampling date / time			08-Apr-2021 00:00	----	----	----	----	
Compound	CAS Number	LOR	Unit	ES2113385-069	-----	-----	-----	-----
				Result	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
Benzo(a)anthracene	56-55-3	0.5	mg/kg	<0.5	----	----	----	----
Chrysene	218-01-9	0.5	mg/kg	<0.5	----	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	----	----	----	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	----	----	----	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	----	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	----	----	----	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	----	----	----	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	----	----	----	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	----	----	----	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	----	----	----	----
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	0.6	----	----	----	----
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	1.2	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	----	----	----	----
C10 - C14 Fraction	----	50	mg/kg	100	----	----	----	----
C15 - C28 Fraction	----	100	mg/kg	290	----	----	----	----
C29 - C36 Fraction	----	100	mg/kg	360	----	----	----	----
^ C10 - C36 Fraction (sum)	----	50	mg/kg	750	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	10	mg/kg	<10	----	----	----	----
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	<10	----	----	----	----
>C10 - C16 Fraction	----	50	mg/kg	90	----	----	----	----
>C16 - C34 Fraction	----	100	mg/kg	490	----	----	----	----
>C34 - C40 Fraction	----	100	mg/kg	250	----	----	----	----
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	830	----	----	----	----
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	90	----	----	----	----
EP080: BTEXN								
Benzene	71-43-2	0.2	mg/kg	<0.2	----	----	----	----
Toluene	108-88-3	0.5	mg/kg	<0.5	----	----	----	----
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	----	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	----	----	----	----
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	----	----	----	----



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH78_0.1	----	----	----	----
Sampling date / time			08-Apr-2021 00:00	----	----	----	----	
Compound	CAS Number	LOR	Unit	ES2113385-069	-----	-----	-----	-----
				Result	----	----	----	----
EP080: BTEXN - Continued								
^ Sum of BTEX	----	0.2	mg/kg	<0.2	----	----	----	----
^ Total Xylenes	----	0.5	mg/kg	<0.5	----	----	----	----
Naphthalene	91-20-3	1	mg/kg	<1	----	----	----	----
EP066S: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	78.9	----	----	----	----
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.05	%	78.2	----	----	----	----
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.05	%	77.3	----	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	105	----	----	----	----
2-Chlorophenol-D4	93951-73-6	0.5	%	93.2	----	----	----	----
2,4,6-Tribromophenol	118-79-6	0.5	%	80.8	----	----	----	----
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.5	%	96.6	----	----	----	----
Anthracene-d10	1719-06-8	0.5	%	107	----	----	----	----
4-Terphenyl-d14	1718-51-0	0.5	%	96.1	----	----	----	----
EP080S: TPH(V)/BTEX Surrogates								
1,2-Dichloroethane-D4	17060-07-0	0.2	%	91.4	----	----	----	----
Toluene-D8	2037-26-5	0.2	%	89.0	----	----	----	----
4-Bromofluorobenzene	460-00-4	0.2	%	88.3	----	----	----	----



Surrogate Control Limits

Sub-Matrix: SOIL		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP066S: PCB Surrogate			
Decachlorobiphenyl	2051-24-3	39	149
EP068S: Organochlorine Pesticide Surrogate			
Dibromo-DDE	21655-73-2	49	147
EP068T: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	35	143
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	63	123
2-Chlorophenol-D4	93951-73-6	66	122
2,4,6-Tribromophenol	118-79-6	40	138
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	70	122
Anthracene-d10	1719-06-8	66	128
4-Terphenyl-d14	1718-51-0	65	129
EP080S: TPH(V)/BTEX Surrogates			
1,2-Dichloroethane-D4	17060-07-0	73	133
Toluene-D8	2037-26-5	74	132
4-Bromofluorobenzene	460-00-4	72	130

QUALITY CONTROL REPORT

Work Order	: ES2113385	Page	: 1 of 10
Client	: EP Risk Management	Laboratory	: Environmental Division Sydney
Contact	: LUKE Kerry	Contact	: Hannah White
Address	: 3/19 BOLTON STREET NEWCASTLE NSW 2300	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: +61-2-8784 8555
Project	: EP1995	Date Samples Received	: 09-Apr-2021
Order number	: ----	Date Analysis Commenced	: 15-Apr-2021
C-O-C number	: ----	Issue Date	: 21-Apr-2021
Sampler	: Gilles Renda		
Site	: ----		
Quote number	: SY/497/20 Primary analysis only		
No. of samples received	: 70		
No. of samples analysed	: 11		



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

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

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

<i>Signatories</i>	<i>Position</i>	<i>Accreditation Category</i>
Edwandy Fadjar	Organic Coordinator	Sydney Inorganics, Smithfield, NSW
Edwandy Fadjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Ivan Taylor	Analyst	Sydney Inorganics, Smithfield, NSW
Sanjeshni Jyoti	Senior Chemist Volatiles	Sydney Organics, Smithfield, NSW



General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
 CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
 LOR = Limit of reporting
 RPD = Relative Percentage Difference
 # = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: SOIL

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EG005(ED093): Total Metals by ICP-AES (QC Lot: 3630768)									
ES2113385-005	TP36_0.1	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.00	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	6	7	0.00	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	<2	<2	0.00	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.00	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	<5	<5	0.00	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	7	6	15.0	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	8	6	42.2	No Limit
ES2113385-069	BH78_0.1	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.00	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	17	16	6.44	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	9	9	0.00	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	10	9	0.00	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	17	16	8.58	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	17	16	9.96	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	45	44	3.08	No Limit
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 3630071)									
ES2113385-017	TP42_0.1	EA055: Moisture Content	----	0.1	%	22.5	21.1	6.36	0% - 20%
ES2113386-010	Anonymous	EA055: Moisture Content	----	0.1	%	22.2	22.9	3.07	0% - 20%
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 3630769)									
ES2113385-005	TP36_0.1	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
ES2113385-069	BH78_0.1	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
EP066: Polychlorinated Biphenyls (PCB) (QC Lot: 3622000)									
ES2113385-041	BH64_0.1	EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
ES2113385-005	TP36_0.1	EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
EP068A: Organochlorine Pesticides (OC) (QC Lot: 3621999)									



Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP068A: Organochlorine Pesticides (OC) (QC Lot: 3621999) - continued									
ES2113385-041	BH64_0.1	EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4.4'-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4.4'-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		ES2113385-005	TP36_0.1	EP068: 4.4'-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2
EP068: Methoxychlor	72-43-5			0.2	mg/kg	<0.2	<0.2	0.00	No Limit
EP068: alpha-BHC	319-84-6			0.05	mg/kg	<0.05	<0.05	0.00	No Limit
EP068: Hexachlorobenzene (HCB)	118-74-1			0.05	mg/kg	<0.05	<0.05	0.00	No Limit
EP068: beta-BHC	319-85-7			0.05	mg/kg	<0.05	<0.05	0.00	No Limit
EP068: gamma-BHC	58-89-9			0.05	mg/kg	<0.05	<0.05	0.00	No Limit
EP068: delta-BHC	319-86-8			0.05	mg/kg	<0.05	<0.05	0.00	No Limit
EP068: Heptachlor	76-44-8			0.05	mg/kg	<0.05	<0.05	0.00	No Limit
EP068: Aldrin	309-00-2			0.05	mg/kg	<0.05	<0.05	0.00	No Limit
EP068: Heptachlor epoxide	1024-57-3			0.05	mg/kg	<0.05	<0.05	0.00	No Limit
EP068: trans-Chlordane	5103-74-2			0.05	mg/kg	<0.05	<0.05	0.00	No Limit
EP068: alpha-Endosulfan	959-98-8			0.05	mg/kg	<0.05	<0.05	0.00	No Limit
EP068: cis-Chlordane	5103-71-9			0.05	mg/kg	<0.05	<0.05	0.00	No Limit
EP068: Dieldrin	60-57-1			0.05	mg/kg	<0.05	<0.05	0.00	No Limit
EP068: 4.4'-DDE	72-55-9			0.05	mg/kg	<0.05	<0.05	0.00	No Limit
EP068: Endrin	72-20-8			0.05	mg/kg	<0.05	<0.05	0.00	No Limit
EP068: beta-Endosulfan	33213-65-9			0.05	mg/kg	<0.05	<0.05	0.00	No Limit
EP068: 4.4'-DDD	72-54-8			0.05	mg/kg	<0.05	<0.05	0.00	No Limit
EP068: Endrin aldehyde	7421-93-4			0.05	mg/kg	<0.05	<0.05	0.00	No Limit
EP068: Endosulfan sulfate	1031-07-8			0.05	mg/kg	<0.05	<0.05	0.00	No Limit
EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit		



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP068A: Organochlorine Pesticides (OC) (QC Lot: 3621999) - continued									
ES2113385-005	TP36_0.1	EP068: 4.4'-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
EP068B: Organophosphorus Pesticides (OP) (QC Lot: 3621999)									
ES2113385-041	BH64_0.1	EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP068: Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		ES2113385-005	TP36_0.1	EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05
EP068: Demeton-S-methyl	919-86-8			0.05	mg/kg	<0.05	<0.05	0.00	No Limit
EP068: Dimethoate	60-51-5			0.05	mg/kg	<0.05	<0.05	0.00	No Limit
EP068: Diazinon	333-41-5			0.05	mg/kg	<0.05	<0.05	0.00	No Limit
EP068: Chlorpyrifos-methyl	5598-13-0			0.05	mg/kg	<0.05	<0.05	0.00	No Limit
EP068: Malathion	121-75-5			0.05	mg/kg	<0.05	<0.05	0.00	No Limit
EP068: Fenthion	55-38-9			0.05	mg/kg	<0.05	<0.05	0.00	No Limit
EP068: Chlorpyrifos	2921-88-2			0.05	mg/kg	<0.05	<0.05	0.00	No Limit
EP068: Pirimphos-ethyl	23505-41-1			0.05	mg/kg	<0.05	<0.05	0.00	No Limit
EP068: Chlorfenvinphos	470-90-6			0.05	mg/kg	<0.05	<0.05	0.00	No Limit
EP068: Bromophos-ethyl	4824-78-6			0.05	mg/kg	<0.05	<0.05	0.00	No Limit
EP068: Fenamiphos	22224-92-6			0.05	mg/kg	<0.05	<0.05	0.00	No Limit
EP068: Prothiofos	34643-46-4			0.05	mg/kg	<0.05	<0.05	0.00	No Limit
EP068: Ethion	563-12-2			0.05	mg/kg	<0.05	<0.05	0.00	No Limit
EP068: Carbophenothion	786-19-6			0.05	mg/kg	<0.05	<0.05	0.00	No Limit
EP068: Azinphos Methyl	86-50-0			0.05	mg/kg	<0.05	<0.05	0.00	No Limit
EP068: Monocrotophos	6923-22-4			0.2	mg/kg	<0.2	<0.2	0.00	No Limit
EP068: Parathion-methyl	298-00-0			0.2	mg/kg	<0.2	<0.2	0.00	No Limit



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)	
EP068B: Organophosphorus Pesticides (OP) (QC Lot: 3621999) - continued										
ES2113385-005	TP36_0.1	EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 3621997)										
ES2113385-041	BH64_0.1	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
			205-82-3							
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP075(SIM): Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP075(SIM): Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		ES2113385-005	TP36_0.1	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.00
EP075(SIM): Acenaphthylene	208-96-8			0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
EP075(SIM): Acenaphthene	83-32-9			0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
EP075(SIM): Fluorene	86-73-7			0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
EP075(SIM): Phenanthrene	85-01-8			0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
EP075(SIM): Anthracene	120-12-7			0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
EP075(SIM): Fluoranthene	206-44-0			0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
EP075(SIM): Pyrene	129-00-0			0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
EP075(SIM): Benz(a)anthracene	56-55-3			0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
EP075(SIM): Chrysene	218-01-9			0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2			0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
	205-82-3									
EP075(SIM): Benzo(k)fluoranthene	207-08-9			0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
EP075(SIM): Benzo(a)pyrene	50-32-8			0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5			0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
EP075(SIM): Dibenz(a.h)anthracene	53-70-3			0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit			



Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 3621997) - continued										
ES2113385-005	TP36_0.1	EP075(SIM): Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP075(SIM): Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 3621832)										
ES2113385-005	TP36_0.1	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.00	No Limit	
ES2113385-069	BH78_0.1	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.00	No Limit	
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 3621998)										
ES2113385-041	BH64_0.1	EP071: C15 - C28 Fraction	----	100	mg/kg	290	340	16.9	No Limit	
		EP071: C29 - C36 Fraction	----	100	mg/kg	310	360	15.6	No Limit	
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.00	No Limit	
ES2113385-005	TP36_0.1	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit	
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit	
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.00	No Limit	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3621832)										
ES2113385-005	TP36_0.1	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.00	No Limit	
ES2113385-069	BH78_0.1	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.00	No Limit	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3621998)										
ES2113385-041	BH64_0.1	EP071: >C16 - C34 Fraction	----	100	mg/kg	430	480	9.81	No Limit	
		EP071: >C34 - C40 Fraction	----	100	mg/kg	250	300	21.0	No Limit	
		EP071: >C10 - C16 Fraction	----	50	mg/kg	50	70	24.6	No Limit	
ES2113385-005	TP36_0.1	EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit	
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit	
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.00	No Limit	
EP080: BTEXN (QC Lot: 3621832)										
ES2113385-005	TP36_0.1	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit	
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP080: meta- & para-Xylene	108-38-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
			106-42-3							
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
ES2113385-069	BH78_0.1	EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.00	No Limit	
		EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit	
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP080: meta- & para-Xylene	108-38-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
			106-42-3							
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit			
EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.00	No Limit			



Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike Concentration	Spike Recovery (%)		Acceptable Limits (%)	
						LCS	Low	High	
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 3630768)									
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	98 mg/kg	91.7	88.0	113	
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	0.74 mg/kg	96.3	70.0	130	
EG005T: Chromium	7440-47-3	2	mg/kg	<2	20.2 mg/kg	80.1	68.0	132	
EG005T: Copper	7440-50-8	5	mg/kg	<5	52.9 mg/kg	91.1	89.0	111	
EG005T: Lead	7439-92-1	5	mg/kg	<5	62.1 mg/kg	83.4	82.0	119	
EG005T: Nickel	7440-02-0	2	mg/kg	<2	15.4 mg/kg	83.4	80.0	120	
EG005T: Zinc	7440-66-6	5	mg/kg	<5	162 mg/kg	69.5	66.0	133	
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3630769)									
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	0.073 mg/kg	99.3	70.0	130	
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 3622000)									
EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	1 mg/kg	91.8	62.0	126	
EP068A: Organochlorine Pesticides (OC) (QCLot: 3621999)									
EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	0.5 mg/kg	88.6	69.0	113	
EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	0.5 mg/kg	90.2	65.0	117	
EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	0.5 mg/kg	85.2	67.0	119	
EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	0.5 mg/kg	91.8	68.0	116	
EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	88.6	65.0	117	
EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	0.5 mg/kg	87.6	67.0	115	
EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	0.5 mg/kg	88.4	69.0	115	
EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	0.5 mg/kg	88.3	62.0	118	
EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	0.5 mg/kg	87.9	63.0	117	
EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	0.5 mg/kg	87.6	66.0	116	
EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	0.5 mg/kg	87.8	64.0	116	
EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	0.5 mg/kg	89.6	66.0	116	
EP068: 4,4'-DDE	72-55-9	0.05	mg/kg	<0.05	0.5 mg/kg	90.2	67.0	115	
EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	0.5 mg/kg	86.2	67.0	123	
EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	0.5 mg/kg	88.5	69.0	115	
EP068: 4,4'-DDD	72-54-8	0.05	mg/kg	<0.05	0.5 mg/kg	90.8	69.0	121	
EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	0.5 mg/kg	87.9	56.0	120	
EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	0.5 mg/kg	88.7	62.0	124	
EP068: 4,4'-DDT	50-29-3	0.2	mg/kg	<0.2	0.5 mg/kg	91.0	66.0	120	
EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	0.5 mg/kg	90.3	64.0	122	
EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	0.5 mg/kg	90.8	54.0	130	
EP068B: Organophosphorus Pesticides (OP) (QCLot: 3621999)									



Sub-Matrix: SOIL

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike	Spike Recovery (%)		Acceptable Limits (%)	
					Concentration	LCS	Low	High	
EP068B: Organophosphorus Pesticides (OP) (QCLot: 3621999) - continued									
EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	0.5 mg/kg	78.3	59.0	119	
EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	89.7	62.0	128	
EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	0.5 mg/kg	78.4	54.0	126	
EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	0.5 mg/kg	103	67.0	119	
EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	0.5 mg/kg	86.1	70.0	120	
EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	0.5 mg/kg	85.9	72.0	120	
EP068: Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	0.5 mg/kg	85.2	68.0	120	
EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	0.5 mg/kg	88.2	68.0	122	
EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	0.5 mg/kg	86.7	69.0	117	
EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	0.5 mg/kg	87.9	76.0	118	
EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	0.5 mg/kg	83.3	64.0	122	
EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	0.5 mg/kg	84.3	70.0	116	
EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	0.5 mg/kg	88.7	69.0	121	
EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	0.5 mg/kg	86.8	66.0	118	
EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	0.5 mg/kg	84.1	68.0	124	
EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	0.5 mg/kg	86.1	62.0	112	
EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	0.5 mg/kg	87.3	68.0	120	
EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	0.5 mg/kg	91.2	65.0	127	
EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	0.5 mg/kg	90.4	41.0	123	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3621997)									
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	6 mg/kg	91.5	77.0	125	
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	6 mg/kg	91.4	72.0	124	
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	6 mg/kg	89.4	73.0	127	
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	6 mg/kg	90.2	72.0	126	
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	6 mg/kg	92.8	75.0	127	
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	6 mg/kg	92.3	77.0	127	
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	6 mg/kg	92.8	73.0	127	
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	6 mg/kg	93.3	74.0	128	
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	6 mg/kg	84.1	69.0	123	
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	6 mg/kg	87.4	75.0	127	
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	6 mg/kg	81.1	68.0	116	
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	6 mg/kg	94.9	74.0	126	
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	6 mg/kg	83.0	70.0	126	
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	6 mg/kg	89.9	61.0	121	
EP075(SIM): Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	6 mg/kg	90.0	62.0	118	
EP075(SIM): Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	6 mg/kg	87.0	63.0	121	
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3621832)									
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	26 mg/kg	100.0	68.4	128	



Sub-Matrix: SOIL

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%)	Acceptable Limits (%)	
						LCS	Low	High
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3621998)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	300 mg/kg	88.5	75.0	129
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	450 mg/kg	93.6	77.0	131
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	300 mg/kg	94.3	71.0	129
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3621832)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	31 mg/kg	104	68.4	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3621998)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	375 mg/kg	105	77.0	125
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	525 mg/kg	105	74.0	138
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	225 mg/kg	91.7	63.0	131
EP080: BTEXN (QCLot: 3621832)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	96.5	62.0	116
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	97.9	67.0	121
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	98.9	65.0	117
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	2 mg/kg	102	66.0	118
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	102	68.0	120
EP080: Naphthalene	91-20-3	1	mg/kg	<1	1 mg/kg	110	63.0	119

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: SOIL

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report			
				Spike Concentration	Spike Recovery(%)	Acceptable Limits (%)	
					MS	Low	High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 3630768)							
ES2113385-005	TP36_0.1	EG005T: Arsenic	7440-38-2	50 mg/kg	94.0	70.0	130
		EG005T: Cadmium	7440-43-9	50 mg/kg	99.1	70.0	130
		EG005T: Chromium	7440-47-3	50 mg/kg	97.8	68.0	132
		EG005T: Copper	7440-50-8	250 mg/kg	96.0	70.0	130
		EG005T: Lead	7439-92-1	250 mg/kg	98.3	70.0	130
		EG005T: Nickel	7440-02-0	50 mg/kg	96.9	70.0	130
		EG005T: Zinc	7440-66-6	250 mg/kg	98.3	66.0	133
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3630769)							
ES2113385-005	TP36_0.1	EG035T: Mercury	7439-97-6	5 mg/kg	79.6	70.0	130
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 3622000)							
ES2113385-005	TP36_0.1	EP066: Total Polychlorinated biphenyls	----	1 mg/kg	78.0	70.0	130



Sub-Matrix: SOIL

				Matrix Spike (MS) Report				
				Spike Concentration	SpikeRecovery(%) MS	Acceptable Limits (%)		
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High	
EP068A: Organochlorine Pesticides (OC) (QCLot: 3621999)								
ES2113385-005	TP36_0.1	EP068: gamma-BHC	58-89-9	0.5 mg/kg	101	70.0	130	
		EP068: Heptachlor	76-44-8	0.5 mg/kg	79.8	70.0	130	
		EP068: Aldrin	309-00-2	0.5 mg/kg	81.3	70.0	130	
		EP068: Dieldrin	60-57-1	0.5 mg/kg	105	70.0	130	
		EP068: Endrin	72-20-8	2 mg/kg	86.2	70.0	130	
		EP068: 4.4'-DDT	50-29-3	2 mg/kg	83.6	70.0	130	
EP068B: Organophosphorus Pesticides (OP) (QCLot: 3621999)								
ES2113385-005	TP36_0.1	EP068: Diazinon	333-41-5	0.5 mg/kg	89.9	70.0	130	
		EP068: Chlorpyrifos-methyl	5598-13-0	0.5 mg/kg	84.9	70.0	130	
		EP068: Pirimphos-ethyl	23505-41-1	0.5 mg/kg	74.4	70.0	130	
		EP068: Bromophos-ethyl	4824-78-6	0.5 mg/kg	77.6	70.0	130	
		EP068: Prothiofos	34643-46-4	0.5 mg/kg	92.0	70.0	130	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3621997)								
ES2113385-005	TP36_0.1	EP075(SIM): Acenaphthene	83-32-9	10 mg/kg	85.1	70.0	130	
		EP075(SIM): Pyrene	129-00-0	10 mg/kg	91.2	70.0	130	
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3621832)								
ES2113385-005	TP36_0.1	EP080: C6 - C9 Fraction	----	32.5 mg/kg	92.1	70.0	130	
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3621998)								
ES2113385-005	TP36_0.1	EP071: C10 - C14 Fraction	----	523 mg/kg	83.9	73.0	137	
		EP071: C15 - C28 Fraction	----	2319 mg/kg	118	53.0	131	
		EP071: C29 - C36 Fraction	----	1714 mg/kg	112	52.0	132	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3621832)								
ES2113385-005	TP36_0.1	EP080: C6 - C10 Fraction	C6_C10	37.5 mg/kg	94.6	70.0	130	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3621998)								
ES2113385-005	TP36_0.1	EP071: >C10 - C16 Fraction	----	860 mg/kg	105	73.0	137	
		EP071: >C16 - C34 Fraction	----	3223 mg/kg	115	53.0	131	
		EP071: >C34 - C40 Fraction	----	1058 mg/kg	74.6	52.0	132	
EP080: BTEXN (QCLot: 3621832)								
ES2113385-005	TP36_0.1	EP080: Benzene	71-43-2	2.5 mg/kg	85.7	70.0	130	
		EP080: Toluene	108-88-3	2.5 mg/kg	84.7	70.0	130	
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	86.8	70.0	130	
		EP080: meta- & para-Xylene	108-38-3	2.5 mg/kg	82.8	70.0	130	
			106-42-3					
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	87.5	70.0	130	
		EP080: Naphthalene	91-20-3	2.5 mg/kg	83.1	70.0	130	

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: ES2113385	Page	: 1 of 6
Client	: EP Risk Management	Laboratory	: Environmental Division Sydney
Contact	: LUKE Kerry	Telephone	: +61-2-8784 8555
Project	: EP1995	Date Samples Received	: 09-Apr-2021
Site	: ----	Issue Date	: 21-Apr-2021
Sampler	: Gilles Renda	No. of samples received	: 70
Order number	: ----	No. of samples analysed	: 11

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 Laboratory Control outliers occur.**
- **NO Matrix Spike outliers occur.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **NO Quality Control Sample Frequency Outliers exist.**



Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for VOC in soils vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

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

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EA055: Moisture Content (Dried @ 105-110°C)								
Soil Glass Jar - Unpreserved (EA055) TP36_0.1, TP42_0.1, TP46_0.1	TP37_0.1, TP43_0.1	06-Apr-2021	----	----	----	20-Apr-2021	20-Apr-2021	✓
Soil Glass Jar - Unpreserved (EA055) BH59_0.1, BH63_0.1, BH67_0.1	BH61_0.1, BH64_0.1, BH78_0.1	08-Apr-2021	----	----	----	20-Apr-2021	22-Apr-2021	✓
EG005(ED093)T: Total Metals by ICP-AES								
Soil Glass Jar - Unpreserved (EG005T) TP36_0.1, TP42_0.1, TP46_0.1	TP37_0.1, TP43_0.1	06-Apr-2021	20-Apr-2021	03-Oct-2021	✓	20-Apr-2021	03-Oct-2021	✓
Soil Glass Jar - Unpreserved (EG005T) BH59_0.1, BH63_0.1, BH67_0.1	BH61_0.1, BH64_0.1, BH78_0.1	08-Apr-2021	20-Apr-2021	05-Oct-2021	✓	20-Apr-2021	05-Oct-2021	✓
EG035T: Total Recoverable Mercury by FIMS								
Soil Glass Jar - Unpreserved (EG035T) TP36_0.1, TP42_0.1, TP46_0.1	TP37_0.1, TP43_0.1	06-Apr-2021	20-Apr-2021	04-May-2021	✓	21-Apr-2021	04-May-2021	✓
Soil Glass Jar - Unpreserved (EG035T) BH59_0.1, BH63_0.1, BH67_0.1	BH61_0.1, BH64_0.1, BH78_0.1	08-Apr-2021	20-Apr-2021	06-May-2021	✓	21-Apr-2021	06-May-2021	✓



Matrix: SOIL

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

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP066: Polychlorinated Biphenyls (PCB)								
Soil Glass Jar - Unpreserved (EP066) TP36_0.1, TP42_0.1, TP46_0.1	TP37_0.1, TP43_0.1	06-Apr-2021	16-Apr-2021	20-Apr-2021	✓	19-Apr-2021	26-May-2021	✓
Soil Glass Jar - Unpreserved (EP066) BH59_0.1, BH63_0.1, BH67_0.1	BH61_0.1, BH64_0.1, BH78_0.1	08-Apr-2021	16-Apr-2021	22-Apr-2021	✓	19-Apr-2021	26-May-2021	✓
EP068A: Organochlorine Pesticides (OC)								
Soil Glass Jar - Unpreserved (EP068) TP36_0.1, TP42_0.1, TP46_0.1	TP37_0.1, TP43_0.1	06-Apr-2021	16-Apr-2021	20-Apr-2021	✓	19-Apr-2021	26-May-2021	✓
Soil Glass Jar - Unpreserved (EP068) BH59_0.1, BH63_0.1, BH67_0.1	BH61_0.1, BH64_0.1, BH78_0.1	08-Apr-2021	16-Apr-2021	22-Apr-2021	✓	19-Apr-2021	26-May-2021	✓
EP068B: Organophosphorus Pesticides (OP)								
Soil Glass Jar - Unpreserved (EP068) TP36_0.1, TP42_0.1, TP46_0.1	TP37_0.1, TP43_0.1	06-Apr-2021	16-Apr-2021	20-Apr-2021	✓	19-Apr-2021	26-May-2021	✓
Soil Glass Jar - Unpreserved (EP068) BH59_0.1, BH63_0.1, BH67_0.1	BH61_0.1, BH64_0.1, BH78_0.1	08-Apr-2021	16-Apr-2021	22-Apr-2021	✓	19-Apr-2021	26-May-2021	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Soil Glass Jar - Unpreserved (EP075(SIM)) TP36_0.1, TP42_0.1, TP46_0.1	TP37_0.1, TP43_0.1	06-Apr-2021	16-Apr-2021	20-Apr-2021	✓	19-Apr-2021	26-May-2021	✓
Soil Glass Jar - Unpreserved (EP075(SIM)) BH59_0.1, BH63_0.1, BH67_0.1	BH61_0.1, BH64_0.1, BH78_0.1	08-Apr-2021	16-Apr-2021	22-Apr-2021	✓	19-Apr-2021	26-May-2021	✓



Matrix: SOIL

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

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP080/071: Total Petroleum Hydrocarbons								
Soil Glass Jar - Unpreserved (EP080) TP36_0.1, TP42_0.1, TP46_0.1	TP37_0.1, TP43_0.1	06-Apr-2021	15-Apr-2021	20-Apr-2021	✓	19-Apr-2021	20-Apr-2021	✓
Soil Glass Jar - Unpreserved (EP071) TP36_0.1, TP42_0.1, TP46_0.1	TP37_0.1, TP43_0.1	06-Apr-2021	16-Apr-2021	20-Apr-2021	✓	19-Apr-2021	26-May-2021	✓
Soil Glass Jar - Unpreserved (EP080) BH59_0.1, BH63_0.1, BH67_0.1	BH61_0.1, BH64_0.1, BH78_0.1	08-Apr-2021	15-Apr-2021	22-Apr-2021	✓	19-Apr-2021	22-Apr-2021	✓
Soil Glass Jar - Unpreserved (EP071) BH59_0.1, BH63_0.1, BH67_0.1	BH61_0.1, BH64_0.1, BH78_0.1	08-Apr-2021	16-Apr-2021	22-Apr-2021	✓	19-Apr-2021	26-May-2021	✓
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
Soil Glass Jar - Unpreserved (EP080) TP36_0.1, TP42_0.1, TP46_0.1	TP37_0.1, TP43_0.1	06-Apr-2021	15-Apr-2021	20-Apr-2021	✓	19-Apr-2021	20-Apr-2021	✓
Soil Glass Jar - Unpreserved (EP071) TP36_0.1, TP42_0.1, TP46_0.1	TP37_0.1, TP43_0.1	06-Apr-2021	16-Apr-2021	20-Apr-2021	✓	19-Apr-2021	26-May-2021	✓
Soil Glass Jar - Unpreserved (EP080) BH59_0.1, BH63_0.1, BH67_0.1	BH61_0.1, BH64_0.1, BH78_0.1	08-Apr-2021	15-Apr-2021	22-Apr-2021	✓	19-Apr-2021	22-Apr-2021	✓
Soil Glass Jar - Unpreserved (EP071) BH59_0.1, BH63_0.1, BH67_0.1	BH61_0.1, BH64_0.1, BH78_0.1	08-Apr-2021	16-Apr-2021	22-Apr-2021	✓	19-Apr-2021	26-May-2021	✓
EP080: BTEXN								
Soil Glass Jar - Unpreserved (EP080) TP36_0.1, TP42_0.1, TP46_0.1	TP37_0.1, TP43_0.1	06-Apr-2021	15-Apr-2021	20-Apr-2021	✓	19-Apr-2021	20-Apr-2021	✓
Soil Glass Jar - Unpreserved (EP080) BH59_0.1, BH63_0.1, BH67_0.1	BH61_0.1, BH64_0.1, BH78_0.1	08-Apr-2021	15-Apr-2021	22-Apr-2021	✓	19-Apr-2021	22-Apr-2021	✓



Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: ✖ = Quality Control frequency not within specification ; ✔ = Quality Control frequency within specification.

Quality Control Sample Type	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
PAH/Phenols (SIM)	EP075(SIM)	2	20	10.00	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	2	11	18.18	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	2	11	18.18	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	2	17	11.76	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	2	20	10.00	10.00	✔	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	2	20	10.00	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)							
PAH/Phenols (SIM)	EP075(SIM)	1	20	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	11	9.09	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	11	9.09	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	17	5.88	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	20	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	20	5.00	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)							
PAH/Phenols (SIM)	EP075(SIM)	1	20	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	11	9.09	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	11	9.09	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	17	5.88	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	20	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	20	5.00	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)							
PAH/Phenols (SIM)	EP075(SIM)	1	20	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	11	9.09	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	11	9.09	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	17	5.88	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	20	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	20	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	20	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard



Brief Method Summaries

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

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055	SOIL	In house: A gravimetric procedure based on weight loss over a 12 hour drying period at 105-110 degrees C. This method is compliant with NEPM Schedule B(3).
Total Metals by ICP-AES	EG005T	SOIL	In house: Referenced to APHA 3120; USEPA SW 846 - 6010. Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM Schedule B(3)
Total Mercury by FIMS	EG035T	SOIL	In house: Referenced to AS 3550, APHA 3112 Hg - B (Flow-injection (SnCl ₂) (Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. Mercury in solids are determined following an appropriate acid digestion. Ionic mercury is reduced online to atomic mercury vapour by 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 Schedule B(3)
Polychlorinated Biphenyls (PCB)	EP066	SOIL	In house: Referenced to USEPA SW 846 - 8270 Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3).
Pesticides by GCMS	EP068	SOIL	In house: Referenced to USEPA SW 846 - 8270 Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This technique is compliant with NEPM Schedule B(3).
TRH - Semivolatile Fraction	EP071	SOIL	In house: Referenced to USEPA SW 846 - 8015 Sample extracts are analysed by Capillary GC/FID and quantified against alkane standards over the range C10 - C40. Compliant with NEPM Schedule B(3).
PAH/Phenols (SIM)	EP075(SIM)	SOIL	In house: Referenced to USEPA SW 846 - 8270. Extracts are analysed by Capillary GC/MS in Selective Ion Mode (SIM) and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)
TRH Volatiles/BTEX	EP080	SOIL	In house: Referenced to USEPA SW 846 - 8260. Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve. Compliant with NEPM Schedule B(3) amended.

Preparation Methods	Method	Matrix	Method Descriptions
Hot Block Digest for metals in soils sediments and sludges	EN69	SOIL	In house: Referenced to USEPA 200.2. Hot Block Acid Digestion 1.0g of sample is heated with Nitric and Hydrochloric acids, then cooled. Peroxide is added and samples heated and cooled again before being filtered and bulked to volume for analysis. Digest is appropriate for determination of selected metals in sludge, sediments, and soils. This method is compliant with NEPM Schedule B(3).
Methanolic Extraction of Soils for Purge and Trap	ORG16	SOIL	In house: Referenced to USEPA SW 846 - 5030A. 5g of solid is shaken with surrogate and 10mL methanol prior to analysis by Purge and Trap - GC/MS.
Tumbler Extraction of Solids	ORG17	SOIL	In house: Mechanical agitation (tumbler). 10g of sample, Na ₂ SO ₄ and surrogate are extracted with 30mL 1:1 DCM/Acetone by end over end tumble. The solvent is decanted, dehydrated and concentrated (by KD) to the desired volume for analysis.



CHAIN OF CUSTODY

ALS Laboratory please fax →

Sydney 2217 Macquarie Rd, Smithfield NSW 2164
 Ph: 02 9756 8500 E: samples@als.com.au
 Newcastle 50 Rossington Rd, Warahook NSW 2294
 Ph: 02 4998 8433 E: samples@als.com.au

Brisbane 320 Grand St, Sturges QLD 4053
 Ph: 07 4249 7201 E: samples@als.com.au
 Townsville 14-16 Darling Ct, Seale QLD 4816
 Ph: 07 4756 0500 E: samples@als.com.au

Melbourne 24 Vassall Rd, Springvale VIC 3171
 Ph: 03 9446 3500 E: samples@als.com.au
 Adelaide 2-1 Burne Rd, Port Adelaide SA 5015
 Ph: 08 8365 0380 E: samples@als.com.au

CLIENT: EP RISK MANAGEMENT PTY LTD

OFFICE: NEWCASTLE

PROJECT: EP1995

ORDER NUMBER: N/A

PROJECT MANAGER: Luke Kerry

SAMPLER: Giles Renda

COC emailed to ALS? (YES / NO) EDD FORMAT (or default):

Email Reports to (will default to PM if no other addresses are listed): giles.renda@eprisk.com.au

Email Invoice to (will default to PM if no other addresses are listed): accounts@eprisk.com.au

TURNAROUND REQUIREMENTS: Standard TAT (list due date) Non Standard or urgent TAT (list due date):

ALS QUOTE NO.: SY/19920 V2

RELINQUISHED BY: DATE/TIME:

RECEIVED BY: DATE/TIME:

RECEIVED BY: Helen DATE/TIME: 14/4/21 9a

RECEIVED BY: DATE/TIME:

FOR LABORATORY USE ONLY (Circle)

Cleanly Seal Intake? Yes No N/A

File for / frozen / lock / lids present upon receipt? Yes No N/A

Random Sample Temperature on Receipt? Yes No N/A

Other comment:

LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL BOTTLES	HOLD	ANALYSIS REQUIRED INCLUDING SUITES (NB Suite Codes must be listed to attract suite price)	Additional Information		
1	TP84_0.1	6/04/2021	S	Glass Jar	1	1				
2	TP84_0.5	6/04/2021	S	Glass Jar	1	1				
3	TP85_0.1	6/04/2021	S	Glass Jar	1	1				
4	TP85_0.5	6/04/2021	S	Glass Jar	1	1				
5	TP86_0.1	6/04/2021	S	Glass Jar	1	1				
6	TP86_0.5	6/04/2021	S	Glass Jar	1	1				
7	TP87_0.1	6/04/2021	S	Glass Jar	1	1				
8	TP87_0.5	6/04/2021	S	Glass Jar	1	1				
9	TP88_0.1	6/04/2021	S	Glass Jar	1	1				
10	TP88_0.5	6/04/2021	S	Glass Jar	1	1				
11	TP89_0.1	6/04/2021	S	Glass Jar	1	1				
12	TP89_0.5	6/04/2021	S	Glass Jar	1	1				
13	TP90_0.1	6/04/2021	S	Glass Jar	1	1				
14	TP90_0.5	6/04/2021	S	Glass Jar	1	1				
TOTAL					14	9	4	3	1	1

UPDATED COC

Sample / Transported Lab / Date / Analyser: ES2113386
 Organised by / Date: ES2113386
 Reanalysed by / Date: ES2113386
 Collected by / Date: ES2113386
 Voucher: ES2113386
 Attach by PO / Internal Stock

Environmental Division
 Sydney
 Work Order Reference
ES2113386



Telephone - 51-0-8764 8567

Water Containers Codes: P = Unpreserved Plastic, N = Nitric Preserved Plastic, ORG = Nitric Preserved ORG, SH = Sodium Hydroxide Preserved, S = Sodium Hydroxide Preserved Plastic, AG = Amber Glass Unpreserved, AP = Airtight Unpreserved Plastic
 = NOA Vial HCl Preserved, VB = VOA Vial Selenium Burette Preserved, VS = VOA Vial Sulphuric Preserved, AV = Airtight Vial Preserved Vial, SG = Sulphuric Preserved Amber Glass, H = HCl Preserved Plastic, HS = HCl Preserved Specimen Bottle, SP = Sulphuric Preserved Plastic, F = Formaldehyde Preserved Glass
 Z = Zinc Acetate Preserved Bottle, E = EDTA Preserved Bottle, ST = Sterile Bottle, ASS = Plastic Bag for Acid Suppl. Plastic, B = Unpreserved Bag



CHAIN OF CUSTODY

ALS Laboratory, please tick →

Sydney, 277 Cockatoo St, Smithfield NSW 2122
 Ph: 02 9348 5555 E: sam@als.com.au
 Newcastle, 5 Rossington Rd, Waratah NSW 2294
 Ph: 02 4998 9439 E: sam@als.com.au

Brisbane, 22 Stand St, Stafford QLD 4053
 Ph: 07 5599 2222 E: sam@als.com.au
 Townsville, 14-16 Deanna Ct, South QLD 4815
 Ph: 07 4799 0500 E: tom@als.com.au

Melbourne, 24 Maxwell Rd, Springvale VIC 3172
 Ph: 03 9599 5500 E: sam@als.com.au
 Adelaide, 27-1 Flinders Rd, Adelaide SA 5006
 Ph: 08 8368 0500 E: sam@als.com.au

CUSTOMER: EP RISK MANAGEMENT PTY LTD

OFFICE: NEWCASTLE

PROJECT: EP1995

ORDER NUMBER: N/A

PROJECT MANAGER: Luke Kerry

SAMPLER: Gillis Renda

COC emailed to ALS? (YES / NO): YES

Email Reports to (will default to PM if no other addresses are listed): gillis.renda@eprisk.com.au

Email Invoice to (will default to PM if no other addresses are listed): accounts@eprisk.com.au

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL: Also email luke.kerry@eprisk.com.au

TURNAROUND REQUIREMENTS:

Standard TAT (List due date)
 Non Standard or urgent TAT (List due date)

FOR LABORATORY USE ONLY: (Circle)

Cleanly Sealed? Yes No
 Free from frozen ice brids present upon receipt? Yes No
 Random Sample Temperature on Receipt? Yes No
 Other comment:

ALS USE ONLY	SAMPLE DETAILS MATRIX: Solid(S) Water(W)	CONTAINER INFORMATION	ANALYSIS REQUIRED INCLUDING SUITES (NB: Suite Codes must be listed to attract suite price) <small>Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (acid filtered bottle required).</small>	Additional Information								
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE <small>(refer to codes below)</small>	TOTAL BOTTLES	HOLD	Heavy metals, TRH, BTEXN, PAH, PCBs, OCP, OPP	Asbestos (AF / FA) (w/w %)	pHf & pH fox	Chromium Reduciblr Sulfur Suite	RECEIVED BY:	DATE/TIME:
15	TP91_0.1	6/04/2021	S	Glass Jar	1	1						
16	TP91_0.5	6/04/2021	S	Glass Jar	1	1						
17	TP92_0.1	6/04/2021	S	Glass Jar	1		1	1				
18	TP92_0.5	6/04/2021	S	Glass Jar	1	1						
19	TP93_0.1	6/04/2021	S	Glass Jar	1	1						
20	TP93_0.5	6/04/2021	S	Glass Jar	1	1						
21	TP94_0.1	6/04/2021	S	Glass Jar	1	1						
22	TP94_0.5	6/04/2021	S	Glass Jar	1	1						
23	TP95_0.1	6/04/2021	S	Glass Jar	1	1	1	1				
24	TP95_0.5	6/04/2021	S	Glass Jar	1	1						
25	TP96_0.1	6/04/2021	S	Glass Jar	1	1						
26	TP96_0.5	6/04/2021	S	Glass Jar	1	1						
27	TP97_0.1	6/04/2021	S	Glass Jar	1	1	1	1				
28	TP97_0.5	6/04/2021	S	Glass Jar	1	1						
TOTAL:					14	10	3	3	1	0		

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airtight Unpreserved Plastic; V = VOA Via HCl Preserved; VB = VOA Via Sodium Bisulfate Preserved; VS = VOA Via Sulfuric Preserved; AV = Airtight Unpreserved Vial; SC = Sulfuric Preserved Amber Glass; H = HCl Preserved Plastic; HS = HCl Preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottle; ST = Sterile Bottle; ASS = Plastic Bag for Acid Supplrite Soln; B = Unpreserved Bag

RECEIVED BY: Helen
DATE/TIME: 14.4.21



CHAIN OF CUSTODY

ALS Laboratory, please tick →

Sydney 277 Mackaybank Rd, Smithfield NSW 2156
 Ph: 02 974 0555 Fax: 02 974 0556 Email: als@als.com.au
 Newcastle 5 Rosegum Rd, Waratah NSW 2304
 Ph: 02 4508 9473 Fax: 02 4508 9474 Email: als.newcastle@als.com.au

Brisbane 42 Sharn St, Sturges QLD 4065
 Ph: 07 5249 7222 Fax: 07 5249 7223 Email: als.brisbane@als.com.au
 Townsville 14-15 Desima Ct, Borne QLD 4815
 Ph: 07 4738 0600 Fax: 07 4738 0601 Email: als.townsville@als.com.au

Melbourne 24 Vesta Rd, Springvale VIC 3171
 Ph: 03 8545 9600 Fax: 03 8545 9601 Email: als.melbourne@als.com.au
 Adelaide 2-4 Burns Rd, Pookang SA 5095
 Ph: 08 8359 0630 Fax: 08 8359 0631 Email: als.adelaide@als.com.au

CLIENT: EP RISK MANAGEMENT PTY LTD

OFFICE: NEWCASTLE

PROJECT: EP1995

ORDER NUMBER: N/A

PROJECT MANAGER: Luke Kerry

SAMPLER: Giles Renda

COC emailed to ALS? (YES / NO) EDD FORMAT (or default):

Email Reports to (will default to PM if no other addresses are listed): giles.renda@eprisk.com.au

Email Invoice to (will default to PM if no other addresses are listed): accounts@eprisk.com.au

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL: Also email luke.kerry@eprisk.com.au

TURNAROUND REQUIREMENTS:

Standard TAT may be longer for some tests
 e.g. Ultra Trace Organics

ALS QUOTE NO.: SY/49820 VZ

CONTACT PH: 0432 266 617

SAMPLER MOBILE: 0420 234 123

RELINQUISHED BY:

DATE/TIME:

RECEIVED BY:

DATE/TIME:

Standard TAT (List due date):

Non Standard or urgent TAT (List due date):

COC SEQUENCE NUMBER (Circle)

1 2 3 4 5 6 7

RECEIVED BY:

DATE/TIME:

RELINQUISHED BY:

DATE/TIME:

FOR LABORATORY USE ONLY (Circle)

Closed/Sealed/Intact? Yes No N/A

Freezer / frozen use only: present/upon receipt? Yes No N/A

Random Sample Temperature on Receipt? °C

Other comment:

RECEIVED BY:

DATE/TIME:

RELINQUISHED BY:

DATE/TIME:

LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL BOTTLES	HOLD	ANALYSIS REQUIRED INCLUDING SUITES (NB: Suite Codes must be listed to attract suite price) <small>Where Metals are required, specify Total (unfilled bottle required) or Dissolved (field filtered bottle required).</small>	Additional Information <small>Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.</small>		
29	TP98_0.1	6/04/2021	S	Glass Jar	1		Heavy metals, TRH, BTEXN, PAH, PCBs, OCC, OPP			
30	TP98_0.5	6/04/2021	S	Glass Jar	1		Asbestos (AF / FA) (w/w %)			
31	TP99_0.1	6/04/2021	S	Glass Jar	1		pH & pH fox			
32	TP99_0.5	6/04/2021	S	Glass Jar	1		Chromium Reducible Sulfur Suite			
33	TP100_0.1	6/04/2021	S	Glass Jar	1					
34	TP100_0.5	6/04/2021	S	Glass Jar	1					
35	TP101_0.1	6/04/2021	S	Glass Jar	1					
36	TP101_0.5	6/04/2021	S	Glass Jar	1					
37	TP102_0.1	6/04/2021	S	Glass Jar	1					
38	TP102_0.5	6/04/2021	S	Glass Jar	1					
39	TP103_0.1	6/04/2021	S	Glass Jar	1					
40	TP103_0.5	6/04/2021	S	Glass Jar	1					
41	TP104_0.1	6/04/2021	S	Glass Jar	1					
42	TP104_0.5	6/04/2021	S	Glass Jar	1					
TOTAL					14	10	4	4	1	1

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; CRIC = Nitric Preserved CRIC; ST = Sodium Hydroxide/Ca Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airtight Unpreserved Plastic
**V = VOA Via HCl Preserved; VS = VOA Via Sodium Bisulfate Preserved; VA = VOA Via Sulfuric Preserved; VASG = Sulfuric Preserved Amber Glass; H = HCl Preserved Plastic; HS = HCl Preserved Speciation Bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottle; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulfate Solids; B = Unpreserved Bag.**

RECEIVED BY: Helen
DATE/TIME: 14.4.21 9am



CHAIN OF CUSTODY

ALS Laboratory please tick ->

Sydney 277 Macquarie Rd, Smithfield NSW 2122
Ph: 07 9794 2555 E: samples@als.com.au

Brisbane 32 Spence St, Stinson QLD 4053
Ph: 07 3243 7222 E: samples@als.com.au

Melbourne 74 Vaseall Rd, Springvale VIC 3171
Ph: 03 8545 9200 E: samples@als.com.au

CLIENT: EP RISK MANAGEMENT PTY LTD
OFFICE: NEWCASTLE
PROJECT: EP1995
ORDER NUMBER: N/A
PROJECT MANAGER: Luke Kerry
SAMPLER: Giles Renda
COC emailed to ALS? (YES / NO)
Email Reports to (will default to PM if no other addresses are listed): giles.renda@eprisk.com.au
Email Invoice to (will default to PM if no other addresses are listed): accounts@eprisk.com.au

TURNAROUND REQUIREMENTS:
Standard TAT may be longer for some tests
ALS QUOTE NO.: SY/48620 V2
Non Standard or urgent TAT (List due date):

RELINQUISHED BY: DATE/TIME: RECEIVED BY: DATE/TIME:
COC SEQUENCE NUMBER (Circle):
1 2 3 4 5 6 7
OR: 1 2 3 4 5 6 7
RECEIVED BY: Helen
DATE/TIME: 14.4.21 9am

FOR LABORATORY USE ONLY (Circle)
Closely Seal Insect? Yes/No
Fishes / frozen for birds present upon receipt? Yes/No
Random Sample Temperature on Receipt: C
Other comment:

COMMENT/SPECIAL HANDLING/STORAGE OR DISPOSAL: Also email Luke.kerry@eprisk.com.au

LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL BOTTLES	HOLD	ANALYSIS REQUIRED Including SUTES (NB: Sute Codes must be listed to attract suite price) (When Metals are required, specify Total (unfiltered bottles required) or Dissolved (acid cleaned bottles required))	Additional Information		
43	TP105_0.1	6/04/2021	S	Glass Jar	1	1	Heavy metals, TRH, BTEXN, PAH, PCBs, OCP, OPP			
44	TP105_0.5	6/04/2021	S	Glass Jar	1	1	Asbestos (AF / FA) (w/w %)			
45	TP106_0.1	6/04/2021	S	Glass Jar	1		pHf & pH fox			
46	TP106_0.5	6/04/2021	S	Glass Jar	1	1	Chromium Reducible Sulfur Suite			
47	TP107_0.1	6/04/2021	S	Glass Jar	1	1				
48	TP107_0.5	6/04/2021	S	Glass Jar	1	1				
49	TP108_0.1	6/04/2021	S	Glass Jar	1	1				
50	TP108_0.5	6/04/2021	S	Glass Jar	1	1				
51	TP109_0.1	6/04/2021	S	Glass Jar	1	1				
52	TP109_0.5	6/04/2021	S	Glass Jar	1	1				
53	TP110_0.1	6/04/2021	S	Glass Jar	1	1				
54	TP110_0.5	6/04/2021	S	Glass Jar	1	1				
55	TP111_0.1	6/04/2021	S	Glass Jar	1	1				
56	TP111_0.5	6/04/2021	S	Glass Jar	1	1				
TOTAL					14	11	2	2	1	1

WATER CONTAINERS: P = Unpreserved Plastic, N = Nitric Preserved Plastic, ORC = Nitric Preserved ORC, SH = Sodium Hydroxide Preserved, S = Sodium Hydroxide Preserved Plastic, AG = Amber Glass Unpreserved, AP = Airtight Unpreserved Plastic, V = VOA/VIA HCl Preserved, VB = VOA/VIA Sulfuric Preserved, VA = VOA/VIA Sulfuric Preserved, AV = Airfree HCl Preserved, VS = VOA/VIA Sulfuric Preserved, VG = Sulfuric Preserved Amber Glass, H = HCl Preserved Plastic, HS = HCl Preserved Speciation bottle, SP = Sulfuric Preserved Plastic, F = Formaldehyde Preserved Glass, Z = Zinc Acetate Preserved Bottle, E = EDTA Preserved Bottle, ST = Stable Bottle, ASS = Plastic Bag to Add Sulphuric Solts, B = Unpreserved Bag.

CERTIFICATE OF ANALYSIS

Work Order	: ES2113386	Page	: 1 of 22
Client	: EP Risk Management	Laboratory	: Environmental Division Sydney
Contact	: LUKE Kerry	Contact	: Hannah White
Address	: 3/19 BOLTON STREET NEWCASTLE NSW 2300	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: +61-2-8784 8555
Project	: EP1995	Date Samples Received	: 09-Apr-2021 15:30
Order number	: ----	Date Analysis Commenced	: 15-Apr-2021
C-O-C number	: ----	Issue Date	: 23-Apr-2021 15:27
Sampler	: Gilles Renda		
Site	: ----		
Quote number	: SY/497/20 Primary analysis only		
No. of samples received	: 56		
No. of samples analysed	: 17		



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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

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

Signatories

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

<i>Signatories</i>	<i>Position</i>	<i>Accreditation Category</i>
Edwandy Fadjjar	Organic Coordinator	Sydney Inorganics, Smithfield, NSW
Edwandy Fadjjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Ivan Taylor	Analyst	Sydney Inorganics, Smithfield, NSW
Satishkumar Trivedi	Senior Acid Sulfate Soil Chemist	Brisbane Acid Sulphate Soils, Stafford, QLD



General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS 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.

- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a,h)anthracene (1.0), Benzo(g,h,i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero, for 'TEQ 1/2LOR' are treated as half the reported LOR, and for 'TEQ LOR' are treated as being equal to the reported LOR. Note: TEQ 1/2LOR and TEQ LOR will calculate as 0.6mg/Kg and 1.2mg/Kg respectively for samples with non-detects for all of the eight TEQ PAHs.
- EP080: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EP068: Where reported, Total Chlordane (sum) is the sum of the reported concentrations of cis-Chlordane and trans-Chlordane at or above the LOR.
- EP068: Where reported, Total OCP is the sum of the reported concentrations of all Organochlorine Pesticides at or above LOR.
- EP075(SIM): Where reported, Total Cresol is the sum of the reported concentrations of 2-Methylphenol and 3- & 4-Methylphenol at or above the LOR.
- ASS: EA033 (CRS Suite): ANC not required because pH KCl less than 6.5
- ASS: EA037 (Rapid Field and F(ox) screening): pH F(ox) Reaction Rate: 1 - Slight; 2 - Moderate; 3 - Strong; 4 - Extreme
- ASS: EA033 (CRS Suite): Liming rate is calculated and reported on a dry weight basis assuming use of fine agricultural lime (CaCO₃) and using a safety factor of 1.5 to allow for non-homogeneous mixing and poor reactivity of lime. For conversion of Liming Rate from 'kg/t dry weight' to 'kg/m³ in-situ soil', multiply 'reported results' x 'wet bulk density of soil in t/m³'.
- EA037 ASS Field Screening: NATA accreditation does not cover performance of this service.



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TP85_0.1	TP87_0.1	TP87_0.5	TP88_0.5	TP90_0.1
Sampling date / time				06-Apr-2021 00:00	06-Apr-2021 00:00	06-Apr-2021 00:00	06-Apr-2021 00:00	06-Apr-2021 00:00	
Compound	CAS Number	LOR	Unit	ES2113386-003	ES2113386-007	ES2113386-008	ES2113386-010	ES2113386-013	
				Result	Result	Result	Result	Result	
EA033-A: Actual Acidity									
pH KCl (23A)	----	0.1	pH Unit	----	----	4.3	----	----	
Titratable Actual Acidity (23F)	----	2	mole H+ / t	----	----	71	----	----	
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	----	----	0.11	----	----	
EA033-B: Potential Acidity									
Chromium Reducible Sulfur (22B)	----	0.005	% S	----	----	0.008	----	----	
acidity - Chromium Reducible Sulfur (a-22B)	----	10	mole H+ / t	----	----	<10	----	----	
EA033-D: Retained Acidity									
KCl Extractable Sulfur (23Ce)	----	0.02	% S	----	----	0.02	----	----	
HCl Extractable Sulfur (20Be)	----	0.02	% S	----	----	0.03	----	----	
Net Acid Soluble Sulfur (20Je)	----	0.02	% S	----	----	0.02	----	----	
acidity - Net Acid Soluble Sulfur (a-20J)	----	10	mole H+ / t	----	----	<10	----	----	
sulfidic - Net Acid Soluble Sulfur (s-20J)	----	0.02	% pyrite S	----	----	<0.02	----	----	
EA033-E: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-	----	----	1.5	----	----	
Net Acidity (sulfur units)	----	0.02	% S	----	----	0.14	----	----	
Net Acidity (acidity units)	----	10	mole H+ / t	----	----	86	----	----	
Liming Rate	----	1	kg CaCO3/t	----	----	6	----	----	
Net Acidity excluding ANC (sulfur units)	----	0.02	% S	----	----	0.14	----	----	
Net Acidity excluding ANC (acidity units)	----	10	mole H+ / t	----	----	86	----	----	
Liming Rate excluding ANC	----	1	kg CaCO3/t	----	----	6	----	----	
EA037: Ass Field Screening Analysis									
∅ pH (F)	----	0.1	pH Unit	----	----	5.2	----	----	
∅ pH (Fox)	----	0.1	pH Unit	----	----	4.0	----	----	
∅ Reaction Rate	----	1	-	----	----	1	----	----	
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%	26.3	24.3	----	22.2	10.7	
EG005(ED093)T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg	18	7	----	9	8	
Cadmium	7440-43-9	1	mg/kg	<1	<1	----	<1	<1	
Chromium	7440-47-3	2	mg/kg	24	21	----	18	12	
Copper	7440-50-8	5	mg/kg	5	<5	----	<5	<5	
Lead	7439-92-1	5	mg/kg	16	13	----	15	18	
Nickel	7440-02-0	2	mg/kg	4	3	----	<2	5	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TP85_0.1	TP87_0.1	TP87_0.5	TP88_0.5	TP90_0.1
Sampling date / time				06-Apr-2021 00:00	06-Apr-2021 00:00	06-Apr-2021 00:00	06-Apr-2021 00:00	06-Apr-2021 00:00	
Compound	CAS Number	LOR	Unit	ES2113386-003	ES2113386-007	ES2113386-008	ES2113386-010	ES2113386-013	
				Result	Result	Result	Result	Result	
EG005(ED093)T: Total Metals by ICP-AES - Continued									
Zinc	7440-66-6	5	mg/kg	24	17	----	6	21	
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	----	<0.1	<0.1	
EP066: Polychlorinated Biphenyls (PCB)									
Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	----	<0.1	<0.1	
EP068A: Organochlorine Pesticides (OC)									
alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.05	
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.05	
beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.05	
gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.05	
delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.05	
Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.05	
Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.05	
Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.05	
^ Total Chlordane (sum)	----	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.05	
trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.05	
alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.05	
cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.05	
Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.05	
4,4'-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.05	
Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.05	
beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.05	
^ Endosulfan (sum)	115-29-7	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.05	
4,4'-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.05	
Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.05	
Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.05	
4,4'-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	----	<0.2	<0.2	
Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.05	
Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	----	<0.2	<0.2	
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.05	
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-29-3	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.05	
EP068B: Organophosphorus Pesticides (OP)									
Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.05	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TP85_0.1	TP87_0.1	TP87_0.5	TP88_0.5	TP90_0.1
Sampling date / time				06-Apr-2021 00:00	06-Apr-2021 00:00	06-Apr-2021 00:00	06-Apr-2021 00:00	06-Apr-2021 00:00	
Compound	CAS Number	LOR	Unit	ES2113386-003	ES2113386-007	ES2113386-008	ES2113386-010	ES2113386-013	
				Result	Result	Result	Result	Result	
EP068B: Organophosphorus Pesticides (OP) - Continued									
Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.05	
Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	----	<0.2	<0.2	
Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.05	
Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.05	
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.05	
Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	----	<0.2	<0.2	
Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.05	
Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.05	
Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.05	
Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	----	<0.2	<0.2	
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.05	
Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.05	
Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.05	
Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.05	
Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.05	
Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.05	
Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.05	
Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.05	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5	
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5	
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5	
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5	
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5	
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5	
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5	
Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5	
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5	
Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5	
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5	
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5	
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5	
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5	
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5	
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TP85_0.1	TP87_0.1	TP87_0.5	TP88_0.5	TP90_0.1
Sampling date / time				06-Apr-2021 00:00	06-Apr-2021 00:00	06-Apr-2021 00:00	06-Apr-2021 00:00	06-Apr-2021 00:00	
Compound	CAS Number	LOR	Unit	ES2113386-003	ES2113386-007	ES2113386-008	ES2113386-010	ES2113386-013	
				Result	Result	Result	Result	Result	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5	
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5	
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	0.6	0.6	----	0.6	0.6	
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	1.2	1.2	----	1.2	1.2	
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg	<10	<10	----	<10	<10	
C10 - C14 Fraction	----	50	mg/kg	<50	<50	----	<50	<50	
C15 - C28 Fraction	----	100	mg/kg	<100	<100	----	<100	<100	
C29 - C36 Fraction	----	100	mg/kg	<100	<100	----	<100	<100	
^ C10 - C36 Fraction (sum)	----	50	mg/kg	<50	<50	----	<50	<50	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	----	<10	<10	
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	<10	<10	----	<10	<10	
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	----	50	<50	
>C16 - C34 Fraction	----	100	mg/kg	<100	<100	----	<100	<100	
>C34 - C40 Fraction	----	100	mg/kg	<100	<100	----	<100	<100	
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	<50	----	50	<50	
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	<50	<50	----	50	<50	
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	----	<0.2	<0.2	
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5	
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5	
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5	
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5	
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	----	<0.2	<0.2	
^ Total Xylenes	----	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5	
Naphthalene	91-20-3	1	mg/kg	<1	<1	----	<1	<1	
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%	116	116	----	111	105	
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%	103	102	----	110	100.0	
EP068T: Organophosphorus Pesticide Surrogate									



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TP85_0.1	TP87_0.1	TP87_0.5	TP88_0.5	TP90_0.1
Sampling date / time				06-Apr-2021 00:00	06-Apr-2021 00:00	06-Apr-2021 00:00	06-Apr-2021 00:00	06-Apr-2021 00:00	
Compound	CAS Number	LOR	Unit	ES2113386-003	ES2113386-007	ES2113386-008	ES2113386-010	ES2113386-013	
				Result	Result	Result	Result	Result	
EP068T: Organophosphorus Pesticide Surrogate - Continued									
DEF	78-48-8	0.05	%	105	88.7	----	74.5	99.7	
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%	91.4	82.9	----	84.0	84.1	
2-Chlorophenol-D4	93951-73-6	0.5	%	104	96.8	----	93.4	87.4	
2,4,6-Tribromophenol	118-79-6	0.5	%	91.2	87.8	----	89.8	90.9	
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%	102	87.9	----	104	97.9	
Anthracene-d10	1719-06-8	0.5	%	86.0	85.1	----	97.9	86.8	
4-Terphenyl-d14	1718-51-0	0.5	%	95.0	93.1	----	99.2	101	
EP080S: TPH(V)/BTEX Surrogates									
1,2-Dichloroethane-D4	17060-07-0	0.2	%	88.7	91.1	----	90.3	95.5	
Toluene-D8	2037-26-5	0.2	%	87.6	89.3	----	88.7	93.1	
4-Bromofluorobenzene	460-00-4	0.2	%	86.5	91.3	----	90.4	91.1	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TP92_0.1	TP95_0.1	TP96_0.5	TP97_0.1	TP98_0.1
Sampling date / time				06-Apr-2021 00:00	06-Apr-2021 00:00	06-Apr-2021 00:00	06-Apr-2021 00:00	06-Apr-2021 00:00	
Compound	CAS Number	LOR	Unit	ES2113386-017	ES2113386-023	ES2113386-026	ES2113386-027	ES2113386-029	
				Result	Result	Result	Result	Result	
EA037: Ass Field Screening Analysis									
ø pH (F)	----	0.1	pH Unit	----	----	5.3	----	----	
ø pH (Fox)	----	0.1	pH Unit	----	----	4.2	----	----	
ø Reaction Rate	----	1	-	----	----	1	----	----	
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%	19.6	27.7	----	25.3	5.5	
EG005(ED093)T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg	14	<5	----	5	14	
Cadmium	7440-43-9	1	mg/kg	<1	<1	----	<1	<1	
Chromium	7440-47-3	2	mg/kg	24	8	----	12	19	
Copper	7440-50-8	5	mg/kg	6	<5	----	<5	<5	
Lead	7439-92-1	5	mg/kg	18	12	----	16	11	
Nickel	7440-02-0	2	mg/kg	5	<2	----	4	<2	
Zinc	7440-66-6	5	mg/kg	22	14	----	24	11	
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	----	<0.1	<0.1	
EP066: Polychlorinated Biphenyls (PCB)									
Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	----	<0.1	<0.1	
EP068A: Organochlorine Pesticides (OC)									
alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.05	
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.05	
beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.05	
gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.05	
delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.05	
Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.05	
Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.05	
Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.05	
[^] Total Chlordane (sum)	----	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.05	
trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.05	
alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.05	
cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.05	
Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.05	
4,4'-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.05	
Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.05	
beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.05	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TP92_0.1	TP95_0.1	TP96_0.5	TP97_0.1	TP98_0.1
Sampling date / time				06-Apr-2021 00:00	06-Apr-2021 00:00	06-Apr-2021 00:00	06-Apr-2021 00:00	06-Apr-2021 00:00	
Compound	CAS Number	LOR	Unit	ES2113386-017	ES2113386-023	ES2113386-026	ES2113386-027	ES2113386-029	
				Result	Result	Result	Result	Result	
EP068A: Organochlorine Pesticides (OC) - Continued									
^ Endosulfan (sum)	115-29-7	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.05	
4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.05	
Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.05	
Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.05	
4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	----	<0.2	<0.2	
Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.05	
Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	----	<0.2	<0.2	
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.05	
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.05	
EP068B: Organophosphorus Pesticides (OP)									
Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.05	
Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.05	
Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	----	<0.2	<0.2	
Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.05	
Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.05	
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.05	
Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	----	<0.2	<0.2	
Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.05	
Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.05	
Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.05	
Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	----	<0.2	<0.2	
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.05	
Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.05	
Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.05	
Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.05	
Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.05	
Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.05	
Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.05	
Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.05	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5	
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5	
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5	
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TP92_0.1	TP95_0.1	TP96_0.5	TP97_0.1	TP98_0.1
Sampling date / time				06-Apr-2021 00:00	06-Apr-2021 00:00	06-Apr-2021 00:00	06-Apr-2021 00:00	06-Apr-2021 00:00	
Compound	CAS Number	LOR	Unit	ES2113386-017	ES2113386-023	ES2113386-026	ES2113386-027	ES2113386-029	
				Result	Result	Result	Result	Result	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5	
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5	
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5	
Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5	
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5	
Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5	
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5	
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5	
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5	
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5	
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5	
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5	
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5	
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5	
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	0.6	0.6	----	0.6	0.6	
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	1.2	1.2	----	1.2	1.2	
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg	<10	<10	----	<10	<10	
C10 - C14 Fraction	----	50	mg/kg	<50	<50	----	<50	<50	
C15 - C28 Fraction	----	100	mg/kg	<100	<100	----	<100	<100	
C29 - C36 Fraction	----	100	mg/kg	<100	<100	----	<100	<100	
^ C10 - C36 Fraction (sum)	----	50	mg/kg	<50	<50	----	<50	<50	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	----	<10	<10	
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	<10	<10	----	<10	<10	
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	----	<50	<50	
>C16 - C34 Fraction	----	100	mg/kg	<100	<100	----	110	<100	
>C34 - C40 Fraction	----	100	mg/kg	<100	<100	----	<100	<100	
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	<50	----	110	<50	
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	<50	<50	----	<50	<50	
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	----	<0.2	<0.2	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TP92_0.1	TP95_0.1	TP96_0.5	TP97_0.1	TP98_0.1
Sampling date / time				06-Apr-2021 00:00	06-Apr-2021 00:00	06-Apr-2021 00:00	06-Apr-2021 00:00	06-Apr-2021 00:00	
Compound	CAS Number	LOR	Unit	ES2113386-017	ES2113386-023	ES2113386-026	ES2113386-027	ES2113386-029	
				Result	Result	Result	Result	Result	
EP080: BTEXN - Continued									
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5	
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5	
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5	
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5	
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	----	<0.2	<0.2	
^ Total Xylenes	----	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5	
Naphthalene	91-20-3	1	mg/kg	<1	<1	----	<1	<1	
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%	100	94.4	----	96.2	98.8	
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%	109	112	----	103	106	
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%	106	113	----	103	104	
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%	96.5	83.0	----	99.7	87.8	
2-Chlorophenol-D4	93951-73-6	0.5	%	101	97.6	----	101	94.5	
2,4,6-Tribromophenol	118-79-6	0.5	%	97.0	87.2	----	85.0	93.2	
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%	81.0	82.6	----	89.7	96.6	
Anthracene-d10	1719-06-8	0.5	%	87.6	85.5	----	85.8	85.2	
4-Terphenyl-d14	1718-51-0	0.5	%	113	108	----	102	95.6	
EP080S: TPH(V)/BTEX Surrogates									
1,2-Dichloroethane-D4	17060-07-0	0.2	%	89.6	85.6	----	89.3	91.8	
Toluene-D8	2037-26-5	0.2	%	89.5	83.6	----	87.6	93.6	
4-Bromofluorobenzene	460-00-4	0.2	%	88.3	85.9	----	87.0	89.4	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TP98_0.5	TP101_0.1	TP102_0.1	TP103_0.1	TP106_0.1
				Sampling date / time	06-Apr-2021 00:00	06-Apr-2021 00:00	06-Apr-2021 00:00	06-Apr-2021 00:00	06-Apr-2021 00:00
Compound	CAS Number	LOR	Unit		ES2113386-030	ES2113386-035	ES2113386-037	ES2113386-039	ES2113386-045
				Result	Result	Result	Result	Result	Result
EA033-A: Actual Acidity									
pH KCl (23A)	----	0.1	pH Unit		4.4	----	----	----	----
Titratable Actual Acidity (23F)	----	2	mole H+ / t		64	----	----	----	----
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S		0.10	----	----	----	----
EA033-B: Potential Acidity									
Chromium Reducible Sulfur (22B)	----	0.005	% S		0.013	----	----	----	----
acidity - Chromium Reducible Sulfur (a-22B)	----	10	mole H+ / t		<10	----	----	----	----
EA033-D: Retained Acidity									
KCl Extractable Sulfur (23Ce)	----	0.02	% S		<0.02	----	----	----	----
HCl Extractable Sulfur (20Be)	----	0.02	% S		<0.02	----	----	----	----
Net Acid Soluble Sulfur (20Je)	----	0.02	% S		<0.02	----	----	----	----
acidity - Net Acid Soluble Sulfur (a-20J)	----	10	mole H+ / t		<10	----	----	----	----
sulfidic - Net Acid Soluble Sulfur (s-20J)	----	0.02	% pyrite S		<0.02	----	----	----	----
EA033-E: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		1.5	----	----	----	----
Net Acidity (sulfur units)	----	0.02	% S		0.13	----	----	----	----
Net Acidity (acidity units)	----	10	mole H+ / t		79	----	----	----	----
Liming Rate	----	1	kg CaCO3/t		6	----	----	----	----
Net Acidity excluding ANC (sulfur units)	----	0.02	% S		0.13	----	----	----	----
Net Acidity excluding ANC (acidity units)	----	10	mole H+ / t		79	----	----	----	----
Liming Rate excluding ANC	----	1	kg CaCO3/t		6	----	----	----	----
EA037: Ass Field Screening Analysis									
ø pH (F)	----	0.1	pH Unit		5.3	----	----	----	----
ø pH (Fox)	----	0.1	pH Unit		4.0	----	----	----	----
ø Reaction Rate	----	1	-		1	----	----	----	----
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%		----	32.9	16.8	31.1	25.6
EG005(ED093)T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg		----	5	<5	<5	<5
Cadmium	7440-43-9	1	mg/kg		----	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg		----	10	15	10	9
Copper	7440-50-8	5	mg/kg		----	19	10	<5	6
Lead	7439-92-1	5	mg/kg		----	19	15	22	32
Nickel	7440-02-0	2	mg/kg		----	5	6	4	5



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TP98_0.5	TP101_0.1	TP102_0.1	TP103_0.1	TP106_0.1
Sampling date / time				06-Apr-2021 00:00	06-Apr-2021 00:00	06-Apr-2021 00:00	06-Apr-2021 00:00	06-Apr-2021 00:00	
Compound	CAS Number	LOR	Unit	ES2113386-030	ES2113386-035	ES2113386-037	ES2113386-039	ES2113386-045	
				Result	Result	Result	Result	Result	
EG005(ED093)T: Total Metals by ICP-AES - Continued									
Zinc	7440-66-6	5	mg/kg	----	40	34	23	24	
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg	----	0.1	<0.1	<0.1	<0.1	
EP066: Polychlorinated Biphenyls (PCB)									
Total Polychlorinated biphenyls	----	0.1	mg/kg	----	<0.1	<0.1	<0.1	<0.1	
EP068A: Organochlorine Pesticides (OC)									
alpha-BHC	319-84-6	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05	
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05	
beta-BHC	319-85-7	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05	
gamma-BHC	58-89-9	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05	
delta-BHC	319-86-8	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05	
Heptachlor	76-44-8	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05	
Aldrin	309-00-2	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05	
Heptachlor epoxide	1024-57-3	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05	
^ Total Chlordane (sum)	----	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05	
trans-Chlordane	5103-74-2	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05	
alpha-Endosulfan	959-98-8	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05	
cis-Chlordane	5103-71-9	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05	
Dieldrin	60-57-1	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05	
4,4'-DDE	72-55-9	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05	
Endrin	72-20-8	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05	
beta-Endosulfan	33213-65-9	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05	
^ Endosulfan (sum)	115-29-7	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05	
4,4'-DDD	72-54-8	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05	
Endrin aldehyde	7421-93-4	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05	
Endosulfan sulfate	1031-07-8	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05	
4,4'-DDT	50-29-3	0.2	mg/kg	----	<0.2	<0.2	<0.2	<0.2	
Endrin ketone	53494-70-5	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05	
Methoxychlor	72-43-5	0.2	mg/kg	----	<0.2	<0.2	<0.2	<0.2	
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05	
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05	
EP068B: Organophosphorus Pesticides (OP)									
Dichlorvos	62-73-7	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TP98_0.5	TP101_0.1	TP102_0.1	TP103_0.1	TP106_0.1
Sampling date / time				06-Apr-2021 00:00	06-Apr-2021 00:00	06-Apr-2021 00:00	06-Apr-2021 00:00	06-Apr-2021 00:00	
Compound	CAS Number	LOR	Unit	ES2113386-030	ES2113386-035	ES2113386-037	ES2113386-039	ES2113386-045	
				Result	Result	Result	Result	Result	
EP068B: Organophosphorus Pesticides (OP) - Continued									
Demeton-S-methyl	919-86-8	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05	
Monocrotophos	6923-22-4	0.2	mg/kg	----	<0.2	<0.2	<0.2	<0.2	
Dimethoate	60-51-5	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05	
Diazinon	333-41-5	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05	
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05	
Parathion-methyl	298-00-0	0.2	mg/kg	----	<0.2	<0.2	<0.2	<0.2	
Malathion	121-75-5	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05	
Fenthion	55-38-9	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05	
Chlorpyrifos	2921-88-2	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05	
Parathion	56-38-2	0.2	mg/kg	----	<0.2	<0.2	<0.2	<0.2	
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05	
Chlorfenvinphos	470-90-6	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05	
Bromophos-ethyl	4824-78-6	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05	
Fenamiphos	22224-92-6	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05	
Prothiofos	34643-46-4	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05	
Ethion	563-12-2	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05	
Carbophenothion	786-19-6	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05	
Azinphos Methyl	86-50-0	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg	----	<0.5	<0.5	<0.5	<0.5	
Acenaphthylene	208-96-8	0.5	mg/kg	----	<0.5	<0.5	<0.5	<0.5	
Acenaphthene	83-32-9	0.5	mg/kg	----	<0.5	<0.5	<0.5	<0.5	
Fluorene	86-73-7	0.5	mg/kg	----	<0.5	<0.5	<0.5	<0.5	
Phenanthrene	85-01-8	0.5	mg/kg	----	<0.5	<0.5	<0.5	<0.5	
Anthracene	120-12-7	0.5	mg/kg	----	<0.5	<0.5	<0.5	<0.5	
Fluoranthene	206-44-0	0.5	mg/kg	----	<0.5	<0.5	<0.5	<0.5	
Pyrene	129-00-0	0.5	mg/kg	----	<0.5	<0.5	<0.5	<0.5	
Benz(a)anthracene	56-55-3	0.5	mg/kg	----	<0.5	<0.5	<0.5	<0.5	
Chrysene	218-01-9	0.5	mg/kg	----	<0.5	<0.5	<0.5	<0.5	
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	----	<0.5	<0.5	<0.5	<0.5	
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	----	<0.5	<0.5	<0.5	<0.5	
Benzo(a)pyrene	50-32-8	0.5	mg/kg	----	<0.5	<0.5	<0.5	<0.5	
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	----	<0.5	<0.5	<0.5	<0.5	
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	----	<0.5	<0.5	<0.5	<0.5	
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	----	<0.5	<0.5	<0.5	<0.5	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TP98_0.5	TP101_0.1	TP102_0.1	TP103_0.1	TP106_0.1
Sampling date / time				06-Apr-2021 00:00	06-Apr-2021 00:00	06-Apr-2021 00:00	06-Apr-2021 00:00	06-Apr-2021 00:00	
Compound	CAS Number	LOR	Unit	ES2113386-030	ES2113386-035	ES2113386-037	ES2113386-039	ES2113386-045	
				Result	Result	Result	Result	Result	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	----	<0.5	<0.5	<0.5	<0.5	
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	----	<0.5	<0.5	<0.5	<0.5	
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	----	0.6	0.6	0.6	0.6	
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	----	1.2	1.2	1.2	1.2	
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg	----	<10	<10	<10	<10	
C10 - C14 Fraction	----	50	mg/kg	----	<50	<50	<50	<50	
C15 - C28 Fraction	----	100	mg/kg	----	<100	<100	<100	<100	
C29 - C36 Fraction	----	100	mg/kg	----	160	<100	110	<100	
^ C10 - C36 Fraction (sum)	----	50	mg/kg	----	160	<50	110	<50	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg	----	<10	<10	<10	<10	
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	----	<10	<10	<10	<10	
>C10 - C16 Fraction	----	50	mg/kg	----	<50	<50	<50	<50	
>C16 - C34 Fraction	----	100	mg/kg	----	240	<100	150	<100	
>C34 - C40 Fraction	----	100	mg/kg	----	140	<100	100	<100	
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	----	380	<50	250	<50	
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	----	<50	<50	<50	<50	
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg	----	<0.2	<0.2	<0.2	<0.2	
Toluene	108-88-3	0.5	mg/kg	----	<0.5	<0.5	<0.5	<0.5	
Ethylbenzene	100-41-4	0.5	mg/kg	----	<0.5	<0.5	<0.5	<0.5	
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	----	<0.5	<0.5	<0.5	<0.5	
ortho-Xylene	95-47-6	0.5	mg/kg	----	<0.5	<0.5	<0.5	<0.5	
^ Sum of BTEX	----	0.2	mg/kg	----	<0.2	<0.2	<0.2	<0.2	
^ Total Xylenes	----	0.5	mg/kg	----	<0.5	<0.5	<0.5	<0.5	
Naphthalene	91-20-3	1	mg/kg	----	<1	<1	<1	<1	
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%	----	108	105	93.4	107	
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%	----	115	128	98.7	138	
EP068T: Organophosphorus Pesticide Surrogate									



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TP98_0.5	TP101_0.1	TP102_0.1	TP103_0.1	TP106_0.1
Sampling date / time				06-Apr-2021 00:00	06-Apr-2021 00:00	06-Apr-2021 00:00	06-Apr-2021 00:00	06-Apr-2021 00:00	
Compound	CAS Number	LOR	Unit	ES2113386-030	ES2113386-035	ES2113386-037	ES2113386-039	ES2113386-045	
				Result	Result	Result	Result	Result	
EP068T: Organophosphorus Pesticide Surrogate - Continued									
DEF	78-48-8	0.05	%	----	133	110	102	127	
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%	----	89.1	96.1	94.8	92.4	
2-Chlorophenol-D4	93951-73-6	0.5	%	----	88.2	98.2	88.5	97.7	
2,4,6-Tribromophenol	118-79-6	0.5	%	----	97.6	84.8	91.0	79.5	
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%	----	93.2	87.7	98.7	96.7	
Anthracene-d10	1719-06-8	0.5	%	----	83.2	80.4	92.1	84.1	
4-Terphenyl-d14	1718-51-0	0.5	%	----	110	110	104	95.3	
EP080S: TPH(V)/BTEX Surrogates									
1,2-Dichloroethane-D4	17060-07-0	0.2	%	----	86.2	78.4	75.8	79.0	
Toluene-D8	2037-26-5	0.2	%	----	84.7	81.6	76.2	79.0	
4-Bromofluorobenzene	460-00-4	0.2	%	----	86.1	95.9	86.0	90.1	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)		Sample ID		TP110_0.5	TP111_0.1	----	----	----
		Sampling date / time		06-Apr-2021 00:00	06-Apr-2021 00:00	----	----	----
Compound	CAS Number	LOR	Unit	ES2113386-054	ES2113386-055	-----	-----	-----
				Result	Result	----	----	----
EA033-A: Actual Acidity								
pH KCl (23A)	----	0.1	pH Unit	4.3	----	----	----	----
Titratable Actual Acidity (23F)	----	2	mole H+ / t	78	----	----	----	----
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	0.12	----	----	----	----
EA033-B: Potential Acidity								
Chromium Reducible Sulfur (22B)	----	0.005	% S	0.012	----	----	----	----
acidity - Chromium Reducible Sulfur (a-22B)	----	10	mole H+ / t	<10	----	----	----	----
EA033-D: Retained Acidity								
KCl Extractable Sulfur (23Ce)	----	0.02	% S	<0.02	----	----	----	----
HCl Extractable Sulfur (20Be)	----	0.02	% S	0.03	----	----	----	----
Net Acid Soluble Sulfur (20Je)	----	0.02	% S	0.02	----	----	----	----
acidity - Net Acid Soluble Sulfur (a-20J)	----	10	mole H+ / t	12	----	----	----	----
sulfidic - Net Acid Soluble Sulfur (s-20J)	----	0.02	% pyrite S	<0.02	----	----	----	----
EA033-E: Acid Base Accounting								
ANC Fineness Factor	----	0.5	-	1.5	----	----	----	----
Net Acidity (sulfur units)	----	0.02	% S	0.16	----	----	----	----
Net Acidity (acidity units)	----	10	mole H+ / t	98	----	----	----	----
Liming Rate	----	1	kg CaCO3/t	7	----	----	----	----
Net Acidity excluding ANC (sulfur units)	----	0.02	% S	0.16	----	----	----	----
Net Acidity excluding ANC (acidity units)	----	10	mole H+ / t	98	----	----	----	----
Liming Rate excluding ANC	----	1	kg CaCO3/t	7	----	----	----	----
EA037: Ass Field Screening Analysis								
ø pH (F)	----	0.1	pH Unit	5.6	----	----	----	----
ø pH (Fox)	----	0.1	pH Unit	4.1	----	----	----	----
ø Reaction Rate	----	1	-	1	----	----	----	----
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	----	11.7	----	----	----
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	----	<5	----	----	----
Cadmium	7440-43-9	1	mg/kg	----	<1	----	----	----
Chromium	7440-47-3	2	mg/kg	----	11	----	----	----
Copper	7440-50-8	5	mg/kg	----	11	----	----	----
Lead	7439-92-1	5	mg/kg	----	10	----	----	----
Nickel	7440-02-0	2	mg/kg	----	9	----	----	----



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TP110_0.5	TP111_0.1	----	----	----
Sampling date / time				06-Apr-2021 00:00	06-Apr-2021 00:00	----	----	----	
Compound	CAS Number	LOR	Unit	ES2113386-054	ES2113386-055	-----	-----	-----	
				Result	Result	----	----	----	
EG005(ED093)T: Total Metals by ICP-AES - Continued									
Zinc	7440-66-6	5	mg/kg	----	54	----	----	----	
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg	----	<0.1	----	----	----	
EP066: Polychlorinated Biphenyls (PCB)									
Total Polychlorinated biphenyls	----	0.1	mg/kg	----	<0.1	----	----	----	
EP068A: Organochlorine Pesticides (OC)									
alpha-BHC	319-84-6	0.05	mg/kg	----	<0.05	----	----	----	
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	----	<0.05	----	----	----	
beta-BHC	319-85-7	0.05	mg/kg	----	<0.05	----	----	----	
gamma-BHC	58-89-9	0.05	mg/kg	----	<0.05	----	----	----	
delta-BHC	319-86-8	0.05	mg/kg	----	<0.05	----	----	----	
Heptachlor	76-44-8	0.05	mg/kg	----	<0.05	----	----	----	
Aldrin	309-00-2	0.05	mg/kg	----	<0.05	----	----	----	
Heptachlor epoxide	1024-57-3	0.05	mg/kg	----	<0.05	----	----	----	
^ Total Chlordane (sum)	----	0.05	mg/kg	----	<0.05	----	----	----	
trans-Chlordane	5103-74-2	0.05	mg/kg	----	<0.05	----	----	----	
alpha-Endosulfan	959-98-8	0.05	mg/kg	----	<0.05	----	----	----	
cis-Chlordane	5103-71-9	0.05	mg/kg	----	<0.05	----	----	----	
Dieldrin	60-57-1	0.05	mg/kg	----	<0.05	----	----	----	
4,4'-DDE	72-55-9	0.05	mg/kg	----	<0.05	----	----	----	
Endrin	72-20-8	0.05	mg/kg	----	<0.05	----	----	----	
beta-Endosulfan	33213-65-9	0.05	mg/kg	----	<0.05	----	----	----	
^ Endosulfan (sum)	115-29-7	0.05	mg/kg	----	<0.05	----	----	----	
4,4'-DDD	72-54-8	0.05	mg/kg	----	<0.05	----	----	----	
Endrin aldehyde	7421-93-4	0.05	mg/kg	----	<0.05	----	----	----	
Endosulfan sulfate	1031-07-8	0.05	mg/kg	----	<0.05	----	----	----	
4,4'-DDT	50-29-3	0.2	mg/kg	----	<0.2	----	----	----	
Endrin ketone	53494-70-5	0.05	mg/kg	----	<0.05	----	----	----	
Methoxychlor	72-43-5	0.2	mg/kg	----	<0.2	----	----	----	
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	----	<0.05	----	----	----	
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.05	mg/kg	----	<0.05	----	----	----	
EP068B: Organophosphorus Pesticides (OP)									
Dichlorvos	62-73-7	0.05	mg/kg	----	<0.05	----	----	----	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TP110_0.5	TP111_0.1	----	----	----
Sampling date / time				06-Apr-2021 00:00	06-Apr-2021 00:00	----	----	----	
Compound	CAS Number	LOR	Unit	ES2113386-054	ES2113386-055	-----	-----	-----	
				Result	Result	----	----	----	
EP068B: Organophosphorus Pesticides (OP) - Continued									
Demeton-S-methyl	919-86-8	0.05	mg/kg	----	<0.05	----	----	----	
Monocrotophos	6923-22-4	0.2	mg/kg	----	<0.2	----	----	----	
Dimethoate	60-51-5	0.05	mg/kg	----	<0.05	----	----	----	
Diazinon	333-41-5	0.05	mg/kg	----	<0.05	----	----	----	
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	----	<0.05	----	----	----	
Parathion-methyl	298-00-0	0.2	mg/kg	----	<0.2	----	----	----	
Malathion	121-75-5	0.05	mg/kg	----	<0.05	----	----	----	
Fenthion	55-38-9	0.05	mg/kg	----	<0.05	----	----	----	
Chlorpyrifos	2921-88-2	0.05	mg/kg	----	<0.05	----	----	----	
Parathion	56-38-2	0.2	mg/kg	----	<0.2	----	----	----	
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	----	<0.05	----	----	----	
Chlorfenvinphos	470-90-6	0.05	mg/kg	----	<0.05	----	----	----	
Bromophos-ethyl	4824-78-6	0.05	mg/kg	----	<0.05	----	----	----	
Fenamiphos	22224-92-6	0.05	mg/kg	----	<0.05	----	----	----	
Prothiofos	34643-46-4	0.05	mg/kg	----	<0.05	----	----	----	
Ethion	563-12-2	0.05	mg/kg	----	<0.05	----	----	----	
Carbophenothion	786-19-6	0.05	mg/kg	----	<0.05	----	----	----	
Azinphos Methyl	86-50-0	0.05	mg/kg	----	<0.05	----	----	----	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg	----	<0.5	----	----	----	
Acenaphthylene	208-96-8	0.5	mg/kg	----	<0.5	----	----	----	
Acenaphthene	83-32-9	0.5	mg/kg	----	<0.5	----	----	----	
Fluorene	86-73-7	0.5	mg/kg	----	<0.5	----	----	----	
Phenanthrene	85-01-8	0.5	mg/kg	----	<0.5	----	----	----	
Anthracene	120-12-7	0.5	mg/kg	----	<0.5	----	----	----	
Fluoranthene	206-44-0	0.5	mg/kg	----	<0.5	----	----	----	
Pyrene	129-00-0	0.5	mg/kg	----	<0.5	----	----	----	
Benz(a)anthracene	56-55-3	0.5	mg/kg	----	<0.5	----	----	----	
Chrysene	218-01-9	0.5	mg/kg	----	<0.5	----	----	----	
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	----	<0.5	----	----	----	
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	----	<0.5	----	----	----	
Benzo(a)pyrene	50-32-8	0.5	mg/kg	----	<0.5	----	----	----	
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	----	<0.5	----	----	----	
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	----	<0.5	----	----	----	
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	----	<0.5	----	----	----	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TP110_0.5	TP111_0.1	----	----	----
Sampling date / time				06-Apr-2021 00:00	06-Apr-2021 00:00	----	----	----	
Compound	CAS Number	LOR	Unit	ES2113386-054	ES2113386-055	-----	-----	-----	
				Result	Result	----	----	----	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	----	<0.5	----	----	----	
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	----	<0.5	----	----	----	
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	----	0.6	----	----	----	
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	----	1.2	----	----	----	
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg	----	<10	----	----	----	
C10 - C14 Fraction	----	50	mg/kg	----	<50	----	----	----	
C15 - C28 Fraction	----	100	mg/kg	----	<100	----	----	----	
C29 - C36 Fraction	----	100	mg/kg	----	<100	----	----	----	
^ C10 - C36 Fraction (sum)	----	50	mg/kg	----	<50	----	----	----	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg	----	<10	----	----	----	
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	----	<10	----	----	----	
>C10 - C16 Fraction	----	50	mg/kg	----	<50	----	----	----	
>C16 - C34 Fraction	----	100	mg/kg	----	<100	----	----	----	
>C34 - C40 Fraction	----	100	mg/kg	----	<100	----	----	----	
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	----	<50	----	----	----	
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	----	<50	----	----	----	
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg	----	<0.2	----	----	----	
Toluene	108-88-3	0.5	mg/kg	----	<0.5	----	----	----	
Ethylbenzene	100-41-4	0.5	mg/kg	----	<0.5	----	----	----	
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	----	<0.5	----	----	----	
ortho-Xylene	95-47-6	0.5	mg/kg	----	<0.5	----	----	----	
^ Sum of BTEX	----	0.2	mg/kg	----	<0.2	----	----	----	
^ Total Xylenes	----	0.5	mg/kg	----	<0.5	----	----	----	
Naphthalene	91-20-3	1	mg/kg	----	<1	----	----	----	
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%	----	104	----	----	----	
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%	----	114	----	----	----	
EP068T: Organophosphorus Pesticide Surrogate									



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TP110_0.5	TP111_0.1	----	----	----
Sampling date / time				06-Apr-2021 00:00	06-Apr-2021 00:00	----	----	----	
Compound	CAS Number	LOR	Unit	ES2113386-054	ES2113386-055	-----	-----	-----	
				Result	Result	----	----	----	
EP068T: Organophosphorus Pesticide Surrogate - Continued									
DEF	78-48-8	0.05	%	----	88.0	----	----	----	
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%	----	84.9	----	----	----	
2-Chlorophenol-D4	93951-73-6	0.5	%	----	90.7	----	----	----	
2,4,6-Tribromophenol	118-79-6	0.5	%	----	85.0	----	----	----	
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%	----	96.6	----	----	----	
Anthracene-d10	1719-06-8	0.5	%	----	87.6	----	----	----	
4-Terphenyl-d14	1718-51-0	0.5	%	----	107	----	----	----	
EP080S: TPH(V)/BTEX Surrogates									
1,2-Dichloroethane-D4	17060-07-0	0.2	%	----	85.8	----	----	----	
Toluene-D8	2037-26-5	0.2	%	----	88.0	----	----	----	
4-Bromofluorobenzene	460-00-4	0.2	%	----	99.8	----	----	----	



Surrogate Control Limits

Sub-Matrix: SOIL		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP066S: PCB Surrogate			
Decachlorobiphenyl	2051-24-3	39	149
EP068S: Organochlorine Pesticide Surrogate			
Dibromo-DDE	21655-73-2	49	147
EP068T: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	35	143
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	63	123
2-Chlorophenol-D4	93951-73-6	66	122
2,4,6-Tribromophenol	118-79-6	40	138
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	70	122
Anthracene-d10	1719-06-8	66	128
4-Terphenyl-d14	1718-51-0	65	129
EP080S: TPH(V)/BTEX Surrogates			
1,2-Dichloroethane-D4	17060-07-0	73	133
Toluene-D8	2037-26-5	74	132
4-Bromofluorobenzene	460-00-4	72	130

Inter-Laboratory Testing

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

- (SOIL) EA037: Ass Field Screening Analysis
- (SOIL) EA033-B: Potential Acidity
- (SOIL) EA033-C: Acid Neutralising Capacity
- (SOIL) EA033-D: Retained Acidity
- (SOIL) EA033-A: Actual Acidity
- (SOIL) EA033-E: Acid Base Accounting

QUALITY CONTROL REPORT

Work Order	: ES2113386	Page	: 1 of 14
Client	: EP Risk Management	Laboratory	: Environmental Division Sydney
Contact	: LUKE Kerry	Contact	: Hannah White
Address	: 3/19 BOLTON STREET NEWCASTLE NSW 2300	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: +61-2-8784 8555
Project	: EP1995	Date Samples Received	: 09-Apr-2021
Order number	: ----	Date Analysis Commenced	: 15-Apr-2021
C-O-C number	: ----	Issue Date	: 23-Apr-2021
Sampler	: Gilles Renda		
Site	: ----		
Quote number	: SY/497/20 Primary analysis only		
No. of samples received	: 56		
No. of samples analysed	: 17		



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

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

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

<i>Signatories</i>	<i>Position</i>	<i>Accreditation Category</i>
Edwandy Fadjar	Organic Coordinator	Sydney Inorganics, Smithfield, NSW
Edwandy Fadjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Ivan Taylor	Analyst	Sydney Inorganics, Smithfield, NSW
Satishkumar Trivedi	Senior Acid Sulfate Soil Chemist	Brisbane Acid Sulphate Soils, Stafford, QLD



General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high

Key :
 Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
 CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
 LOR = Limit of reporting
 RPD = Relative Percentage Difference
 # = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 3632967)									
ES2113384-032	Anonymous	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.00	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	18	23	25.8	0% - 50%
		EG005T: Nickel	7440-02-0	2	mg/kg	18	23	28.0	0% - 50%
		EG005T: Arsenic	7440-38-2	5	mg/kg	6	6	0.00	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	18	21	16.0	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	12	15	23.0	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	80	76	5.52	0% - 50%
ES2113386-027	TP97_0.1	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.00	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	12	6	58.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	4	3	0.00	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	5	<5	0.00	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	<5	<5	0.00	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	16	16	0.00	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	24	32	25.5	No Limit
EA033-A: Actual Acidity (QC Lot: 3631462)									
EB2110538-009	Anonymous	EA033: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA033: Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	<2	0.00	No Limit
		EA033: pH KCl (23A)	----	0.1	pH Unit	8.4	8.4	0.00	0% - 20%
ES2113633-020	Anonymous	EA033: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	0.14	0.14	0.00	No Limit
		EA033: Titratable Actual Acidity (23F)	----	2	mole H+ / t	89	85	4.22	0% - 20%
		EA033: pH KCl (23A)	----	0.1	pH Unit	4.1	4.1	0.00	0% - 20%
EA033-B: Potential Acidity (QC Lot: 3631462)									
EB2110538-009	Anonymous	EA033: Chromium Reducible Sulfur (22B)	----	0.005	% S	1.26	1.25	0.612	0% - 20%
		EA033: acidity - Chromium Reducible Sulfur (a-22B)	----	10	mole H+ / t	787	783	0.612	0% - 20%



Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EA033-B: Potential Acidity (QC Lot: 3631462) - continued									
ES2113633-020	Anonymous	EA033: Chromium Reducible Sulfur (22B)	----	0.005	% S	0.011	0.012	13.1	No Limit
		EA033: acidity - Chromium Reducible Sulfur (a-22B)	----	10	mole H+ / t	<10	<10	0.00	No Limit
EA033-D: Retained Acidity (QC Lot: 3631462)									
ES2113633-020	Anonymous	EA033: sulfidic - Net Acid Soluble Sulfur (s-20J)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA033: Net Acid Soluble Sulfur (20Je)	----	0.02	% S	<0.02	<0.02	0.00	No Limit
		EA033: KCl Extractable Sulfur (23Ce)	----	0.02	% S	<0.02	<0.02	0.00	No Limit
		EA033: HCl Extractable Sulfur (20Be)	----	0.02	% S	0.02	0.02	0.00	No Limit
		EA033: acidity - Net Acid Soluble Sulfur (a-20J)	----	10	mole H+ / t	<10	<10	0.00	No Limit
EA037: Ass Field Screening Analysis (QC Lot: 3626383)									
ES2113270-018	Anonymous	EA037: pH (F)	----	0.1	pH Unit	6.2	6.3	0.00	0% - 20%
		EA037: pH (Fox)	----	0.1	pH Unit	4.6	4.7	0.00	0% - 20%
ES2113382-022	Anonymous	EA037: pH (F)	----	0.1	pH Unit	4.8	4.8	0.00	0% - 20%
		EA037: pH (Fox)	----	0.1	pH Unit	3.7	3.7	0.00	0% - 20%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 3630071)									
ES2113385-017	Anonymous	EA055: Moisture Content	----	0.1	%	22.5	21.1	6.36	0% - 20%
ES2113386-010	TP88_0.5	EA055: Moisture Content	----	0.1	%	22.2	22.9	3.07	0% - 20%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 3630072)									
ES2113386-045	TP106_0.1	EA055: Moisture Content	----	0.1	%	25.6	24.8	2.85	0% - 20%
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 3632968)									
ES2113384-032	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
ES2113386-027	TP97_0.1	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
EP066: Polychlorinated Biphenyls (PCB) (QC Lot: 3622093)									
ES2113384-017	Anonymous	EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
ES2113386-013	TP90_0.1	EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
EP068A: Organochlorine Pesticides (OC) (QC Lot: 3622092)									
ES2113384-017	Anonymous	EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4,4'-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP068A: Organochlorine Pesticides (OC) (QC Lot: 3622092) - continued									
ES2113384-017	Anonymous	EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4.4'-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4.4'-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
ES2113386-013	TP90_0.1	EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4.4'-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4.4'-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4.4'-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	0.00	No Limit		
EP068B: Organophosphorus Pesticides (OP) (QC Lot: 3622092)									
ES2113384-017	Anonymous	EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report							
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)		
EP068B: Organophosphorus Pesticides (OP) (QC Lot: 3622092) - continued											
ES2113384-017	Anonymous	EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit		
		EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit		
		EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	0.00	No Limit		
		EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit		
		EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit		
		EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	0.00	No Limit		
		EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	0.00	No Limit		
		EP068: Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	0.00	No Limit		
		EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit		
ES2113386-013	TP90_0.1	EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	0.00	No Limit		
		EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit		
		EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit		
		EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit		
		EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	0.00	No Limit		
		EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit		
		EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit		
		EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit		
		EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit		
		EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit		
		EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit		
		EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit		
		EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	0.00	No Limit		
		EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit		
		EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit		
		EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	0.00	No Limit		
		EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	0.00	No Limit		
		EP068: Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	0.00	No Limit		
		EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit		
		EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 3622091)									
		ES2113384-017	Anonymous	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
EP075(SIM): Acenaphthylene	208-96-8			0.5	mg/kg	<0.5	<0.5	0.00	No Limit		
EP075(SIM): Acenaphthene	83-32-9			0.5	mg/kg	<0.5	<0.5	0.00	No Limit		
EP075(SIM): Fluorene	86-73-7			0.5	mg/kg	<0.5	<0.5	0.00	No Limit		
EP075(SIM): Phenanthrene	85-01-8			0.5	mg/kg	<0.5	<0.5	0.00	No Limit		
EP075(SIM): Anthracene	120-12-7			0.5	mg/kg	<0.5	<0.5	0.00	No Limit		
EP075(SIM): Fluoranthene	206-44-0			0.5	mg/kg	<0.5	<0.5	0.00	No Limit		
EP075(SIM): Pyrene	129-00-0			0.5	mg/kg	<0.5	<0.5	0.00	No Limit		
EP075(SIM): Benz(a)anthracene	56-55-3			0.5	mg/kg	<0.5	<0.5	0.00	No Limit		
EP075(SIM): Chrysene	218-01-9			0.5	mg/kg	<0.5	<0.5	0.00	No Limit		



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 3622091) - continued									
ES2113384-017	Anonymous	EP075(SIM): Benzo(b+j)fluoranthene	205-99-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
			205-82-3						
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
	EP075(SIM): Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
ES2113386-013	TP90_0.1	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
			205-82-3						
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
	EP075(SIM): Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 3621832)									
ES2113385-005	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.00	No Limit
ES2113385-069	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.00	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 3621842)									
ES2113386-055	TP111_0.1	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.00	No Limit
ES2113386-037	TP102_0.1	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.00	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 3622090)									
ES2113384-017	Anonymous	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.00	No Limit



Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 3622090) - continued									
ES2113386-013	TP90_0.1	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.00	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3621832)									
ES2113385-005	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.00	No Limit
ES2113385-069	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.00	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3621842)									
ES2113386-055	TP111_0.1	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.00	No Limit
ES2113386-037	TP102_0.1	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.00	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3622090)									
ES2113384-017	Anonymous	EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.00	No Limit
ES2113386-013	TP90_0.1	EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.00	No Limit
EP080: BTEXN (QC Lot: 3621832)									
ES2113385-005	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: meta- & para-Xylene	108-38-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
			106-42-3						
	EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
	EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.00	No Limit	
ES2113385-069	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: meta- & para-Xylene	108-38-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
			106-42-3						
	EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
	EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.00	No Limit	
EP080: BTEXN (QC Lot: 3621842)									
ES2113386-055	TP111_0.1	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: meta- & para-Xylene	108-38-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
			106-42-3						
	EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
	EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.00	No Limit	



Sub-Matrix: **SOIL**

				<i>Laboratory Duplicate (DUP) Report</i>						
<i>Laboratory sample ID</i>	<i>Sample ID</i>	<i>Method: Compound</i>	<i>CAS Number</i>	<i>LOR</i>	<i>Unit</i>	<i>Original Result</i>	<i>Duplicate Result</i>	<i>RPD (%)</i>	<i>Acceptable RPD (%)</i>	
EP080: BTEXN (QC Lot: 3621842) - continued										
ES2113386-037	TP102_0.1	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit	
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP080: meta- & para-Xylene	108-38-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
			106-42-3							
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.00	No Limit	



Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike Concentration	Spike Recovery (%)		Acceptable Limits (%)	
						LCS	Low	High	
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 3632967)									
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	121.1 mg/kg	109	88.0	113	
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	0.74 mg/kg	130	70.0	130	
EG005T: Chromium	7440-47-3	2	mg/kg	<2	20.2 mg/kg	132	68.0	132	
EG005T: Copper	7440-50-8	5	mg/kg	<5	52.9 mg/kg	110	89.0	111	
EG005T: Lead	7439-92-1	5	mg/kg	<5	62.1 mg/kg	119	82.0	119	
EG005T: Nickel	7440-02-0	2	mg/kg	<2	15.4 mg/kg	118	80.0	120	
EG005T: Zinc	7440-66-6	5	mg/kg	<5	162 mg/kg	99.8	66.0	133	
EA033-A: Actual Acidity (QCLot: 3631462)									
EA033: pH KCl (23A)	----	----	pH Unit	----	4.4 pH Unit	97.7	91.0	107	
EA033: Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	15 mole H+ / t	98.5	70.0	124	
EA033: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	----	----	----	----	
EA033-B: Potential Acidity (QCLot: 3631462)									
EA033: Chromium Reducible Sulfur (22B)	----	0.005	% S	<0.005	0.155 % S	91.4	77.0	121	
EA033: acidity - Chromium Reducible Sulfur (a-22B)	----	10	mole H+ / t	<10	----	----	----	----	
EA033-D: Retained Acidity (QCLot: 3631462)									
EA033: Net Acid Soluble Sulfur (20Je)	----	0.02	% S	<0.02	----	----	----	----	
EA033: acidity - Net Acid Soluble Sulfur (a-20J)	----	10	mole H+ / t	<10	----	----	----	----	
EA033: sulfidic - Net Acid Soluble Sulfur (s-20J)	----	0.02	% pyrite S	<0.02	----	----	----	----	
EA033: KCl Extractable Sulfur (23Ce)	----	0.02	% S	<0.02	0.04779 % S	96.2	70.0	128	
EA033: HCl Extractable Sulfur (20Be)	----	0.02	% S	<0.02	0.279 % S	102	70.0	120	
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3632968)									
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	0.073 mg/kg	119	70.0	130	
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 3622093)									
EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	1 mg/kg	81.2	62.0	126	
EP068A: Organochlorine Pesticides (OC) (QCLot: 3622092)									
EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	0.5 mg/kg	85.7	69.0	113	
EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	0.5 mg/kg	92.8	65.0	117	
EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	0.5 mg/kg	87.9	67.0	119	
EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	0.5 mg/kg	77.7	68.0	116	
EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	81.6	65.0	117	
EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	0.5 mg/kg	82.4	67.0	115	
EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	0.5 mg/kg	82.2	69.0	115	
EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	0.5 mg/kg	88.7	62.0	118	



Sub-Matrix: SOIL

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike	Spike Recovery (%)		Acceptable Limits (%)	
					Concentration	LCS	Low	High	
EP068A: Organochlorine Pesticides (OC) (QCLot: 3622092) - continued									
EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	0.5 mg/kg	88.4	63.0	117	
EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	0.5 mg/kg	87.2	66.0	116	
EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	0.5 mg/kg	90.2	64.0	116	
EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	0.5 mg/kg	91.8	66.0	116	
EP068: 4.4'-DDE	72-55-9	0.05	mg/kg	<0.05	0.5 mg/kg	84.1	67.0	115	
EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	0.5 mg/kg	78.1	67.0	123	
EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	0.5 mg/kg	88.2	69.0	115	
EP068: 4.4'-DDD	72-54-8	0.05	mg/kg	<0.05	0.5 mg/kg	93.8	69.0	121	
EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	0.5 mg/kg	94.0	56.0	120	
EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	0.5 mg/kg	81.5	62.0	124	
EP068: 4.4'-DDT	50-29-3	0.2	mg/kg	<0.2	0.5 mg/kg	88.6	66.0	120	
EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	0.5 mg/kg	86.7	64.0	122	
EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	0.5 mg/kg	82.0	54.0	130	
EP068B: Organophosphorus Pesticides (OP) (QCLot: 3622092)									
EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	0.5 mg/kg	85.5	59.0	119	
EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	85.0	62.0	128	
EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	0.5 mg/kg	91.5	54.0	126	
EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	0.5 mg/kg	90.2	67.0	119	
EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	0.5 mg/kg	82.5	70.0	120	
EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	0.5 mg/kg	88.2	72.0	120	
EP068: Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	0.5 mg/kg	84.5	68.0	120	
EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	0.5 mg/kg	86.8	68.0	122	
EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	0.5 mg/kg	82.6	69.0	117	
EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	0.5 mg/kg	80.6	76.0	118	
EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	0.5 mg/kg	79.1	64.0	122	
EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	0.5 mg/kg	75.6	70.0	116	
EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	0.5 mg/kg	91.7	69.0	121	
EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	0.5 mg/kg	84.1	66.0	118	
EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	0.5 mg/kg	76.6	68.0	124	
EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	0.5 mg/kg	90.3	62.0	112	
EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	0.5 mg/kg	97.0	68.0	120	
EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	0.5 mg/kg	87.9	65.0	127	
EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	0.5 mg/kg	71.6	41.0	123	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3622091)									
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	6 mg/kg	96.4	77.0	125	
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	6 mg/kg	93.2	72.0	124	
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	6 mg/kg	101	73.0	127	
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	6 mg/kg	92.0	72.0	126	
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	6 mg/kg	103	75.0	127	



Sub-Matrix: SOIL

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike	Spike Recovery (%)		Acceptable Limits (%)	
					Concentration	LCS	Low	High	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3622091) - continued									
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	6 mg/kg	96.8	77.0	127	
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	6 mg/kg	104	73.0	127	
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	6 mg/kg	95.5	74.0	128	
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	6 mg/kg	100	69.0	123	
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	6 mg/kg	104	75.0	127	
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	6 mg/kg	92.4	68.0	116	
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	6 mg/kg	93.8	74.0	126	
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	6 mg/kg	100	70.0	126	
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	6 mg/kg	90.5	61.0	121	
EP075(SIM): Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	6 mg/kg	87.0	62.0	118	
EP075(SIM): Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	6 mg/kg	88.6	63.0	121	
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3621832)									
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	26 mg/kg	100.0	68.4	128	
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3621842)									
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	26 mg/kg	89.4	68.4	128	
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3622090)									
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	300 mg/kg	102	75.0	129	
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	450 mg/kg	102	77.0	131	
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	300 mg/kg	104	71.0	129	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3621832)									
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	31 mg/kg	104	68.4	128	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3621842)									
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	31 mg/kg	91.8	68.4	128	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3622090)									
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	375 mg/kg	99.2	77.0	125	
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	525 mg/kg	105	74.0	138	
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	225 mg/kg	88.3	63.0	131	
EP080: BTEXN (QCLot: 3621832)									
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	96.5	62.0	116	
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	97.9	67.0	121	
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	98.9	65.0	117	
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	2 mg/kg	102	66.0	118	
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	102	68.0	120	
EP080: Naphthalene	91-20-3	1	mg/kg	<1	1 mg/kg	110	63.0	119	
EP080: BTEXN (QCLot: 3621842)									
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	88.6	62.0	116	



Sub-Matrix: SOIL				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%) LCS	Acceptable Limits (%) Low High	
EP080: BTEXN (QCLot: 3621842) - continued								
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	92.2	67.0	121
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	90.6	65.0	117
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	2 mg/kg	93.9	66.0	118
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	94.1	68.0	120
EP080: Naphthalene	91-20-3	1	mg/kg	<1	1 mg/kg	93.9	63.0	119

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: SOIL				Matrix Spike (MS) Report			
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Spike Concentration	Spike Recovery (%) MS	Acceptable Limits (%) Low High	
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 3632967)							
ES2113384-032	Anonymous	EG005T: Arsenic	7440-38-2	50 mg/kg	73.7	70.0	130
		EG005T: Cadmium	7440-43-9	50 mg/kg	83.0	70.0	130
		EG005T: Chromium	7440-47-3	50 mg/kg	82.3	68.0	132
		EG005T: Copper	7440-50-8	250 mg/kg	74.0	70.0	130
		EG005T: Lead	7439-92-1	250 mg/kg	87.7	70.0	130
		EG005T: Nickel	7440-02-0	50 mg/kg	82.0	70.0	130
		EG005T: Zinc	7440-66-6	250 mg/kg	86.0	66.0	133
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3632968)							
ES2113384-032	Anonymous	EG035T: Mercury	7439-97-6	5 mg/kg	77.4	70.0	130
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 3622093)							
ES2113384-017	Anonymous	EP066: Total Polychlorinated biphenyls	---	1 mg/kg	80.8	70.0	130
EP068A: Organochlorine Pesticides (OC) (QCLot: 3622092)							
ES2113384-017	Anonymous	EP068: gamma-BHC	58-89-9	0.5 mg/kg	94.2	70.0	130
		EP068: Heptachlor	76-44-8	0.5 mg/kg	81.2	70.0	130
		EP068: Aldrin	309-00-2	0.5 mg/kg	94.5	70.0	130
		EP068: Dieldrin	60-57-1	0.5 mg/kg	90.0	70.0	130
		EP068: Endrin	72-20-8	2 mg/kg	88.1	70.0	130
		EP068: 4,4'-DDT	50-29-3	2 mg/kg	80.6	70.0	130
EP068B: Organophosphorus Pesticides (OP) (QCLot: 3622092)							
ES2113384-017	Anonymous	EP068: Diazinon	333-41-5	0.5 mg/kg	83.5	70.0	130
		EP068: Chlorpyrifos-methyl	5598-13-0	0.5 mg/kg	82.9	70.0	130
		EP068: Pirimphos-ethyl	23505-41-1	0.5 mg/kg	77.2	70.0	130
		EP068: Bromophos-ethyl	4824-78-6	0.5 mg/kg	82.2	70.0	130



Sub-Matrix: SOIL

				Matrix Spike (MS) Report				
				Spike	SpikeRecovery(%)	Acceptable Limits (%)		
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High	
EP068B: Organophosphorus Pesticides (OP) (QCLot: 3622092) - continued								
ES2113384-017	Anonymous	EP068: Prothiofos	34643-46-4	0.5 mg/kg	79.2	70.0	130	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3622091)								
ES2113384-017	Anonymous	EP075(SIM): Acenaphthene	83-32-9	10 mg/kg	95.3	70.0	130	
		EP075(SIM): Pyrene	129-00-0	10 mg/kg	87.3	70.0	130	
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3621832)								
ES2113385-005	Anonymous	EP080: C6 - C9 Fraction	----	32.5 mg/kg	92.1	70.0	130	
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3621842)								
ES2113386-055	TP111_0.1	EP080: C6 - C9 Fraction	----	32.5 mg/kg	104	70.0	130	
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3622090)								
ES2113384-017	Anonymous	EP071: C10 - C14 Fraction	----	523 mg/kg	110	73.0	137	
		EP071: C15 - C28 Fraction	----	2319 mg/kg	113	53.0	131	
		EP071: C29 - C36 Fraction	----	1714 mg/kg	117	52.0	132	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3621832)								
ES2113385-005	Anonymous	EP080: C6 - C10 Fraction	C6_C10	37.5 mg/kg	94.6	70.0	130	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3621842)								
ES2113386-055	TP111_0.1	EP080: C6 - C10 Fraction	C6_C10	37.5 mg/kg	107	70.0	130	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3622090)								
ES2113384-017	Anonymous	EP071: >C10 - C16 Fraction	----	860 mg/kg	109	73.0	137	
		EP071: >C16 - C34 Fraction	----	3223 mg/kg	123	53.0	131	
		EP071: >C34 - C40 Fraction	----	1058 mg/kg	102	52.0	132	
EP080: BTEXN (QCLot: 3621832)								
ES2113385-005	Anonymous	EP080: Benzene	71-43-2	2.5 mg/kg	85.7	70.0	130	
		EP080: Toluene	108-88-3	2.5 mg/kg	84.7	70.0	130	
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	86.8	70.0	130	
		EP080: meta- & para-Xylene	108-38-3	2.5 mg/kg	82.8	70.0	130	
			106-42-3					
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	87.5	70.0	130	
EP080: Naphthalene	91-20-3	2.5 mg/kg	83.1	70.0	130			
EP080: BTEXN (QCLot: 3621842)								
ES2113386-055	TP111_0.1	EP080: Benzene	71-43-2	2.5 mg/kg	82.8	70.0	130	
		EP080: Toluene	108-88-3	2.5 mg/kg	92.2	70.0	130	
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	97.6	70.0	130	
		EP080: meta- & para-Xylene	108-38-3	2.5 mg/kg	94.7	70.0	130	
			106-42-3					
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	94.6	70.0	130	
EP080: Naphthalene	91-20-3	2.5 mg/kg	78.2	70.0	130			



QA/QC Compliance Assessment to assist with Quality Review

Work Order	: ES2113386	Page	: 1 of 8
Client	: EP Risk Management	Laboratory	: Environmental Division Sydney
Contact	: LUKE Kerry	Telephone	: +61-2-8784 8555
Project	: EP1995	Date Samples Received	: 09-Apr-2021
Site	: ----	Issue Date	: 23-Apr-2021
Sampler	: Gilles Renda	No. of samples received	: 56
Order number	: ----	No. of samples analysed	: 17

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 Laboratory Control outliers occur.**
- **NO Matrix Spike outliers occur.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **NO Quality Control Sample Frequency Outliers exist.**



Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for VOC in soils vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

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

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EA033-A: Actual Acidity								
Snap Lock Bag - frozen on receipt at ALS (EA033) TP87_0.5, TP110_0.5	TP98_0.5,	06-Apr-2021	21-Apr-2021	06-Apr-2022	✓	21-Apr-2021	20-Jul-2021	✓
EA033-B: Potential Acidity								
Snap Lock Bag - frozen on receipt at ALS (EA033) TP87_0.5, TP110_0.5	TP98_0.5,	06-Apr-2021	21-Apr-2021	06-Apr-2022	✓	21-Apr-2021	20-Jul-2021	✓
EA033-C: Acid Neutralising Capacity								
Snap Lock Bag - frozen on receipt at ALS (EA033) TP87_0.5, TP110_0.5	TP98_0.5,	06-Apr-2021	21-Apr-2021	06-Apr-2022	✓	21-Apr-2021	20-Jul-2021	✓
EA033-D: Retained Acidity								
Snap Lock Bag - frozen on receipt at ALS (EA033) TP87_0.5, TP110_0.5	TP98_0.5,	06-Apr-2021	21-Apr-2021	06-Apr-2022	✓	21-Apr-2021	20-Jul-2021	✓
EA033-E: Acid Base Accounting								
Snap Lock Bag - frozen on receipt at ALS (EA033) TP87_0.5, TP110_0.5	TP98_0.5,	06-Apr-2021	21-Apr-2021	06-Apr-2022	✓	21-Apr-2021	20-Jul-2021	✓
EA037: Ass Field Screening Analysis								
Snap Lock Bag - frozen on receipt at ALS (EA037) TP87_0.5, TP98_0.5,	TP96_0.5, TP110_0.5	06-Apr-2021	19-Apr-2021	03-Oct-2021	✓	19-Apr-2021	03-Oct-2021	✓



Matrix: **SOIL**

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

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EA055: Moisture Content (Dried @ 105-110°C)								
Soil Glass Jar - Unpreserved (EA055)								
TP85_0.1, TP88_0.5, TP92_0.1, TP97_0.1, TP101_0.1, TP103_0.1, TP111_0.1	TP87_0.1, TP90_0.1, TP95_0.1, TP98_0.1, TP102_0.1, TP106_0.1	06-Apr-2021	----	----	----	20-Apr-2021	20-Apr-2021	✓
EG005(ED093)T: Total Metals by ICP-AES								
Soil Glass Jar - Unpreserved (EG005T)								
TP85_0.1, TP88_0.5, TP92_0.1, TP97_0.1, TP101_0.1, TP103_0.1, TP111_0.1	TP87_0.1, TP90_0.1, TP95_0.1, TP98_0.1, TP102_0.1, TP106_0.1	06-Apr-2021	21-Apr-2021	03-Oct-2021	✓	21-Apr-2021	03-Oct-2021	✓
EG035T: Total Recoverable Mercury by FIMS								
Soil Glass Jar - Unpreserved (EG035T)								
TP85_0.1, TP88_0.5, TP92_0.1, TP97_0.1, TP101_0.1, TP103_0.1, TP111_0.1	TP87_0.1, TP90_0.1, TP95_0.1, TP98_0.1, TP102_0.1, TP106_0.1	06-Apr-2021	21-Apr-2021	04-May-2021	✓	22-Apr-2021	04-May-2021	✓
EP066: Polychlorinated Biphenyls (PCB)								
Soil Glass Jar - Unpreserved (EP066)								
TP85_0.1, TP88_0.5, TP92_0.1, TP97_0.1, TP101_0.1, TP103_0.1, TP111_0.1	TP87_0.1, TP90_0.1, TP95_0.1, TP98_0.1, TP102_0.1, TP106_0.1	06-Apr-2021	16-Apr-2021	20-Apr-2021	✓	20-Apr-2021	26-May-2021	✓



Matrix: **SOIL**

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

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP068A: Organochlorine Pesticides (OC)								
Soil Glass Jar - Unpreserved (EP068)								
TP85_0.1, TP88_0.5, TP92_0.1, TP97_0.1, TP101_0.1, TP103_0.1, TP111_0.1	TP87_0.1, TP90_0.1, TP95_0.1, TP98_0.1, TP102_0.1, TP106_0.1	06-Apr-2021	16-Apr-2021	20-Apr-2021	✓	20-Apr-2021	26-May-2021	✓
EP068B: Organophosphorus Pesticides (OP)								
Soil Glass Jar - Unpreserved (EP068)								
TP85_0.1, TP88_0.5, TP92_0.1, TP97_0.1, TP101_0.1, TP103_0.1, TP111_0.1	TP87_0.1, TP90_0.1, TP95_0.1, TP98_0.1, TP102_0.1, TP106_0.1	06-Apr-2021	16-Apr-2021	20-Apr-2021	✓	20-Apr-2021	26-May-2021	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Soil Glass Jar - Unpreserved (EP075(SIM))								
TP85_0.1, TP88_0.5, TP92_0.1, TP97_0.1, TP101_0.1, TP103_0.1, TP111_0.1	TP87_0.1, TP90_0.1, TP95_0.1, TP98_0.1, TP102_0.1, TP106_0.1	06-Apr-2021	16-Apr-2021	20-Apr-2021	✓	19-Apr-2021	26-May-2021	✓



Matrix: SOIL

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

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP080/071: Total Petroleum Hydrocarbons								
Soil Glass Jar - Unpreserved (EP080) TP85_0.1, TP88_0.5, TP92_0.1, TP97_0.1, TP101_0.1, TP103_0.1, TP111_0.1	TP87_0.1, TP90_0.1, TP95_0.1, TP98_0.1, TP102_0.1, TP106_0.1	06-Apr-2021	15-Apr-2021	20-Apr-2021	✓	19-Apr-2021	20-Apr-2021	✓
Soil Glass Jar - Unpreserved (EP071) TP85_0.1, TP88_0.5, TP92_0.1, TP97_0.1, TP101_0.1, TP103_0.1, TP111_0.1	TP87_0.1, TP90_0.1, TP95_0.1, TP98_0.1, TP102_0.1, TP106_0.1	06-Apr-2021	16-Apr-2021	20-Apr-2021	✓	19-Apr-2021	26-May-2021	✓
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
Soil Glass Jar - Unpreserved (EP080) TP85_0.1, TP88_0.5, TP92_0.1, TP97_0.1, TP101_0.1, TP103_0.1, TP111_0.1	TP87_0.1, TP90_0.1, TP95_0.1, TP98_0.1, TP102_0.1, TP106_0.1	06-Apr-2021	15-Apr-2021	20-Apr-2021	✓	19-Apr-2021	20-Apr-2021	✓
Soil Glass Jar - Unpreserved (EP071) TP85_0.1, TP88_0.5, TP92_0.1, TP97_0.1, TP101_0.1, TP103_0.1, TP111_0.1	TP87_0.1, TP90_0.1, TP95_0.1, TP98_0.1, TP102_0.1, TP106_0.1	06-Apr-2021	16-Apr-2021	20-Apr-2021	✓	19-Apr-2021	26-May-2021	✓
EP080: BTEXN								
Soil Glass Jar - Unpreserved (EP080) TP85_0.1, TP88_0.5, TP92_0.1, TP97_0.1, TP101_0.1, TP103_0.1, TP111_0.1	TP87_0.1, TP90_0.1, TP95_0.1, TP98_0.1, TP102_0.1, TP106_0.1	06-Apr-2021	15-Apr-2021	20-Apr-2021	✓	19-Apr-2021	20-Apr-2021	✓



Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: ✖ = Quality Control frequency not within specification ; ✔ = Quality Control frequency within specification.

Quality Control Sample Type	Method	Count		Rate (%)			Quality Control Specification
		QC	Reaular	Actual	Expected	Evaluation	
Analytical Methods							
Laboratory Duplicates (DUP)							
ASS Field Screening Analysis	EA037	2	18	11.11	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Chromium Suite for Acid Sulphate Soils	EA033	2	13	15.38	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Moisture Content	EA055	3	24	12.50	10.00	✔	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	2	20	10.00	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	2	20	10.00	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	2	20	10.00	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	2	20	10.00	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	2	20	10.00	10.00	✔	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	2	20	10.00	10.00	✔	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	4	40	10.00	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Chromium Suite for Acid Sulphate Soils	EA033	1	13	7.69	5.00	✔	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	1	20	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	20	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	20	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	20	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	20	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	20	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	40	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Chromium Suite for Acid Sulphate Soils	EA033	1	13	7.69	5.00	✔	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	1	20	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	20	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	20	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	20	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	20	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	20	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	40	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
PAH/Phenols (SIM)	EP075(SIM)	1	20	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	20	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	20	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	20	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	20	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	20	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	40	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
Chromium Suite for Acid Sulphate Soils	EA033	SOIL	In house: Referenced to Ahern et al 2004. This method covers the determination of Chromium Reducible Sulfur (SCR); pHKCl; titratable actual acidity (TAA); acid neutralising capacity by back titration (ANC); and net acid soluble sulfur (SNAS) which incorporates peroxide sulfur. It applies to soils and sediments (including sands) derived from coastal regions. Liming Rate is based on results for samples as submitted and incorporates a minimum safety factor of 1.5.
ASS Field Screening Analysis	* EA037	SOIL	In house: Referenced to Acid Sulfate Soils Laboratory Methods Guidelines. As received samples are tested for pH field and pH fox and assessed for a reaction rating.
Moisture Content	EA055	SOIL	In house: A gravimetric procedure based on weight loss over a 12 hour drying period at 105-110 degrees C. This method is compliant with NEPM Schedule B(3).
Total Metals by ICP-AES	EG005T	SOIL	In house: Referenced to APHA 3120; USEPA SW 846 - 6010. Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM Schedule B(3)
Total Mercury by FIMS	EG035T	SOIL	In house: Referenced to AS 3550, APHA 3112 Hg - B (Flow-injection (SnCl ₂) (Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. Mercury in solids are determined following an appropriate acid digestion. Ionic mercury is reduced online to atomic mercury vapour by 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 Schedule B(3)
Polychlorinated Biphenyls (PCB)	EP066	SOIL	In house: Referenced to USEPA SW 846 - 8270 Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3).
Pesticides by GCMS	EP068	SOIL	In house: Referenced to USEPA SW 846 - 8270 Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This technique is compliant with NEPM Schedule B(3).
TRH - Semivolatile Fraction	EP071	SOIL	In house: Referenced to USEPA SW 846 - 8015 Sample extracts are analysed by Capillary GC/FID and quantified against alkane standards over the range C10 - C40. Compliant with NEPM Schedule B(3).
PAH/Phenols (SIM)	EP075(SIM)	SOIL	In house: Referenced to USEPA SW 846 - 8270. Extracts are analysed by Capillary GC/MS in Selective Ion Mode (SIM) and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)
TRH Volatiles/BTEX	EP080	SOIL	In house: Referenced to USEPA SW 846 - 8260. Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve. Compliant with NEPM Schedule B(3) amended.

Preparation Methods	Method	Matrix	Method Descriptions
Drying only	EN020D	SOIL	In house
Drying at 85 degrees, bagging and labelling (ASS)	EN020PR	SOIL	In house



<i>Preparation Methods</i>	<i>Method</i>	<i>Matrix</i>	<i>Method Descriptions</i>
Hot Block Digest for metals in soils sediments and sludges	EN69	SOIL	In house: Referenced to USEPA 200.2. Hot Block Acid Digestion 1.0g of sample is heated with Nitric and Hydrochloric acids, then cooled. Peroxide is added and samples heated and cooled again before being filtered and bulked to volume for analysis. Digest is appropriate for determination of selected metals in sludge, sediments, and soils. This method is compliant with NEPM Schedule B(3).
Methanolic Extraction of Soils for Purge and Trap	ORG16	SOIL	In house: Referenced to USEPA SW 846 - 5030A. 5g of solid is shaken with surrogate and 10mL methanol prior to analysis by Purge and Trap - GC/MS.
Tumbler Extraction of Solids	ORG17	SOIL	In house: Mechanical agitation (tumbler). 10g of sample, Na2SO4 and surrogate are extracted with 30mL 1:1 DCM/Acetone by end over end tumble. The solvent is decanted, dehydrated and concentrated (by KD) to the desired volume for analysis.



CHAIN OF CUSTODY

ALS Laboratory, please tick →

SYDNEY 277 Wondurrah Rd, Smithfield NSW 2114
 Ph: 02 9784 8555 E: hannah.s@hls.com.au
 Newcastle 5 Rosegum Rd, Warabeek NSW 2304
 Ph: 02 4959 9432 E: hannah.newcastle@hls.com.au

Brisbane 322 Stard St, Stretton QLD 4059
 Ph: 07 3518 7222 E: hannah.brisbane@hls.com.au
 Townsville 144 S Deans Ct, Borne QLD 4816
 Ph: 07 4708 5600 E: hannah.townsville@hls.com.au

Melbourne 24 Westall Rd, Springvale VIC 3171
 Ph: 03 9549 8600 E: hannah.melbourne@hls.com.au
 Adelaide 2-1 Burns Rd, Pasadena SA 5095
 Ph: 08 8356 0850 E: hannah.adelaide@hls.com.au

CLIENT: EP RISK MANAGEMENT PTY LTD

OFFICE: NEWCASTLE

PROJECT: EP1995

ORDER NUMBER: N/A

PROJECT MANAGER: Luke Kerry

SAMPLER: Gilles Renda

COC emailed to ALS? (YES / NO)

Email Reports to (will default to PM if no other addresses are listed): gilles.renda@eprisk.com.au

Email Invoice to (will default to PM if no other addresses are listed): accounts@eprisk.com.au

COMMENT/SPECIAL HANDLING/STORAGE OR DISPOSAL: Also email lukakerry@eprisk.com.au

TURNOVER REQUIREMENTS: Standard TAT (list due date):
 Non Standard or urgent TAT (list due date):

ALS QUOTE NO.: SYA9520 V2

CONTACT PH: 0432 266 617
 CONTACT MOBILE: 0420 234 123
 EDD FORMAT (or default):

RELINQUISHED BY: DATE/TIME:

RECEIVED BY: DATE/TIME:

RELINQUISHED BY: DATE/TIME:

RECEIVED BY: DATE/TIME:

FOR LABORATORY USE ONLY: (Circle)
 Cooling Seal intact? Yes No N/A
 Sample received in correct container? Yes No N/A
 Random Sample Temperature on Receipt: °C

LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL BOTTLES	ANALYSIS REQUIRED INCLUDING SUITES (NB: Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (filtered bottle required)	Additional Information Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.	
14	ASS_TP49	12/04/2021	S	ASS	1	pH & pH fox EA037		
15	ASS_TP50	12/04/2021	S	ASS	1	Chromium reducible sulfur suite EA033		
16	ASS_TP51	12/04/2021	S	ASS	1			
17	ASS_TP52	12/04/2021	S	ASS	1			
18	ASS_TP53	12/04/2021	S	ASS	1			
19	ASS_TP54	12/04/2021	S	ASS	1			
20	ASS_TP55	12/04/2021	S	ASS	1			
21	ASS_TP56	12/04/2021	S	ASS	1			
22	ASS_TP57	12/04/2021	S	ASS	1			
23	ASS_TP58	12/04/2021	S	ASS	1			
TOTAL					10	10	3	

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airtight Unpreserved Plastic
 V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulfate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airtight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl Preserved Plastic; HS = HCl Preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass.
 Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.



CHAIN OF CUSTODY

ALS Laboratory, please tick →

Sydney: 227 Macquarie Rd, Smithfield NSW 2122
 Ph: 02 954 8565 E: samples@als.com.au
 Newcastle: 5 Rossington Rd, Waratah NSW 2304
 Ph: 02 4968 5433 E: samples.newcastle@als.com.au

Brisbane: 33 Sherrin St, Stretford QLD 4053
 Ph: 07 2348 1222 E: samples.brisbane@als.com.au
 Townsville: 14-15 Dorman Ct, Bonnie Doon QLD 4812
 Ph: 07 4794 0600 E: newcastle.townsville@als.com.au

Melbourne: 24 Westall Rd, Springvale VIC 3171
 Ph: 03 8546 9050 E: samples.melbourne@als.com.au
 Adelaide: 2-1 Burna Rd, Pooraka SA 5095
 Ph: 08 8359 0850 E: adelaide@als.com.au

CLIENT: EP RISK MANAGEMENT PTY LTD

OFFICE: NEWCASTLE

PROJECT: EP1995

ORDER NUMBER: N/A

PROJECT MANAGER: Luke Kerry

SAMPLER: Gillies Renda

COC emailed to ALS? (YES / NO)

Email Reports to (will default to PM if no other addresses are listed): gilliesrenda@eprisk.com.au

Email Invoice to (will default to PM if no other addresses are listed): accounts@eprisk.com.au

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL: Also email lukekerry@eprisk.com.au

TURNOVER ROUND REQUIREMENTS: Standard FAT (List due date)
 Non Standard or Urgent FAT (List due date)
 (Standard FAT may be longer for some tests e.g. Ultra Trace Organics)

FOR LABORATORY USE ONLY (circle)
 Certify Seal Intact? Yes No N/A
 Free Ice / frozen / no binder preservation required? Yes No N/A
 Random Sample? temperature on Receipt? Yes No N/A
 Other comment:

ALS QUOTE NO.: SY495/20 V2

CONTACT PH: 0432 266 617

SAMPLER MOBILE: 0420 234 123

EDD FORMAT (or default):

DATE/TIME:

RECEIVED BY:

DATE/TIME:

RECEIVED BY:

DATE/TIME:

RECEIVED BY:

DATE/TIME:

RECEIVED BY:

DATE/TIME:

RECEIVED BY:

DATE/TIME:

RECEIVED BY:

DATE/TIME:

RECEIVED BY:

DATE/TIME:

RECEIVED BY:

DATE/TIME:

RECEIVED BY:

DATE/TIME:

RECEIVED BY:

DATE/TIME:

RECEIVED BY:

DATE/TIME:

RECEIVED BY:

DATE/TIME:

RECEIVED BY:

DATE/TIME:

RECEIVED BY:

DATE/TIME:

RECEIVED BY:

DATE/TIME:

RECEIVED BY:

DATE/TIME:

RECEIVED BY:

DATE/TIME:

RECEIVED BY:

DATE/TIME:

RECEIVED BY:

DATE/TIME:

RECEIVED BY:

DATE/TIME:

RECEIVED BY:

DATE/TIME:

LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL BOTTLES	ANALYSIS REQUIRED INCLUDING SUITES (NB: Suite Codes must be listed to attract suite price) <small>(Where Metals are required specify Total (different bottle required) or Disolved (field filled bottle required))</small>	Additional Information		
21P	QC07	12/04/2021	S	Soil Jar	1	Heavy metals, TRH, BTEXN, PAH, PCBs, OCP, OPP			
25	QC08	12/04/2021	S	Soil Jar	1	TRH, BTEXN, PAH, Heavy Metals, OCP, OPP	Please send to Eurofins for analysis		
26	QC15	12/04/2021	S	Soil Jar	1	Chromium Reducible Sulfur Suite			
27	QC16	12/04/2021	S	Soil Jar	1	pHf & pH fox			
27	QC17	12/04/2021	S	Asbestos Bag	1		Please send to Eurofins for analysis		
28	QC18	12/04/2021	S	Asbestos Bag	1		Please send to Eurofins for analysis		
28	QC19	12/04/2021	S	Asbestos Bag	1		Please send to Eurofins for analysis		
28	QC20	12/04/2021	S	Asbestos Bag	1		Please send to Eurofins for analysis		
28	QC21	12/04/2021	S	Asbestos Bag	1		Please send to Eurofins for analysis		
28	QC22	12/04/2021	S	Asbestos Bag	1		Please send to Eurofins for analysis		
29	QC23	12/04/2021	S	Asbestos Bag	1		Please send to Eurofins for analysis		
30	QC24	12/04/2021	S	Asbestos Bag	1		Please send to Eurofins for analysis		
30	Rinasteds	12/04/2021	Water	Bottles	4		Please send to Eurofins for analysis		
31	QC25	12/04/2021	S	ASS Bag	1				
TOTAL					17	12	1	1	1

Water Container Codes: P = Unpreserved Plastic, N = Nitric Preserved Plastic, OGC = Nitric Preserved OGC, SH = Sodium Hydroxide Preserved Plastic, S = Sodium Hydroxide Preserved Plastic, AG = Amber Glass Unpreserved Plastic, AP = Airtight Unpreserved Plastic
 V = VOA Vial (HCl Preserved), VS = VOA Vial (Sulfuric Preserved), VS = VOA Vial (Sulfuric Preserved), AV = Airtight Unpreserved Vial, SG = Sulfuric Preserved Amber Glass, H = HCl Preserved Plastic, HS = HCl Preserved Speciation bottle, SP = Sulfuric Preserved Plastic, F = Formaldehyde Preserved Glass
 Z = Zinc, Asstair Preserved Bottle, E = EDTA Preserved Bottles, SI = Sterile Bottle, ASS = Plastic Bag for Acid Substrate Soils, B = Unpreserved Bag

CERTIFICATE OF ANALYSIS

Work Order : **ES2113633**
Client : **EP Risk Management**
Contact : Gilles Renda
Address : 3/19 BOLTON STREET
 NEWCASTLE NSW 2300

Telephone : ----
Project : EP1995
Order number : ----
C-O-C number : ----
Sampler : Gilles Renda
Site : ----
Quote number : SY/497/20 Primary analysis only
No. of samples received : 31
No. of samples analysed : 31

Page : 1 of 24
Laboratory : Environmental Division Sydney
Contact : Hannah White
Address : 277-289 Woodpark Road Smithfield NSW Australia 2164

Telephone : +61-2-8784 8555
Date Samples Received : 13-Apr-2021 13:40
Date Analysis Commenced : 15-Apr-2021
Issue Date : 26-Apr-2021 15:33



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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Descriptive Results
- Surrogate Control Limits

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

Signatories

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

<i>Signatories</i>	<i>Position</i>	<i>Accreditation Category</i>
Alana Smylie	Asbestos Identifier	Newcastle - Asbestos, Mayfield West, NSW
Ben Felgendrejeris	Senior Acid Sulfate Soil Chemist	Brisbane Acid Sulphate Soils, Stafford, QLD
Edwandy Fadjjar	Organic Coordinator	Sydney Inorganics, Smithfield, NSW
Edwandy Fadjjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Franco Lentini	LCMS Coordinator	Sydney Inorganics, Smithfield, NSW
Ivan Taylor	Analyst	Sydney Inorganics, Smithfield, NSW
Satishkumar Trivedi	Senior Acid Sulfate Soil Chemist	Brisbane Acid Sulphate Soils, Stafford, QLD



General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS 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.

- EP075 (SIM): Where reported, Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero.
- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero, for 'TEQ 1/2LOR' are treated as half the reported LOR, and for 'TEQ LOR' are treated as being equal to the reported LOR. Note: TEQ 1/2LOR and TEQ LOR will calculate as 0.6mg/Kg and 1.2mg/Kg respectively for samples with non-detects for all of the eight TEQ PAHs.
- EP080: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EP068: Where reported, Total Chlordane (sum) is the sum of the reported concentrations of cis-Chlordane and trans-Chlordane at or above the LOR.
- EP068: Where reported, Total OCP is the sum of the reported concentrations of all Organochlorine Pesticides at or above LOR.
- EP075(SIM): Where reported, Total Cresol is the sum of the reported concentrations of 2-Methylphenol and 3- & 4-Methylphenol at or above the LOR.
- EG005: Poor precision was obtained for Pb on sample ES2113850 #5. Results have been confirmed by re-extraction and reanalysis.
- EP071: Results of sample QC23 have been confirmed by re-extraction and re-analysis.
- ASS: EA033 (CRS Suite): ANC not required because pH KCl less than 6.5
- ASS: EA037 (Rapid Field and F(ox) screening): pH F(ox) Reaction Rate: 1 - Slight; 2 - Moderate; 3 - Strong; 4 - Extreme
- ASS: EA033 (CRS Suite): Liming rate is calculated and reported on a dry weight basis assuming use of fine agricultural lime (CaCO₃) and using a safety factor of 1.5 to allow for non-homogeneous mixing and poor reactivity of lime. For conversion of Liming Rate from 'kg/t dry weight' to 'kg/m³ in-situ soil', multiply 'reported results' x 'wet bulk density of soil in t/m³'.
- EA037 ASS Field Screening: NATA accreditation does not cover performance of this service.
- EA200N: Asbestos weights and percentages are not covered under the Scope of NATA Accreditation.
Weights of Asbestos are based on extracted bulk asbestos, fibre bundles, and/or ACM and do not include respirable fibres (if present)
The Asbestos (Fines and Fibrous) weight is calculated from the extracted Fibrous Asbestos and Asbestos Fines as an equivalent weight of 100% Asbestos
Percentages for Asbestos content in ACM are based on the 2013 NEPM default values.
All calculations of percentage Asbestos under this method are approximate and should be used as a guide only.
- EA200 'Am' Amosite (brown asbestos)
- EA200 'Cr' Crocidolite (blue asbestos)
- EA200 'Trace' - Asbestos fibres ("Free Fibres") detected by trace analysis per AS4964. The result can be interpreted that the sample contains detectable 'respirable' asbestos fibres
- EA200: Asbestos Identification Samples were analysed by Polarised Light Microscopy including dispersion staining.



- EA200 Legend
- EA200 'Ch' Chrysotile (white asbestos)
- EA200: 'UMF' Unknown Mineral Fibres. "-" indicates fibres detected may or may not be asbestos fibres. Confirmation by alternative techniques is recommended.
- EA200N: ALS laboratory procedures and methods used for the identification and quantitation of asbestos are consistent with AS4964-2004 and the requirements of the 2013 NEPM for Assessment of Site Contamination
- EA200: For samples larger than 30g, the <2mm fraction may be sub-sampled prior to trace analysis as outlined in ISO23909:2008(E) Sect 6.3.2-2
- EA200: 'Yes' - Asbestos detected by polarised light microscopy including dispersion staining.
- EA200: 'No*' - No asbestos found, at the reporting limit of 0.1g/kg, by polarised light microscopy including dispersion staining. Asbestos material was detected and positively identified at concentrations estimated to be below 0.1g/kg.
- EA200: 'No' - No asbestos found at the reporting limit 0.1g/kg, by polarised light microscopy including dispersion staining.



Analytical Results

Sub-Matrix: SOIL
 (Matrix: SOIL)

Sample ID

				TP53_ASB	TP56_ASB	TP54_ASB	TP36_ASB	TP161_ASB
Sampling date / time				12-Apr-2021 00:00	12-Apr-2021 00:00	12-Apr-2021 00:00	12-Apr-2021 00:00	12-Apr-2021 00:00
Compound	CAS Number	LOR	Unit	ES2113633-001	ES2113633-002	ES2113633-003	ES2113633-004	ES2113633-005
				Result	Result	Result	Result	Result
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	No	No	No	No	No
Asbestos Type	1332-21-4	-	--	-	-	-	-	-
Asbestos (Trace)	1332-21-4	5	Fibres	No	No	No	No	No
Sample weight (dry)	----	0.01	g	327	453	337	304	464
Synthetic Mineral Fibre	----	0.1	g/kg	No	No	No	No	No
Organic Fibre	----	0.1	g/kg	No	No	No	No	No
APPROVED IDENTIFIER:	----	-	--	A. SMYLIE	A. SMYLIE	A. SMYLIE	A. SMYLIE	A. SMYLIE
EA200N: Asbestos Quantification (non-NATA)								
∅ Asbestos (Fines and Fibrous <7mm)	1332-21-4	0.0004	g	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004
∅ Asbestos (Fines and Fibrous FA+AF)	----	0.001	% (w/w)	<0.001	<0.001	<0.001	<0.001	<0.001
∅ Asbestos Containing Material	1332-21-4	0.1	g	<0.1	<0.1	<0.1	<0.1	<0.1
∅ Asbestos Containing Material (as 15% Asbestos in ACM >7mm)	1332-21-4	0.01	% (w/w)	<0.01	<0.01	<0.01	<0.01	<0.01
∅ Weight Used for % Calculation	----	0.0001	kg	0.327	0.453	0.337	0.304	0.464
∅ Fibrous Asbestos >7mm	----	0.0004	g	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TP165_ASB	TP146_ACM	TP132_ACM	TP85_ACM	TP29_ACM
Sampling date / time				12-Apr-2021 00:00	12-Apr-2021 00:00	12-Apr-2021 00:00	12-Apr-2021 00:00	12-Apr-2021 00:00	
Compound	CAS Number	LOR	Unit	ES2113633-006	ES2113633-007	ES2113633-008	ES2113633-009	ES2113633-010	
				Result	Result	Result	Result	Result	
EA200: AS 4964 - 2004 Identification of Asbestos in Soils									
Asbestos Detected	1332-21-4	0.1	g/kg	No	No	No	No	No	
Asbestos Type	1332-21-4	-	--	-	-	-	-	-	
Asbestos (Trace)	1332-21-4	5	Fibres	No	No	No	No	No	
Sample weight (dry)	----	0.01	g	417	574	601	651	403	
Synthetic Mineral Fibre	----	0.1	g/kg	No	No	No	No	No	
Organic Fibre	----	0.1	g/kg	No	No	No	No	No	
APPROVED IDENTIFIER:	----	-	--	A. SMYLIE	A. SMYLIE	A. SMYLIE	A. SMYLIE	A. SMYLIE	
EA200N: Asbestos Quantification (non-NATA)									
∅ Asbestos (Fines and Fibrous <7mm)	1332-21-4	0.0004	g	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	
∅ Asbestos (Fines and Fibrous FA+AF)	----	0.001	% (w/w)	<0.001	<0.001	<0.001	<0.001	<0.001	
∅ Asbestos Containing Material	1332-21-4	0.1	g	<0.1	<0.1	<0.1	<0.1	<0.1	
∅ Asbestos Containing Material (as 15% Asbestos in ACM >7mm)	1332-21-4	0.01	% (w/w)	<0.01	<0.01	<0.01	<0.01	<0.01	
∅ Weight Used for % Calculation	----	0.0001	kg	0.417	0.574	0.601	0.651	0.403	
∅ Fibrous Asbestos >7mm	----	0.0004	g	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TP140_ACM	TP142_ACM	TP129_ACM	ASS_TP49	ASS_TP50
Sampling date / time				12-Apr-2021 00:00	12-Apr-2021 00:00	12-Apr-2021 00:00	12-Apr-2021 00:00	12-Apr-2021 00:00	
Compound	CAS Number	LOR	Unit	ES2113633-011	ES2113633-012	ES2113633-013	ES2113633-014	ES2113633-015	
				Result	Result	Result	Result	Result	
EA033-A: Actual Acidity									
pH KCl (23A)	----	0.1	pH Unit	----	----	----	4.2	4.2	
Titratable Actual Acidity (23F)	----	2	mole H+ / t	----	----	----	76	78	
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	----	----	----	0.12	0.12	
EA033-B: Potential Acidity									
Chromium Reducible Sulfur (22B)	----	0.005	% S	----	----	----	0.010	0.011	
acidity - Chromium Reducible Sulfur (a-22B)	----	10	mole H+ / t	----	----	----	<10	<10	
EA033-D: Retained Acidity									
KCl Extractable Sulfur (23Ce)	----	0.02	% S	----	----	----	0.03	0.02	
HCl Extractable Sulfur (20Be)	----	0.02	% S	----	----	----	0.04	0.03	
Net Acid Soluble Sulfur (20Je)	----	0.02	% S	----	----	----	0.02	<0.02	
acidity - Net Acid Soluble Sulfur (a-20J)	----	10	mole H+ / t	----	----	----	<10	<10	
sulfidic - Net Acid Soluble Sulfur (s-20J)	----	0.02	% pyrite S	----	----	----	<0.02	<0.02	
EA033-E: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-	----	----	----	1.5	1.5	
Net Acidity (sulfur units)	----	0.02	% S	----	----	----	0.15	0.15	
Net Acidity (acidity units)	----	10	mole H+ / t	----	----	----	92	94	
Liming Rate	----	1	kg CaCO3/t	----	----	----	7	7	
Net Acidity excluding ANC (sulfur units)	----	0.02	% S	----	----	----	0.15	0.15	
Net Acidity excluding ANC (acidity units)	----	10	mole H+ / t	----	----	----	92	94	
Liming Rate excluding ANC	----	1	kg CaCO3/t	----	----	----	7	7	
EA037: Ass Field Screening Analysis									
ø pH (F)	----	0.1	pH Unit	----	----	----	5.3	5.5	
ø pH (Fox)	----	0.1	pH Unit	----	----	----	3.4	3.8	
ø Reaction Rate	----	1	-	----	----	----	1	1	
EA200: AS 4964 - 2004 Identification of Asbestos in Soils									
Asbestos Detected	1332-21-4	0.1	g/kg	No	No	No	----	----	
Asbestos Type	1332-21-4	-	--	-	-	-	----	----	
Asbestos (Trace)	1332-21-4	5	Fibres	No	No	No	----	----	
Sample weight (dry)	----	0.01	g	484	459	652	----	----	
Synthetic Mineral Fibre	----	0.1	g/kg	No	No	No	----	----	
Organic Fibre	----	0.1	g/kg	No	No	No	----	----	
APPROVED IDENTIFIER:	----	-	--	A. SMYLIE	A. SMYLIE	A. SMYLIE	----	----	
EA200N: Asbestos Quantification (non-NATA)									



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TP140_ACM	TP142_ACM	TP129_ACM	ASS_TP49	ASS_TP50
Sampling date / time				12-Apr-2021 00:00	12-Apr-2021 00:00	12-Apr-2021 00:00	12-Apr-2021 00:00	12-Apr-2021 00:00	
Compound	CAS Number	LOR	Unit	ES2113633-011	ES2113633-012	ES2113633-013	ES2113633-014	ES2113633-015	
				Result	Result	Result	Result	Result	
EA200N: Asbestos Quantification (non-NATA) - Continued									
∅ Asbestos (Fines and Fibrous <7mm)	1332-21-4	0.0004	g	<0.0004	<0.0004	<0.0004	----	----	
∅ Asbestos (Fines and Fibrous FA+AF)	----	0.001	% (w/w)	<0.001	<0.001	<0.001	----	----	
∅ Asbestos Containing Material	1332-21-4	0.1	g	<0.1	<0.1	<0.1	----	----	
∅ Asbestos Containing Material (as 15% Asbestos in ACM >7mm)	1332-21-4	0.01	% (w/w)	<0.01	<0.01	<0.01	----	----	
∅ Weight Used for % Calculation	----	0.0001	kg	0.484	0.459	0.652	----	----	
∅ Fibrous Asbestos >7mm	----	0.0004	g	<0.0004	<0.0004	<0.0004	----	----	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	ASS_TP51	ASS_TP52	ASS_TP53	ASS_TP54	ASS_TP55
Sampling date / time				12-Apr-2021 00:00	12-Apr-2021 00:00	12-Apr-2021 00:00	12-Apr-2021 00:00	12-Apr-2021 00:00	
Compound	CAS Number	LOR	Unit	ES2113633-016	ES2113633-017	ES2113633-018	ES2113633-019	ES2113633-020	
				Result	Result	Result	Result	Result	
EA033-A: Actual Acidity									
pH KCl (23A)	----	0.1	pH Unit	4.2	4.3	4.3	4.2	4.1	
Titration Actual Acidity (23F)	----	2	mole H+ / t	84	68	79	71	89	
sulfidic - Titration Actual Acidity (s-23F)	----	0.02	% pyrite S	0.14	0.11	0.13	0.11	0.14	
EA033-B: Potential Acidity									
Chromium Reducible Sulfur (22B)	----	0.005	% S	0.009	0.011	0.010	0.011	0.011	
acidity - Chromium Reducible Sulfur (a-22B)	----	10	mole H+ / t	<10	<10	<10	<10	<10	
EA033-D: Retained Acidity									
KCl Extractable Sulfur (23Ce)	----	0.02	% S	0.02	<0.02	0.02	0.02	<0.02	
HCl Extractable Sulfur (20Be)	----	0.02	% S	0.03	<0.02	0.03	0.03	0.02	
Net Acid Soluble Sulfur (20Je)	----	0.02	% S	<0.02	<0.02	<0.02	<0.02	<0.02	
acidity - Net Acid Soluble Sulfur (a-20J)	----	10	mole H+ / t	<10	<10	<10	<10	<10	
sulfidic - Net Acid Soluble Sulfur (s-20J)	----	0.02	% pyrite S	<0.02	<0.02	<0.02	<0.02	<0.02	
EA033-E: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-	1.5	1.5	1.5	1.5	1.5	
Net Acidity (sulfur units)	----	0.02	% S	0.16	0.13	0.14	0.14	0.16	
Net Acidity (acidity units)	----	10	mole H+ / t	97	79	89	85	100	
Liming Rate	----	1	kg CaCO3/t	7	6	7	6	7	
Net Acidity excluding ANC (sulfur units)	----	0.02	% S	0.16	0.13	0.14	0.14	0.16	
Net Acidity excluding ANC (acidity units)	----	10	mole H+ / t	97	79	89	85	100	
Liming Rate excluding ANC	----	1	kg CaCO3/t	7	6	7	6	7	
EA037: Ass Field Screening Analysis									
∅ pH (F)	----	0.1	pH Unit	5.3	5.9	5.3	4.9	5.2	
∅ pH (Fox)	----	0.1	pH Unit	3.9	3.5	3.8	3.3	3.4	
∅ Reaction Rate	----	1	-	1	1	1	1	1	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	ASS_TP56	ASS_TP57	ASS_TP58	QC07	QC15
Sampling date / time				12-Apr-2021 00:00	12-Apr-2021 00:00	12-Apr-2021 00:00	14-Apr-2021 00:00	14-Apr-2021 00:00	
Compound	CAS Number	LOR	Unit	ES2113633-021	ES2113633-022	ES2113633-023	ES2113633-024	ES2113633-025	
				Result	Result	Result	Result	Result	
EA033-A: Actual Acidity									
pH KCl (23A)	----	0.1	pH Unit	4.2	4.2	----	----	----	
Titratable Actual Acidity (23F)	----	2	mole H+ / t	96	46	----	----	----	
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	0.15	0.07	----	----	----	
EA033-B: Potential Acidity									
Chromium Reducible Sulfur (22B)	----	0.005	% S	0.008	0.013	----	----	----	
acidity - Chromium Reducible Sulfur (a-22B)	----	10	mole H+ / t	<10	<10	----	----	----	
EA033-D: Retained Acidity									
KCl Extractable Sulfur (23Ce)	----	0.02	% S	0.03	0.02	----	----	----	
HCl Extractable Sulfur (20Be)	----	0.02	% S	0.03	0.04	----	----	----	
Net Acid Soluble Sulfur (20Je)	----	0.02	% S	<0.02	0.02	----	----	----	
acidity - Net Acid Soluble Sulfur (a-20J)	----	10	mole H+ / t	<10	<10	----	----	----	
sulfidic - Net Acid Soluble Sulfur (s-20J)	----	0.02	% pyrite S	<0.02	<0.02	----	----	----	
EA033-E: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-	1.5	1.5	----	----	----	
Net Acidity (sulfur units)	----	0.02	% S	0.17	0.10	----	----	----	
Net Acidity (acidity units)	----	10	mole H+ / t	109	64	----	----	----	
Liming Rate	----	1	kg CaCO3/t	8	5	----	----	----	
Net Acidity excluding ANC (sulfur units)	----	0.02	% S	0.17	0.10	----	----	----	
Net Acidity excluding ANC (acidity units)	----	10	mole H+ / t	109	64	----	----	----	
Liming Rate excluding ANC	----	1	kg CaCO3/t	8	5	----	----	----	
EA037: Ass Field Screening Analysis									
ø pH (F)	----	0.1	pH Unit	5.3	5.4	5.4	----	----	
ø pH (Fox)	----	0.1	pH Unit	3.7	4.0	3.6	----	----	
ø Reaction Rate	----	1	-	1	1	1	----	----	
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%	----	----	----	20.5	16.8	
EG005(ED093)T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg	----	----	----	13	<5	
Cadmium	7440-43-9	1	mg/kg	----	----	----	<1	<1	
Chromium	7440-47-3	2	mg/kg	----	----	----	14	13	
Copper	7440-50-8	5	mg/kg	----	----	----	<5	10	
Lead	7439-92-1	5	mg/kg	----	----	----	24	8	
Nickel	7440-02-0	2	mg/kg	----	----	----	<2	6	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	ASS_TP56	ASS_TP57	ASS_TP58	QC07	QC15
Sampling date / time				12-Apr-2021 00:00	12-Apr-2021 00:00	12-Apr-2021 00:00	14-Apr-2021 00:00	14-Apr-2021 00:00	
Compound	CAS Number	LOR	Unit	ES2113633-021	ES2113633-022	ES2113633-023	ES2113633-024	ES2113633-025	
				Result	Result	Result	Result	Result	
EG005(ED093)T: Total Metals by ICP-AES - Continued									
Zinc	7440-66-6	5	mg/kg	----	----	----	11	41	
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg	----	----	----	<0.1	<0.1	
EP066: Polychlorinated Biphenyls (PCB)									
Total Polychlorinated biphenyls	----	0.1	mg/kg	----	----	----	<0.1	<0.1	
EP068A: Organochlorine Pesticides (OC)									
alpha-BHC	319-84-6	0.05	mg/kg	----	----	----	<0.05	<0.05	
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	----	----	----	<0.05	<0.05	
beta-BHC	319-85-7	0.05	mg/kg	----	----	----	<0.05	<0.05	
gamma-BHC	58-89-9	0.05	mg/kg	----	----	----	<0.05	<0.05	
delta-BHC	319-86-8	0.05	mg/kg	----	----	----	<0.05	<0.05	
Heptachlor	76-44-8	0.05	mg/kg	----	----	----	<0.05	<0.05	
Aldrin	309-00-2	0.05	mg/kg	----	----	----	<0.05	<0.05	
Heptachlor epoxide	1024-57-3	0.05	mg/kg	----	----	----	<0.05	<0.05	
^ Total Chlordane (sum)	----	0.05	mg/kg	----	----	----	<0.05	<0.05	
trans-Chlordane	5103-74-2	0.05	mg/kg	----	----	----	<0.05	<0.05	
alpha-Endosulfan	959-98-8	0.05	mg/kg	----	----	----	<0.05	<0.05	
cis-Chlordane	5103-71-9	0.05	mg/kg	----	----	----	<0.05	<0.05	
Dieldrin	60-57-1	0.05	mg/kg	----	----	----	<0.05	<0.05	
4,4'-DDE	72-55-9	0.05	mg/kg	----	----	----	<0.05	<0.05	
Endrin	72-20-8	0.05	mg/kg	----	----	----	<0.05	<0.05	
beta-Endosulfan	33213-65-9	0.05	mg/kg	----	----	----	<0.05	<0.05	
^ Endosulfan (sum)	115-29-7	0.05	mg/kg	----	----	----	<0.05	<0.05	
4,4'-DDD	72-54-8	0.05	mg/kg	----	----	----	<0.05	<0.05	
Endrin aldehyde	7421-93-4	0.05	mg/kg	----	----	----	<0.05	<0.05	
Endosulfan sulfate	1031-07-8	0.05	mg/kg	----	----	----	<0.05	<0.05	
4,4'-DDT	50-29-3	0.2	mg/kg	----	----	----	<0.2	<0.2	
Endrin ketone	53494-70-5	0.05	mg/kg	----	----	----	<0.05	<0.05	
Methoxychlor	72-43-5	0.2	mg/kg	----	----	----	<0.2	<0.2	
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	----	----	----	<0.05	<0.05	
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.05	mg/kg	----	----	----	<0.05	<0.05	
EP068B: Organophosphorus Pesticides (OP)									
Dichlorvos	62-73-7	0.05	mg/kg	----	----	----	<0.05	<0.05	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	ASS_TP56	ASS_TP57	ASS_TP58	QC07	QC15
Sampling date / time				12-Apr-2021 00:00	12-Apr-2021 00:00	12-Apr-2021 00:00	14-Apr-2021 00:00	14-Apr-2021 00:00	
Compound	CAS Number	LOR	Unit	ES2113633-021	ES2113633-022	ES2113633-023	ES2113633-024	ES2113633-025	
				Result	Result	Result	Result	Result	
EP068B: Organophosphorus Pesticides (OP) - Continued									
Demeton-S-methyl	919-86-8	0.05	mg/kg	----	----	----	<0.05	<0.05	
Monocrotophos	6923-22-4	0.2	mg/kg	----	----	----	<0.2	<0.2	
Dimethoate	60-51-5	0.05	mg/kg	----	----	----	<0.05	<0.05	
Diazinon	333-41-5	0.05	mg/kg	----	----	----	<0.05	<0.05	
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	----	----	----	<0.05	<0.05	
Parathion-methyl	298-00-0	0.2	mg/kg	----	----	----	<0.2	<0.2	
Malathion	121-75-5	0.05	mg/kg	----	----	----	<0.05	<0.05	
Fenthion	55-38-9	0.05	mg/kg	----	----	----	<0.05	<0.05	
Chlorpyrifos	2921-88-2	0.05	mg/kg	----	----	----	<0.05	<0.05	
Parathion	56-38-2	0.2	mg/kg	----	----	----	<0.2	<0.2	
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	----	----	----	<0.05	<0.05	
Chlorfenvinphos	470-90-6	0.05	mg/kg	----	----	----	<0.05	<0.05	
Bromophos-ethyl	4824-78-6	0.05	mg/kg	----	----	----	<0.05	<0.05	
Fenamiphos	22224-92-6	0.05	mg/kg	----	----	----	<0.05	<0.05	
Prothiofos	34643-46-4	0.05	mg/kg	----	----	----	<0.05	<0.05	
Ethion	563-12-2	0.05	mg/kg	----	----	----	<0.05	<0.05	
Carbophenothion	786-19-6	0.05	mg/kg	----	----	----	<0.05	<0.05	
Azinphos Methyl	86-50-0	0.05	mg/kg	----	----	----	<0.05	<0.05	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg	----	----	----	<0.5	<0.5	
Acenaphthylene	208-96-8	0.5	mg/kg	----	----	----	<0.5	<0.5	
Acenaphthene	83-32-9	0.5	mg/kg	----	----	----	<0.5	<0.5	
Fluorene	86-73-7	0.5	mg/kg	----	----	----	<0.5	<0.5	
Phenanthrene	85-01-8	0.5	mg/kg	----	----	----	<0.5	<0.5	
Anthracene	120-12-7	0.5	mg/kg	----	----	----	<0.5	<0.5	
Fluoranthene	206-44-0	0.5	mg/kg	----	----	----	<0.5	<0.5	
Pyrene	129-00-0	0.5	mg/kg	----	----	----	<0.5	<0.5	
Benz(a)anthracene	56-55-3	0.5	mg/kg	----	----	----	<0.5	<0.5	
Chrysene	218-01-9	0.5	mg/kg	----	----	----	<0.5	<0.5	
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	----	----	----	<0.5	<0.5	
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	----	----	----	<0.5	<0.5	
Benzo(a)pyrene	50-32-8	0.5	mg/kg	----	----	----	<0.5	<0.5	
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	----	----	----	<0.5	<0.5	
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	----	----	----	<0.5	<0.5	
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	----	----	----	<0.5	<0.5	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	ASS_TP56	ASS_TP57	ASS_TP58	QC07	QC15
Sampling date / time				12-Apr-2021 00:00	12-Apr-2021 00:00	12-Apr-2021 00:00	14-Apr-2021 00:00	14-Apr-2021 00:00	
Compound	CAS Number	LOR	Unit	ES2113633-021	ES2113633-022	ES2113633-023	ES2113633-024	ES2113633-025	
				Result	Result	Result	Result	Result	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	----	----	----	<0.5	<0.5	
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	----	----	----	<0.5	<0.5	
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	----	----	----	0.6	0.6	
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	----	----	----	1.2	1.2	
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg	----	----	----	<10	<10	
C10 - C14 Fraction	----	50	mg/kg	----	----	----	<50	<50	
C15 - C28 Fraction	----	100	mg/kg	----	----	----	<100	<100	
C29 - C36 Fraction	----	100	mg/kg	----	----	----	<100	<100	
^ C10 - C36 Fraction (sum)	----	50	mg/kg	----	----	----	<50	<50	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg	----	----	----	<10	<10	
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	----	----	----	<10	<10	
>C10 - C16 Fraction	----	50	mg/kg	----	----	----	<50	<50	
>C16 - C34 Fraction	----	100	mg/kg	----	----	----	<100	<100	
>C34 - C40 Fraction	----	100	mg/kg	----	----	----	<100	<100	
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	----	----	----	<50	<50	
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	----	----	----	<50	<50	
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg	----	----	----	<0.2	<0.2	
Toluene	108-88-3	0.5	mg/kg	----	----	----	<0.5	<0.5	
Ethylbenzene	100-41-4	0.5	mg/kg	----	----	----	<0.5	<0.5	
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	----	----	----	<0.5	<0.5	
ortho-Xylene	95-47-6	0.5	mg/kg	----	----	----	<0.5	<0.5	
^ Sum of BTEX	----	0.2	mg/kg	----	----	----	<0.2	<0.2	
^ Total Xylenes	----	0.5	mg/kg	----	----	----	<0.5	<0.5	
Naphthalene	91-20-3	1	mg/kg	----	----	----	<1	<1	
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%	----	----	----	108	99.0	
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%	----	----	----	89.3	81.8	
EP068T: Organophosphorus Pesticide Surrogate									



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	ASS_TP56	ASS_TP57	ASS_TP58	QC07	QC15
Sampling date / time				12-Apr-2021 00:00	12-Apr-2021 00:00	12-Apr-2021 00:00	14-Apr-2021 00:00	14-Apr-2021 00:00	
Compound	CAS Number	LOR	Unit	ES2113633-021	ES2113633-022	ES2113633-023	ES2113633-024	ES2113633-025	
				Result	Result	Result	Result	Result	
EP068T: Organophosphorus Pesticide Surrogate - Continued									
DEF	78-48-8	0.05	%	----	----	----	88.4	52.6	
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%	----	----	----	93.8	86.2	
2-Chlorophenol-D4	93951-73-6	0.5	%	----	----	----	98.1	103	
2,4,6-Tribromophenol	118-79-6	0.5	%	----	----	----	82.1	85.0	
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%	----	----	----	103	101	
Anthracene-d10	1719-06-8	0.5	%	----	----	----	106	103	
4-Terphenyl-d14	1718-51-0	0.5	%	----	----	----	91.0	83.0	
EP080S: TPH(V)/BTEX Surrogates									
1,2-Dichloroethane-D4	17060-07-0	0.2	%	----	----	----	84.7	90.3	
Toluene-D8	2037-26-5	0.2	%	----	----	----	83.5	88.1	
4-Bromofluorobenzene	460-00-4	0.2	%	----	----	----	95.6	103	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	QC17	QC19	QC21	QC23	QC25
Sampling date / time				14-Apr-2021 00:00	14-Apr-2021 00:00	14-Apr-2021 00:00	14-Apr-2021 00:00	14-Apr-2021 00:00	
Compound	CAS Number	LOR	Unit	ES2113633-026	ES2113633-027	ES2113633-028	ES2113633-029	ES2113633-031	
				Result	Result	Result	Result	Result	
EA033-A: Actual Acidity									
pH KCl (23A)	----	0.1	pH Unit	----	----	----	----	4.4	
Titration Actual Acidity (23F)	----	2	mole H+ / t	----	----	----	----	53	
sulfidic - Titration Actual Acidity (s-23F)	----	0.02	% pyrite S	----	----	----	----	0.08	
EA033-B: Potential Acidity									
Chromium Reducible Sulfur (22B)	----	0.005	% S	----	----	----	----	0.016	
acidity - Chromium Reducible Sulfur (a-22B)	----	10	mole H+ / t	----	----	----	----	10	
EA033-D: Retained Acidity									
KCl Extractable Sulfur (23Ce)	----	0.02	% S	----	----	----	----	0.02	
HCl Extractable Sulfur (20Be)	----	0.02	% S	----	----	----	----	0.03	
Net Acid Soluble Sulfur (20Je)	----	0.02	% S	----	----	----	----	<0.02	
acidity - Net Acid Soluble Sulfur (a-20J)	----	10	mole H+ / t	----	----	----	----	<10	
sulfidic - Net Acid Soluble Sulfur (s-20J)	----	0.02	% pyrite S	----	----	----	----	<0.02	
EA033-E: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-	----	----	----	----	1.5	
Net Acidity (sulfur units)	----	0.02	% S	----	----	----	----	0.11	
Net Acidity (acidity units)	----	10	mole H+ / t	----	----	----	----	66	
Liming Rate	----	1	kg CaCO3/t	----	----	----	----	5	
Net Acidity excluding ANC (sulfur units)	----	0.02	% S	----	----	----	----	0.11	
Net Acidity excluding ANC (acidity units)	----	10	mole H+ / t	----	----	----	----	66	
Liming Rate excluding ANC	----	1	kg CaCO3/t	----	----	----	----	5	
EA037: Ass Field Screening Analysis									
ø pH (F)	----	0.1	pH Unit	----	----	----	----	5.5	
ø pH (Fox)	----	0.1	pH Unit	----	----	----	----	4.0	
ø Reaction Rate	----	1	-	----	----	----	----	1	
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%	9.8	11.3	9.8	31.2	----	
EG005(ED093)T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg	9	6	17	9	----	
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	----	
Chromium	7440-47-3	2	mg/kg	12	12	24	9	----	
Copper	7440-50-8	5	mg/kg	14	12	6	5	----	
Lead	7439-92-1	5	mg/kg	12	11	21	29	----	
Nickel	7440-02-0	2	mg/kg	14	9	6	5	----	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	QC17	QC19	QC21	QC23	QC25
Sampling date / time				14-Apr-2021 00:00	14-Apr-2021 00:00	14-Apr-2021 00:00	14-Apr-2021 00:00	14-Apr-2021 00:00	
Compound	CAS Number	LOR	Unit	ES2113633-026	ES2113633-027	ES2113633-028	ES2113633-029	ES2113633-031	
				Result	Result	Result	Result	Result	
EG005(ED093)T: Total Metals by ICP-AES - Continued									
Zinc	7440-66-6	5	mg/kg	68	51	25	44	----	
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	----	
EP066: Polychlorinated Biphenyls (PCB)									
Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	----	
EP068A: Organochlorine Pesticides (OC)									
alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----	
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----	
beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----	
gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----	
delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----	
Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----	
Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----	
Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----	
^ Total Chlordane (sum)	----	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----	
trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----	
alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----	
cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----	
Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----	
4,4'-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----	
Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----	
beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----	
^ Endosulfan (sum)	115-29-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----	
4,4'-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----	
Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----	
Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----	
4,4'-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	----	
Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----	
Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	----	
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----	
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-29-3	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----	
EP068B: Organophosphorus Pesticides (OP)									
Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	QC17	QC19	QC21	QC23	QC25
Sampling date / time					14-Apr-2021 00:00	14-Apr-2021 00:00	14-Apr-2021 00:00	14-Apr-2021 00:00	14-Apr-2021 00:00
Compound	CAS Number	LOR	Unit		ES2113633-026	ES2113633-027	ES2113633-028	ES2113633-029	ES2113633-031
					Result	Result	Result	Result	Result
EP068B: Organophosphorus Pesticides (OP) - Continued									
Demeton-S-methyl	919-86-8	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	----
Monocrotophos	6923-22-4	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	----
Dimethoate	60-51-5	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	----
Diazinon	333-41-5	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	----
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	----
Parathion-methyl	298-00-0	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	----
Malathion	121-75-5	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	----
Fenthion	55-38-9	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	----
Chlorpyrifos	2921-88-2	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	----
Parathion	56-38-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	----
Pirimphos-ethyl	23505-41-1	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	----
Chlorfenvinphos	470-90-6	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	----
Bromophos-ethyl	4824-78-6	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	----
Fenamiphos	22224-92-6	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	----
Prothiofos	34643-46-4	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	----
Ethion	563-12-2	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	----
Carbophenothion	786-19-6	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	----
Azinphos Methyl	86-50-0	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Acenaphthylene	208-96-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Acenaphthene	83-32-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Fluorene	86-73-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Phenanthrene	85-01-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Anthracene	120-12-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Fluoranthene	206-44-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Pyrene	129-00-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Benz(a)anthracene	56-55-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Chrysene	218-01-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	QC17	QC19	QC21	QC23	QC25
Sampling date / time				14-Apr-2021 00:00	14-Apr-2021 00:00	14-Apr-2021 00:00	14-Apr-2021 00:00	14-Apr-2021 00:00	
Compound	CAS Number	LOR	Unit	ES2113633-026	ES2113633-027	ES2113633-028	ES2113633-029	ES2113633-031	
				Result	Result	Result	Result	Result	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----	
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----	
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	0.6	0.6	0.6	0.6	----	
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	1.2	1.2	1.2	1.2	----	
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	----	
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	80	----	
C15 - C28 Fraction	----	100	mg/kg	<100	<100	<100	220	----	
C29 - C36 Fraction	----	100	mg/kg	<100	<100	<100	300	----	
^ C10 - C36 Fraction (sum)	----	50	mg/kg	<50	<50	<50	600	----	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	<10	<10	----	
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	<10	<10	<10	<10	----	
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	<50	100	----	
>C16 - C34 Fraction	----	100	mg/kg	<100	<100	<100	400	----	
>C34 - C40 Fraction	----	100	mg/kg	<100	<100	<100	210	----	
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	<50	<50	710	----	
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	<50	<50	<50	100	----	
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	----	
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----	
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----	
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----	
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----	
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	----	
^ Total Xylenes	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----	
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	----	
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%	113	126	115	101	----	
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%	92.0	91.2	86.2	77.7	----	
EP068T: Organophosphorus Pesticide Surrogate									



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	QC17	QC19	QC21	QC23	QC25
Sampling date / time				14-Apr-2021 00:00	14-Apr-2021 00:00	14-Apr-2021 00:00	14-Apr-2021 00:00	14-Apr-2021 00:00	
Compound	CAS Number	LOR	Unit	ES2113633-026	ES2113633-027	ES2113633-028	ES2113633-029	ES2113633-031	
				Result	Result	Result	Result	Result	
EP068T: Organophosphorus Pesticide Surrogate - Continued									
DEF	78-48-8	0.05	%	81.7	88.6	118	135	----	
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%	85.0	83.4	93.2	103	----	
2-Chlorophenol-D4	93951-73-6	0.5	%	94.2	102	98.0	95.1	----	
2,4,6-Tribromophenol	118-79-6	0.5	%	72.2	83.7	78.9	102	----	
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%	97.6	103	104	95.8	----	
Anthracene-d10	1719-06-8	0.5	%	91.9	105	109	107	----	
4-Terphenyl-d14	1718-51-0	0.5	%	108	92.3	101	103	----	
EP080S: TPH(V)/BTEX Surrogates									
1,2-Dichloroethane-D4	17060-07-0	0.2	%	94.8	95.1	92.9	83.0	----	
Toluene-D8	2037-26-5	0.2	%	88.4	88.7	88.4	81.7	----	
4-Bromofluorobenzene	460-00-4	0.2	%	103	104	101	90.8	----	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	RINSATE05	----	----	----	----
Sampling date / time				14-Apr-2021 00:00	----	----	----	----	
Compound	CAS Number	LOR	Unit	ES2113633-030	-----	-----	-----	-----	
				Result	----	----	----	----	
EG020T: Total 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	----	----	----	----	
EG035T: Total Recoverable 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)			Sample ID	RINSATE05	----	----	----	----
Sampling date / time			14-Apr-2021 00:00	----	----	----	----	
Compound	CAS Number	LOR	Unit	ES2113633-030	-----	-----	-----	-----
				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)		Sample ID	RINSATE05		----	----	----	----
Sampling date / time		14-Apr-2021 00:00	----	----	----	----	----	
Compound	CAS Number	LOR	Unit	ES2113633-030	-----	-----	-----	-----
				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	----	----	----	----
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.5	%	88.2	----	----	----	----
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.5	%	101	----	----	----	----



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	RINSATE05	----	----	----	----
Sampling date / time				14-Apr-2021 00:00	----	----	----	----	
Compound	CAS Number	LOR	Unit	ES2113633-030	-----	-----	-----	-----	
Result				----	----	----	----	----	
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	1.0	%	25.9	----	----	----	----	
2-Chlorophenol-D4	93951-73-6	1.0	%	55.8	----	----	----	----	
2,4,6-Tribromophenol	118-79-6	1.0	%	53.2	----	----	----	----	
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	1.0	%	62.5	----	----	----	----	
Anthracene-d10	1719-06-8	1.0	%	81.9	----	----	----	----	
4-Terphenyl-d14	1718-51-0	1.0	%	92.0	----	----	----	----	
EP080S: TPH(V)/BTEX Surrogates									
1,2-Dichloroethane-D4	17060-07-0	2	%	103	----	----	----	----	
Toluene-D8	2037-26-5	2	%	102	----	----	----	----	
4-Bromofluorobenzene	460-00-4	2	%	99.8	----	----	----	----	

Analytical Results

Descriptive Results

Sub-Matrix: SOIL		
Method: Compound	Sample ID - Sampling date / time	Analytical Results
EA200: AS 4964 - 2004 Identification of Asbestos in Soils		
EA200: Description	TP53_ASB - 12-Apr-2021 00:00	Mid brown soil.
EA200: Description	TP56_ASB - 12-Apr-2021 00:00	Mid brown soil.
EA200: Description	TP54_ASB - 12-Apr-2021 00:00	Mid brown soil.
EA200: Description	TP36_ASB - 12-Apr-2021 00:00	Mid brown soil.
EA200: Description	TP161_ASB - 12-Apr-2021 00:00	Mid brown soil.
EA200: Description	TP165_ASB - 12-Apr-2021 00:00	Mid brown soil.
EA200: Description	TP146_ACM - 12-Apr-2021 00:00	Mid brown soil.
EA200: Description	TP132_ACM - 12-Apr-2021 00:00	Mid brown soil.
EA200: Description	TP85_ACM - 12-Apr-2021 00:00	Mid brown soil.
EA200: Description	TP29_ACM - 12-Apr-2021 00:00	Mid brown soil.
EA200: Description	TP140_ACM - 12-Apr-2021 00:00	Mid brown soil.
EA200: Description	TP142_ACM - 12-Apr-2021 00:00	Mid brown soil.
EA200: Description	TP129_ACM - 12-Apr-2021 00:00	Mid brown soil.



Surrogate Control Limits

Sub-Matrix: SOIL		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP066S: PCB Surrogate			
Decachlorobiphenyl	2051-24-3	39	149
EP068S: Organochlorine Pesticide Surrogate			
Dibromo-DDE	21655-73-2	49	147
EP068T: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	35	143
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	63	123
2-Chlorophenol-D4	93951-73-6	66	122
2,4,6-Tribromophenol	118-79-6	40	138
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	70	122
Anthracene-d10	1719-06-8	66	128
4-Terphenyl-d14	1718-51-0	65	129
EP080S: TPH(V)/BTEX Surrogates			
1,2-Dichloroethane-D4	17060-07-0	73	133
Toluene-D8	2037-26-5	74	132
4-Bromofluorobenzene	460-00-4	72	130

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



Inter-Laboratory Testing

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

(SOIL) EA037: Ass Field Screening Analysis

(SOIL) EA033-B: Potential Acidity

(SOIL) EA033-C: Acid Neutralising Capacity

(SOIL) EA033-D: Retained Acidity

(SOIL) EA033-A: Actual Acidity

(SOIL) EA033-E: Acid Base Accounting

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

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

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

QUALITY CONTROL REPORT

Work Order	: ES2113633	Page	: 1 of 17
Client	: EP Risk Management	Laboratory	: Environmental Division Sydney
Contact	: Gilles Renda	Contact	: Hannah White
Address	: 3/19 BOLTON STREET NEWCASTLE NSW 2300	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: +61-2-8784 8555
Project	: EP1995	Date Samples Received	: 13-Apr-2021
Order number	: ----	Date Analysis Commenced	: 15-Apr-2021
C-O-C number	: ----	Issue Date	: 26-Apr-2021
Sampler	: Gilles Renda		
Site	: ----		
Quote number	: SY/497/20 Primary analysis only		
No. of samples received	: 31		
No. of samples analysed	: 31		



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

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

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

Signatories	Position	Accreditation Category
Alana Smylie	Asbestos Identifier	Newcastle - Asbestos, Mayfield West, NSW
Ben Felgendrejeris	Senior Acid Sulfate Soil Chemist	Brisbane Acid Sulphate Soils, Stafford, QLD
Edwandy Fadjjar	Organic Coordinator	Sydney Inorganics, Smithfield, NSW
Edwandy Fadjjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Franco Lentini	LCMS Coordinator	Sydney Inorganics, Smithfield, NSW
Ivan Taylor	Analyst	Sydney Inorganics, Smithfield, NSW
Satishkumar Trivedi	Senior Acid Sulfate Soil Chemist	Brisbane Acid Sulphate Soils, Stafford, QLD



General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high

Key :
 Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
 CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
 LOR = Limit of reporting
 RPD = Relative Percentage Difference
 # = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 3631348)									
ES2113633-024	QC07	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.00	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	14	11	25.6	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	<2	2	0.00	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	13	8	50.7	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	<5	<5	0.00	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	24	17	33.8	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	11	12	14.0	No Limit
ES2113850-005	Anonymous	EG005T: Cadmium	7440-43-9	1	mg/kg	1	1	0.00	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	20	18	8.53	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	13	13	0.00	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.00	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	59	55	7.93	0% - 50%
		EG005T: Lead	7439-92-1	5	mg/kg	240	# 181	28.1	0% - 20%
EG005T: Zinc	7440-66-6	5	mg/kg	1840	1670	9.64	0% - 20%		
EA033-A: Actual Acidity (QC Lot: 3629132)									
ES2113023-034	Anonymous	EA033: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	0.10	0.10	0.00	No Limit
		EA033: Titratable Actual Acidity (23F)	----	2	mole H+ / t	62	61	0.00	0% - 20%
		EA033: pH KCl (23A)	----	0.1	pH Unit	4.2	4.2	0.00	0% - 20%
EA033-A: Actual Acidity (QC Lot: 3631462)									
EB2110538-009	Anonymous	EA033: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA033: Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	<2	0.00	No Limit
		EA033: pH KCl (23A)	----	0.1	pH Unit	8.4	8.4	0.00	0% - 20%
ES2113633-020	ASS_TP55	EA033: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	0.14	0.14	0.00	No Limit
		EA033: Titratable Actual Acidity (23F)	----	2	mole H+ / t	89	85	4.22	0% - 20%



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EA033-A: Actual Acidity (QC Lot: 3631462) - continued									
ES2113633-020	ASS_TP55	EA033: pH KCl (23A)	----	0.1	pH Unit	4.1	4.1	0.00	0% - 20%
EA033-B: Potential Acidity (QC Lot: 3629132)									
ES2113023-034	Anonymous	EA033: Chromium Reducible Sulfur (22B)	----	0.005	% S	0.012	0.012	0.00	No Limit
		EA033: acidity - Chromium Reducible Sulfur (a-22B)	----	10	mole H+ / t	<10	<10	0.00	No Limit
EA033-B: Potential Acidity (QC Lot: 3631462)									
EB2110538-009	Anonymous	EA033: Chromium Reducible Sulfur (22B)	----	0.005	% S	1.26	1.25	0.612	0% - 20%
		EA033: acidity - Chromium Reducible Sulfur (a-22B)	----	10	mole H+ / t	787	783	0.612	0% - 20%
ES2113633-020	ASS_TP55	EA033: Chromium Reducible Sulfur (22B)	----	0.005	% S	0.011	0.012	13.1	No Limit
		EA033: acidity - Chromium Reducible Sulfur (a-22B)	----	10	mole H+ / t	<10	<10	0.00	No Limit
EA033-D: Retained Acidity (QC Lot: 3629132)									
ES2113023-034	Anonymous	EA033: sulfidic - Net Acid Soluble Sulfur (s-20J)	----	0.02	% pyrite S	0.03	0.03	0.00	No Limit
		EA033: Net Acid Soluble Sulfur (20Je)	----	0.02	% S	0.04	0.03	0.00	No Limit
		EA033: KCl Extractable Sulfur (23Ce)	----	0.02	% S	<0.02	<0.02	0.00	No Limit
		EA033: HCl Extractable Sulfur (20Be)	----	0.02	% S	0.03	0.03	0.00	No Limit
		EA033: acidity - Net Acid Soluble Sulfur (a-20J)	----	10	mole H+ / t	20	16	19.9	No Limit
EA033-D: Retained Acidity (QC Lot: 3631462)									
ES2113633-020	ASS_TP55	EA033: sulfidic - Net Acid Soluble Sulfur (s-20J)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA033: Net Acid Soluble Sulfur (20Je)	----	0.02	% S	<0.02	<0.02	0.00	No Limit
		EA033: KCl Extractable Sulfur (23Ce)	----	0.02	% S	<0.02	<0.02	0.00	No Limit
		EA033: HCl Extractable Sulfur (20Be)	----	0.02	% S	0.02	0.02	0.00	No Limit
		EA033: acidity - Net Acid Soluble Sulfur (a-20J)	----	10	mole H+ / t	<10	<10	0.00	No Limit
EA037: Ass Field Screening Analysis (QC Lot: 3633452)									
EB2110144-001	Anonymous	EA037: pH (F)	----	0.1	pH Unit	6.4	6.4	0.00	0% - 20%
		EA037: pH (Fox)	----	0.1	pH Unit	2.5	2.4	4.03	0% - 20%
ES2113633-014	ASS_TP49	EA037: pH (F)	----	0.1	pH Unit	5.3	5.4	0.00	0% - 20%
		EA037: pH (Fox)	----	0.1	pH Unit	3.4	3.5	2.87	0% - 20%
EA037: Ass Field Screening Analysis (QC Lot: 3633453)									
ES2113633-031	QC25	EA037: pH (F)	----	0.1	pH Unit	5.5	5.5	0.00	0% - 20%
		EA037: pH (Fox)	----	0.1	pH Unit	4.0	4.0	0.00	0% - 20%
ES2114251-004	Anonymous	EA037: pH (F)	----	0.1	pH Unit	5.8	5.8	0.00	0% - 20%
		EA037: pH (Fox)	----	0.1	pH Unit	3.6	3.4	3.70	0% - 20%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 3631354)									
ES2113633-026	QC17	EA055: Moisture Content	----	0.1	%	9.8	9.7	1.17	No Limit
ES2113983-003	Anonymous	EA055: Moisture Content	----	0.1	%	9.8	10.1	2.66	0% - 50%
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 3631349)									
ES2113633-024	QC07	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.00	No Limit



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 3631349) - continued									
ES2113850-005	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	0.2	0.1	0.00	No Limit
EP066: Polychlorinated Biphenyls (PCB) (QC Lot: 3622152)									
ES2113382-001	Anonymous	EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
ES2113382-047	Anonymous	EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
EP068A: Organochlorine Pesticides (OC) (QC Lot: 3622151)									
ES2113382-001	Anonymous	EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4,4'-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4,4'-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4,4'-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	0.00	No Limit		
ES2113382-047	Anonymous	EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4,4'-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP068A: Organochlorine Pesticides (OC) (QC Lot: 3622151) - continued									
ES2113382-047	Anonymous	EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4.4'-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4.4'-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
EP068B: Organophosphorus Pesticides (OP) (QC Lot: 3622151)									
ES2113382-001	Anonymous	EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
EP068: Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	0.00	No Limit		
EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit		
ES2113382-047	Anonymous	EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	0.00	No Limit



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)	
EP068B: Organophosphorus Pesticides (OP) (QC Lot: 3622151) - continued										
ES2113382-047	Anonymous	EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit	
		EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit	
		EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	0.00	No Limit	
		EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	0.00	No Limit	
		EP068: Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	0.00	No Limit	
		EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 3622150)										
ES2113382-001	Anonymous	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
			205-82-3							
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP075(SIM): Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP075(SIM): Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP075(SIM): Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
EP075(SIM): Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	0.00	No Limit			
ES2113382-047	Anonymous	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
			205-82-3							
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 3622150) - continued										
ES2113382-047	Anonymous	EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP075(SIM): Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP075(SIM): Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 3621825)										
ES2113382-001	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.00	No Limit	
ES2113382-047	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.00	No Limit	
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 3622149)										
ES2113382-001	Anonymous	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit	
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit	
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.00	No Limit	
ES2113382-047	Anonymous	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit	
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit	
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.00	No Limit	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3621825)										
ES2113382-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.00	No Limit	
ES2113382-047	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.00	No Limit	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3622149)										
ES2113382-001	Anonymous	EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit	
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit	
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.00	No Limit	
ES2113382-047	Anonymous	EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit	
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit	
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.00	No Limit	
EP080: BTEXN (QC Lot: 3621825)										
ES2113382-001	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit	
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP080: meta- & para-Xylene	108-38-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
			106-42-3							
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
ES2113382-047	Anonymous	EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.00	No Limit	
		EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit	
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP080: BTEXN (QC Lot: 3621825) - continued									
ES2113382-047	Anonymous	EP080: meta- & para-Xylene	108-38-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
			106-42-3						
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.00	No Limit
Sub-Matrix: WATER									
Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EG020T: Total Metals by ICP-MS (QC Lot: 3632891)									
ES2114046-009	Anonymous	EG020A-T: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	0.00	No Limit
		EG020A-T: Arsenic	7440-38-2	0.001	mg/L	<0.001	<0.001	0.00	No Limit
		EG020A-T: Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	0.00	No Limit
		EG020A-T: Copper	7440-50-8	0.001	mg/L	<0.001	<0.001	0.00	No Limit
		EG020A-T: Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	0.00	No Limit
		EG020A-T: Nickel	7440-02-0	0.001	mg/L	<0.001	0.001	0.00	No Limit
		EG020A-T: Zinc	7440-66-6	0.005	mg/L	<0.005	<0.005	0.00	No Limit
ES2113466-001	Anonymous	EG020A-T: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	0.00	No Limit
		EG020A-T: Arsenic	7440-38-2	0.001	mg/L	<0.001	<0.001	0.00	No Limit
		EG020A-T: Chromium	7440-47-3	0.001	mg/L	0.004	0.005	0.00	No Limit
		EG020A-T: Copper	7440-50-8	0.001	mg/L	0.119	0.113	4.89	0% - 20%
		EG020A-T: Lead	7439-92-1	0.001	mg/L	0.016	0.017	0.00	0% - 50%
		EG020A-T: Nickel	7440-02-0	0.001	mg/L	0.006	0.006	0.00	No Limit
		EG020A-T: Zinc	7440-66-6	0.005	mg/L	0.042	0.038	8.77	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 3632750)									
ES2113633-030	RINSATE05	EG035T: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.00	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 3629645)									
ES2113942-001	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.00	No Limit
ES2114082-001	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.00	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3629645)									
ES2113942-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.00	No Limit
ES2114082-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.00	No Limit
EP080: BTEXN (QC Lot: 3629645)									
ES2113942-001	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	2	µg/L	<2	<2	0.00	No Limit
			106-42-3						
		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
ES2114082-001	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

Page : 9 of 17
 Work Order : ES2113633
 Client : EP Risk Management
 Project : EP1995



Sub-Matrix: **WATER**

				<i>Laboratory Duplicate (DUP) Report</i>					
<i>Laboratory sample ID</i>	<i>Sample ID</i>	<i>Method: Compound</i>	<i>CAS Number</i>	<i>LOR</i>	<i>Unit</i>	<i>Original Result</i>	<i>Duplicate Result</i>	<i>RPD (%)</i>	<i>Acceptable RPD (%)</i>
EP080: BTEXN (QC Lot: 3629645) - continued									
ES2114082-001	Anonymous	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 Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike Concentration	Spike Recovery (%)		Acceptable Limits (%)	
						LCS	Low	High	
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 3631348)									
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	121.1 mg/kg	94.6	88.0	113	
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	0.74 mg/kg	113	70.0	130	
EG005T: Chromium	7440-47-3	2	mg/kg	<2	20.2 mg/kg	99.2	68.0	132	
EG005T: Copper	7440-50-8	5	mg/kg	<5	52.9 mg/kg	96.7	89.0	111	
EG005T: Lead	7439-92-1	5	mg/kg	<5	62.1 mg/kg	92.0	82.0	119	
EG005T: Nickel	7440-02-0	2	mg/kg	<2	15.4 mg/kg	93.7	80.0	120	
EG005T: Zinc	7440-66-6	5	mg/kg	<5	162 mg/kg	81.3	66.0	133	
EA033-A: Actual Acidity (QCLot: 3629132)									
EA033: pH KCl (23A)	----	----	pH Unit	----	4.4 pH Unit	97.7	91.0	107	
EA033: Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	15 mole H+ / t	94.1	70.0	124	
EA033: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	----	----	----	----	
EA033-A: Actual Acidity (QCLot: 3631462)									
EA033: pH KCl (23A)	----	----	pH Unit	----	4.4 pH Unit	97.7	91.0	107	
EA033: Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	15 mole H+ / t	98.5	70.0	124	
EA033: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	----	----	----	----	
EA033-B: Potential Acidity (QCLot: 3629132)									
EA033: Chromium Reducible Sulfur (22B)	----	0.005	% S	<0.005	0.155 % S	96.4	77.0	121	
EA033: acidity - Chromium Reducible Sulfur (a-22B)	----	10	mole H+ / t	<10	----	----	----	----	
EA033-B: Potential Acidity (QCLot: 3631462)									
EA033: Chromium Reducible Sulfur (22B)	----	0.005	% S	<0.005	0.155 % S	91.4	77.0	121	
EA033: acidity - Chromium Reducible Sulfur (a-22B)	----	10	mole H+ / t	<10	----	----	----	----	
EA033-D: Retained Acidity (QCLot: 3629132)									
EA033: Net Acid Soluble Sulfur (20Je)	----	0.02	% S	<0.02	----	----	----	----	
EA033: acidity - Net Acid Soluble Sulfur (a-20J)	----	10	mole H+ / t	<10	----	----	----	----	
EA033: sulfidic - Net Acid Soluble Sulfur (s-20J)	----	0.02	% pyrite S	<0.02	----	----	----	----	
EA033: KCl Extractable Sulfur (23Ce)	----	0.02	% S	<0.02	0.04779 % S	94.3	70.0	128	
EA033: HCl Extractable Sulfur (20Be)	----	0.02	% S	<0.02	0.279 % S	104	70.0	120	
EA033-D: Retained Acidity (QCLot: 3631462)									
EA033: Net Acid Soluble Sulfur (20Je)	----	0.02	% S	<0.02	----	----	----	----	
EA033: acidity - Net Acid Soluble Sulfur (a-20J)	----	10	mole H+ / t	<10	----	----	----	----	
EA033: sulfidic - Net Acid Soluble Sulfur (s-20J)	----	0.02	% pyrite S	<0.02	----	----	----	----	
EA033: KCl Extractable Sulfur (23Ce)	----	0.02	% S	<0.02	0.04779 % S	96.2	70.0	128	
EA033: HCl Extractable Sulfur (20Be)	----	0.02	% S	<0.02	0.279 % S	102	70.0	120	



Sub-Matrix: SOIL

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike	Spike Recovery (%)		Acceptable Limits (%)	
					Concentration	LCS	Low	High	
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3631349)									
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	0.073 mg/kg	97.6	70.0	130	
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 3622152)									
EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	1 mg/kg	105	62.0	126	
EP068A: Organochlorine Pesticides (OC) (QCLot: 3622151)									
EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	0.5 mg/kg	99.4	69.0	113	
EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	0.5 mg/kg	80.6	65.0	117	
EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	0.5 mg/kg	98.1	67.0	119	
EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	0.5 mg/kg	89.4	68.0	116	
EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	96.1	65.0	117	
EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	0.5 mg/kg	93.6	67.0	115	
EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	0.5 mg/kg	76.3	69.0	115	
EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	0.5 mg/kg	97.5	62.0	118	
EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	0.5 mg/kg	96.9	63.0	117	
EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	0.5 mg/kg	94.9	66.0	116	
EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	0.5 mg/kg	98.9	64.0	116	
EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	0.5 mg/kg	84.7	66.0	116	
EP068: 4,4'-DDE	72-55-9	0.05	mg/kg	<0.05	0.5 mg/kg	90.6	67.0	115	
EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	0.5 mg/kg	82.0	67.0	123	
EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	0.5 mg/kg	87.5	69.0	115	
EP068: 4,4'-DDD	72-54-8	0.05	mg/kg	<0.05	0.5 mg/kg	92.8	69.0	121	
EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	0.5 mg/kg	95.7	56.0	120	
EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	0.5 mg/kg	82.3	62.0	124	
EP068: 4,4'-DDT	50-29-3	0.2	mg/kg	<0.2	0.5 mg/kg	83.1	66.0	120	
EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	0.5 mg/kg	82.4	64.0	122	
EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	0.5 mg/kg	78.0	54.0	130	
EP068B: Organophosphorus Pesticides (OP) (QCLot: 3622151)									
EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	0.5 mg/kg	82.3	59.0	119	
EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	80.6	62.0	128	
EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	0.5 mg/kg	79.9	54.0	126	
EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	0.5 mg/kg	76.3	67.0	119	
EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	0.5 mg/kg	85.6	70.0	120	
EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	0.5 mg/kg	99.9	72.0	120	
EP068: Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	0.5 mg/kg	86.8	68.0	120	
EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	0.5 mg/kg	89.3	68.0	122	
EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	0.5 mg/kg	91.3	69.0	117	
EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	0.5 mg/kg	93.0	76.0	118	
EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	0.5 mg/kg	83.9	64.0	122	
EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	0.5 mg/kg	79.1	70.0	116	



Sub-Matrix: SOIL

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike	Spike Recovery (%)		Acceptable Limits (%)	
					Concentration	LCS	Low	High	
EP068B: Organophosphorus Pesticides (OP) (QCLot: 3622151) - continued									
EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	0.5 mg/kg	92.0	69.0	121	
EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	0.5 mg/kg	90.6	66.0	118	
EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	0.5 mg/kg	78.1	68.0	124	
EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	0.5 mg/kg	92.2	62.0	112	
EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	0.5 mg/kg	94.8	68.0	120	
EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	0.5 mg/kg	83.5	65.0	127	
EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	0.5 mg/kg	75.3	41.0	123	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3622150)									
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	6 mg/kg	98.0	77.0	125	
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	6 mg/kg	93.0	72.0	124	
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	6 mg/kg	96.3	73.0	127	
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	6 mg/kg	75.9	72.0	126	
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	6 mg/kg	104	75.0	127	
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	6 mg/kg	106	77.0	127	
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	6 mg/kg	89.6	73.0	127	
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	6 mg/kg	105	74.0	128	
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	6 mg/kg	95.5	69.0	123	
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	6 mg/kg	90.1	75.0	127	
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2	0.5	mg/kg	<0.5	6 mg/kg	98.8	68.0	116	
	205-82-3								
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	6 mg/kg	96.4	74.0	126	
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	6 mg/kg	94.5	70.0	126	
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	6 mg/kg	102	61.0	121	
EP075(SIM): Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	6 mg/kg	99.1	62.0	118	
EP075(SIM): Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	6 mg/kg	95.6	63.0	121	
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3621825)									
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	26 mg/kg	86.8	68.4	128	
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3622149)									
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	300 mg/kg	90.0	75.0	129	
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	450 mg/kg	91.4	77.0	131	
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	300 mg/kg	86.4	71.0	129	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3621825)									
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	31 mg/kg	85.8	68.4	128	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3622149)									
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	375 mg/kg	90.8	77.0	125	
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	525 mg/kg	89.8	74.0	138	
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	225 mg/kg	83.1	63.0	131	
EP080: BTEXN (QCLot: 3621825)									



Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%)	Acceptable Limits (%)	
						LCS	Low	High
EP080: BTEXN (QCLot: 3621825) - continued								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	82.8	62.0	116
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	92.3	67.0	121
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	90.3	65.0	117
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	2 mg/kg	91.5	66.0	118
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	93.5	68.0	120
EP080: Naphthalene	91-20-3	1	mg/kg	<1	1 mg/kg	106	63.0	119

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%)	Acceptable Limits (%)	
						LCS	Low	High
EG020T: Total Metals by ICP-MS (QCLot: 3632891)								
EG020A-T: Arsenic	7440-38-2	0.001	mg/L	<0.001	0.1 mg/L	97.1	82.0	114
EG020A-T: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	0.1 mg/L	99.0	84.0	112
EG020A-T: Chromium	7440-47-3	0.001	mg/L	<0.001	0.1 mg/L	97.4	86.0	116
EG020A-T: Copper	7440-50-8	0.001	mg/L	<0.001	0.1 mg/L	97.4	83.0	118
EG020A-T: Lead	7439-92-1	0.001	mg/L	<0.001	0.1 mg/L	93.2	85.0	115
EG020A-T: Nickel	7440-02-0	0.001	mg/L	<0.001	0.1 mg/L	102	84.0	116
EG020A-T: Zinc	7440-66-6	0.005	mg/L	<0.005	0.1 mg/L	93.8	79.0	117
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3632750)								
EG035T: Mercury	7439-97-6	0.0001	mg/L	<0.0001	0.01 mg/L	99.1	77.0	111
EP068A: Organochlorine Pesticides (OC) (QCLot: 3622020)								
EP068: alpha-BHC	319-84-6	0.5	µg/L	<0.5	5 µg/L	87.0	64.9	107
EP068: Hexachlorobenzene (HCB)	118-74-1	0.5	µg/L	<0.5	5 µg/L	82.6	58.3	111
EP068: beta-BHC	319-85-7	0.5	µg/L	<0.5	5 µg/L	84.7	69.0	117
EP068: gamma-BHC	58-89-9	0.5	µg/L	<0.5	5 µg/L	103	70.0	112
EP068: delta-BHC	319-86-8	0.5	µg/L	<0.5	5 µg/L	95.3	68.9	110
EP068: Heptachlor	76-44-8	0.5	µg/L	<0.5	5 µg/L	89.8	65.2	108
EP068: Aldrin	309-00-2	0.5	µg/L	<0.5	5 µg/L	88.4	65.8	109
EP068: Heptachlor epoxide	1024-57-3	0.5	µg/L	<0.5	5 µg/L	88.6	67.1	107
EP068: trans-Chlordane	5103-74-2	0.5	µg/L	<0.5	5 µg/L	90.2	64.1	110
EP068: alpha-Endosulfan	959-98-8	0.5	µg/L	<0.5	5 µg/L	89.6	66.7	112
EP068: cis-Chlordane	5103-71-9	0.5	µg/L	<0.5	5 µg/L	87.9	63.2	111
EP068: Dieldrin	60-57-1	0.5	µg/L	<0.5	5 µg/L	93.4	65.2	113
EP068: 4,4'-DDE	72-55-9	0.5	µg/L	<0.5	5 µg/L	81.2	66.0	112
EP068: Endrin	72-20-8	0.5	µg/L	<0.5	5 µg/L	91.1	65.2	113
EP068: beta-Endosulfan	33213-65-9	0.5	µg/L	<0.5	5 µg/L	96.3	67.3	114
EP068: 4,4'-DDD	72-54-8	0.5	µg/L	<0.5	5 µg/L	94.9	72.0	122
EP068: Endrin aldehyde	7421-93-4	0.5	µg/L	<0.5	5 µg/L	90.1	66.9	109



Sub-Matrix: WATER

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report				
					Spike Concentration	Spike Recovery (%)		Acceptable Limits (%)	
						LCS	Low	High	
EP068A: Organochlorine Pesticides (OC) (QCLot: 3622020) - continued									
EP068: Endosulfan sulfate	1031-07-8	0.5	µg/L	<0.5	5 µg/L	105	65.2	112	
EP068: 4,4'-DDT	50-29-3	2	µg/L	<2.0	5 µg/L	88.7	65.2	112	
EP068: Endrin ketone	53494-70-5	0.5	µg/L	<0.5	5 µg/L	99.2	63.8	110	
EP068: Methoxychlor	72-43-5	2	µg/L	<2.0	5 µg/L	85.9	61.1	114	
EP068B: Organophosphorus Pesticides (OP) (QCLot: 3622020)									
EP068: Dichlorvos	62-73-7	0.5	µg/L	<0.5	5 µg/L	98.4	65.6	114	
EP068: Demeton-S-methyl	919-86-8	0.5	µg/L	<0.5	5 µg/L	107	63.7	113	
EP068: Monocrotophos	6923-22-4	2	µg/L	<2.0	5 µg/L	25.3	19.7	48.0	
EP068: Dimethoate	60-51-5	0.5	µg/L	<0.5	5 µg/L	108	69.5	110	
EP068: Diazinon	333-41-5	0.5	µg/L	<0.5	5 µg/L	91.0	71.1	110	
EP068: Chlorpyrifos-methyl	5598-13-0	0.5	µg/L	<0.5	5 µg/L	93.5	77.0	119	
EP068: Parathion-methyl	298-00-0	2	µg/L	<2.0	5 µg/L	97.3	70.0	124	
EP068: Malathion	121-75-5	0.5	µg/L	<0.5	5 µg/L	98.0	68.4	116	
EP068: Fenthion	55-38-9	0.5	µg/L	<0.5	5 µg/L	94.8	68.6	112	
EP068: Chlorpyrifos	2921-88-2	0.5	µg/L	<0.5	5 µg/L	94.0	75.0	119	
EP068: Parathion	56-38-2	2	µg/L	<2.0	5 µg/L	92.7	67.0	121	
EP068: Pirimphos-ethyl	23505-41-1	0.5	µg/L	<0.5	5 µg/L	86.7	69.0	121	
EP068: Chlorfenvinphos	470-90-6	0.5	µg/L	<0.5	5 µg/L	106	71.8	110	
EP068: Bromophos-ethyl	4824-78-6	0.5	µg/L	<0.5	5 µg/L	90.0	67.5	112	
EP068: Fenamiphos	22224-92-6	0.5	µg/L	<0.5	5 µg/L	106	64.1	116	
EP068: Prothiofos	34643-46-4	0.5	µg/L	<0.5	5 µg/L	91.2	67.8	114	
EP068: Ethion	563-12-2	0.5	µg/L	<0.5	5 µg/L	90.9	74.0	120	
EP068: Carbophenothion	786-19-6	0.5	µg/L	<0.5	5 µg/L	99.5	66.2	114	
EP068: Azinphos Methyl	86-50-0	0.5	µg/L	<0.5	5 µg/L	102	51.6	128	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3622019)									
EP075(SIM): Naphthalene	91-20-3	1	µg/L	<1.0	5 µg/L	70.5	50.0	94.0	
EP075(SIM): Acenaphthylene	208-96-8	1	µg/L	<1.0	5 µg/L	79.2	63.6	114	
EP075(SIM): Acenaphthene	83-32-9	1	µg/L	<1.0	5 µg/L	85.2	62.2	113	
EP075(SIM): Fluorene	86-73-7	1	µg/L	<1.0	5 µg/L	80.0	63.9	115	
EP075(SIM): Phenanthrene	85-01-8	1	µg/L	<1.0	5 µg/L	88.4	62.6	116	
EP075(SIM): Anthracene	120-12-7	1	µg/L	<1.0	5 µg/L	85.6	64.3	116	
EP075(SIM): Fluoranthene	206-44-0	1	µg/L	<1.0	5 µg/L	83.2	63.6	118	
EP075(SIM): Pyrene	129-00-0	1	µg/L	<1.0	5 µg/L	85.3	63.1	118	
EP075(SIM): Benz(a)anthracene	56-55-3	1	µg/L	<1.0	5 µg/L	79.5	64.1	117	
EP075(SIM): Chrysene	218-01-9	1	µg/L	<1.0	5 µg/L	82.5	62.5	116	
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2	1	µg/L	<1.0	5 µg/L	85.6	61.7	119	
	205-82-3								
EP075(SIM): Benzo(k)fluoranthene	207-08-9	1	µg/L	<1.0	5 µg/L	74.6	63.0	115	
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	5 µg/L	80.4	63.3	117	



Sub-Matrix: WATER

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%)	Acceptable Limits (%)	
						LCS	Low	High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3622019) - continued								
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L	<1.0	5 µg/L	79.5	59.9	118
EP075(SIM): Dibenz(a,h)anthracene	53-70-3	1	µg/L	<1.0	5 µg/L	84.6	61.2	117
EP075(SIM): Benzo(g,h,i)perylene	191-24-2	1	µg/L	<1.0	5 µg/L	78.3	59.1	118
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3622018)								
EP071: C10 - C14 Fraction	----	50	µg/L	<50	400 µg/L	87.7	55.8	112
EP071: C15 - C28 Fraction	----	100	µg/L	<100	600 µg/L	95.2	71.6	113
EP071: C29 - C36 Fraction	----	50	µg/L	<50	400 µg/L	94.3	56.0	121
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3629645)								
EP080: C6 - C9 Fraction	----	20	µg/L	<20	260 µg/L	91.4	75.0	127
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3622018)								
EP071: >C10 - C16 Fraction	----	100	µg/L	<100	500 µg/L	69.5	57.9	119
EP071: >C16 - C34 Fraction	----	100	µg/L	<100	700 µg/L	99.4	62.5	110
EP071: >C34 - C40 Fraction	----	100	µg/L	<100	300 µg/L	79.1	61.5	121
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3629645)								
EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	310 µg/L	94.1	75.0	127
EP080: BTEXN (QCLot: 3629645)								
EP080: Benzene	71-43-2	1	µg/L	<1	10 µg/L	96.0	70.0	122
EP080: Toluene	108-88-3	2	µg/L	<2	10 µg/L	96.2	69.0	123
EP080: Ethylbenzene	100-41-4	2	µg/L	<2	10 µg/L	97.8	70.0	120
EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	10 µg/L	97.2	69.0	121
EP080: ortho-Xylene	95-47-6	2	µg/L	<2	10 µg/L	98.2	72.0	122
EP080: Naphthalene	91-20-3	5	µg/L	<5	10 µg/L	105	70.0	120

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: SOIL

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report			
				Spike Concentration	Spike Recovery(%)	Acceptable Limits (%)	
					MS	Low	High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 3631348)							
ES2113633-024	QC07	EG005T: Arsenic	7440-38-2	50 mg/kg	79.7	70.0	130
		EG005T: Cadmium	7440-43-9	50 mg/kg	96.8	70.0	130
		EG005T: Chromium	7440-47-3	50 mg/kg	83.8	68.0	132
		EG005T: Copper	7440-50-8	250 mg/kg	94.3	70.0	130
		EG005T: Lead	7439-92-1	250 mg/kg	94.0	70.0	130
		EG005T: Nickel	7440-02-0	50 mg/kg	93.7	70.0	130



Sub-Matrix: SOIL

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 3631348) - continued							
ES2113633-024	QC07	EG005T: Zinc	7440-66-6	250 mg/kg	97.3	66.0	133
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3631349)							
ES2113633-024	QC07	EG035T: Mercury	7439-97-6	5 mg/kg	79.0	70.0	130
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 3622152)							
ES2113382-001	Anonymous	EP066: Total Polychlorinated biphenyls	----	1 mg/kg	97.7	70.0	130
EP068A: Organochlorine Pesticides (OC) (QCLot: 3622151)							
ES2113382-001	Anonymous	EP068: gamma-BHC	58-89-9	0.5 mg/kg	114	70.0	130
		EP068: Heptachlor	76-44-8	0.5 mg/kg	92.4	70.0	130
		EP068: Aldrin	309-00-2	0.5 mg/kg	93.8	70.0	130
		EP068: Dieldrin	60-57-1	0.5 mg/kg	114	70.0	130
		EP068: Endrin	72-20-8	2 mg/kg	93.8	70.0	130
		EP068: 4,4'-DDT	50-29-3	2 mg/kg	86.8	70.0	130
EP068B: Organophosphorus Pesticides (OP) (QCLot: 3622151)							
ES2113382-001	Anonymous	EP068: Diazinon	333-41-5	0.5 mg/kg	88.0	70.0	130
		EP068: Chlorpyrifos-methyl	5598-13-0	0.5 mg/kg	103	70.0	130
		EP068: Pirimphos-ethyl	23505-41-1	0.5 mg/kg	79.0	70.0	130
		EP068: Bromophos-ethyl	4824-78-6	0.5 mg/kg	86.2	70.0	130
		EP068: Prothiofos	34643-46-4	0.5 mg/kg	114	70.0	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3622150)							
ES2113382-001	Anonymous	EP075(SIM): Acenaphthene	83-32-9	10 mg/kg	96.0	70.0	130
		EP075(SIM): Pyrene	129-00-0	10 mg/kg	86.9	70.0	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3621825)							
ES2113382-001	Anonymous	EP080: C6 - C9 Fraction	----	32.5 mg/kg	88.8	70.0	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3622149)							
ES2113382-001	Anonymous	EP071: C10 - C14 Fraction	----	523 mg/kg	106	73.0	137
		EP071: C15 - C28 Fraction	----	2319 mg/kg	111	53.0	131
		EP071: C29 - C36 Fraction	----	1714 mg/kg	108	52.0	132
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3621825)							
ES2113382-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	37.5 mg/kg	85.9	70.0	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3622149)							
ES2113382-001	Anonymous	EP071: >C10 - C16 Fraction	----	860 mg/kg	103	73.0	137
		EP071: >C16 - C34 Fraction	----	3223 mg/kg	119	53.0	131
		EP071: >C34 - C40 Fraction	----	1058 mg/kg	102	52.0	132
EP080: BTEXN (QCLot: 3621825)							
ES2113382-001	Anonymous	EP080: Benzene	71-43-2	2.5 mg/kg	71.0	70.0	130



Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report				
				Spike	SpikeRecovery(%)	Acceptable Limits (%)		
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High	
EP080: BTEXN (QCLot: 3621825) - continued								
ES2113382-001	Anonymous	EP080: Toluene	108-88-3	2.5 mg/kg	77.7	70.0	130	
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	80.4	70.0	130	
		EP080: meta- & para-Xylene	108-38-3	2.5 mg/kg	78.9	70.0	130	
			106-42-3					
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	81.2	70.0	130	
	EP080: Naphthalene	91-20-3	2.5 mg/kg	87.0	70.0	130		

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report				
				Spike	SpikeRecovery(%)	Acceptable Limits (%)		
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High	
EG020T: Total Metals by ICP-MS (QCLot: 3632891)								
ES2113633-030	RINSATE05	EG020A-T: Arsenic	7440-38-2	1 mg/L	98.5	70.0	130	
		EG020A-T: Cadmium	7440-43-9	0.25 mg/L	102	70.0	130	
		EG020A-T: Chromium	7440-47-3	1 mg/L	102	70.0	130	
		EG020A-T: Copper	7440-50-8	1 mg/L	101	70.0	130	
		EG020A-T: Lead	7439-92-1	1 mg/L	100	70.0	130	
		EG020A-T: Nickel	7440-02-0	1 mg/L	105	70.0	130	
		EG020A-T: Zinc	7440-66-6	1 mg/L	98.9	70.0	130	
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3632750)								
ES2114411-001	Anonymous	EG035T: Mercury	7439-97-6	0.01 mg/L	77.0	70.0	130	
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3629645)								
ES2113942-001	Anonymous	EP080: C6 - C9 Fraction	----	325 µg/L	95.8	70.0	130	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3629645)								
ES2113942-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	375 µg/L	94.0	70.0	130	
EP080: BTEXN (QCLot: 3629645)								
ES2113942-001	Anonymous	EP080: Benzene	71-43-2	25 µg/L	95.4	70.0	130	
		EP080: Toluene	108-88-3	25 µg/L	93.3	70.0	130	
		EP080: Ethylbenzene	100-41-4	25 µg/L	95.1	70.0	130	
		EP080: meta- & para-Xylene	108-38-3	25 µg/L	92.9	70.0	130	
			106-42-3					
		EP080: ortho-Xylene	95-47-6	25 µg/L	93.2	70.0	130	
	EP080: Naphthalene	91-20-3	25 µg/L	83.2	70.0	130		

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: ES2113633	Page	: 1 of 12
Client	: EP Risk Management	Laboratory	: Environmental Division Sydney
Contact	: Gilles Renda	Telephone	: +61-2-8784 8555
Project	: EP1995	Date Samples Received	: 13-Apr-2021
Site	: ----	Issue Date	: 26-Apr-2021
Sampler	: Gilles Renda	No. of samples received	: 31
Order number	: ----	No. of samples analysed	: 31

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO** Method Blank value outliers occur.
- **NO** Laboratory Control outliers occur.
- **NO** Matrix Spike outliers occur.
- Duplicate outliers exist - please see following pages for full details.
- For all regular sample matrices, **NO** surrogate recovery outliers occur.

Outliers : Analysis Holding Time Compliance

- Analysis Holding Time Outliers exist - please see following pages for full details.

Outliers : Frequency of Quality Control Samples

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



Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Duplicate (DUP) RPDs							
EG005(ED093)T: Total Metals by ICP-AES	ES2113850--005	Anonymous	Lead	7439-92-1	28.1 %	0% - 20%	RPD exceeds LOR based limits

Outliers : Analysis Holding Time Compliance

Matrix: **SOIL**

Method	Extraction / Preparation			Analysis			
	Container / Client Sample ID(s)	Date extracted	Due for extraction	Days overdue	Date analysed	Due for analysis	Days overdue
EA033-A: Actual Acidity							
Soil Glass Jar - Unpreserved QC25		20-Apr-2021	15-Apr-2021	5	----	----	----
EA033-B: Potential Acidity							
Soil Glass Jar - Unpreserved QC25		20-Apr-2021	15-Apr-2021	5	----	----	----
EA033-C: Acid Neutralising Capacity							
Soil Glass Jar - Unpreserved QC25		20-Apr-2021	15-Apr-2021	5	----	----	----
EA033-D: Retained Acidity							
Soil Glass Jar - Unpreserved QC25		20-Apr-2021	15-Apr-2021	5	----	----	----
EA033-E: Acid Base Accounting							
Soil Glass Jar - Unpreserved QC25		20-Apr-2021	15-Apr-2021	5	----	----	----
EA037: Ass Field Screening Analysis							
Soil Glass Jar - Unpreserved QC25		21-Apr-2021	15-Apr-2021	6	21-Apr-2021	15-Apr-2021	6

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	8	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	0	5	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	0	8	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)					
PAH/Phenols (GC/MS - SIM)	0	8	0.00	5.00	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	0	5	0.00	5.00	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	0	8	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 Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA033-A: Actual Acidity							
Snap Lock Bag - frozen on receipt at ALS (EA033) ASS_TP49, ASS_TP51, ASS_TP53, ASS_TP55, ASS_TP57 ASS_TP50, ASS_TP52, ASS_TP54, ASS_TP56,	12-Apr-2021	21-Apr-2021	12-Apr-2022	✔	21-Apr-2021	20-Jul-2021	✔
Soil Glass Jar - Unpreserved (EA033) QC25	14-Apr-2021	20-Apr-2021	15-Apr-2021	✘	20-Apr-2021	19-Jul-2021	✔
EA033-B: Potential Acidity							
Snap Lock Bag - frozen on receipt at ALS (EA033) ASS_TP49, ASS_TP51, ASS_TP53, ASS_TP55, ASS_TP57 ASS_TP50, ASS_TP52, ASS_TP54, ASS_TP56,	12-Apr-2021	21-Apr-2021	12-Apr-2022	✔	21-Apr-2021	20-Jul-2021	✔
Soil Glass Jar - Unpreserved (EA033) QC25	14-Apr-2021	20-Apr-2021	15-Apr-2021	✘	20-Apr-2021	19-Jul-2021	✔
EA033-C: Acid Neutralising Capacity							
Snap Lock Bag - frozen on receipt at ALS (EA033) ASS_TP49, ASS_TP51, ASS_TP53, ASS_TP55, ASS_TP57 ASS_TP50, ASS_TP52, ASS_TP54, ASS_TP56,	12-Apr-2021	21-Apr-2021	12-Apr-2022	✔	21-Apr-2021	20-Jul-2021	✔
Soil Glass Jar - Unpreserved (EA033) QC25	14-Apr-2021	20-Apr-2021	15-Apr-2021	✘	20-Apr-2021	19-Jul-2021	✔



Matrix: SOIL

Evaluation: ✖ = Holding time breach ; ✔ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EA033-D: Retained Acidity								
Snap Lock Bag - frozen on receipt at ALS (EA033) ASS_TP49, ASS_TP51, ASS_TP53, ASS_TP55, ASS_TP57 ASS_TP50, ASS_TP52, ASS_TP54, ASS_TP56,	12-Apr-2021	21-Apr-2021	12-Apr-2022	✔	21-Apr-2021	20-Jul-2021	✔	
Soil Glass Jar - Unpreserved (EA033) QC25	14-Apr-2021	20-Apr-2021	15-Apr-2021	✖	20-Apr-2021	19-Jul-2021	✔	
EA033-E: Acid Base Accounting								
Snap Lock Bag - frozen on receipt at ALS (EA033) ASS_TP49, ASS_TP51, ASS_TP53, ASS_TP55, ASS_TP57 ASS_TP50, ASS_TP52, ASS_TP54, ASS_TP56,	12-Apr-2021	21-Apr-2021	12-Apr-2022	✔	21-Apr-2021	20-Jul-2021	✔	
Soil Glass Jar - Unpreserved (EA033) QC25	14-Apr-2021	20-Apr-2021	15-Apr-2021	✖	20-Apr-2021	19-Jul-2021	✔	
EA037: Ass Field Screening Analysis								
Snap Lock Bag - frozen on receipt at ALS (EA037) ASS_TP49, ASS_TP51, ASS_TP53, ASS_TP55, ASS_TP57 ASS_TP50, ASS_TP52, ASS_TP54, ASS_TP56, ASS_TP58	12-Apr-2021	21-Apr-2021	09-Oct-2021	✔	21-Apr-2021	09-Oct-2021	✔	
Soil Glass Jar - Unpreserved (EA037) QC25	14-Apr-2021	21-Apr-2021	15-Apr-2021	✖	21-Apr-2021	15-Apr-2021	✖	
EA055: Moisture Content (Dried @ 105-110°C)								
Soil Glass Jar - Unpreserved (EA055) QC07, QC17, QC21, QC15, QC19, QC23	14-Apr-2021	---	---	---	20-Apr-2021	28-Apr-2021	✔	
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Snap Lock Bag - Friable Asbestos/PSD Bag (EA200) TP53_ASB, TP54_ASB, TP161_ASB, TP146_ACM, TP85_ACM, TP140_ACM, TP129_ACM TP56_ASB, TP36_ASB, TP165_ASB, TP132_ACM, TP29_ACM, TP142_ACM,	12-Apr-2021	---	---	---	16-Apr-2021	09-Oct-2021	✔	



Matrix: SOIL

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

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA200N: Asbestos Quantification (non-NATA)							
Snap Lock Bag - Friable Asbestos/PSD Bag (EA200N) TP53_ASB, TP54_ASB, TP161_ASB, TP146_ACM, TP85_ACM, TP140_ACM, TP129_ACM TP56_ASB, TP36_ASB, TP165_ASB, TP132_ACM, TP29_ACM, TP142_ACM	12-Apr-2021	----	----	----	16-Apr-2021	09-Oct-2021	✓
EG005(ED093)T: Total Metals by ICP-AES							
Soil Glass Jar - Unpreserved (EG005T) QC07, QC17, QC21, QC15, QC19, QC23	14-Apr-2021	20-Apr-2021	11-Oct-2021	✓	20-Apr-2021	11-Oct-2021	✓
EG035T: Total Recoverable Mercury by FIMS							
Soil Glass Jar - Unpreserved (EG035T) QC07, QC17, QC21, QC15, QC19, QC23	14-Apr-2021	20-Apr-2021	12-May-2021	✓	21-Apr-2021	12-May-2021	✓
EP066: Polychlorinated Biphenyls (PCB)							
Soil Glass Jar - Unpreserved (EP066) QC07, QC17, QC21, QC15, QC19, QC23	14-Apr-2021	19-Apr-2021	28-Apr-2021	✓	22-Apr-2021	29-May-2021	✓
EP068A: Organochlorine Pesticides (OC)							
Soil Glass Jar - Unpreserved (EP068) QC07, QC17, QC21, QC15, QC19, QC23	14-Apr-2021	19-Apr-2021	28-Apr-2021	✓	22-Apr-2021	29-May-2021	✓
EP068B: Organophosphorus Pesticides (OP)							
Soil Glass Jar - Unpreserved (EP068) QC07, QC17, QC21, QC15, QC19, QC23	14-Apr-2021	19-Apr-2021	28-Apr-2021	✓	22-Apr-2021	29-May-2021	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Soil Glass Jar - Unpreserved (EP075(SIM)) QC07, QC17, QC21, QC15, QC19, QC23	14-Apr-2021	19-Apr-2021	28-Apr-2021	✓	21-Apr-2021	29-May-2021	✓



Matrix: **SOIL**

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

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080/071: Total Petroleum Hydrocarbons							
Soil Glass Jar - Unpreserved (EP080) QC07, QC17, QC21, QC15, QC19, QC23	14-Apr-2021	16-Apr-2021	28-Apr-2021	✓	21-Apr-2021	28-Apr-2021	✓
Soil Glass Jar - Unpreserved (EP071) QC07, QC17, QC21, QC15, QC19, QC23	14-Apr-2021	19-Apr-2021	28-Apr-2021	✓	21-Apr-2021	29-May-2021	✓
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions							
Soil Glass Jar - Unpreserved (EP080) QC07, QC17, QC21, QC15, QC19, QC23	14-Apr-2021	16-Apr-2021	28-Apr-2021	✓	21-Apr-2021	28-Apr-2021	✓
Soil Glass Jar - Unpreserved (EP071) QC07, QC17, QC21, QC15, QC19, QC23	14-Apr-2021	19-Apr-2021	28-Apr-2021	✓	21-Apr-2021	29-May-2021	✓
EP080: BTEXN							
Soil Glass Jar - Unpreserved (EP080) QC07, QC17, QC21, QC15, QC19, QC23	14-Apr-2021	16-Apr-2021	28-Apr-2021	✓	21-Apr-2021	28-Apr-2021	✓

Matrix: **WATER**

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

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG020T: Total Metals by ICP-MS							
Clear Plastic Bottle - Nitric Acid; Unfiltered (EG020A-T) RINSATE05	14-Apr-2021	21-Apr-2021	11-Oct-2021	✓	21-Apr-2021	11-Oct-2021	✓
EG035T: Total Recoverable Mercury by FIMS							
Clear Plastic Bottle - Nitric Acid; Unfiltered (EG035T) RINSATE05	14-Apr-2021	----	----	----	21-Apr-2021	12-May-2021	✓
EP068A: Organochlorine Pesticides (OC)							
Amber Glass Bottle - Unpreserved (EP068) RINSATE05	14-Apr-2021	15-Apr-2021	21-Apr-2021	✓	20-Apr-2021	25-May-2021	✓
EP068B: Organophosphorus Pesticides (OP)							
Amber Glass Bottle - Unpreserved (EP068) RINSATE05	14-Apr-2021	15-Apr-2021	21-Apr-2021	✓	20-Apr-2021	25-May-2021	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP075(SIM)) RINSATE05	14-Apr-2021	15-Apr-2021	21-Apr-2021	✓	20-Apr-2021	25-May-2021	✓



Matrix: **WATER**

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

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080/071: Total Petroleum Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP071) RINSATE05	14-Apr-2021	15-Apr-2021	21-Apr-2021	✓	20-Apr-2021	25-May-2021	✓
Amber VOC Vial - Sulfuric Acid (EP080) RINSATE05	14-Apr-2021	23-Apr-2021	28-Apr-2021	✓	23-Apr-2021	28-Apr-2021	✓
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions							
Amber Glass Bottle - Unpreserved (EP071) RINSATE05	14-Apr-2021	15-Apr-2021	21-Apr-2021	✓	20-Apr-2021	25-May-2021	✓
Amber VOC Vial - Sulfuric Acid (EP080) RINSATE05	14-Apr-2021	23-Apr-2021	28-Apr-2021	✓	23-Apr-2021	28-Apr-2021	✓
EP080: BTEXN							
Amber VOC Vial - Sulfuric Acid (EP080) RINSATE05	14-Apr-2021	23-Apr-2021	28-Apr-2021	✓	23-Apr-2021	28-Apr-2021	✓



Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: * = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type	Method	Count		Rate (%)			Quality Control Specification
		QC	Reaular	Actual	Expected	Evaluation	
Analytical Methods							
Laboratory Duplicates (DUP)							
ASS Field Screening Analysis	EA037	4	40	10.00	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Chromium Suite for Acid Sulphate Soils	EA033	3	19	15.79	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Moisture Content	EA055	2	20	10.00	10.00	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	2	20	10.00	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	2	20	10.00	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	2	20	10.00	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	2	20	10.00	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	2	20	10.00	10.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	2	20	10.00	10.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	17	11.76	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Chromium Suite for Acid Sulphate Soils	EA033	2	19	10.53	5.00	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	17	5.88	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Chromium Suite for Acid Sulphate Soils	EA033	2	19	10.53	5.00	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	17	5.88	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
PAH/Phenols (SIM)	EP075(SIM)	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	17	5.88	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	
Analytical Methods							
Laboratory Duplicates (DUP)							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	0	8	0.00	10.00	✖	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	0	5	0.00	10.00	✖	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	10	10.00	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-MS - Suite A	EG020A-T	2	19	10.53	10.00	✔	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	0	8	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)							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	8	12.50	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	5	20.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	10	10.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-MS - Suite A	EG020A-T	1	19	5.26	5.00	✔	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	8	12.50	5.00	✔	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	20	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	8	12.50	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	5	20.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	10	10.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-MS - Suite A	EG020A-T	1	19	5.26	5.00	✔	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	8	12.50	5.00	✔	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	20	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	0	8	0.00	5.00	✖	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	0	5	0.00	5.00	✖	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	10	10.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-MS - Suite A	EG020A-T	1	19	5.26	5.00	✔	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	0	8	0.00	5.00	✖	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	20	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard



Brief Method Summaries

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

Analytical Methods	Method	Matrix	Method Descriptions
Chromium Suite for Acid Sulphate Soils	EA033	SOIL	In house: Referenced to Ahern et al 2004. This method covers the determination of Chromium Reducible Sulfur (SCR); pHKCl; titratable actual acidity (TAA); acid neutralising capacity by back titration (ANC); and net acid soluble sulfur (SNAS) which incorporates peroxide sulfur. It applies to soils and sediments (including sands) derived from coastal regions. Liming Rate is based on results for samples as submitted and incorporates a minimum safety factor of 1.5.
ASS Field Screening Analysis	* EA037	SOIL	In house: Referenced to Acid Sulfate Soils Laboratory Methods Guidelines. As received samples are tested for pH field and pH fox and assessed for a reaction rating.
Moisture Content	EA055	SOIL	In house: A gravimetric procedure based on weight loss over a 12 hour drying period at 105-110 degrees C. This method is compliant with NEPM Schedule B(3).
Asbestos Identification in Soils	EA200	SOIL	AS 4964 Method for the qualitative identification of asbestos in bulk samples Analysis by Polarised Light Microscopy including dispersion staining
Asbestos Classification and Quantitation per NEPM 2013	* EA200N	SOIL	Asbestos Classification and Quantitation per NEPM with Confirmation of Identification by AS 4964 - Gravimetric determination of Asbestos Containing Material, Fibrous Asbestos, Asbestos Fines and sample weight and calculation of percentage concentrations per NEPM protocols. Asbestos (Fines and Fibrous FA+AF) is reported as the equivalent weight in the sample received after accounting for sub-sampling (where applicable for the <7mm and/or <2mm fractions).
Total Metals by ICP-AES	EG005T	SOIL	In house: Referenced to APHA 3120; USEPA SW 846 - 6010. Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM Schedule B(3)
Total Mercury by FIMS	EG035T	SOIL	In house: Referenced to AS 3550, APHA 3112 Hg - B (Flow-injection (SnCl ₂) (Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. Mercury in solids are determined following an appropriate acid digestion. Ionic mercury is reduced online to atomic mercury vapour by 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 Schedule B(3)
Polychlorinated Biphenyls (PCB)	EP066	SOIL	In house: Referenced to USEPA SW 846 - 8270 Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3).
Pesticides by GCMS	EP068	SOIL	In house: Referenced to USEPA SW 846 - 8270 Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This technique is compliant with NEPM Schedule B(3).
TRH - Semivolatile Fraction	EP071	SOIL	In house: Referenced to USEPA SW 846 - 8015 Sample extracts are analysed by Capillary GC/FID and quantified against alkane standards over the range C10 - C40. Compliant with NEPM Schedule B(3).
PAH/Phenols (SIM)	EP075(SIM)	SOIL	In house: Referenced to USEPA SW 846 - 8270. Extracts are analysed by Capillary GC/MS in Selective Ion Mode (SIM) and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)



Analytical Methods	Method	Matrix	Method Descriptions
TRH Volatiles/BTEX	EP080	SOIL	In house: Referenced to USEPA SW 846 - 8260. Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve. Compliant with NEPM Schedule B(3) amended.
Total Metals by ICP-MS - Suite A	EG020A-T	WATER	In house: Referenced to APHA 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector.
Total Mercury by FIMS	EG035T	WATER	In house: Referenced to AS 3550, APHA 3112 Hg - B (Flow-injection (SnCl ₂)(Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. A bromate/bromide reagent is used to oxidise any organic mercury compounds in the unfiltered sample. The ionic mercury is reduced online to atomic mercury vapour by 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 Schedule B(3).
Pesticides by GCMS	EP068	WATER	In house: Referenced to USEPA SW 846 - 8270 Sample extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)
TRH - Semivolatile Fraction	EP071	WATER	In house: Referenced to USEPA SW 846 - 8015 The sample extract is analysed by Capillary GC/FID and quantification is by comparison against an established 5 point calibration curve of n-Alkane standards. This method is compliant with the QC requirements of NEPM Schedule B(3)
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	WATER	In house: Referenced to USEPA SW 846 - 8270 Sample extracts are analysed by Capillary GC/MS in SIM Mode and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)
TRH Volatiles/BTEX	EP080	WATER	In house: Referenced to USEPA SW 846 - 8260 Water samples are directly purged prior to analysis by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. Alternatively, a sample is equilibrated in a headspace vial and a portion of the headspace determined by GCMS analysis. This method is compliant with the QC requirements of NEPM Schedule B(3)

Preparation Methods	Method	Matrix	Method Descriptions
Drying only	EN020D	SOIL	In house
Drying at 85 degrees, bagging and labelling (ASS)	EN020PR	SOIL	In house
Hot Block Digest for metals in soils sediments and sludges	EN69	SOIL	In house: Referenced to USEPA 200.2. Hot Block Acid Digestion 1.0g of sample is heated with Nitric and Hydrochloric acids, then cooled. Peroxide is added and samples heated and cooled again before being filtered and bulked to volume for analysis. Digest is appropriate for determination of selected metals in sludge, sediments, and soils. This method is compliant with NEPM Schedule B(3).
Methanolic Extraction of Soils for Purge and Trap	ORG16	SOIL	In house: Referenced to USEPA SW 846 - 5030A. 5g of solid is shaken with surrogate and 10mL methanol prior to analysis by Purge and Trap - GC/MS.
Tumbler Extraction of Solids	ORG17	SOIL	In house: Mechanical agitation (tumbler). 10g of sample, Na ₂ SO ₄ and surrogate are extracted with 30mL 1:1 DCM/Acetone by end over end tumble. The solvent is decanted, dehydrated and concentrated (by KD) to the desired volume for analysis.
Digestion for Total Recoverable Metals	EN25	WATER	In house: Referenced to USEPA SW846-3005. Method 3005 is a Nitric/Hydrochloric acid digestion procedure used to prepare surface and ground water samples for analysis by ICPAES or ICPMS. This method is compliant with NEPM Schedule B(3)

Page : 12 of 12
Work Order : ES2113633
Client : EP Risk Management
Project : EP1995



<i>Preparation Methods</i>	<i>Method</i>	<i>Matrix</i>	<i>Method Descriptions</i>
Separatory Funnel Extraction of Liquids	ORG14	WATER	In house: Referenced to USEPA SW 846 - 3510 100 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM Schedule B(3) . ALS default excludes sediment which may be resident in the container.
Volatiles Water Preparation	ORG16-W	WATER	A 5 mL aliquot or 5 mL of a diluted sample is added to a 40 mL VOC vial for purging.



CHAIN OF CUSTODY

ALS Laboratory, please tick →

Sydney 277 Victoria St, Smithfield NSW 2166
 Ph: 02 9585 8585 E: sydney@als.com.au
 Newcastle 3 Rossington Pl, Waratah NSW 2284
 Ph: 02 4982 9433 E: newcastle@als.com.au

Brisbane 32 Strand St, Stretton QLD 4058
 Ph: 07 3243 7227 E: brisbane@als.com.au
 Melbourne 14-15 Collins St, Melbourne VIC 3000
 Ph: 03 4756 0500 E: melbourne@als.com.au

Perth 2/4 York St, Perth WA 6000
 Ph: 08 9442 5000 E: perth@als.com.au
 Adelaide 24 Burns Pl, Adelaide SA 5000
 Ph: 08 8256 0000 E: adelaide@als.com.au

UPDATED COC

CLIENT: **EP RISK MANAGEMENT PTY LTD** TURNAROUND REQUIREMENTS: Standard TAT (List due date); Non-Standard or urgent TAT (List due date)

OFFICE: **NEWCASTLE** EP-1995 ALS QUOTE NO.: **SY/19620 VZ** SY/19620 VZ

PROJECT: **N/A** PROJECT MANAGER: **Luke Kerry** CONTACT PH: **0432 266 617** RELINQUISHED BY: DATE/TIME: RECEIVED BY: DATE/TIME: N/A

SAMPLER: **Giles Renda** SAMPLER MOBILE: **0420 234 123** EDD FORMAT (or default): DATE/TIME: RECEIVED BY: DATE/TIME: N/A

COC emailed to ALS? (YES / NO) **YES** Email Reports to (will default to PM if no other addresses are listed): **giles.renda@eprisk.com.au** DATE/TIME: RECEIVED BY: DATE/TIME: N/A

Email Invoice to (will default to PM if no other addresses are listed): **accounts@eprisk.com.au** DATE/TIME: RECEIVED BY: DATE/TIME: N/A

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL: **Also email luke.kerry@eprisk.com.au**

ALS USER ONLY	SAMPLE DETAILS MATRIX: Solid(S) Water(W)	CONTAINER INFORMATION	ANALYSIS REQUIRED INCLUDING SUITES (NB: Suite Codes must be listed to avoid suite errors) Where Metals are required, specify Total (unfiltered) or Dissolved (filtered)	TOTAL BOTTLES	HOLD	Heavy metals, TRH, BTEXN, PAH, PCBs, OCP, OPP	Asbestos (AF / FA) (w/w %)	pHf & pH fox	Chromium Reducible Sulfur Suite	FOR LABORATORY USE ONLY (Circle)
1	TP112_0.1	12/04/2021	S	Glass Jar	1	1	1			Yes
2	TP112_0.5	12/04/2021	S	Glass Jar	1	1	1			No
3	TP113_0.1	12/04/2021	S	Glass Jar	1	1	1			N/A
4	TP113_0.5	12/04/2021	S	Glass Jar	1	1	1			N/A
5	TP114_0.1	12/04/2021	S	Glass Jar	1	1	1			N/A
6	TP114_0.5	12/04/2021	S	Glass Jar	1	1	1			N/A
7	TP115_0.1	12/04/2021	S	Glass Jar	1	1	1			N/A
8	TP115_0.5	12/04/2021	S	Glass Jar	1	1	1			N/A
9	TP116_0.1	12/04/2021	S	Glass Jar	1	1	1			N/A
10	TP116_0.5	12/04/2021	S	Glass Jar	1	1	1			N/A
11	TP117_0.1	12/04/2021	S	Glass Jar	1	1	1			N/A
12	TP117_0.5	12/04/2021	S	Glass Jar	1	1	1			N/A
13	TP118_0.1	12/04/2021	S	Glass Jar	1	1	1			N/A
14	TP118_0.5	12/04/2021	S	Glass Jar	1	1	1			N/A
TOTAL					14	6	7	7	1	0



Telephone - 61-2-8784 8554

Sydney Environmental Division
 Work Order Reference
ES2113634

RECEIVED BY: *[Signature]*
 DATE/TIME: *12/04/21*
 RECEIVED BY: *[Signature]*
 DATE/TIME: *12/04/21*

Water Container Codes: P = Unreserved Plastic; N = Nitric Preserved Plastic; CRG = Nitric Preserved CRG; ST = Sodium Hydroxide Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unreserved; AP = Air-tight Unreserved Plastic
 V = VOA Via HCl Preserved; VB = VOA Via Sodium Bisulfate Preserved; VS = VOA Via Sulfuric Preserved; AV = Air-tight Unreserved Via SG = Sulfuric Preserved Amber Glass; H = HCl Preserved Plastic; HS = HCl Preserved Specimen Bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass
 Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Substrate Solis; B = Unreserved Bag



CHAIN OF CUSTODY

ALS Laboratory, please tick →

Sydney, 271 Woodpark Rd, Smithfield NSW 1510
 Ph: 02 9784 8066 Email: sales@als.com.au
 Newcastle, 2 Parkington Rd, Waratah NSW 2294
 Ph: 02 4958 9433 Email: newcastle@als.com.au

Brisbane, 32 Shand St, Stafford QLD 4053
 Ph: 07 3243 7222 Email: brisbane@als.com.au
 Townsville, 14-15 Dargun St, Bellia QLD 4816
 Ph: 07 4780 0800 Email: townsville@als.com.au

Melbourne, 241 Warrata Rd, Springvale VIC 3171
 Ph: 03 8243 8800 Email: melb@als.com.au
 Adelaide, 24 Bynona Rd, Freckleton SA 5095
 Ph: 08 8350 0700 Email: adelaide@als.com.au

CUSTOMER: **EP RISK MANAGEMENT PTY LTD**

OFFICE: **NEWCASTLE**

PROJECT: **EP1995**

ORDER NUMBER: **N/A**

PROJECT MANAGER: **Luke Kerry**

SAMPLER: **Gilles Renda**

COC emailed to ALS? (YES / NO)

Email Reports to (will default to PM if no other addresses are listed): **gilles.renda@eprisk.com.au**

Email Invoice to (will default to PM if no other addresses are listed): **accounts@eprisk.com.au**

COMMENT/SPECIAL HANDLING/STORAGE OR DISPOSAL: **Also email lukekerry@eprisk.com.au**

TURNAROUND REQUIREMENTS: Standard TAT (list due date)
 Non Standard or urgent TAT (list due date):

ALS QUOTE NO.: **SY49620 V2**

CONTACT PH: **0432 266 617**

SAMPLER MOBILE: **0420 234 123**

EDD FORMAT (or default):

RELINQUISHED BY: **DATE/TIME:**

RECEIVED BY: **DATE/TIME:**

RECEIVED BY: **DATE/TIME:**

FOR LABORATORY USE ONLY (circle)

Overby Seal intact? Yes No N/A
 Free ice / frozen (as bottles present upon receipt)? Yes No N/A
 Random Sample Temperature on Receipt?
 Other comment: _____

LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL BOTTLES	HOLD	ANALYSIS REQUIRED INCLUDING SUITES (NB: Suite Codes must be listed to attract suite price) <small>Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (filtered bottle required)</small>	Additional Information <small>Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.</small>		
15	TP119_0.1	12/04/2021	S	Glass Jar	1	1	Heavy metals, TRH, BTEXN, PAH, PCBs, OCP, OPP			
16	TP119_0.5	12/04/2021	S	Glass Jar	1	1	Asbestos (AF / FA) (w/w %)			
17	TP120_0.1	12/04/2021	S	Glass Jar	1	1	pH & pH fox			
18	TP120_0.5	12/04/2021	S	Glass Jar	1	1	Chromium Reducible Sulfur Suite			
19	TP121_0.1	12/04/2021	S	Glass Jar	1	1				
20	TP121_0.5	12/04/2021	S	Glass Jar	1	1				
21	TP122_0.1	12/04/2021	S	Glass Jar	1	1				
22	TP122_0.5	12/04/2021	S	Glass Jar	1	1				
23	TP123_0.1	12/04/2021	S	Glass Jar	1	1				
24	TP123_0.5	12/04/2021	S	Glass Jar	1	1				
25	TP124_0.1	12/04/2021	S	Glass Jar	1	1				
26	TP124_0.5	12/04/2021	S	Glass Jar	1	1				
27	TP125_0.1	12/04/2021	S	Glass Jar	1	1				
28	TP125_0.5	12/04/2021	S	Glass Jar	1	1				
TOTAL					14	11	3	3	0	0

Water Containing Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airtight Unpreserved Plastic
 V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulfate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airtight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl Preserved Plastic; HS = HCl Preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldhyde Preserved Glass;
 Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottle; ST = Sterile Bottle; ASS = Plastic Bag for Add Substrate Solids; B = Unpreserved Bag.



CHAIN OF CUSTODY

ALS Laboratory, please tick →

Sydney: 777 Woodpark Rd, Smithfield NSW 2167
 Ph: 02 9764 3556 E: samples@als.com.au
 Newcastle: 5 Rosagum Rd, Waratah NSW 2304
 Ph: 02 4964 5475 E: samples@als.com.au

Brisbane: 35 Shand St, Stafford QLD 4053
 Ph: 07 3243 7222 E: samples@als.com.au
 Townsville: 14-15 Deema Ct, Bohia QLD 4815
 Ph: 07 4799 0500 E: samples@als.com.au

Melbourne: 24 Westall Rd, Springvale VIC 3171
 Ph: 03 6549 9500 E: samples@als.com.au
 Adelaide: 2-11 Aurora Rd, Pooraka SA 5095
 Ph: 08 8359 0594 E: samples@als.com.au

CLIENT: EP RISK MANAGEMENT PTY LTD

OFFICE: NEWCASTLE

PROJECT: EP1995

ORDER NUMBER: N/A

PROJECT MANAGER: Luke Kerry

SAMPLER: Gillies Randa

COC emailed to ALS? (YES / NO): EDD FORMAT (or default)

EMAIL REPORTS TO (will default to PM if no other addresses are listed): gillies.randa@eprisk.com.au

EMAIL INVOICE TO (will default to PM if no other addresses are listed): accounts@eprisk.com.au

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL: Also email luke.kerry@eprisk.com.au

TURNOVER REQUIREMENTS:

Standard TAT (list due date)
 Non Standard or Urgent TAT (list due date)

FOR LABORATORY USE ONLY (circle)

Chain of Custody? Yes No
 Free ice / frozen ice blocks present upon receipt? Yes No
 Random Sample Temperature on Receipt: °C N/A
 Other comment:

RECEIVED BY: DATE/TIME:

RECEIVED BY: DATE/TIME:

RECEIVED BY: DATE/TIME:

RECEIVED BY: DATE/TIME:

RECEIVED BY: DATE/TIME:

LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL BOTTLES	HOLD	ANALYSIS REQUIRED INCLUDING SUITES (NB: Suite Codes must be listed to attract suite price) <small>Where Metals are required specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required)</small>	Additional Information		
2A	TP126_0.1	12/04/2021	S	Glass Jar	1	1	Heavy metals, TRH, BTEXN, PAH, PCBs, OCP, OPP			
8D	TP126_0.5	12/04/2021	S	Glass Jar	1					
81	TP127_0.1	12/04/2021	S	Glass Jar	1	1	pHf & pH fox			
82	TP127_0.5	12/04/2021	S	Glass Jar	1	1	Chromium Reducible Sulfur Suite			
83	TP128_0.1	12/04/2021	S	Glass Jar	1	1				
84	TP128_0.5	12/04/2021	S	Glass Jar	1	1				
85	TP130_0.1	12/04/2021	S	Glass Jar	1	1				
86	TP130_0.5	12/04/2021	S	Glass Jar	1	1				
87	TP131_0.1	12/04/2021	S	Glass Jar	1	1				
88	TP131_0.5	12/04/2021	S	Glass Jar	1	1				
89	TP132_0.1	12/04/2021	S	Glass Jar	1	1				
90	TP132_0.5	12/04/2021	S	Glass Jar	1	1				
91	TP133_0.1	12/04/2021	S	Glass Jar	1	1				
92	TP133_0.5	12/04/2021	S	Glass Jar	1	1				
TOTAL					14	8	4	3	2	1

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AF = Airtight Unpreserved Plastic; V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulfate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airtight Unpreserved Vial; SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.



CHAIN OF CUSTODY

ALS Laboratory, please tick →

Sydney, 277 Macquarie Rd, Smithfield NSW 2167
 Ph: 02 974 8306 E: sales@als.com.au
 Newcastle, 5 Rossington Rd, Waratah NSW 2304
 Ph: 02 4928 9433 E: sales@als.com.au

Brisbane, 12 Grand St, Stretford QLD 4053
 Ph: 07 3240 7222 E: sales@als.com.au
 Townsville, 14-15 Deanna St, Borne QLD 4818
 Ph: 07 4759 0500 E: sales@als.com.au

Melbourne, 24 Western Rd, Springvale VIC 3171
 Ph: 03 8346 5800 E: sales@als.com.au
 Adelaide, 21 Burns Rd, Woodside SA 5096
 Ph: 08 8359 0500 E: sales@als.com.au

FOR LABORATORY USE ONLY (Circle)

Clean? Seal Intact? Yes No N/A
 Freezer / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt? °C
 Other comment:

CLIENT: EP RISK MANAGEMENT PTY LTD
OFFICE: NEWCASTLE
PROJECT: EP1995
ORDER NUMBER: N/A
PROJECT MANAGER: Luke Kerry
SAMPLER: Gilles Renda
COC emailed to ALS? (YES / NO) EDD FORMAT (or default)
Email Reports to (will default to PM if no other addresses are listed): gilles.renda@eprisk.com.au
Email Invoice to (will default to PM if no other addresses are listed): accounts@eprisk.com.au

TURNAROUND REQUIREMENTS: Standard TAT (List due date):
 Non Standard or urgent TAT (List due date):
ALS QUOTE NO.: SY/496/20 V2
RELINQUISHED BY: DATE/TIME
RECEIVED BY: DATE/TIME

COC SEQUENCE NUMBER (Circle)
 COC: 1 2 3 4 5 6 7
 OF: 1 2 3 4 5 6 7
RELINQUISHED BY: DATE/TIME
RECEIVED BY: DATE/TIME

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL: Also email luke.kerry@eprisk.com.au

LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL BOTTLES	HOLD	ANALYSIS REQUIRED including SUITES (NB: Suite Codes must be listed to attract sales price) <small>Where Multiple are required specify Total (unfilled bottles required) or Disposed (field filled bottle required).</small>	Additional Information <small>Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.</small>		
4B	TP134_0.1	12/04/2021	S	Glass Jar	1		Heavy metals, TRH, BTEXN, PAH, PCBs, OCP, OPP			
4C	TP134_0.5	12/04/2021	S	Glass Jar	1		Asbestos (AF / FA) (w/w %)			
4D	TP135_0.1	12/04/2021	S	Glass Jar	1		pH & pH fox			
4E	TP135_0.5	12/04/2021	S	Glass Jar	1		Chromium Reducible Sulfur Suite			
4F	TP136_0.1	12/04/2021	S	Glass Jar	1					
4G	TP136_0.5	12/04/2021	S	Glass Jar	1					
4H	TP137_0.1	12/04/2021	S	Glass Jar	1					
4I	TP137_0.5	12/04/2021	S	Glass Jar	1					
4J	TP138_0.1	12/04/2021	S	Glass Jar	1					
TOTAL					13	9	3	3	1	0

P = Unpreserved Plastic, N = Nitric Preserved Plastic, OQC = Nitric Preserved OQC, SH = Sodium Hydroxide Preserved, S = Sodium Hydroxide Preserved Plastic, AG = Amber Glass Unpreserved, AP = Airtight Unpreserved Plastic, V = VOA Vial, VS = VOA Vial Sodium Bicarbonate Preserved, VS = VOA Vial Sulfuric Preserved, AV = Airtight Unpreserved Vial, SG = Sulfuric Preserved Amber Glass, H = HCl preserved Plastic, HS = HCl preserved Spedation bottle, Sp = Sulfuric Preserved Plastic, F = Formaldehyde Preserved Glass, Z = Zinc A
 B = BTLA Preserved Bottle, ST = Sterile Bottle, ASS = Plastic Bag for Acid Sulphate Solids, B = Unpreserved BBL



CHAIN OF CUSTODY

ALS Laboratory, please fax →

Sydney, 277 Woodpark Rd, Smithfield NSW 2122
 Ph: 02 9794 9595 E: samples_sydney@alsenviro.com
 Newcastle, 5 Russegui Rd, Warabook NSW 2304
 Ph: 02 4958 9433 E: samples_newcastle@alsenviro.com

Brisbane, 20 Strand St, Springwood QLD 4235
 Ph: 07 3243 7222 E: samples_brisbane@alsenviro.com
 Townsville, 1115 Denham Ct, Seale QLD 4818
 Ph: 07 4796 0900 E: samples_townsville@alsenviro.com

Melbourne, 24 Vasey Rd, Springvale VIC 3171
 Ph: 03 8564 0000 E: samples_melbourne@alsenviro.com
 Adelaide, 21 Ermo Rd, Morphett SA 5206
 Ph: 08 8556 0950 E: samples_adelaide@alsenviro.com

CLIENT: EP RISK MANAGEMENT PTY LTD

OFFICE: NEWCASTLE

PROJECT: EP1995

ORDER NUMBER: N/A

PROJECT MANAGER: Luke Kerry

SAMPLER: Gillis Renda

COC emailed to ALST? (YES / NO)

Email Reports to (will default to PM if no other addresses are listed): gillis.renda@eprisk.com.au

Email Invoice to (will default to PM if no other addresses are listed): accounts@eprisk.com.au

TURNAROUND REQUIREMENTS: Standard TAT (List due date):

(Standard TAT may be longer for some tests eg: Ultra Trace Organics)

ALS QUOTE NO.: SY/95/20 V2

CONTACT PH: 0432 266 617

SAMPLER MOBILE: 0420 234 123

EDD FORMAT (or default):

RELINQUISHED BY: DATE/TIME:

RECEIVED BY: DATE/TIME:

FOR LABORATORY USE ONLY (Circle)

Quality Seal intact? Yes No N/A

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

Random Sample Temperature on Receipt: C

Other Comments:

RELINQUISHED BY: DATE/TIME:

RECEIVED BY: DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL: Also email luke.kerry@eprisk.com.au

ALS USE ONLY	SAMPLE DETAILS MATRIX: Solid(S) Water(W)	CONTAINER INFORMATION	ANALYSIS REQUIRED INCLUDING SUITES (NB: Suite Codes must be listed to attract suite price) <i>(Where Details are required, specify Total, unfiltered bottle, required, or Dissolved, field filtered bottle, required.)</i>	Additional Information
--------------	---	-----------------------	---	------------------------

LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE <i>(refer to codes below)</i>	TOTAL BOTTLES	HOLD	Heavy metals, TRH, BTEXN, PAH, PCBs, OCP, OPP	Asbestos (AF / FA) (w/w %)	pHf & pH fox	Chromium Reducibl Sulfur Suite	Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
56	TP144_0.1	12/04/2021	S	Glass Jar	1	1					
57	TP145_0.1	12/04/2021	S	Glass Jar	1	1	1	1			
58	TP145_0.5	12/04/2021	S	Glass Jar	1	1			1		
59	TP146_0.1	12/04/2021	S	Glass Jar	1	1					
60	TP146_0.5	12/04/2021	S	Glass Jar	1	1					
61	TP147_0.1	12/04/2021	S	Glass Jar	1	1					
62	TP147_0.5	12/04/2021	S	Glass Jar	1	1					
63	TP149_0.1	12/04/2021	S	Glass Jar	1	1					
64	TP149_0.5	12/04/2021	S	Glass Jar	1	1					
65	TP150_0.1	12/04/2021	S	Glass Jar	1	1					
66	TP150_0.5	12/04/2021	S	Glass Jar	1	1					
67	TP150_2.0	12/04/2021	S	Glass Jar	1	1		1			
68	TP151_0.1	12/04/2021	S	Glass Jar	1	1					
69	TP151_0.5	12/04/2021	S	Glass Jar	1	1			1		
TOTAL					14	9	3	2	2	1	

Under Container Codes: P = Unpreserved Plastic, N1 = Nitric Preserved Plastic, CQC = Nitric Preserved CQC, SH = Sodium Hydroxide Preserved, S = Sodium Hydroxide Preserved Plastic, AS = Amber Glass Unpreserved, AP = Air-tight Unpreserved Plastic,
 V = NCA Vial HCl Preserved, VB = NCA Vial Sodium Borophate Preserved, VS = NCA Vial Sulfur Preserved, AV = Air-tight Unpreserved Vial, SG = Sulfuric Preserved Amber Glass, H = HCl Preserved Plastic, HS = HCl Preserved Speciation bottle, SP = Sulfuric Preserved Plastic, F = Formaldehyde Preserved Glass,
 Z = Zinc Acetate Preserved Bottle, E = EDTA Preserved Bottles, S1 = Sterile Bottle, ASS = Plastic Bag for Acid Sulphate Solids, B = Unpreserved Bag.



CHAIN OF CUSTODY

ALS Laboratory, please fax →

Sydney: 277 Wyndham Rd, Smithfield NSW 2121
 Ph: 02 9716 8600 E: samples@als.com.au
 Melbourne: 24 Wattle Rd, Springvale VIC 3171
 Ph: 03 9593 8600 E: samples@als.com.au
 Brisbane: 325 Stanni St, St Albans QLD 4053
 Ph: 07 5533 7222 E: samples@als.com.au
 Adelaide: 21 Burton Rd, Poonrika SA 5098
 Ph: 08 2366 0980 E: samples@als.com.au
 Perth: 14-16 Cassara Ct, Bona QLD 4018
 Ph: 07 4796 0900 E: samples@als.com.au
 Townsville: 14-16 Cassara Ct, Bona QLD 4018
 Ph: 07 4796 0900 E: samples@als.com.au
 Darwin: 14-16 Cassara Ct, Bona QLD 4018
 Ph: 08 2366 0980 E: samples@als.com.au

Brisbane: 325 Stanni St, St Albans QLD 4053
 Ph: 07 5533 7222 E: samples@als.com.au
 Adelaide: 21 Burton Rd, Poonrika SA 5098
 Ph: 08 2366 0980 E: samples@als.com.au
 Perth: 14-16 Cassara Ct, Bona QLD 4018
 Ph: 07 4796 0900 E: samples@als.com.au
 Townsville: 14-16 Cassara Ct, Bona QLD 4018
 Ph: 07 4796 0900 E: samples@als.com.au
 Darwin: 14-16 Cassara Ct, Bona QLD 4018
 Ph: 08 2366 0980 E: samples@als.com.au

Melbourne: 24 Wattle Rd, Springvale VIC 3171
 Ph: 03 9593 8600 E: samples@als.com.au
 Brisbane: 325 Stanni St, St Albans QLD 4053
 Ph: 07 5533 7222 E: samples@als.com.au
 Adelaide: 21 Burton Rd, Poonrika SA 5098
 Ph: 08 2366 0980 E: samples@als.com.au
 Perth: 14-16 Cassara Ct, Bona QLD 4018
 Ph: 07 4796 0900 E: samples@als.com.au
 Townsville: 14-16 Cassara Ct, Bona QLD 4018
 Ph: 07 4796 0900 E: samples@als.com.au
 Darwin: 14-16 Cassara Ct, Bona QLD 4018
 Ph: 08 2366 0980 E: samples@als.com.au

CLIENT: EP RISK MANAGEMENT PTY LTD

OFFICE: NEWCASTLE

PROJECT: EP1995

ORDER NUMBER: N/A

PROJECT MANAGER: Luke Kerry

SAMPLER: Gillis Renda

COC emailed to ALS? (YES / NO)

Email Reports to (will default to PM if no other addresses are listed): gillis.renda@eprisk.com.au

Email Invoiced to (will default to PM if no other addresses are listed): accounts@eprisk.com.au

COMMENT/SPECIAL HANDLING/STORAGE OR DISPOSAL: Also email luke.kerry@eprisk.com.au

TURNOVER REQUIREMENTS: Standard TAT (list due date): Non Standard or urgent TAT (list due date):

ALS QUOTE NO.: SYA99/20 VZ

RELINQUISHED BY: DATE/TIME:

FOR LABORATORY USE ONLY (Cont'd)

Checked Seal Intact? Yes No N/A

Free Ions/Protein Ions Present Upon Receipt? Yes No N/A

Random Sample Temperature on Receipt: C

Other comment:

RELINQUISHED BY: DATE/TIME:

RECEIVED BY: DATE/TIME:

ALS USE ONLY

SAMPLE DETAILS
MATRIX: Solid(S) Water(W)

CONTAINER INFORMATION

ANALYSIS REQUIRED INCLUDING SUITES (NB: Suite Codes must be listed to attract suite price)
Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (acid filtered bottle required)

Additional Information
Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.

LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL BOTTLES	HOLD	Heavy metals, TRH, BTEXN, PAH, PCBs, OCP, OPP	Asbestos (AF / FA) (w/w %)	pHf & pH fox	Chromium Reducibl Sulfur Suite	Additional Information
70	TP152_0.1	12/04/2021	S	Glass Jar	1						
71	TP152_0.5	12/04/2021	S	Glass Jar	1						
TOTAL					2	1	1	1			

Water Container Codes: P = Unpreserved Plastic, N = Nitric Preserved Plastic, ORC = Nitric Preserved ORC, SH = Sodium Hydroxide Preserved, S = Sodium Hydroxide Preserved Plastic, AG = Amber Glass Unpreserved, AP = Airtight Unpreserved Plastic
 V = VOA Via HCl Preserved, VB = VOA Via Sodium Bisulfate Preserved, VS = VOA Via Sulfuric Preserved, AV = Airtight Unpreserved Via, SG = Sulfuric Preserved Amber Glass, H = HCl preserved Plastic, HS = HCl preserved Speciation bottle, SP = Sulfuric Preserved Plastic, F = Formaldehyde Preserved Glass
 Z = Zinc Acetate Preserved Bottle, E = EDTA Preserved Bottle, ASS = Plastic Bag for Acid Sulphate Solis, B = Unpreserved Bag

CERTIFICATE OF ANALYSIS

Work Order	: ES2113634	Page	: 1 of 29
Client	: EP Risk Management	Laboratory	: Environmental Division Sydney
Contact	: Gilles Renda	Contact	: Hannah White
Address	: 3/19 BOLTON STREET NEWCASTLE NSW 2300	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: +61-2-8784 8555
Project	: EP1995	Date Samples Received	: 13-Apr-2021 14:52
Order number	: ----	Date Analysis Commenced	: 15-Apr-2021
C-O-C number	: ----	Issue Date	: 03-May-2021 13:23
Sampler	: GILLES RENDA		
Site	: ----		
Quote number	: SY/497/20 Primary analysis only		
No. of samples received	: 71		
No. of samples analysed	: 27		



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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

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

Signatories

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

<i>Signatories</i>	<i>Position</i>	<i>Accreditation Category</i>
Edwandy Fadjar	Organic Coordinator	Sydney Inorganics, Smithfield, NSW
Edwandy Fadjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Franco Lentini	LCMS Coordinator	Sydney Inorganics, Smithfield, NSW
Ivan Taylor	Analyst	Sydney Inorganics, Smithfield, NSW
Satishkumar Trivedi	Senior Acid Sulfate Soil Chemist	Brisbane Acid Sulphate Soils, Stafford, QLD



General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS 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.

- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a,h)anthracene (1.0), Benzo(g,h,i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero, for 'TEQ 1/2LOR' are treated as half the reported LOR, and for 'TEQ LOR' are treated as being equal to the reported LOR. Note: TEQ 1/2LOR and TEQ LOR will calculate as 0.6mg/Kg and 1.2mg/Kg respectively for samples with non-detects for all of the eight TEQ PAHs.
- EP080: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EP068: Where reported, Total Chlordane (sum) is the sum of the reported concentrations of cis-Chlordane and trans-Chlordane at or above the LOR.
- EP068: Where reported, Total OCP is the sum of the reported concentrations of all Organochlorine Pesticides at or above LOR.
- EP075(SIM): Where reported, Total Cresol is the sum of the reported concentrations of 2-Methylphenol and 3- & 4-Methylphenol at or above the LOR.
- EG035: Positive Hg result ES2113634 #37 has been confirmed by reanalysis.
- ASS: EA033 (CRS Suite): ANC not required because pH KCl less than 6.5
- EP068 : Particular samples required dilution due to sample matrix . LOR values have been adjusted accordingly.
- ASS: EA037 (Rapid Field and F(ox) screening): pH F(ox) Reaction Rate: 1 - Slight; 2 - Moderate; 3 - Strong; 4 - Extreme
- ASS: EA033 (CRS Suite): Liming rate is calculated and reported on a dry weight basis assuming use of fine agricultural lime (CaCO3) and using a safety factor of 1.5 to allow for non-homogeneous mixing and poor reactivity of lime. For conversion of Liming Rate from 'kg/t dry weight' to 'kg/m3 in-situ soil', multiply 'reported results' x 'wet bulk density of soil in t/m3'.
- EA037 ASS Field Screening: NATA accreditation does not cover performance of this service.



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TP112_0.1	TP113_0.1	TP114_0.1	TP115_0.1	TP116_0.1
Sampling date / time				12-Apr-2021 00:00	12-Apr-2021 00:00	12-Apr-2021 00:00	12-Apr-2021 00:00	12-Apr-2021 00:00	
Compound	CAS Number	LOR	Unit	ES2113634-001	ES2113634-003	ES2113634-005	ES2113634-007	ES2113634-009	
				Result	Result	Result	Result	Result	
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%	23.6	16.1	20.0	8.7	12.8	
EG005(ED093)T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg	14	8	13	12	14	
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1	
Chromium	7440-47-3	2	mg/kg	16	15	18	16	18	
Copper	7440-50-8	5	mg/kg	14	10	8	13	13	
Lead	7439-92-1	5	mg/kg	17	18	16	16	14	
Nickel	7440-02-0	2	mg/kg	8	8	6	7	7	
Zinc	7440-66-6	5	mg/kg	40	38	26	36	35	
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	
EP066: Polychlorinated Biphenyls (PCB)									
Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	
EP068A: Organochlorine Pesticides (OC)									
alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
^ Total Chlordane (sum)	----	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
4,4'-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
^ Endosulfan (sum)	115-29-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
4,4'-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TP112_0.1	TP113_0.1	TP114_0.1	TP115_0.1	TP116_0.1
Sampling date / time				12-Apr-2021 00:00	12-Apr-2021 00:00	12-Apr-2021 00:00	12-Apr-2021 00:00	12-Apr-2021 00:00	
Compound	CAS Number	LOR	Unit	ES2113634-001	ES2113634-003	ES2113634-005	ES2113634-007	ES2113634-009	
				Result	Result	Result	Result	Result	
EP068A: Organochlorine Pesticides (OC) - Continued									
4,4'-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2	
Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2	
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/5 0-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
EP068B: Organophosphorus Pesticides (OP)									
Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2	
Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2	
Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2	
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TP112_0.1	TP113_0.1	TP114_0.1	TP115_0.1	TP116_0.1
Sampling date / time				12-Apr-2021 00:00	12-Apr-2021 00:00	12-Apr-2021 00:00	12-Apr-2021 00:00	12-Apr-2021 00:00	
Compound	CAS Number	LOR	Unit	ES2113634-001	ES2113634-003	ES2113634-005	ES2113634-007	ES2113634-009	
				Result	Result	Result	Result	Result	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	0.6	0.6	0.6	0.6	0.6	
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	1.2	1.2	1.2	1.2	1.2	
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10	
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50	
C15 - C28 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100	
C29 - C36 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100	
^ C10 - C36 Fraction (sum)	----	50	mg/kg	<50	<50	<50	<50	<50	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	<10	<10	<10	
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	<10	<10	<10	<10	<10	
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50	
>C16 - C34 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100	
>C34 - C40 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100	
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	<50	<50	<50	<50	
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	<50	<50	<50	<50	<50	
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2	
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TP112_0.1	TP113_0.1	TP114_0.1	TP115_0.1	TP116_0.1
Sampling date / time				12-Apr-2021 00:00	12-Apr-2021 00:00	12-Apr-2021 00:00	12-Apr-2021 00:00	12-Apr-2021 00:00	
Compound	CAS Number	LOR	Unit	ES2113634-001	ES2113634-003	ES2113634-005	ES2113634-007	ES2113634-009	
				Result	Result	Result	Result	Result	
EP080: BTEXN - Continued									
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2	
^ Total Xylenes	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1	
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%	116	117	116	87.5	98.0	
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%	90.4	104	69.8	89.2	98.5	
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%	110	70.3	69.6	95.7	99.6	
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%	102	94.4	99.1	107	103	
2-Chlorophenol-D4	93951-73-6	0.5	%	105	90.6	94.7	99.2	96.2	
2,4,6-Tribromophenol	118-79-6	0.5	%	97.5	78.9	74.1	84.9	80.7	
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%	99.9	95.1	95.4	104	100	
Anthracene-d10	1719-06-8	0.5	%	107	108	107	113	109	
4-Terphenyl-d14	1718-51-0	0.5	%	110	103	104	98.6	96.0	
EP080S: TPH(V)/BTEX Surrogates									
1,2-Dichloroethane-D4	17060-07-0	0.2	%	77.6	87.9	82.4	87.5	93.6	
Toluene-D8	2037-26-5	0.2	%	77.8	89.2	86.2	89.3	94.1	
4-Bromofluorobenzene	460-00-4	0.2	%	90.6	89.8	95.5	94.7	97.8	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TP117_0.1	TP118_0.1	TP118_0.5	TP120_0.1	TP121_0.1
Sampling date / time				12-Apr-2021 00:00	12-Apr-2021 00:00	12-Apr-2021 00:00	12-Apr-2021 00:00	12-Apr-2021 00:00	
Compound	CAS Number	LOR	Unit	ES2113634-011	ES2113634-013	ES2113634-014	ES2113634-017	ES2113634-019	
				Result	Result	Result	Result	Result	
EA037: Ass Field Screening Analysis									
ø pH (F)	----	0.1	pH Unit	----	----	5.5	----	----	
ø pH (Fox)	----	0.1	pH Unit	----	----	4.1	----	----	
ø Reaction Rate	----	1	-	----	----	1	----	----	
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%	27.0	21.7	----	20.2	39.4	
EG005(ED093)T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg	9	14	----	13	5	
Cadmium	7440-43-9	1	mg/kg	<1	<1	----	<1	<1	
Chromium	7440-47-3	2	mg/kg	12	21	----	15	6	
Copper	7440-50-8	5	mg/kg	12	11	----	11	8	
Lead	7439-92-1	5	mg/kg	28	18	----	19	15	
Nickel	7440-02-0	2	mg/kg	10	7	----	6	6	
Zinc	7440-66-6	5	mg/kg	84	35	----	40	47	
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	----	<0.1	<0.1	
EP066: Polychlorinated Biphenyls (PCB)									
Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	----	<0.1	<0.1	
EP068A: Organochlorine Pesticides (OC)									
alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.25	
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.25	
beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.25	
gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.25	
delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.25	
Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.25	
Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.25	
Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.25	
[^] Total Chlordane (sum)	----	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.25	
trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.25	
alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.25	
cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.25	
Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.25	
4,4'-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.25	
Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.25	
beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.25	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TP117_0.1	TP118_0.1	TP118_0.5	TP120_0.1	TP121_0.1
Sampling date / time				12-Apr-2021 00:00	12-Apr-2021 00:00	12-Apr-2021 00:00	12-Apr-2021 00:00	12-Apr-2021 00:00	
Compound	CAS Number	LOR	Unit	ES2113634-011	ES2113634-013	ES2113634-014	ES2113634-017	ES2113634-019	
				Result	Result	Result	Result	Result	
EP068A: Organochlorine Pesticides (OC) - Continued									
^ Endosulfan (sum)	115-29-7	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.25	
4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.25	
Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.25	
Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.25	
4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	----	<0.2	<1.0	
Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.25	
Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	----	<0.2	<1.0	
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.25	
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.25	
EP068B: Organophosphorus Pesticides (OP)									
Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.25	
Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.25	
Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	----	<0.2	<1.0	
Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.25	
Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.25	
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.25	
Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	----	<0.2	<1.0	
Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.25	
Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.25	
Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.25	
Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	----	<0.2	<1.0	
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.25	
Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.25	
Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.25	
Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.25	
Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.25	
Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.25	
Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.25	
Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	----	<0.05	<0.25	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5	
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5	
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5	
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TP117_0.1	TP118_0.1	TP118_0.5	TP120_0.1	TP121_0.1
Sampling date / time				12-Apr-2021 00:00	12-Apr-2021 00:00	12-Apr-2021 00:00	12-Apr-2021 00:00	12-Apr-2021 00:00	
Compound	CAS Number	LOR	Unit	ES2113634-011	ES2113634-013	ES2113634-014	ES2113634-017	ES2113634-019	
				Result	Result	Result	Result	Result	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5	
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5	
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5	
Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5	
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5	
Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5	
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5	
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5	
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5	
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5	
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5	
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5	
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5	
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5	
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	0.6	0.6	----	0.6	0.6	
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	1.2	1.2	----	1.2	1.2	
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg	<10	<10	----	<10	<10	
C10 - C14 Fraction	----	50	mg/kg	<50	<50	----	<50	340	
C15 - C28 Fraction	----	100	mg/kg	180	<100	----	<100	1320	
C29 - C36 Fraction	----	100	mg/kg	190	<100	----	110	1340	
^ C10 - C36 Fraction (sum)	----	50	mg/kg	370	<50	----	110	3000	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	----	<10	<10	
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	<10	<10	----	<10	<10	
>C10 - C16 Fraction	----	50	mg/kg	60	<50	----	<50	360	
>C16 - C34 Fraction	----	100	mg/kg	270	<100	----	120	2140	
>C34 - C40 Fraction	----	100	mg/kg	120	<100	----	<100	840	
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	450	<50	----	120	3340	
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	60	<50	----	<50	360	
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	----	<0.2	<0.2	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TP117_0.1	TP118_0.1	TP118_0.5	TP120_0.1	TP121_0.1
Sampling date / time				12-Apr-2021 00:00	12-Apr-2021 00:00	12-Apr-2021 00:00	12-Apr-2021 00:00	12-Apr-2021 00:00	
Compound	CAS Number	LOR	Unit	ES2113634-011	ES2113634-013	ES2113634-014	ES2113634-017	ES2113634-019	
				Result	Result	Result	Result	Result	
EP080: BTEXN - Continued									
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5	
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5	
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5	
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5	
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	----	<0.2	<0.2	
^ Total Xylenes	----	0.5	mg/kg	<0.5	<0.5	----	<0.5	<0.5	
Naphthalene	91-20-3	1	mg/kg	<1	<1	----	<1	<1	
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%	86.6	86.4	----	107	94.0	
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%	99.8	90.2	----	110	77.0	
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%	116	96.5	----	122	99.1	
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%	109	105	----	105	99.4	
2-Chlorophenol-D4	93951-73-6	0.5	%	101	97.4	----	97.8	92.1	
2,4,6-Tribromophenol	118-79-6	0.5	%	94.7	86.2	----	89.1	91.0	
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%	105	101	----	101	94.5	
Anthracene-d10	1719-06-8	0.5	%	113	111	----	109	101	
4-Terphenyl-d14	1718-51-0	0.5	%	102	96.7	----	95.8	90.7	
EP080S: TPH(V)/BTEX Surrogates									
1,2-Dichloroethane-D4	17060-07-0	0.2	%	89.8	79.1	----	88.2	84.0	
Toluene-D8	2037-26-5	0.2	%	90.8	75.6	----	82.5	81.7	
4-Bromofluorobenzene	460-00-4	0.2	%	89.0	87.0	----	93.7	81.2	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TP123_0.1	TP126_0.5	TP127_0.5	TP130_0.1	TP131_0.1
Sampling date / time				12-Apr-2021 00:00	12-Apr-2021 00:00	12-Apr-2021 00:00	12-Apr-2021 00:00	12-Apr-2021 00:00	
Compound	CAS Number	LOR	Unit	ES2113634-023	ES2113634-030	ES2113634-032	ES2113634-035	ES2113634-037	
				Result	Result	Result	Result	Result	
EA033-A: Actual Acidity									
pH KCl (23A)	----	0.1	pH Unit	----	----	4.5	----	----	
Titration Actual Acidity (23F)	----	2	mole H+ / t	----	----	23	----	----	
sulfidic - Titration Actual Acidity (s-23F)	----	0.02	% pyrite S	----	----	0.04	----	----	
EA033-B: Potential Acidity									
Chromium Reducible Sulfur (22B)	----	0.005	% S	----	----	0.012	----	----	
acidity - Chromium Reducible Sulfur (a-22B)	----	10	mole H+ / t	----	----	<10	----	----	
EA033-E: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-	----	----	1.5	----	----	
Net Acidity (sulfur units)	----	0.02	% S	----	----	0.05	----	----	
Net Acidity (acidity units)	----	10	mole H+ / t	----	----	30	----	----	
Liming Rate	----	1	kg CaCO3/t	----	----	2	----	----	
Net Acidity excluding ANC (sulfur units)	----	0.02	% S	----	----	0.05	----	----	
Net Acidity excluding ANC (acidity units)	----	10	mole H+ / t	----	----	30	----	----	
Liming Rate excluding ANC	----	1	kg CaCO3/t	----	----	2	----	----	
EA037: Ass Field Screening Analysis									
ø pH (F)	----	0.1	pH Unit	----	5.6	5.5	----	----	
ø pH (Fox)	----	0.1	pH Unit	----	3.6	4.3	----	----	
ø Reaction Rate	----	1	-	----	1	1	----	----	
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%	21.8	----	----	15.0	15.9	
EG005(ED093)T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg	7	----	----	10	14	
Cadmium	7440-43-9	1	mg/kg	<1	----	----	<1	<1	
Chromium	7440-47-3	2	mg/kg	13	----	----	15	22	
Copper	7440-50-8	5	mg/kg	15	----	----	19	22	
Lead	7439-92-1	5	mg/kg	11	----	----	15	7	
Nickel	7440-02-0	2	mg/kg	8	----	----	19	29	
Zinc	7440-66-6	5	mg/kg	48	----	----	76	137	
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg	<0.1	----	----	<0.1	0.3	
EP066: Polychlorinated Biphenyls (PCB)									
Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	----	----	<0.1	<0.1	
EP068A: Organochlorine Pesticides (OC)									



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TP123_0.1	TP126_0.5	TP127_0.5	TP130_0.1	TP131_0.1
Sampling date / time				12-Apr-2021 00:00	12-Apr-2021 00:00	12-Apr-2021 00:00	12-Apr-2021 00:00	12-Apr-2021 00:00	
Compound	CAS Number	LOR	Unit	ES2113634-023	ES2113634-030	ES2113634-032	ES2113634-035	ES2113634-037	
				Result	Result	Result	Result	Result	
EP068A: Organochlorine Pesticides (OC) - Continued									
alpha-BHC	319-84-6	0.05	mg/kg	<0.05	----	----	<0.05	<0.05	
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	----	----	<0.05	<0.05	
beta-BHC	319-85-7	0.05	mg/kg	<0.05	----	----	<0.05	<0.05	
gamma-BHC	58-89-9	0.05	mg/kg	<0.05	----	----	<0.05	<0.05	
delta-BHC	319-86-8	0.05	mg/kg	<0.05	----	----	<0.05	<0.05	
Heptachlor	76-44-8	0.05	mg/kg	<0.05	----	----	<0.05	<0.05	
Aldrin	309-00-2	0.05	mg/kg	<0.05	----	----	<0.05	<0.05	
Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	----	----	<0.05	<0.05	
^ Total Chlordane (sum)	----	0.05	mg/kg	<0.05	----	----	<0.05	<0.05	
trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	----	----	<0.05	<0.05	
alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	----	----	<0.05	<0.05	
cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	----	----	<0.05	<0.05	
Dieldrin	60-57-1	0.05	mg/kg	<0.05	----	----	<0.05	<0.05	
4,4'-DDE	72-55-9	0.05	mg/kg	<0.05	----	----	<0.05	<0.05	
Endrin	72-20-8	0.05	mg/kg	<0.05	----	----	<0.05	<0.05	
beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	----	----	<0.05	<0.05	
^ Endosulfan (sum)	115-29-7	0.05	mg/kg	<0.05	----	----	<0.05	<0.05	
4,4'-DDD	72-54-8	0.05	mg/kg	<0.05	----	----	<0.05	<0.05	
Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	----	----	<0.05	<0.05	
Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	----	----	<0.05	<0.05	
4,4'-DDT	50-29-3	0.2	mg/kg	<0.2	----	----	<0.2	<0.2	
Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	----	----	<0.05	<0.05	
Methoxychlor	72-43-5	0.2	mg/kg	<0.2	----	----	<0.2	<0.2	
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	<0.05	----	----	<0.05	<0.05	
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-29-3	0.05	mg/kg	<0.05	----	----	<0.05	<0.05	
EP068B: Organophosphorus Pesticides (OP)									
Dichlorvos	62-73-7	0.05	mg/kg	<0.05	----	----	<0.05	<0.05	
Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	----	----	<0.05	<0.05	
Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	----	----	<0.2	<0.2	
Dimethoate	60-51-5	0.05	mg/kg	<0.05	----	----	<0.05	<0.05	
Diazinon	333-41-5	0.05	mg/kg	<0.05	----	----	<0.05	<0.05	
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	----	----	<0.05	<0.05	
Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	----	----	<0.2	<0.2	
Malathion	121-75-5	0.05	mg/kg	<0.05	----	----	<0.05	<0.05	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TP123_0.1	TP126_0.5	TP127_0.5	TP130_0.1	TP131_0.1
Sampling date / time				12-Apr-2021 00:00	12-Apr-2021 00:00	12-Apr-2021 00:00	12-Apr-2021 00:00	12-Apr-2021 00:00	
Compound	CAS Number	LOR	Unit	ES2113634-023	ES2113634-030	ES2113634-032	ES2113634-035	ES2113634-037	
				Result	Result	Result	Result	Result	
EP068B: Organophosphorus Pesticides (OP) - Continued									
Fenthion	55-38-9	0.05	mg/kg	<0.05	----	----	<0.05	<0.05	
Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	----	----	<0.05	<0.05	
Parathion	56-38-2	0.2	mg/kg	<0.2	----	----	<0.2	<0.2	
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	----	----	<0.05	<0.05	
Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	----	----	<0.05	<0.05	
Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	----	----	<0.05	<0.05	
Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	----	----	<0.05	<0.05	
Prothiofos	34643-46-4	0.05	mg/kg	<0.05	----	----	<0.05	<0.05	
Ethion	563-12-2	0.05	mg/kg	<0.05	----	----	<0.05	<0.05	
Carbophenothion	786-19-6	0.05	mg/kg	<0.05	----	----	<0.05	<0.05	
Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	----	----	<0.05	<0.05	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg	<0.5	----	----	<0.5	<0.5	
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	----	----	<0.5	<0.5	
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	----	----	<0.5	<0.5	
Fluorene	86-73-7	0.5	mg/kg	<0.5	----	----	<0.5	<0.5	
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	----	----	<0.5	<0.5	
Anthracene	120-12-7	0.5	mg/kg	<0.5	----	----	<0.5	<0.5	
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	----	----	<0.5	<0.5	
Pyrene	129-00-0	0.5	mg/kg	<0.5	----	----	<0.5	<0.5	
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	----	----	<0.5	<0.5	
Chrysene	218-01-9	0.5	mg/kg	<0.5	----	----	<0.5	<0.5	
Benzo(b+j)fluoranthene	205-99-2	205-82-3	0.5	mg/kg	<0.5	----	<0.5	<0.5	
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	----	----	<0.5	<0.5	
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	----	----	<0.5	<0.5	
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	----	----	<0.5	<0.5	
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	----	----	<0.5	<0.5	
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	----	----	<0.5	<0.5	
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	----	----	<0.5	<0.5	
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	----	----	<0.5	<0.5	
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	0.6	----	----	0.6	0.6	
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	1.2	----	----	1.2	1.2	
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg	<10	----	----	<10	<10	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TP123_0.1	TP126_0.5	TP127_0.5	TP130_0.1	TP131_0.1
Sampling date / time				12-Apr-2021 00:00	12-Apr-2021 00:00	12-Apr-2021 00:00	12-Apr-2021 00:00	12-Apr-2021 00:00	
Compound	CAS Number	LOR	Unit	ES2113634-023	ES2113634-030	ES2113634-032	ES2113634-035	ES2113634-037	
				Result	Result	Result	Result	Result	
EP080/071: Total Petroleum Hydrocarbons - Continued									
C10 - C14 Fraction	----	50	mg/kg	<50	----	----	<50	<50	
C15 - C28 Fraction	----	100	mg/kg	<100	----	----	<100	<100	
C29 - C36 Fraction	----	100	mg/kg	<100	----	----	<100	<100	
^ C10 - C36 Fraction (sum)	----	50	mg/kg	<50	----	----	<50	<50	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg	<10	----	----	<10	<10	
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	<10	----	----	<10	<10	
>C10 - C16 Fraction	----	50	mg/kg	<50	----	----	<50	<50	
>C16 - C34 Fraction	----	100	mg/kg	<100	----	----	<100	<100	
>C34 - C40 Fraction	----	100	mg/kg	<100	----	----	<100	<100	
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	----	----	<50	<50	
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	<50	----	----	<50	<50	
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg	<0.2	----	----	<0.2	<0.2	
Toluene	108-88-3	0.5	mg/kg	<0.5	----	----	<0.5	<0.5	
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	----	----	<0.5	<0.5	
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	----	----	<0.5	<0.5	
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	----	----	<0.5	<0.5	
^ Sum of BTEX	----	0.2	mg/kg	<0.2	----	----	<0.2	<0.2	
^ Total Xylenes	----	0.5	mg/kg	<0.5	----	----	<0.5	<0.5	
Naphthalene	91-20-3	1	mg/kg	<1	----	----	<1	<1	
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%	73.6	----	----	88.2	93.6	
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%	96.6	----	----	99.0	105	
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%	94.0	----	----	94.7	104	
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%	104	----	----	106	98.4	
2-Chlorophenol-D4	93951-73-6	0.5	%	96.3	----	----	97.5	90.0	
2,4,6-Tribromophenol	118-79-6	0.5	%	76.5	----	----	76.0	69.8	
EP075(SIM)T: PAH Surrogates									



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TP123_0.1	TP126_0.5	TP127_0.5	TP130_0.1	TP131_0.1
Sampling date / time				12-Apr-2021 00:00	12-Apr-2021 00:00	12-Apr-2021 00:00	12-Apr-2021 00:00	12-Apr-2021 00:00	
Compound	CAS Number	LOR	Unit	ES2113634-023	ES2113634-030	ES2113634-032	ES2113634-035	ES2113634-037	
				Result	Result	Result	Result	Result	
EP075(SIM)T: PAH Surrogates - Continued									
2-Fluorobiphenyl	321-60-8	0.5	%	101	----	----	103	97.2	
Anthracene-d10	1719-06-8	0.5	%	110	----	----	110	107	
4-Terphenyl-d14	1718-51-0	0.5	%	95.4	----	----	97.7	94.5	
EP080S: TPH(V)/BTEX Surrogates									
1,2-Dichloroethane-D4	17060-07-0	0.2	%	88.1	----	----	89.4	85.7	
Toluene-D8	2037-26-5	0.2	%	84.3	----	----	90.1	83.1	
4-Bromofluorobenzene	460-00-4	0.2	%	93.3	----	----	93.6	86.8	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TP132_0.1	TP133_0.1	TP134_0.1	TP135_0.1	TP139_0.1
Sampling date / time				12-Apr-2021 00:00	12-Apr-2021 00:00	12-Apr-2021 00:00	12-Apr-2021 00:00	12-Apr-2021 00:00	
Compound	CAS Number	LOR	Unit	ES2113634-039	ES2113634-041	ES2113634-043	ES2113634-045	ES2113634-052	
				Result	Result	Result	Result	Result	
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%	18.2	11.2	15.3	21.8	13.0	
EG005(ED093)T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg	<5	<5	<5	8	8	
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1	
Chromium	7440-47-3	2	mg/kg	9	10	8	14	12	
Copper	7440-50-8	5	mg/kg	10	12	6	14	20	
Lead	7439-92-1	5	mg/kg	16	10	7	11	17	
Nickel	7440-02-0	2	mg/kg	9	11	4	9	22	
Zinc	7440-66-6	5	mg/kg	47	55	32	54	90	
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	
EP066: Polychlorinated Biphenyls (PCB)									
Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	
EP068A: Organochlorine Pesticides (OC)									
alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
^ Total Chlordane (sum)	----	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
4,4'-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
^ Endosulfan (sum)	115-29-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
4,4'-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TP132_0.1	TP133_0.1	TP134_0.1	TP135_0.1	TP139_0.1
Sampling date / time				12-Apr-2021 00:00	12-Apr-2021 00:00	12-Apr-2021 00:00	12-Apr-2021 00:00	12-Apr-2021 00:00	
Compound	CAS Number	LOR	Unit	ES2113634-039	ES2113634-041	ES2113634-043	ES2113634-045	ES2113634-052	
				Result	Result	Result	Result	Result	
EP068A: Organochlorine Pesticides (OC) - Continued									
4,4'-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2	
Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2	
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/5 0-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
EP068B: Organophosphorus Pesticides (OP)									
Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2	
Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2	
Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2	
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TP132_0.1	TP133_0.1	TP134_0.1	TP135_0.1	TP139_0.1
Sampling date / time				12-Apr-2021 00:00	12-Apr-2021 00:00	12-Apr-2021 00:00	12-Apr-2021 00:00	12-Apr-2021 00:00	
Compound	CAS Number	LOR	Unit	ES2113634-039	ES2113634-041	ES2113634-043	ES2113634-045	ES2113634-052	
				Result	Result	Result	Result	Result	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	0.6	0.6	0.6	0.6	0.6	
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	1.2	1.2	1.2	1.2	1.2	
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10	
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50	
C15 - C28 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100	
C29 - C36 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100	
^ C10 - C36 Fraction (sum)	----	50	mg/kg	<50	<50	<50	<50	<50	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	<10	<10	<10	
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	<10	<10	<10	<10	<10	
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50	
>C16 - C34 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100	
>C34 - C40 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100	
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	<50	<50	<50	<50	
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	<50	<50	<50	<50	<50	
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2	
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TP132_0.1	TP133_0.1	TP134_0.1	TP135_0.1	TP139_0.1
Sampling date / time				12-Apr-2021 00:00	12-Apr-2021 00:00	12-Apr-2021 00:00	12-Apr-2021 00:00	12-Apr-2021 00:00	
Compound	CAS Number	LOR	Unit	ES2113634-039	ES2113634-041	ES2113634-043	ES2113634-045	ES2113634-052	
				Result	Result	Result	Result	Result	
EP080: BTEXN - Continued									
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2	
^ Total Xylenes	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1	
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%	98.9	103	102	112	100	
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%	104	91.0	82.8	90.4	98.8	
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%	90.8	101	68.5	69.1	75.7	
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%	104	103	102	104	107	
2-Chlorophenol-D4	93951-73-6	0.5	%	96.6	95.4	94.8	96.5	98.4	
2,4,6-Tribromophenol	118-79-6	0.5	%	71.4	70.4	67.6	67.2	73.9	
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%	102	101	100	103	104	
Anthracene-d10	1719-06-8	0.5	%	110	108	108	110	112	
4-Terphenyl-d14	1718-51-0	0.5	%	96.7	95.7	95.6	98.0	101	
EP080S: TPH(V)/BTEX Surrogates									
1,2-Dichloroethane-D4	17060-07-0	0.2	%	83.2	104	95.0	82.0	94.1	
Toluene-D8	2037-26-5	0.2	%	81.5	95.3	94.4	80.8	95.4	
4-Bromofluorobenzene	460-00-4	0.2	%	87.7	97.4	96.7	91.0	95.6	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TP139_0.5	TP145_0.1	TP145_0.5	TP146_0.1	TP150_2.0
Sampling date / time				12-Apr-2021 00:00	12-Apr-2021 00:00	12-Apr-2021 00:00	12-Apr-2021 00:00	12-Apr-2021 00:00	
Compound	CAS Number	LOR	Unit	ES2113634-053	ES2113634-057	ES2113634-058	ES2113634-059	ES2113634-067	
				Result	Result	Result	Result	Result	
EA037: Ass Field Screening Analysis									
ø pH (F)	----	0.1	pH Unit	5.5	----	5.7	----	----	
ø pH (Fox)	----	0.1	pH Unit	4.6	----	2.9	----	----	
ø Reaction Rate	----	1	-	1	----	1	----	----	
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%	----	18.4	----	18.0	19.2	
EG005(ED093)T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg	----	<5	----	8	10	
Cadmium	7440-43-9	1	mg/kg	----	<1	----	<1	<1	
Chromium	7440-47-3	2	mg/kg	----	8	----	9	19	
Copper	7440-50-8	5	mg/kg	----	12	----	9	10	
Lead	7439-92-1	5	mg/kg	----	12	----	7	15	
Nickel	7440-02-0	2	mg/kg	----	11	----	5	6	
Zinc	7440-66-6	5	mg/kg	----	41	----	29	27	
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg	----	<0.1	----	<0.1	<0.1	
EP066: Polychlorinated Biphenyls (PCB)									
Total Polychlorinated biphenyls	----	0.1	mg/kg	----	<0.1	----	<0.1	<0.1	
EP068A: Organochlorine Pesticides (OC)									
alpha-BHC	319-84-6	0.05	mg/kg	----	<0.05	----	<0.05	<0.05	
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	----	<0.05	----	<0.05	<0.05	
beta-BHC	319-85-7	0.05	mg/kg	----	<0.05	----	<0.05	<0.05	
gamma-BHC	58-89-9	0.05	mg/kg	----	<0.05	----	<0.05	<0.05	
delta-BHC	319-86-8	0.05	mg/kg	----	<0.05	----	<0.05	<0.05	
Heptachlor	76-44-8	0.05	mg/kg	----	<0.05	----	<0.05	<0.05	
Aldrin	309-00-2	0.05	mg/kg	----	<0.05	----	<0.05	<0.05	
Heptachlor epoxide	1024-57-3	0.05	mg/kg	----	<0.05	----	<0.05	<0.05	
[^] Total Chlordane (sum)	----	0.05	mg/kg	----	<0.05	----	<0.05	<0.05	
trans-Chlordane	5103-74-2	0.05	mg/kg	----	<0.05	----	<0.05	<0.05	
alpha-Endosulfan	959-98-8	0.05	mg/kg	----	<0.05	----	<0.05	<0.05	
cis-Chlordane	5103-71-9	0.05	mg/kg	----	<0.05	----	<0.05	<0.05	
Dieldrin	60-57-1	0.05	mg/kg	----	<0.05	----	<0.05	<0.05	
4,4'-DDE	72-55-9	0.05	mg/kg	----	<0.05	----	<0.05	<0.05	
Endrin	72-20-8	0.05	mg/kg	----	<0.05	----	<0.05	<0.05	
beta-Endosulfan	33213-65-9	0.05	mg/kg	----	<0.05	----	<0.05	<0.05	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TP139_0.5	TP145_0.1	TP145_0.5	TP146_0.1	TP150_2.0
Sampling date / time				12-Apr-2021 00:00	12-Apr-2021 00:00	12-Apr-2021 00:00	12-Apr-2021 00:00	12-Apr-2021 00:00	
Compound	CAS Number	LOR	Unit	ES2113634-053	ES2113634-057	ES2113634-058	ES2113634-059	ES2113634-067	
				Result	Result	Result	Result	Result	
EP068A: Organochlorine Pesticides (OC) - Continued									
^ Endosulfan (sum)	115-29-7	0.05	mg/kg	----	<0.05	----	<0.05	<0.05	
4.4`-DDD	72-54-8	0.05	mg/kg	----	<0.05	----	<0.05	<0.05	
Endrin aldehyde	7421-93-4	0.05	mg/kg	----	<0.05	----	<0.05	<0.05	
Endosulfan sulfate	1031-07-8	0.05	mg/kg	----	<0.05	----	<0.05	<0.05	
4.4`-DDT	50-29-3	0.2	mg/kg	----	<0.2	----	<0.2	<0.2	
Endrin ketone	53494-70-5	0.05	mg/kg	----	<0.05	----	<0.05	<0.05	
Methoxychlor	72-43-5	0.2	mg/kg	----	<0.2	----	<0.2	<0.2	
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	----	<0.05	----	<0.05	<0.05	
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.05	mg/kg	----	<0.05	----	<0.05	<0.05	
EP068B: Organophosphorus Pesticides (OP)									
Dichlorvos	62-73-7	0.05	mg/kg	----	<0.05	----	<0.05	<0.05	
Demeton-S-methyl	919-86-8	0.05	mg/kg	----	<0.05	----	<0.05	<0.05	
Monocrotophos	6923-22-4	0.2	mg/kg	----	<0.2	----	<0.2	<0.2	
Dimethoate	60-51-5	0.05	mg/kg	----	<0.05	----	<0.05	<0.05	
Diazinon	333-41-5	0.05	mg/kg	----	<0.05	----	<0.05	<0.05	
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	----	<0.05	----	<0.05	<0.05	
Parathion-methyl	298-00-0	0.2	mg/kg	----	<0.2	----	<0.2	<0.2	
Malathion	121-75-5	0.05	mg/kg	----	<0.05	----	<0.05	<0.05	
Fenthion	55-38-9	0.05	mg/kg	----	<0.05	----	<0.05	<0.05	
Chlorpyrifos	2921-88-2	0.05	mg/kg	----	<0.05	----	<0.05	<0.05	
Parathion	56-38-2	0.2	mg/kg	----	<0.2	----	<0.2	<0.2	
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	----	<0.05	----	<0.05	<0.05	
Chlorfenvinphos	470-90-6	0.05	mg/kg	----	<0.05	----	<0.05	<0.05	
Bromophos-ethyl	4824-78-6	0.05	mg/kg	----	<0.05	----	<0.05	<0.05	
Fenamiphos	22224-92-6	0.05	mg/kg	----	<0.05	----	<0.05	<0.05	
Prothiofos	34643-46-4	0.05	mg/kg	----	<0.05	----	<0.05	<0.05	
Ethion	563-12-2	0.05	mg/kg	----	<0.05	----	<0.05	<0.05	
Carbophenothion	786-19-6	0.05	mg/kg	----	<0.05	----	<0.05	<0.05	
Azinphos Methyl	86-50-0	0.05	mg/kg	----	<0.05	----	<0.05	<0.05	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg	----	<0.5	----	<0.5	<0.5	
Acenaphthylene	208-96-8	0.5	mg/kg	----	<0.5	----	<0.5	<0.5	
Acenaphthene	83-32-9	0.5	mg/kg	----	<0.5	----	<0.5	<0.5	
Fluorene	86-73-7	0.5	mg/kg	----	<0.5	----	<0.5	<0.5	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TP139_0.5	TP145_0.1	TP145_0.5	TP146_0.1	TP150_2.0
Sampling date / time				12-Apr-2021 00:00	12-Apr-2021 00:00	12-Apr-2021 00:00	12-Apr-2021 00:00	12-Apr-2021 00:00	
Compound	CAS Number	LOR	Unit	ES2113634-053	ES2113634-057	ES2113634-058	ES2113634-059	ES2113634-067	
				Result	Result	Result	Result	Result	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Phenanthrene	85-01-8	0.5	mg/kg	----	<0.5	----	<0.5	<0.5	
Anthracene	120-12-7	0.5	mg/kg	----	<0.5	----	<0.5	<0.5	
Fluoranthene	206-44-0	0.5	mg/kg	----	<0.5	----	<0.5	<0.5	
Pyrene	129-00-0	0.5	mg/kg	----	<0.5	----	<0.5	<0.5	
Benz(a)anthracene	56-55-3	0.5	mg/kg	----	<0.5	----	<0.5	<0.5	
Chrysene	218-01-9	0.5	mg/kg	----	<0.5	----	<0.5	<0.5	
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	----	<0.5	----	<0.5	<0.5	
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	----	<0.5	----	<0.5	<0.5	
Benzo(a)pyrene	50-32-8	0.5	mg/kg	----	<0.5	----	<0.5	<0.5	
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	----	<0.5	----	<0.5	<0.5	
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	----	<0.5	----	<0.5	<0.5	
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	----	<0.5	----	<0.5	<0.5	
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	----	<0.5	----	<0.5	<0.5	
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	----	<0.5	----	<0.5	<0.5	
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	----	0.6	----	0.6	0.6	
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	----	1.2	----	1.2	1.2	
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg	----	<10	----	<10	<10	
C10 - C14 Fraction	----	50	mg/kg	----	<50	----	<50	<50	
C15 - C28 Fraction	----	100	mg/kg	----	<100	----	<100	<100	
C29 - C36 Fraction	----	100	mg/kg	----	<100	----	<100	<100	
^ C10 - C36 Fraction (sum)	----	50	mg/kg	----	<50	----	<50	<50	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg	----	<10	----	<10	<10	
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	----	<10	----	<10	<10	
>C10 - C16 Fraction	----	50	mg/kg	----	<50	----	<50	<50	
>C16 - C34 Fraction	----	100	mg/kg	----	<100	----	<100	<100	
>C34 - C40 Fraction	----	100	mg/kg	----	<100	----	<100	<100	
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	----	<50	----	<50	<50	
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	----	<50	----	<50	<50	
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg	----	<0.2	----	<0.2	<0.2	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TP139_0.5	TP145_0.1	TP145_0.5	TP146_0.1	TP150_2.0
Sampling date / time				12-Apr-2021 00:00	12-Apr-2021 00:00	12-Apr-2021 00:00	12-Apr-2021 00:00	12-Apr-2021 00:00	
Compound	CAS Number	LOR	Unit	ES2113634-053	ES2113634-057	ES2113634-058	ES2113634-059	ES2113634-067	
				Result	Result	Result	Result	Result	
EP080: BTEXN - Continued									
Toluene	108-88-3	0.5	mg/kg	----	<0.5	----	<0.5	<0.5	
Ethylbenzene	100-41-4	0.5	mg/kg	----	<0.5	----	<0.5	<0.5	
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	----	<0.5	----	<0.5	<0.5	
ortho-Xylene	95-47-6	0.5	mg/kg	----	<0.5	----	<0.5	<0.5	
^ Sum of BTEX	----	0.2	mg/kg	----	<0.2	----	<0.2	<0.2	
^ Total Xylenes	----	0.5	mg/kg	----	<0.5	----	<0.5	<0.5	
Naphthalene	91-20-3	1	mg/kg	----	<1	----	<1	<1	
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%	----	120	----	72.4	109	
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%	----	94.7	----	120	122	
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%	----	83.3	----	88.5	94.5	
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%	----	105	----	94.9	109	
2-Chlorophenol-D4	93951-73-6	0.5	%	----	95.8	----	96.2	100	
2,4,6-Tribromophenol	118-79-6	0.5	%	----	73.6	----	95.5	74.9	
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%	----	102	----	96.1	106	
Anthracene-d10	1719-06-8	0.5	%	----	110	----	106	114	
4-Terphenyl-d14	1718-51-0	0.5	%	----	101	----	104	100	
EP080S: TPH(V)/BTEX Surrogates									
1,2-Dichloroethane-D4	17060-07-0	0.2	%	----	82.2	----	82.8	94.4	
Toluene-D8	2037-26-5	0.2	%	----	82.5	----	79.3	93.1	
4-Bromofluorobenzene	460-00-4	0.2	%	----	86.9	----	80.6	93.1	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TP151_0.5	TP152_0.1	----	----	----
Sampling date / time				12-Apr-2021 00:00	12-Apr-2021 00:00	----	----	----	
Compound	CAS Number	LOR	Unit	ES2113634-069	ES2113634-070	-----	-----	-----	
				Result	Result	----	----	----	
EA033-A: Actual Acidity									
pH KCl (23A)	----	0.1	pH Unit	4.4	----	----	----	----	----
Titratable Actual Acidity (23F)	----	2	mole H+ / t	39	----	----	----	----	----
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	0.06	----	----	----	----	----
EA033-B: Potential Acidity									
Chromium Reducible Sulfur (22B)	----	0.005	% S	0.009	----	----	----	----	----
acidity - Chromium Reducible Sulfur (a-22B)	----	10	mole H+ / t	<10	----	----	----	----	----
EA033-D: Retained Acidity									
KCl Extractable Sulfur (23Ce)	----	0.02	% S	<0.02	----	----	----	----	----
HCl Extractable Sulfur (20Be)	----	0.02	% S	0.03	----	----	----	----	----
Net Acid Soluble Sulfur (20Je)	----	0.02	% S	<0.02	----	----	----	----	----
acidity - Net Acid Soluble Sulfur (a-20J)	----	10	mole H+ / t	<10	----	----	----	----	----
sulfidic - Net Acid Soluble Sulfur (s-20J)	----	0.02	% pyrite S	<0.02	----	----	----	----	----
EA033-E: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-	1.5	----	----	----	----	----
Net Acidity (sulfur units)	----	0.02	% S	0.09	----	----	----	----	----
Net Acidity (acidity units)	----	10	mole H+ / t	54	----	----	----	----	----
Liming Rate	----	1	kg CaCO3/t	4	----	----	----	----	----
Net Acidity excluding ANC (sulfur units)	----	0.02	% S	0.09	----	----	----	----	----
Net Acidity excluding ANC (acidity units)	----	10	mole H+ / t	54	----	----	----	----	----
Liming Rate excluding ANC	----	1	kg CaCO3/t	4	----	----	----	----	----
EA037: Ass Field Screening Analysis									
ø pH (F)	----	0.1	pH Unit	5.4	----	----	----	----	----
ø pH (Fox)	----	0.1	pH Unit	3.8	----	----	----	----	----
ø Reaction Rate	----	1	-	1	----	----	----	----	----
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%	----	8.5	----	----	----	----
EG005(ED093)T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg	----	<5	----	----	----	----
Cadmium	7440-43-9	1	mg/kg	----	<1	----	----	----	----
Chromium	7440-47-3	2	mg/kg	----	6	----	----	----	----
Copper	7440-50-8	5	mg/kg	----	7	----	----	----	----
Lead	7439-92-1	5	mg/kg	----	7	----	----	----	----
Nickel	7440-02-0	2	mg/kg	----	3	----	----	----	----



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TP151_0.5	TP152_0.1	----	----	----
Sampling date / time				12-Apr-2021 00:00	12-Apr-2021 00:00	----	----	----	
Compound	CAS Number	LOR	Unit	ES2113634-069	ES2113634-070	-----	-----	-----	
				Result	Result	----	----	----	
EG005(ED093)T: Total Metals by ICP-AES - Continued									
Zinc	7440-66-6	5	mg/kg	----	19	----	----	----	
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg	----	<0.1	----	----	----	
EP066: Polychlorinated Biphenyls (PCB)									
Total Polychlorinated biphenyls	----	0.1	mg/kg	----	<0.1	----	----	----	
EP068A: Organochlorine Pesticides (OC)									
alpha-BHC	319-84-6	0.05	mg/kg	----	<0.05	----	----	----	
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	----	<0.05	----	----	----	
beta-BHC	319-85-7	0.05	mg/kg	----	<0.05	----	----	----	
gamma-BHC	58-89-9	0.05	mg/kg	----	<0.05	----	----	----	
delta-BHC	319-86-8	0.05	mg/kg	----	<0.05	----	----	----	
Heptachlor	76-44-8	0.05	mg/kg	----	<0.05	----	----	----	
Aldrin	309-00-2	0.05	mg/kg	----	<0.05	----	----	----	
Heptachlor epoxide	1024-57-3	0.05	mg/kg	----	<0.05	----	----	----	
^ Total Chlordane (sum)	----	0.05	mg/kg	----	<0.05	----	----	----	
trans-Chlordane	5103-74-2	0.05	mg/kg	----	<0.05	----	----	----	
alpha-Endosulfan	959-98-8	0.05	mg/kg	----	<0.05	----	----	----	
cis-Chlordane	5103-71-9	0.05	mg/kg	----	<0.05	----	----	----	
Dieldrin	60-57-1	0.05	mg/kg	----	<0.05	----	----	----	
4,4'-DDE	72-55-9	0.05	mg/kg	----	<0.05	----	----	----	
Endrin	72-20-8	0.05	mg/kg	----	<0.05	----	----	----	
beta-Endosulfan	33213-65-9	0.05	mg/kg	----	<0.05	----	----	----	
^ Endosulfan (sum)	115-29-7	0.05	mg/kg	----	<0.05	----	----	----	
4,4'-DDD	72-54-8	0.05	mg/kg	----	<0.05	----	----	----	
Endrin aldehyde	7421-93-4	0.05	mg/kg	----	<0.05	----	----	----	
Endosulfan sulfate	1031-07-8	0.05	mg/kg	----	<0.05	----	----	----	
4,4'-DDT	50-29-3	0.2	mg/kg	----	<0.2	----	----	----	
Endrin ketone	53494-70-5	0.05	mg/kg	----	<0.05	----	----	----	
Methoxychlor	72-43-5	0.2	mg/kg	----	<0.2	----	----	----	
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	----	<0.05	----	----	----	
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.05	mg/kg	----	<0.05	----	----	----	
EP068B: Organophosphorus Pesticides (OP)									
Dichlorvos	62-73-7	0.05	mg/kg	----	<0.05	----	----	----	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TP151_0.5	TP152_0.1	----	----	----
Sampling date / time				12-Apr-2021 00:00	12-Apr-2021 00:00	----	----	----	
Compound	CAS Number	LOR	Unit	ES2113634-069	ES2113634-070	-----	-----	-----	
				Result	Result	----	----	----	
EP068B: Organophosphorus Pesticides (OP) - Continued									
Demeton-S-methyl	919-86-8	0.05	mg/kg	----	<0.05	----	----	----	
Monocrotophos	6923-22-4	0.2	mg/kg	----	<0.2	----	----	----	
Dimethoate	60-51-5	0.05	mg/kg	----	<0.05	----	----	----	
Diazinon	333-41-5	0.05	mg/kg	----	<0.05	----	----	----	
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	----	<0.05	----	----	----	
Parathion-methyl	298-00-0	0.2	mg/kg	----	<0.2	----	----	----	
Malathion	121-75-5	0.05	mg/kg	----	<0.05	----	----	----	
Fenthion	55-38-9	0.05	mg/kg	----	<0.05	----	----	----	
Chlorpyrifos	2921-88-2	0.05	mg/kg	----	<0.05	----	----	----	
Parathion	56-38-2	0.2	mg/kg	----	<0.2	----	----	----	
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	----	<0.05	----	----	----	
Chlorfenvinphos	470-90-6	0.05	mg/kg	----	<0.05	----	----	----	
Bromophos-ethyl	4824-78-6	0.05	mg/kg	----	<0.05	----	----	----	
Fenamiphos	22224-92-6	0.05	mg/kg	----	<0.05	----	----	----	
Prothiofos	34643-46-4	0.05	mg/kg	----	<0.05	----	----	----	
Ethion	563-12-2	0.05	mg/kg	----	<0.05	----	----	----	
Carbophenothion	786-19-6	0.05	mg/kg	----	<0.05	----	----	----	
Azinphos Methyl	86-50-0	0.05	mg/kg	----	<0.05	----	----	----	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg	----	<0.5	----	----	----	
Acenaphthylene	208-96-8	0.5	mg/kg	----	<0.5	----	----	----	
Acenaphthene	83-32-9	0.5	mg/kg	----	<0.5	----	----	----	
Fluorene	86-73-7	0.5	mg/kg	----	<0.5	----	----	----	
Phenanthrene	85-01-8	0.5	mg/kg	----	<0.5	----	----	----	
Anthracene	120-12-7	0.5	mg/kg	----	<0.5	----	----	----	
Fluoranthene	206-44-0	0.5	mg/kg	----	<0.5	----	----	----	
Pyrene	129-00-0	0.5	mg/kg	----	<0.5	----	----	----	
Benz(a)anthracene	56-55-3	0.5	mg/kg	----	<0.5	----	----	----	
Chrysene	218-01-9	0.5	mg/kg	----	<0.5	----	----	----	
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	----	<0.5	----	----	----	
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	----	<0.5	----	----	----	
Benzo(a)pyrene	50-32-8	0.5	mg/kg	----	<0.5	----	----	----	
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	----	<0.5	----	----	----	
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	----	<0.5	----	----	----	
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	----	<0.5	----	----	----	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TP151_0.5	TP152_0.1	----	----	----
Sampling date / time				12-Apr-2021 00:00	12-Apr-2021 00:00	----	----	----	
Compound	CAS Number	LOR	Unit	ES2113634-069	ES2113634-070	-----	-----	-----	
				Result	Result	----	----	----	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	----	<0.5	----	----	----	
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	----	<0.5	----	----	----	
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	----	0.6	----	----	----	
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	----	1.2	----	----	----	
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg	----	<10	----	----	----	
C10 - C14 Fraction	----	50	mg/kg	----	<50	----	----	----	
C15 - C28 Fraction	----	100	mg/kg	----	<100	----	----	----	
C29 - C36 Fraction	----	100	mg/kg	----	<100	----	----	----	
^ C10 - C36 Fraction (sum)	----	50	mg/kg	----	<50	----	----	----	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg	----	<10	----	----	----	
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	----	<10	----	----	----	
>C10 - C16 Fraction	----	50	mg/kg	----	<50	----	----	----	
>C16 - C34 Fraction	----	100	mg/kg	----	<100	----	----	----	
>C34 - C40 Fraction	----	100	mg/kg	----	<100	----	----	----	
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	----	<50	----	----	----	
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	----	<50	----	----	----	
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg	----	<0.2	----	----	----	
Toluene	108-88-3	0.5	mg/kg	----	<0.5	----	----	----	
Ethylbenzene	100-41-4	0.5	mg/kg	----	<0.5	----	----	----	
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	----	<0.5	----	----	----	
ortho-Xylene	95-47-6	0.5	mg/kg	----	<0.5	----	----	----	
^ Sum of BTEX	----	0.2	mg/kg	----	<0.2	----	----	----	
^ Total Xylenes	----	0.5	mg/kg	----	<0.5	----	----	----	
Naphthalene	91-20-3	1	mg/kg	----	<1	----	----	----	
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%	----	72.0	----	----	----	
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%	----	122	----	----	----	
EP068T: Organophosphorus Pesticide Surrogate									



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TP151_0.5	TP152_0.1	----	----	----
Sampling date / time				12-Apr-2021 00:00	12-Apr-2021 00:00	----	----	----	
Compound	CAS Number	LOR	Unit	ES2113634-069	ES2113634-070	-----	-----	-----	
				Result	Result	----	----	----	
EP068T: Organophosphorus Pesticide Surrogate - Continued									
DEF	78-48-8	0.05	%	----	121	----	----	----	
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%	----	100	----	----	----	
2-Chlorophenol-D4	93951-73-6	0.5	%	----	97.6	----	----	----	
2,4,6-Tribromophenol	118-79-6	0.5	%	----	100.0	----	----	----	
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%	----	99.6	----	----	----	
Anthracene-d10	1719-06-8	0.5	%	----	107	----	----	----	
4-Terphenyl-d14	1718-51-0	0.5	%	----	107	----	----	----	
EP080S: TPH(V)/BTEX Surrogates									
1,2-Dichloroethane-D4	17060-07-0	0.2	%	----	88.0	----	----	----	
Toluene-D8	2037-26-5	0.2	%	----	85.6	----	----	----	
4-Bromofluorobenzene	460-00-4	0.2	%	----	86.0	----	----	----	



Surrogate Control Limits

Sub-Matrix: SOIL		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP066S: PCB Surrogate			
Decachlorobiphenyl	2051-24-3	39	149
EP068S: Organochlorine Pesticide Surrogate			
Dibromo-DDE	21655-73-2	49	147
EP068T: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	35	143
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	63	123
2-Chlorophenol-D4	93951-73-6	66	122
2,4,6-Tribromophenol	118-79-6	40	138
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	70	122
Anthracene-d10	1719-06-8	66	128
4-Terphenyl-d14	1718-51-0	65	129
EP080S: TPH(V)/BTEX Surrogates			
1,2-Dichloroethane-D4	17060-07-0	73	133
Toluene-D8	2037-26-5	74	132
4-Bromofluorobenzene	460-00-4	72	130

Inter-Laboratory Testing

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

- (SOIL) EA037: Ass Field Screening Analysis
- (SOIL) EA033-B: Potential Acidity
- (SOIL) EA033-C: Acid Neutralising Capacity
- (SOIL) EA033-D: Retained Acidity
- (SOIL) EA033-A: Actual Acidity
- (SOIL) EA033-E: Acid Base Accounting

QUALITY CONTROL REPORT

Work Order	: ES2113634	Page	: 1 of 20
Client	: EP Risk Management	Laboratory	: Environmental Division Sydney
Contact	: Gilles Renda	Contact	: Hannah White
Address	: 3/19 BOLTON STREET NEWCASTLE NSW 2300	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: +61-2-8784 8555
Project	: EP1995	Date Samples Received	: 13-Apr-2021
Order number	: ----	Date Analysis Commenced	: 15-Apr-2021
C-O-C number	: ----	Issue Date	: 03-May-2021
Sampler	: GILLES RENDA		
Site	: ----		
Quote number	: SY/497/20 Primary analysis only		
No. of samples received	: 71		
No. of samples analysed	: 27		



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

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

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

<i>Signatories</i>	<i>Position</i>	<i>Accreditation Category</i>
Edwandy Fadjar	Organic Coordinator	Sydney Inorganics, Smithfield, NSW
Edwandy Fadjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Franco Lentini	LCMS Coordinator	Sydney Inorganics, Smithfield, NSW
Ivan Taylor	Analyst	Sydney Inorganics, Smithfield, NSW
Satishkumar Trivedi	Senior Acid Sulfate Soil Chemist	Brisbane Acid Sulphate Soils, Stafford, QLD



General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
 CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
 LOR = Limit of reporting
 RPD = Relative Percentage Difference
 # = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: SOIL

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 3640299)									
ES2113634-001	TP112_0.1	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.00	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	16	14	11.2	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	8	7	0.00	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	14	7	69.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	14	14	0.00	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	17	16	0.00	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	40	36	8.35	No Limit
ES2113634-035	TP130_0.1	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.00	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	15	12	19.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	19	17	12.7	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	10	9	13.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	19	15	20.8	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	15	9	45.4	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	76	76	0.00	0% - 50%
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 3643889)									
ES2113634-059	TP146_0.1	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.00	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	9	9	0.00	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	5	5	0.00	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	8	9	0.00	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	9	9	0.00	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	7	7	0.00	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	29	28	0.00	No Limit
EA033-A: Actual Acidity (QC Lot: 3629132)									
ES2113023-034	Anonymous	EA033: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	0.10	0.10	0.00	No Limit



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EA033-A: Actual Acidity (QC Lot: 3629132) - continued									
ES2113023-034	Anonymous	EA033: Titratable Actual Acidity (23F)	----	2	mole H+ / t	62	61	0.00	0% - 20%
		EA033: pH KCl (23A)	----	0.1	pH Unit	4.2	4.2	0.00	0% - 20%
EA033-B: Potential Acidity (QC Lot: 3629132)									
ES2113023-034	Anonymous	EA033: Chromium Reducible Sulfur (22B)	----	0.005	% S	0.012	0.012	0.00	No Limit
		EA033: acidity - Chromium Reducible Sulfur (a-22B)	----	10	mole H+ / t	<10	<10	0.00	No Limit
EA033-D: Retained Acidity (QC Lot: 3629132)									
ES2113023-034	Anonymous	EA033: sulfidic - Net Acid Soluble Sulfur (s-20J)	----	0.02	% pyrite S	0.03	0.03	0.00	No Limit
		EA033: Net Acid Soluble Sulfur (20Je)	----	0.02	% S	0.04	0.03	0.00	No Limit
		EA033: KCl Extractable Sulfur (23Ce)	----	0.02	% S	<0.02	<0.02	0.00	No Limit
		EA033: HCl Extractable Sulfur (20Be)	----	0.02	% S	0.03	0.03	0.00	No Limit
		EA033: acidity - Net Acid Soluble Sulfur (a-20J)	----	10	mole H+ / t	20	16	19.9	No Limit
EA037: Ass Field Screening Analysis (QC Lot: 3633453)									
ES2113633-031	Anonymous	EA037: pH (F)	----	0.1	pH Unit	5.5	5.5	0.00	0% - 20%
		EA037: pH (Fox)	----	0.1	pH Unit	4.0	4.0	0.00	0% - 20%
ES2114251-004	Anonymous	EA037: pH (F)	----	0.1	pH Unit	5.8	5.8	0.00	0% - 20%
		EA037: pH (Fox)	----	0.1	pH Unit	3.6	3.4	3.70	0% - 20%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 3640303)									
ES2113634-005	TP114_0.1	EA055: Moisture Content	----	0.1	%	20.0	19.7	1.71	0% - 20%
ES2113634-041	TP133_0.1	EA055: Moisture Content	----	0.1	%	11.2	11.6	3.28	0% - 50%
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 3640300)									
ES2113634-001	TP112_0.1	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
ES2113634-035	TP130_0.1	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 3643890)									
ES2113634-059	TP146_0.1	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
EP066: Polychlorinated Biphenyls (PCB) (QC Lot: 3622152)									
ES2113382-001	Anonymous	EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
ES2113382-047	Anonymous	EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
EP066: Polychlorinated Biphenyls (PCB) (QC Lot: 3622505)									
ES2113634-007	TP115_0.1	EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
ES2113634-041	TP133_0.1	EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
EP068A: Organochlorine Pesticides (OC) (QC Lot: 3622151)									
ES2113382-001	Anonymous	EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP068A: Organochlorine Pesticides (OC) (QC Lot: 3622151) - continued									
ES2113382-001	Anonymous	EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4,4'-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4,4'-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4,4'-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	0.00	No Limit		
ES2113382-047	Anonymous	EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4,4'-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4,4'-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4,4'-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	0.00	No Limit		
EP068A: Organochlorine Pesticides (OC) (QC Lot: 3622508)									
ES2113634-007	TP115_0.1	EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	0.00	No Limit



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report							
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)		
EP068A: Organochlorine Pesticides (OC) (QC Lot: 3622508) - continued											
ES2113634-007	TP115_0.1	EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit		
		EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit		
		EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit		
		EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit		
		EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	0.00	No Limit		
		EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit		
		EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit		
		EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit		
		EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit		
		EP068: 4,4'-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit		
		EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit		
		EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit		
		EP068: 4,4'-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit		
		EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	0.00	No Limit		
		EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit		
		EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit		
		EP068: 4,4'-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	0.00	No Limit		
		EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	0.00	No Limit		
		ES2113634-041	TP133_0.1	EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
				EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
EP068: beta-BHC	319-85-7			0.05	mg/kg	<0.05	<0.05	0.00	No Limit		
EP068: gamma-BHC	58-89-9			0.05	mg/kg	<0.05	<0.05	0.00	No Limit		
EP068: delta-BHC	319-86-8			0.05	mg/kg	<0.05	<0.05	0.00	No Limit		
EP068: Heptachlor	76-44-8			0.05	mg/kg	<0.05	<0.05	0.00	No Limit		
EP068: Aldrin	309-00-2			0.05	mg/kg	<0.05	<0.05	0.00	No Limit		
EP068: Heptachlor epoxide	1024-57-3			0.05	mg/kg	<0.05	<0.05	0.00	No Limit		
EP068: trans-Chlordane	5103-74-2			0.05	mg/kg	<0.05	<0.05	0.00	No Limit		
EP068: alpha-Endosulfan	959-98-8			0.05	mg/kg	<0.05	<0.05	0.00	No Limit		
EP068: cis-Chlordane	5103-71-9			0.05	mg/kg	<0.05	<0.05	0.00	No Limit		
EP068: Dieldrin	60-57-1			0.05	mg/kg	<0.05	<0.05	0.00	No Limit		
EP068: 4,4'-DDE	72-55-9			0.05	mg/kg	<0.05	<0.05	0.00	No Limit		
EP068: Endrin	72-20-8			0.05	mg/kg	<0.05	<0.05	0.00	No Limit		
EP068: beta-Endosulfan	33213-65-9			0.05	mg/kg	<0.05	<0.05	0.00	No Limit		
EP068: 4,4'-DDD	72-54-8			0.05	mg/kg	<0.05	<0.05	0.00	No Limit		
EP068: Endrin aldehyde	7421-93-4			0.05	mg/kg	<0.05	<0.05	0.00	No Limit		
EP068: Endosulfan sulfate	1031-07-8			0.05	mg/kg	<0.05	<0.05	0.00	No Limit		
EP068: Endrin ketone	53494-70-5			0.05	mg/kg	<0.05	<0.05	0.00	No Limit		
EP068: 4,4'-DDT	50-29-3			0.2	mg/kg	<0.2	<0.2	0.00	No Limit		
EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	0.00	No Limit				
EP068B: Organophosphorus Pesticides (OP) (QC Lot: 3622151)											



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP068B: Organophosphorus Pesticides (OP) (QC Lot: 3622151) - continued									
ES2113382-001	Anonymous	EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP068: Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit		
ES2113382-047	Anonymous	EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP068: Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit		
EP068B: Organophosphorus Pesticides (OP) (QC Lot: 3622508)									
ES2113634-007	TP115_0.1	EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	0.00	No Limit



Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP068B: Organophosphorus Pesticides (OP) (QC Lot: 3622508) - continued									
ES2113634-007	TP115_0.1	EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP068: Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
ES2113634-041	TP133_0.1	EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP068: Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit		
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 3622150)									
ES2113382-001	Anonymous	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 3622150) - continued									
ES2113382-001	Anonymous	EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
ES2113382-047	Anonymous	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
EP075(SIM): Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	0.00	No Limit		
EP075(SIM): Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	0.00	No Limit		
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 3622507)									
ES2113634-007	TP115_0.1	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 3622507) - continued										
ES2113634-007	TP115_0.1	EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
			205-82-3							
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP075(SIM): Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
EP075(SIM): Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	0.00	No Limit			
ES2113634-041	TP133_0.1	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
			205-82-3							
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
EP075(SIM): Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	0.00	No Limit			
EP075(SIM): Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	0.00	No Limit			

EP080/071: Total Petroleum Hydrocarbons (QC Lot: 3621844)



Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 3621844) - continued									
ES2113634-001	TP112_0.1	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.00	No Limit
ES2113634-035	TP130_0.1	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.00	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 3622149)									
ES2113382-001	Anonymous	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.00	No Limit
ES2113382-047	Anonymous	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.00	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 3622506)									
ES2113634-007	TP115_0.1	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.00	No Limit
ES2113634-041	TP133_0.1	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.00	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 3649337)									
ES2113634-059	TP146_0.1	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.00	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3621844)									
ES2113634-001	TP112_0.1	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.00	No Limit
ES2113634-035	TP130_0.1	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.00	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3622149)									
ES2113382-001	Anonymous	EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.00	No Limit
ES2113382-047	Anonymous	EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.00	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3622506)									
ES2113634-007	TP115_0.1	EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.00	No Limit
ES2113634-041	TP133_0.1	EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.00	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3649337)									
ES2113634-059	TP146_0.1	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.00	No Limit
EP080: BTEXN (QC Lot: 3621844)									
ES2113634-001	TP112_0.1	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP080: BTEXN (QC Lot: 3621844) - continued									
ES2113634-001	TP112_0.1	EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.00	No Limit
		EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
ES2113634-035	TP130_0.1	EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.00	No Limit
		EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
EP080: BTEXN (QC Lot: 3649337)									
ES2113634-059	TP146_0.1	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.00	No Limit



Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike Concentration	Spike Recovery (%)		Acceptable Limits (%)	
						LCS	Low	High	
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 3640299)									
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	121.1 mg/kg	92.8	88.0	113	
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	0.74 mg/kg	109	70.0	130	
EG005T: Chromium	7440-47-3	2	mg/kg	<2	19.6 mg/kg	92.3	68.0	132	
EG005T: Copper	7440-50-8	5	mg/kg	<5	52.9 mg/kg	105	89.0	111	
EG005T: Lead	7439-92-1	5	mg/kg	<5	60.8 mg/kg	102	82.0	119	
EG005T: Nickel	7440-02-0	2	mg/kg	<2	15.3 mg/kg	102	80.0	120	
EG005T: Zinc	7440-66-6	5	mg/kg	<5	139.3 mg/kg	93.0	66.0	133	
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 3643889)									
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	98 mg/kg	93.8	88.0	113	
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	0.74 mg/kg	78.3	70.0	130	
EG005T: Chromium	7440-47-3	2	mg/kg	<2	19.6 mg/kg	77.0	68.0	132	
EG005T: Copper	7440-50-8	5	mg/kg	<5	52.9 mg/kg	89.4	89.0	111	
EG005T: Lead	7439-92-1	5	mg/kg	<5	60.8 mg/kg	82.3	82.0	119	
EG005T: Nickel	7440-02-0	2	mg/kg	<2	15.3 mg/kg	80.5	80.0	120	
EG005T: Zinc	7440-66-6	5	mg/kg	<5	139.3 mg/kg	74.1	66.0	133	
EA033-A: Actual Acidity (QCLot: 3629132)									
EA033: pH KCl (23A)	----	----	pH Unit	----	4.4 pH Unit	97.7	91.0	107	
EA033: Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	15 mole H+ / t	94.1	70.0	124	
EA033: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	----	----	----	----	
EA033-B: Potential Acidity (QCLot: 3629132)									
EA033: Chromium Reducible Sulfur (22B)	----	0.005	% S	<0.005	0.155 % S	96.4	77.0	121	
EA033: acidity - Chromium Reducible Sulfur (a-22B)	----	10	mole H+ / t	<10	----	----	----	----	
EA033-D: Retained Acidity (QCLot: 3629132)									
EA033: Net Acid Soluble Sulfur (20Je)	----	0.02	% S	<0.02	----	----	----	----	
EA033: acidity - Net Acid Soluble Sulfur (a-20J)	----	10	mole H+ / t	<10	----	----	----	----	
EA033: sulfidic - Net Acid Soluble Sulfur (s-20J)	----	0.02	% pyrite S	<0.02	----	----	----	----	
EA033: KCl Extractable Sulfur (23Ce)	----	0.02	% S	<0.02	0.04779 % S	94.3	70.0	128	
EA033: HCl Extractable Sulfur (20Be)	----	0.02	% S	<0.02	0.279 % S	104	70.0	120	
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3640300)									
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	0.073 mg/kg	115	70.0	130	
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3643890)									
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	0.073 mg/kg	121	70.0	130	
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 3622152)									



Sub-Matrix: SOIL

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike	Spike Recovery (%)		Acceptable Limits (%)	
					Concentration	LCS	Low	High	
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 3622152) - continued									
EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	1 mg/kg	105	62.0	126	
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 3622505)									
EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	1 mg/kg	83.4	62.0	126	
EP068A: Organochlorine Pesticides (OC) (QCLot: 3622151)									
EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	0.5 mg/kg	99.4	69.0	113	
EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	0.5 mg/kg	80.6	65.0	117	
EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	0.5 mg/kg	98.1	67.0	119	
EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	0.5 mg/kg	89.4	68.0	116	
EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	96.1	65.0	117	
EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	0.5 mg/kg	93.6	67.0	115	
EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	0.5 mg/kg	76.3	69.0	115	
EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	0.5 mg/kg	97.5	62.0	118	
EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	0.5 mg/kg	96.9	63.0	117	
EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	0.5 mg/kg	94.9	66.0	116	
EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	0.5 mg/kg	98.9	64.0	116	
EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	0.5 mg/kg	84.7	66.0	116	
EP068: 4,4'-DDE	72-55-9	0.05	mg/kg	<0.05	0.5 mg/kg	90.6	67.0	115	
EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	0.5 mg/kg	82.0	67.0	123	
EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	0.5 mg/kg	87.5	69.0	115	
EP068: 4,4'-DDD	72-54-8	0.05	mg/kg	<0.05	0.5 mg/kg	92.8	69.0	121	
EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	0.5 mg/kg	95.7	56.0	120	
EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	0.5 mg/kg	82.3	62.0	124	
EP068: 4,4'-DDT	50-29-3	0.2	mg/kg	<0.2	0.5 mg/kg	83.1	66.0	120	
EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	0.5 mg/kg	82.4	64.0	122	
EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	0.5 mg/kg	78.0	54.0	130	
EP068A: Organochlorine Pesticides (OC) (QCLot: 3622508)									
EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	0.5 mg/kg	92.0	69.0	113	
EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	0.5 mg/kg	93.5	65.0	117	
EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	0.5 mg/kg	104	67.0	119	
EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	0.5 mg/kg	93.6	68.0	116	
EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	86.8	65.0	117	
EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	0.5 mg/kg	91.9	67.0	115	
EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	0.5 mg/kg	93.6	69.0	115	
EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	0.5 mg/kg	88.7	62.0	118	
EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	0.5 mg/kg	96.9	63.0	117	
EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	0.5 mg/kg	102	66.0	116	
EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	0.5 mg/kg	95.0	64.0	116	
EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	0.5 mg/kg	98.2	66.0	116	



Sub-Matrix: SOIL

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report				
					Spike Concentration	Spike Recovery (%)		Acceptable Limits (%)	
						LCS	Low	High	High
EP068A: Organochlorine Pesticides (OC) (QCLot: 3622508) - continued									
EP068: 4.4'-DDE	72-55-9	0.05	mg/kg	<0.05	0.5 mg/kg	87.3	67.0	115	
EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	0.5 mg/kg	92.4	67.0	123	
EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	0.5 mg/kg	95.7	69.0	115	
EP068: 4.4'-DDD	72-54-8	0.05	mg/kg	<0.05	0.5 mg/kg	93.0	69.0	121	
EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	0.5 mg/kg	106	56.0	120	
EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	0.5 mg/kg	104	62.0	124	
EP068: 4.4'-DDT	50-29-3	0.2	mg/kg	<0.2	0.5 mg/kg	109	66.0	120	
EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	0.5 mg/kg	98.6	64.0	122	
EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	0.5 mg/kg	109	54.0	130	
EP068B: Organophosphorus Pesticides (OP) (QCLot: 3622151)									
EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	0.5 mg/kg	82.3	59.0	119	
EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	80.6	62.0	128	
EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	0.5 mg/kg	79.9	54.0	126	
EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	0.5 mg/kg	76.3	67.0	119	
EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	0.5 mg/kg	85.6	70.0	120	
EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	0.5 mg/kg	99.9	72.0	120	
EP068: Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	0.5 mg/kg	86.8	68.0	120	
EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	0.5 mg/kg	89.3	68.0	122	
EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	0.5 mg/kg	91.3	69.0	117	
EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	0.5 mg/kg	93.0	76.0	118	
EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	0.5 mg/kg	83.9	64.0	122	
EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	0.5 mg/kg	79.1	70.0	116	
EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	0.5 mg/kg	92.0	69.0	121	
EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	0.5 mg/kg	90.6	66.0	118	
EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	0.5 mg/kg	78.1	68.0	124	
EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	0.5 mg/kg	92.2	62.0	112	
EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	0.5 mg/kg	94.8	68.0	120	
EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	0.5 mg/kg	83.5	65.0	127	
EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	0.5 mg/kg	75.3	41.0	123	
EP068B: Organophosphorus Pesticides (OP) (QCLot: 3622508)									
EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	0.5 mg/kg	91.3	59.0	119	
EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	91.9	62.0	128	
EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	0.5 mg/kg	62.2	54.0	126	
EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	0.5 mg/kg	97.5	67.0	119	
EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	0.5 mg/kg	97.5	70.0	120	
EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	0.5 mg/kg	89.0	72.0	120	
EP068: Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	0.5 mg/kg	103	68.0	120	
EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	0.5 mg/kg	95.5	68.0	122	
EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	0.5 mg/kg	92.0	69.0	117	



Sub-Matrix: SOIL

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike	Spike Recovery (%)		Acceptable Limits (%)	
					Concentration	LCS	Low	High	
EP068B: Organophosphorus Pesticides (OP) (QCLot: 3622508) - continued									
EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	0.5 mg/kg	94.5	76.0	118	
EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	0.5 mg/kg	103	64.0	122	
EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	0.5 mg/kg	87.0	70.0	116	
EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	0.5 mg/kg	99.4	69.0	121	
EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	0.5 mg/kg	95.8	66.0	118	
EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	0.5 mg/kg	86.1	68.0	124	
EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	0.5 mg/kg	94.9	62.0	112	
EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	0.5 mg/kg	93.6	68.0	120	
EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	0.5 mg/kg	100	65.0	127	
EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	0.5 mg/kg	79.1	41.0	123	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3622150)									
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	6 mg/kg	98.0	77.0	125	
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	6 mg/kg	93.0	72.0	124	
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	6 mg/kg	96.3	73.0	127	
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	6 mg/kg	75.9	72.0	126	
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	6 mg/kg	104	75.0	127	
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	6 mg/kg	106	77.0	127	
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	6 mg/kg	89.6	73.0	127	
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	6 mg/kg	105	74.0	128	
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	6 mg/kg	95.5	69.0	123	
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	6 mg/kg	90.1	75.0	127	
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2	0.5	mg/kg	<0.5	6 mg/kg	98.8	68.0	116	
	205-82-3								
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	6 mg/kg	96.4	74.0	126	
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	6 mg/kg	94.5	70.0	126	
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	6 mg/kg	102	61.0	121	
EP075(SIM): Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	6 mg/kg	99.1	62.0	118	
EP075(SIM): Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	6 mg/kg	95.6	63.0	121	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3622507)									
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	6 mg/kg	104	77.0	125	
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	6 mg/kg	102	72.0	124	
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	6 mg/kg	99.4	73.0	127	
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	6 mg/kg	101	72.0	126	
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	6 mg/kg	104	75.0	127	
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	6 mg/kg	104	77.0	127	
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	6 mg/kg	103	73.0	127	
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	6 mg/kg	105	74.0	128	
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	6 mg/kg	94.2	69.0	123	
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	6 mg/kg	97.3	75.0	127	



Sub-Matrix: SOIL

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike	Spike Recovery (%)		Acceptable Limits (%)	
					Concentration	LCS	Low	High	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3622507) - continued									
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	6 mg/kg	93.2	68.0	116	
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	6 mg/kg	98.4	74.0	126	
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	6 mg/kg	91.1	70.0	126	
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	6 mg/kg	93.6	61.0	121	
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	6 mg/kg	94.7	62.0	118	
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	6 mg/kg	91.1	63.0	121	
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3621844)									
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	26 mg/kg	96.7	68.4	128	
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3622149)									
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	300 mg/kg	90.0	75.0	129	
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	450 mg/kg	91.4	77.0	131	
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	300 mg/kg	86.4	71.0	129	
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3622506)									
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	300 mg/kg	101	75.0	129	
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	450 mg/kg	93.4	77.0	131	
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	300 mg/kg	101	71.0	129	
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3649337)									
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	26 mg/kg	81.1	68.4	128	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3621844)									
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	31 mg/kg	98.2	68.4	128	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3622149)									
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	375 mg/kg	90.8	77.0	125	
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	525 mg/kg	89.8	74.0	138	
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	225 mg/kg	83.1	63.0	131	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3622506)									
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	375 mg/kg	95.3	77.0	125	
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	525 mg/kg	91.9	74.0	138	
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	225 mg/kg	84.7	63.0	131	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3649337)									
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	31 mg/kg	78.7	68.4	128	
EP080: BTEXN (QCLot: 3621844)									
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	112	62.0	116	
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	102	67.0	121	
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	99.4	65.0	117	
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	2 mg/kg	97.3	66.0	118	



Sub-Matrix: SOIL

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report				
					Spike Concentration	Spike Recovery (%)		Acceptable Limits (%)	
						LCS	Low	High	
EP080: BTEXN (QCLot: 3621844) - continued									
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	99.3	68.0	120	
EP080: Naphthalene	91-20-3	1	mg/kg	<1	1 mg/kg	103	63.0	119	
EP080: BTEXN (QCLot: 3649337)									
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	86.4	62.0	116	
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	85.4	67.0	121	
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	85.7	65.0	117	
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	2 mg/kg	84.6	66.0	118	
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	85.4	68.0	120	
EP080: Naphthalene	91-20-3	1	mg/kg	<1	1 mg/kg	85.8	63.0	119	

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: SOIL

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report			
				Spike Concentration	Spike Recovery (%) MS	Acceptable Limits (%)	
				Low	High		
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 3640299)							
ES2113634-001	TP112_0.1	EG005T: Arsenic	7440-38-2	50 mg/kg	77.6	70.0	130
		EG005T: Cadmium	7440-43-9	50 mg/kg	100	70.0	130
		EG005T: Chromium	7440-47-3	50 mg/kg	85.2	68.0	132
		EG005T: Copper	7440-50-8	250 mg/kg	99.4	70.0	130
		EG005T: Lead	7439-92-1	250 mg/kg	99.9	70.0	130
		EG005T: Nickel	7440-02-0	50 mg/kg	96.3	70.0	130
		EG005T: Zinc	7440-66-6	250 mg/kg	97.0	66.0	133
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 3643889)							
ES2113634-059	TP146_0.1	EG005T: Arsenic	7440-38-2	50 mg/kg	83.4	70.0	130
		EG005T: Cadmium	7440-43-9	50 mg/kg	95.6	70.0	130
		EG005T: Chromium	7440-47-3	50 mg/kg	90.5	68.0	132
		EG005T: Copper	7440-50-8	250 mg/kg	88.0	70.0	130
		EG005T: Lead	7439-92-1	250 mg/kg	96.1	70.0	130
		EG005T: Nickel	7440-02-0	50 mg/kg	99.0	70.0	130
		EG005T: Zinc	7440-66-6	250 mg/kg	92.0	66.0	133
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3640300)							
ES2113634-001	TP112_0.1	EG035T: Mercury	7439-97-6	5 mg/kg	80.1	70.0	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3643890)							
ES2113634-059	TP146_0.1	EG035T: Mercury	7439-97-6	5 mg/kg	70.0	70.0	130



Sub-Matrix: SOIL

				Matrix Spike (MS) Report			
				Spike	Spike Recovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 3622152)							
ES2113382-001	Anonymous	EP066: Total Polychlorinated biphenyls	----	1 mg/kg	97.7	70.0	130
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 3622505)							
ES2113634-007	TP115_0.1	EP066: Total Polychlorinated biphenyls	----	1 mg/kg	90.4	70.0	130
EP068A: Organochlorine Pesticides (OC) (QCLot: 3622151)							
ES2113382-001	Anonymous	EP068: gamma-BHC	58-89-9	0.5 mg/kg	114	70.0	130
		EP068: Heptachlor	76-44-8	0.5 mg/kg	92.4	70.0	130
		EP068: Aldrin	309-00-2	0.5 mg/kg	93.8	70.0	130
		EP068: Dieldrin	60-57-1	0.5 mg/kg	114	70.0	130
		EP068: Endrin	72-20-8	2 mg/kg	93.8	70.0	130
		EP068: 4,4'-DDT	50-29-3	2 mg/kg	86.8	70.0	130
EP068A: Organochlorine Pesticides (OC) (QCLot: 3622508)							
ES2113634-007	TP115_0.1	EP068: gamma-BHC	58-89-9	0.5 mg/kg	81.6	70.0	130
		EP068: Heptachlor	76-44-8	0.5 mg/kg	97.5	70.0	130
		EP068: Aldrin	309-00-2	0.5 mg/kg	115	70.0	130
		EP068: Dieldrin	60-57-1	0.5 mg/kg	98.0	70.0	130
		EP068: Endrin	72-20-8	2 mg/kg	97.5	70.0	130
		EP068: 4,4'-DDT	50-29-3	2 mg/kg	87.4	70.0	130
EP068B: Organophosphorus Pesticides (OP) (QCLot: 3622151)							
ES2113382-001	Anonymous	EP068: Diazinon	333-41-5	0.5 mg/kg	88.0	70.0	130
		EP068: Chlorpyrifos-methyl	5598-13-0	0.5 mg/kg	103	70.0	130
		EP068: Pirimphos-ethyl	23505-41-1	0.5 mg/kg	79.0	70.0	130
		EP068: Bromophos-ethyl	4824-78-6	0.5 mg/kg	86.2	70.0	130
		EP068: Prothiofos	34643-46-4	0.5 mg/kg	114	70.0	130
EP068B: Organophosphorus Pesticides (OP) (QCLot: 3622508)							
ES2113634-007	TP115_0.1	EP068: Diazinon	333-41-5	0.5 mg/kg	109	70.0	130
		EP068: Chlorpyrifos-methyl	5598-13-0	0.5 mg/kg	110	70.0	130
		EP068: Pirimphos-ethyl	23505-41-1	0.5 mg/kg	94.8	70.0	130
		EP068: Bromophos-ethyl	4824-78-6	0.5 mg/kg	110	70.0	130
		EP068: Prothiofos	34643-46-4	0.5 mg/kg	92.6	70.0	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3622150)							
ES2113382-001	Anonymous	EP075(SIM): Acenaphthene	83-32-9	10 mg/kg	96.0	70.0	130
		EP075(SIM): Pyrene	129-00-0	10 mg/kg	86.9	70.0	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3622507)							
ES2113634-007	TP115_0.1	EP075(SIM): Acenaphthene	83-32-9	10 mg/kg	96.9	70.0	130
		EP075(SIM): Pyrene	129-00-0	10 mg/kg	106	70.0	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3621844)							



Sub-Matrix: SOIL

				Matrix Spike (MS) Report				
				Spike	SpikeRecovery(%)	Acceptable Limits (%)		
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High	
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3621844) - continued								
ES2113634-001	TP112_0.1	EP080: C6 - C9 Fraction	----	32.5 mg/kg	81.4	70.0	130	
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3622149)								
ES2113382-001	Anonymous	EP071: C10 - C14 Fraction	----	523 mg/kg	106	73.0	137	
		EP071: C15 - C28 Fraction	----	2319 mg/kg	111	53.0	131	
		EP071: C29 - C36 Fraction	----	1714 mg/kg	108	52.0	132	
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3622506)								
ES2113634-007	TP115_0.1	EP071: C10 - C14 Fraction	----	523 mg/kg	101	73.0	137	
		EP071: C15 - C28 Fraction	----	2319 mg/kg	109	53.0	131	
		EP071: C29 - C36 Fraction	----	1714 mg/kg	106	52.0	132	
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3649337)								
ES2113634-059	TP146_0.1	EP080: C6 - C9 Fraction	----	32.5 mg/kg	84.6	70.0	130	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3621844)								
ES2113634-001	TP112_0.1	EP080: C6 - C10 Fraction	C6_C10	37.5 mg/kg	83.4	70.0	130	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3622149)								
ES2113382-001	Anonymous	EP071: >C10 - C16 Fraction	----	860 mg/kg	103	73.0	137	
		EP071: >C16 - C34 Fraction	----	3223 mg/kg	119	53.0	131	
		EP071: >C34 - C40 Fraction	----	1058 mg/kg	102	52.0	132	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3622506)								
ES2113634-007	TP115_0.1	EP071: >C10 - C16 Fraction	----	860 mg/kg	99.3	73.0	137	
		EP071: >C16 - C34 Fraction	----	3223 mg/kg	115	53.0	131	
		EP071: >C34 - C40 Fraction	----	1058 mg/kg	87.7	52.0	132	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3649337)								
ES2113634-059	TP146_0.1	EP080: C6 - C10 Fraction	C6_C10	37.5 mg/kg	85.7	70.0	130	
EP080: BTEXN (QCLot: 3621844)								
ES2113634-001	TP112_0.1	EP080: Benzene	71-43-2	2.5 mg/kg	82.0	70.0	130	
		EP080: Toluene	108-88-3	2.5 mg/kg	81.3	70.0	130	
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	84.1	70.0	130	
		EP080: meta- & para-Xylene	108-38-3	2.5 mg/kg	80.1	70.0	130	
			106-42-3					
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	83.0	70.0	130	
EP080: Naphthalene	91-20-3	2.5 mg/kg	81.6	70.0	130			
EP080: BTEXN (QCLot: 3649337)								
ES2113634-059	TP146_0.1	EP080: Benzene	71-43-2	2.5 mg/kg	79.4	70.0	130	
		EP080: Toluene	108-88-3	2.5 mg/kg	79.7	70.0	130	
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	82.3	70.0	130	

Page : 20 of 20
 Work Order : ES2113634
 Client : EP Risk Management
 Project : EP1995



Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP080: BTEXN (QCLot: 3649337) - continued							
ES2113634-059	TP146_0.1	EP080: meta- & para-Xylene	108-38-3	2.5 mg/kg	80.4	70.0	130
			106-42-3				
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	82.1	70.0	130
		EP080: Naphthalene	91-20-3	2.5 mg/kg	75.2	70.0	130

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: ES2113634	Page	: 1 of 10
Client	: EP Risk Management	Laboratory	: Environmental Division Sydney
Contact	: Gilles Renda	Telephone	: +61-2-8784 8555
Project	: EP1995	Date Samples Received	: 13-Apr-2021
Site	: ----	Issue Date	: 03-May-2021
Sampler	: GILLES RENDA	No. of samples received	: 71
Order number	: ----	No. of samples analysed	: 27

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** Laboratory Control outliers occur.
- **NO** Matrix Spike outliers occur.
- For all regular sample matrices, **NO** surrogate recovery outliers occur.

Outliers : Analysis Holding Time Compliance

- Analysis Holding Time Outliers exist - please see following pages for full details.

Outliers : Frequency of Quality Control Samples

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



Outliers : Analysis Holding Time Compliance

Matrix: **SOIL**

Method Container / Client Sample ID(s)	Extraction / Preparation			Analysis		
	Date extracted	Due for extraction	Days overdue	Date analysed	Due for analysis	Days overdue
EA055: Moisture Content (Dried @ 105-110°C)						
Soil Glass Jar - Unpreserved TP146_0.1, TP152_0.1	----	----	----	27-Apr-2021	26-Apr-2021	1
EP080/071: Total Petroleum Hydrocarbons						
Soil Glass Jar - Unpreserved TP146_0.1, TP152_0.1	29-Apr-2021	26-Apr-2021	3	29-Apr-2021	26-Apr-2021	3
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions						
Soil Glass Jar - Unpreserved TP146_0.1, TP152_0.1	29-Apr-2021	26-Apr-2021	3	29-Apr-2021	26-Apr-2021	3
EP080: BTEXN						
Soil Glass Jar - Unpreserved TP146_0.1, TP152_0.1	29-Apr-2021	26-Apr-2021	3	29-Apr-2021	26-Apr-2021	3

Outliers : Frequency of Quality Control Samples

Matrix: **SOIL**

Quality Control Sample Type Method	Count		Rate (%)		Quality Control Specification
	QC	Regular	Actual	Expected	
Laboratory Duplicates (DUP)					
Moisture Content	2	22	9.09	10.00	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 Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA033-A: Actual Acidity							
Soil Glass Jar - Frozen on receipt (EA033) TP127_0.5, TP151_0.5	12-Apr-2021	20-Apr-2021	12-Apr-2022	✓	20-Apr-2021	19-Jul-2021	✓
EA033-B: Potential Acidity							
Soil Glass Jar - Frozen on receipt (EA033) TP127_0.5, TP151_0.5	12-Apr-2021	20-Apr-2021	12-Apr-2022	✓	20-Apr-2021	19-Jul-2021	✓



Matrix: SOIL

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

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA033-C: Acid Neutralising Capacity							
Soil Glass Jar - Frozen on receipt (EA033) TP127_0.5, TP151_0.5	12-Apr-2021	20-Apr-2021	12-Apr-2022	✓	20-Apr-2021	19-Jul-2021	✓
EA033-D: Retained Acidity							
Soil Glass Jar - Frozen on receipt (EA033) TP127_0.5, TP151_0.5	12-Apr-2021	20-Apr-2021	12-Apr-2022	✓	20-Apr-2021	19-Jul-2021	✓
EA033-E: Acid Base Accounting							
Soil Glass Jar - Frozen on receipt (EA033) TP127_0.5, TP151_0.5	12-Apr-2021	20-Apr-2021	12-Apr-2022	✓	20-Apr-2021	19-Jul-2021	✓
EA037: Ass Field Screening Analysis							
Soil Glass Jar - Frozen on receipt (EA037) TP118_0.5, TP127_0.5, TP145_0.5, TP126_0.5, TP139_0.5, TP151_0.5	12-Apr-2021	21-Apr-2021	09-Oct-2021	✓	21-Apr-2021	09-Oct-2021	✓
EA055: Moisture Content (Dried @ 105-110°C)							
Soil Glass Jar - Unpreserved (EA055) TP112_0.1, TP114_0.1, TP116_0.1, TP118_0.1, TP121_0.1, TP130_0.1, TP132_0.1, TP134_0.1, TP139_0.1, TP150_2.0, TP113_0.1, TP115_0.1, TP117_0.1, TP120_0.1, TP123_0.1, TP131_0.1, TP133_0.1, TP135_0.1, TP145_0.1	12-Apr-2021	----	----	----	23-Apr-2021	26-Apr-2021	✓
Soil Glass Jar - Unpreserved (EA055) TP146_0.1, TP152_0.1	12-Apr-2021	----	----	----	27-Apr-2021	26-Apr-2021	*
EG005(ED093)T: Total Metals by ICP-AES							
Soil Glass Jar - Unpreserved (EG005T) TP112_0.1, TP114_0.1, TP116_0.1, TP118_0.1, TP121_0.1, TP130_0.1, TP132_0.1, TP134_0.1, TP139_0.1, TP150_2.0, TP113_0.1, TP115_0.1, TP117_0.1, TP120_0.1, TP123_0.1, TP131_0.1, TP133_0.1, TP135_0.1, TP145_0.1	12-Apr-2021	23-Apr-2021	09-Oct-2021	✓	26-Apr-2021	09-Oct-2021	✓
Soil Glass Jar - Unpreserved (EG005T) TP146_0.1, TP152_0.1	12-Apr-2021	30-Apr-2021	09-Oct-2021	✓	30-Apr-2021	09-Oct-2021	✓



Matrix: **SOIL**

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

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EG035T: Total Recoverable Mercury by FIMS								
Soil Glass Jar - Unpreserved (EG035T)								
TP112_0.1, TP114_0.1, TP116_0.1, TP118_0.1, TP121_0.1, TP130_0.1, TP132_0.1, TP134_0.1, TP139_0.1, TP150_2.0	TP113_0.1, TP115_0.1, TP117_0.1, TP120_0.1, TP123_0.1, TP131_0.1, TP133_0.1, TP135_0.1, TP145_0.1	12-Apr-2021	23-Apr-2021	10-May-2021	✓	26-Apr-2021	10-May-2021	✓
Soil Glass Jar - Unpreserved (EG035T)	TP146_0.1, TP152_0.1	12-Apr-2021	30-Apr-2021	10-May-2021	✓	01-May-2021	10-May-2021	✓
EP066: Polychlorinated Biphenyls (PCB)								
Soil Glass Jar - Unpreserved (EP066)								
TP115_0.1, TP117_0.1, TP120_0.1, TP123_0.1, TP131_0.1, TP133_0.1, TP135_0.1, TP145_0.1	TP116_0.1, TP118_0.1, TP121_0.1, TP130_0.1, TP132_0.1, TP134_0.1, TP139_0.1, TP150_2.0	12-Apr-2021	17-Apr-2021	26-Apr-2021	✓	22-Apr-2021	27-May-2021	✓
Soil Glass Jar - Unpreserved (EP066)	TP146_0.1, TP152_0.1	12-Apr-2021	17-Apr-2021	26-Apr-2021	✓	29-Apr-2021	27-May-2021	✓
Soil Glass Jar - Unpreserved (EP066)	TP112_0.1, TP114_0.1	12-Apr-2021	19-Apr-2021	26-Apr-2021	✓	22-Apr-2021	29-May-2021	✓



Matrix: **SOIL**

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

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP068A: Organochlorine Pesticides (OC)							
Soil Glass Jar - Unpreserved (EP068)							
TP115_0.1, TP117_0.1, TP120_0.1, TP123_0.1, TP131_0.1, TP133_0.1, TP135_0.1, TP145_0.1, TP116_0.1, TP118_0.1, TP121_0.1, TP130_0.1, TP132_0.1, TP134_0.1, TP139_0.1, TP150_2.0	12-Apr-2021	17-Apr-2021	26-Apr-2021	✓	22-Apr-2021	27-May-2021	✓
Soil Glass Jar - Unpreserved (EP068)							
TP146_0.1, TP152_0.1	12-Apr-2021	17-Apr-2021	26-Apr-2021	✓	29-Apr-2021	27-May-2021	✓
Soil Glass Jar - Unpreserved (EP068)							
TP112_0.1, TP114_0.1, TP113_0.1	12-Apr-2021	19-Apr-2021	26-Apr-2021	✓	22-Apr-2021	29-May-2021	✓
EP068B: Organophosphorus Pesticides (OP)							
Soil Glass Jar - Unpreserved (EP068)							
TP115_0.1, TP117_0.1, TP120_0.1, TP123_0.1, TP131_0.1, TP133_0.1, TP135_0.1, TP145_0.1, TP116_0.1, TP118_0.1, TP121_0.1, TP130_0.1, TP132_0.1, TP134_0.1, TP139_0.1, TP150_2.0	12-Apr-2021	17-Apr-2021	26-Apr-2021	✓	22-Apr-2021	27-May-2021	✓
Soil Glass Jar - Unpreserved (EP068)							
TP146_0.1, TP152_0.1	12-Apr-2021	17-Apr-2021	26-Apr-2021	✓	29-Apr-2021	27-May-2021	✓
Soil Glass Jar - Unpreserved (EP068)							
TP112_0.1, TP114_0.1, TP113_0.1	12-Apr-2021	19-Apr-2021	26-Apr-2021	✓	22-Apr-2021	29-May-2021	✓



Matrix: SOIL

Evaluation: ✖ = Holding time breach ; ✔ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Soil Glass Jar - Unpreserved (EP075(SIM))							
TP115_0.1, TP117_0.1, TP120_0.1, TP123_0.1, TP131_0.1, TP133_0.1, TP135_0.1, TP145_0.1, TP116_0.1, TP118_0.1, TP121_0.1, TP130_0.1, TP132_0.1, TP134_0.1, TP139_0.1, TP150_2.0	12-Apr-2021	17-Apr-2021	26-Apr-2021	✔	21-Apr-2021	27-May-2021	✔
Soil Glass Jar - Unpreserved (EP075(SIM))							
TP146_0.1, TP152_0.1	12-Apr-2021	17-Apr-2021	26-Apr-2021	✔	29-Apr-2021	27-May-2021	✔
Soil Glass Jar - Unpreserved (EP075(SIM))							
TP112_0.1, TP114_0.1, TP113_0.1	12-Apr-2021	19-Apr-2021	26-Apr-2021	✔	21-Apr-2021	29-May-2021	✔
EP080/071: Total Petroleum Hydrocarbons							
Soil Glass Jar - Unpreserved (EP080)							
TP112_0.1, TP114_0.1, TP116_0.1, TP118_0.1, TP121_0.1, TP130_0.1, TP132_0.1, TP134_0.1, TP139_0.1, TP150_2.0, TP113_0.1, TP115_0.1, TP117_0.1, TP120_0.1, TP123_0.1, TP131_0.1, TP133_0.1, TP135_0.1, TP145_0.1	12-Apr-2021	15-Apr-2021	26-Apr-2021	✔	21-Apr-2021	26-Apr-2021	✔
Soil Glass Jar - Unpreserved (EP071)							
TP115_0.1, TP117_0.1, TP120_0.1, TP123_0.1, TP131_0.1, TP133_0.1, TP135_0.1, TP145_0.1, TP116_0.1, TP118_0.1, TP121_0.1, TP130_0.1, TP132_0.1, TP134_0.1, TP139_0.1, TP150_2.0	12-Apr-2021	17-Apr-2021	26-Apr-2021	✔	21-Apr-2021	27-May-2021	✔
Soil Glass Jar - Unpreserved (EP071)							
TP146_0.1, TP152_0.1	12-Apr-2021	17-Apr-2021	26-Apr-2021	✔	29-Apr-2021	27-May-2021	✔
Soil Glass Jar - Unpreserved (EP071)							
TP112_0.1, TP114_0.1, TP113_0.1	12-Apr-2021	19-Apr-2021	26-Apr-2021	✔	21-Apr-2021	29-May-2021	✔
Soil Glass Jar - Unpreserved (EP080)							
TP146_0.1, TP152_0.1	12-Apr-2021	29-Apr-2021	26-Apr-2021	✖	29-Apr-2021	26-Apr-2021	✖



Matrix: SOIL

Evaluation: ✘ = Holding time breach ; ✔ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
Soil Glass Jar - Unpreserved (EP080)								
TP112_0.1, TP114_0.1, TP116_0.1, TP118_0.1, TP121_0.1, TP130_0.1, TP132_0.1, TP134_0.1, TP139_0.1, TP150_2.0	TP113_0.1, TP115_0.1, TP117_0.1, TP120_0.1, TP123_0.1, TP131_0.1, TP133_0.1, TP135_0.1, TP145_0.1	12-Apr-2021	15-Apr-2021	26-Apr-2021	✔	21-Apr-2021	26-Apr-2021	✔
Soil Glass Jar - Unpreserved (EP071)								
TP115_0.1, TP117_0.1, TP120_0.1, TP123_0.1, TP131_0.1, TP133_0.1, TP135_0.1, TP145_0.1	TP116_0.1, TP118_0.1, TP121_0.1, TP130_0.1, TP132_0.1, TP134_0.1, TP139_0.1, TP150_2.0	12-Apr-2021	17-Apr-2021	26-Apr-2021	✔	21-Apr-2021	27-May-2021	✔
Soil Glass Jar - Unpreserved (EP071)								
TP146_0.1	TP152_0.1	12-Apr-2021	17-Apr-2021	26-Apr-2021	✔	29-Apr-2021	27-May-2021	✔
Soil Glass Jar - Unpreserved (EP071)								
TP112_0.1, TP114_0.1	TP113_0.1	12-Apr-2021	19-Apr-2021	26-Apr-2021	✔	21-Apr-2021	29-May-2021	✔
Soil Glass Jar - Unpreserved (EP080)								
TP146_0.1	TP152_0.1	12-Apr-2021	29-Apr-2021	26-Apr-2021	✘	29-Apr-2021	26-Apr-2021	✘
EP080: BTEXN								
Soil Glass Jar - Unpreserved (EP080)								
TP112_0.1, TP114_0.1, TP116_0.1, TP118_0.1, TP121_0.1, TP130_0.1, TP132_0.1, TP134_0.1, TP139_0.1, TP150_2.0	TP113_0.1, TP115_0.1, TP117_0.1, TP120_0.1, TP123_0.1, TP131_0.1, TP133_0.1, TP135_0.1, TP145_0.1	12-Apr-2021	15-Apr-2021	26-Apr-2021	✔	21-Apr-2021	26-Apr-2021	✔
Soil Glass Jar - Unpreserved (EP080)								
TP146_0.1	TP152_0.1	12-Apr-2021	29-Apr-2021	26-Apr-2021	✘	29-Apr-2021	26-Apr-2021	✘



Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: ✖ = Quality Control frequency not within specification ; ✔ = Quality Control frequency within specification.

Quality Control Sample Type	Method	Count		Rate (%)			Quality Control Specification
		QC	Reaular	Actual	Expected	Evaluation	
Analytical Methods							
Laboratory Duplicates (DUP)							
ASS Field Screening Analysis	EA037	2	20	10.00	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Chromium Suite for Acid Sulphate Soils	EA033	1	6	16.67	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Moisture Content	EA055	2	22	9.09	10.00	✖	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	4	38	10.53	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	4	38	10.53	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	4	38	10.53	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	3	22	13.64	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	3	22	13.64	10.00	✔	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	4	38	10.53	10.00	✔	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	3	22	13.64	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Chromium Suite for Acid Sulphate Soils	EA033	1	6	16.67	5.00	✔	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	2	38	5.26	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	2	38	5.26	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	2	38	5.26	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	2	22	9.09	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	2	22	9.09	5.00	✔	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	2	38	5.26	5.00	✔	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	22	9.09	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Chromium Suite for Acid Sulphate Soils	EA033	1	6	16.67	5.00	✔	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	2	38	5.26	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	2	38	5.26	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	2	38	5.26	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	2	22	9.09	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	2	22	9.09	5.00	✔	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	2	38	5.26	5.00	✔	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	22	9.09	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
PAH/Phenols (SIM)	EP075(SIM)	2	38	5.26	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	2	38	5.26	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	2	38	5.26	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	2	22	9.09	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	2	22	9.09	5.00	✔	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	2	38	5.26	5.00	✔	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	22	9.09	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
Chromium Suite for Acid Sulphate Soils	EA033	SOIL	In house: Referenced to Ahern et al 2004. This method covers the determination of Chromium Reducible Sulfur (SCR); pHKCl; titratable actual acidity (TAA); acid neutralising capacity by back titration (ANC); and net acid soluble sulfur (SNAS) which incorporates peroxide sulfur. It applies to soils and sediments (including sands) derived from coastal regions. Liming Rate is based on results for samples as submitted and incorporates a minimum safety factor of 1.5.
ASS Field Screening Analysis	* EA037	SOIL	In house: Referenced to Acid Sulfate Soils Laboratory Methods Guidelines. As received samples are tested for pH field and pH fox and assessed for a reaction rating.
Moisture Content	EA055	SOIL	In house: A gravimetric procedure based on weight loss over a 12 hour drying period at 105-110 degrees C. This method is compliant with NEPM Schedule B(3).
Total Metals by ICP-AES	EG005T	SOIL	In house: Referenced to APHA 3120; USEPA SW 846 - 6010. Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM Schedule B(3)
Total Mercury by FIMS	EG035T	SOIL	In house: Referenced to AS 3550, APHA 3112 Hg - B (Flow-injection (SnCl ₂) (Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. Mercury in solids are determined following an appropriate acid digestion. Ionic mercury is reduced online to atomic mercury vapour by 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 Schedule B(3)
Polychlorinated Biphenyls (PCB)	EP066	SOIL	In house: Referenced to USEPA SW 846 - 8270 Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3).
Pesticides by GCMS	EP068	SOIL	In house: Referenced to USEPA SW 846 - 8270 Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This technique is compliant with NEPM Schedule B(3).
TRH - Semivolatle Fraction	EP071	SOIL	In house: Referenced to USEPA SW 846 - 8015 Sample extracts are analysed by Capillary GC/FID and quantified against alkane standards over the range C10 - C40. Compliant with NEPM Schedule B(3).
PAH/Phenols (SIM)	EP075(SIM)	SOIL	In house: Referenced to USEPA SW 846 - 8270. Extracts are analysed by Capillary GC/MS in Selective Ion Mode (SIM) and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)
TRH Volatiles/BTEX	EP080	SOIL	In house: Referenced to USEPA SW 846 - 8260. Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve. Compliant with NEPM Schedule B(3) amended.

Preparation Methods	Method	Matrix	Method Descriptions
Drying only	EN020D	SOIL	In house
Drying at 85 degrees, bagging and labelling (ASS)	EN020PR	SOIL	In house



<i>Preparation Methods</i>	<i>Method</i>	<i>Matrix</i>	<i>Method Descriptions</i>
Hot Block Digest for metals in soils sediments and sludges	EN69	SOIL	In house: Referenced to USEPA 200.2. Hot Block Acid Digestion 1.0g of sample is heated with Nitric and Hydrochloric acids, then cooled. Peroxide is added and samples heated and cooled again before being filtered and bulked to volume for analysis. Digest is appropriate for determination of selected metals in sludge, sediments, and soils. This method is compliant with NEPM Schedule B(3).
Methanolic Extraction of Soils for Purge and Trap	ORG16	SOIL	In house: Referenced to USEPA SW 846 - 5030A. 5g of solid is shaken with surrogate and 10mL methanol prior to analysis by Purge and Trap - GC/MS.
Tumbler Extraction of Solids	ORG17	SOIL	In house: Mechanical agitation (tumbler). 10g of sample, Na ₂ SO ₄ and surrogate are extracted with 30mL 1:1 DCM/Acetone by end over end tumble. The solvent is decanted, dehydrated and concentrated (by KD) to the desired volume for analysis.



CHAIN OF CUSTODY

ALS Laboratory, please tick →

317 Woodhouse Rd, Woodhouse, QLD 4012
Ph: 07 3233 7222 E: samples@alsenviro.com
110 St Albans Rd, St Albans, VIC 3021
Ph: 03 9397 1000 E: samples@alsenviro.com

41 Anson Rd, Sydney, NSW 1512
Ph: 07 3233 7222 E: samples@alsenviro.com
110 St Albans Rd, St Albans, VIC 3021
Ph: 03 9397 1000 E: samples@alsenviro.com

120 Eastwood Rd, Eastwood, QLD 4012
Ph: 07 3233 7222 E: samples@alsenviro.com
110 St Albans Rd, St Albans, VIC 3021
Ph: 03 9397 1000 E: samples@alsenviro.com

#779529

CLIENT: EP RISK MANAGEMENT PTY LTD

OFFICE: NEWCASTLE

PROJECT: Chisholm CRS Due Diligence

ORDER NUMBER: EP1995

PROJECT MANAGER: Luke Kerry

SAMPLER: Luke Kerry

COC emailed to ALS? (YES / NO)

Email Reports to (will default to PM if no other addresses are listed): Luke.Kerry@eprisk.com.au

Email Invoice to (will default to PM if no other addresses are listed): Accountants@eprisk.com.au

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

TURNAROUND REQUIREMENTS : Standard TAT (List due date)
 Standard TAT (List due date)
 Non Standard or urgent TAT (List due date)

(Standard TAT may be longer for some tests e.g. Ultra Trace Organics)

ALS QUOTE NO.: SY 497-20

CONTACT PH: 0432266617

SAMPLER MOBILE: 0432266617

EDD FORMAT (or default): Esdat

RELINQUISHED BY: Luke Kerry

DATE/TIME: 8/3/2021

FOR LABORATORY USE ONLY (Circle)
Custody Seal Intact? Yes No N/A

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

Random Sample Temperature on Receipt: 10.9 °C

Other comment:

RECEIVED BY: [Signature]

DATE/TIME: 8/3/2021

RECEIVED BY: [Signature]

DATE/TIME: 8/3/2021

ALS USE ONLY

SAMPLE DETAILS
MATRIX: Solid(S) Water(W)

CONTAINER INFORMATION

ANALYSIS REQUIRED INCLUDING SUITES (NB: Suite Codes must be listed to attract suite price)
Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (filtered bottle required).

Additional Information
Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.

LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL BOTTLES	OCP, OPP, Heavy Metals	TRH, BTEXN, PAH, PCBs	PM and PM10 Hold	NEPM Screen for soil classification	Asbestos w/w%	Chromium Suite	TRH (F), BTEXN	TRH, BTEXN, PAH, Heavy Metals, OCP and OPP
1	TP01-0.1	8/03/2021	Soil	Tor	1	X	X						
2	TP01-0.5	8/03/2021	Soil	Ass	1	X	X						
3	TP02-0.1	8/03/2021	Soil	Ass	1	X	X						
4	TP02-0.5	8/03/2021	Soil	Ass	1	X	X						
5	TP03-0.1	8/03/2021	Soil	Ass	1	X	X						
6	TP03-0.5	8/03/2021	Soil	Ass	1	X	X						
7	TP04-0.1	8/03/2021	Soil	Ass	1	X	X						
8	TP04-0.5	8/03/2021	Soil	Ass	1	X	X						
9	TP05-0.1	8/03/2021	Soil	Ass	1	X	X						
10	TP05-0.5	8/03/2021	Soil	Ass	1	X	X						
11	TP06-0.1	8/03/2021	Soil	Ass	1	X	X						
12	TP06-0.5	8/03/2021	Soil	Ass	1	X	X						
13	TP07-0.1	8/03/2021	Soil	Ass	1	X	X						

Telephone : +61-2-1794 9656



Environmental Division
Sydney
Work Order Ref: ES2108110

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORG = Nitric Preserved ORG; SH = Sodium Hydroxide Preserved Plastic; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Air-tight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulfate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Air-tight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl Preserved Plastic; HS = HCl Preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottle; ST = Sterile Bottle; ASS = Plastic Bin for Acid Substrate Soils; B = Unpreserved Bin



CHAIN OF CUSTODY

ALS Laboratory, please tick →

Standard TAT (List due date):
 Standard TAT may be longer for some tests
 Non Standard or urgent TAT (List due date):

FOR LABORATORY USE ONLY (Circle)
Custody Seal intact? Yes No N/A
Free Ice / Frozen ice bricks present upon receipt? Yes No N/A
Random Sample Temperature on Receipt: °C

RECEIVED BY: *Navel* DATE/TIME: 04/03/21 07:30

CLIENT: EP RISK MANAGEMENT PTY LTD

OFFICE: NEWCASTLE

PROJECT: Chisholm CRS Due Diligence

ORDER NUMBER: EP1995

PROJECT MANAGER: Luke Kerry

SAMPLER: Luke Kerry

COC emailed to ALS? (YES / NO)

Email Reports to (will default to PM if no other addresses are listed): Luke.Kerry@eprisk.com.au

Email Invoice to (will default to PM if no other addresses are listed): Accounts@eprisk.com.au

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

TURNAROUND REQUIREMENTS:
SY 497-20

COC SEQUENCE NUMBER (Circle)
COC: 1 2 3 4 5 6 7
of: 1 2 3 4 5 6 7

RECEIVED BY: *Navel* DATE/TIME: 04/03/21 07:30

LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL BOTTLES	ANALYSIS REQUIRED INCLUDING SUITES (NB: Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).	Additional Information
14	TP07-0.5	8/03/2021	Soil	Jar	1	OCP, OPP, Heavy Metals	
15	TP08-0.1	8/03/2021	Soil	Jar	1	TRH, BTEXN, PAH, PCBs	
16	TP08-0.5	8/03/2021	Soil		1	NEPM Screen for soil classification	
17	TP09-0.1	8/03/2021	Soil		1	Asbestos w/w%	
18	TP09-0.5	8/03/2021	Soil		1	Chromium Suite	
19	TP10-0.1	8/03/2021	Soil		1	TRH (F1), BTEXN	
20	TP10-0.5	8/03/2021	Soil		1	TRH, BTEXN, PAH, Heavy Metals, OCP and OPP	
21	TP11-0.1	8/03/2021	Soil		1		
22	TP11-0.5	8/03/2021	Soil		1		
23	TP12-0.1	8/03/2021	Soil		1		
24	TP13-0.1	8/03/2021	Soil		1		
25	TP15-0.1	8/03/2021	Soil	Jar	1		

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Air-tight Unpreserved Plastic
 V = VOA Vial HCl Preserved; VB = VOA Vial Soil; B = Biotin Preserved; VS = VOA Vial Sulphur Preserved; AV = Air-tight Unpreserved Vial SG = Sulphur Preserved Amber Glass; H = HCl Preserved Plastic; HS = HCl Preserved Speciation bottle; SP = Sulphur Preserved Plastic; F = Formaldehyde Preserved Glass.
 Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Add Sulfamate Soils; B = Unpreserved Bag



CHAIN OF CUSTODY

ALS Laboratory, please tick →

1111 ...

...

...

CLIENT: EP RISK MANAGEMENT PTY LTD

OFFICE: NEWCASTLE

PROJECT: Chisholm CRS Due Diligence

ORDER NUMBER: EP1995

PROJECT MANAGER: Luke Kerry

SAMPLER: Luke Kerry

COC emailed to ALS? (YES / NO)

Email Reports to (will default to PM if no other addresses are listed): Luke.Kerry@eprisk.com.au

Email Invoice to (will default to PM if no other addresses are listed): Accounts@eprisk.com.au

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

TURNAROUND REQUIREMENTS: Standard TAT (List due date): Non Standard or urgent TAT (List due date):

Standard TAT (List due date):

Non Standard or urgent TAT (List due date):

SY 497-20

FOR LABORATORY USE ONLY (Circle)

Custody Seal Intact? Yes No N/A

Free Ice / Frozen Ice Bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comment:

RECEIVED BY: [Signature]

DATE/TIME: 8/31/21 17:00

RECEIVED BY: [Signature]

DATE/TIME: 08/31/2021

ALS USE ONLY	SAMPLE DETAILS MATRIX: Solid(S) Water(W)	CONTAINER INFORMATION	ANALYSIS REQUIRED INCLUDING SUITES (NB: Suite Codes must be listed to attract suite prices) <small>Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (filtered bottle required).</small>							Additional Information				
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL BOTTLES	OCF, OPP, Heavy Metals	TRH, BTEXN, PAH, PCBs	PHI and Phos	NEPM Screen for soil classification	Asbestos w/w%	Chromium Suite	TRH (F1), BTEXN	TRH, BTEXN, PAH, Heavy Metals, OCF and OPP	Comments on likely contaminant levels, dilutions, or samples requiring specific C/C analysis etc.
26	TP15-0.5	8/03/2021	Soil	Tec	1		*		X					
27	TP16-0.1	8/03/2021	Soil		1		*							
28	TP17-0.1	8/03/2021	Soil		1		*							
29	TP18-0.1	8/03/2021	Soil		1		*							
30	TP19-0.1	8/03/2021	Soil		1		*							
31	TP20-0.1	8/03/2021	Soil		1		*							
32	TP21-0.5	8/03/2021	Soil		1		*							
33	TP22-0.1	8/03/2021	Soil		1		*							
34	TP23-0.5	8/03/2021	Soil		1		*							
35	TP24-0.1	8/03/2021	Soil		1		*							
36	TP25-0.1	8/03/2021	Soil		1		*							
37	TP26-0.5	8/03/2021	Soil		1		*							
38	TP27-0.1	8/03/2021	Soil		1		*							
39	TP28-0.5	8/03/2021	Soil		1		*							

Water Containing Codes: P = Unopened Plastic; N = Nitric Preserved Plastic; ORC = Sodium Hydroxide Preserved Plastic; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved Plastic; AP = Airtight Unpreserved Plastic; V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisphosphate Preserved; VS = VOA Vial Sulfamic Acid Preserved; AV = Airtight Unpreserved Amber Glass; H = HCl Preserved Plastic; HS = HCl Preserved Speciation Bottle; SP = Sulfamic Acid Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottle; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulfate Soils; B = Unreserved Bag.



CHAIN OF CUSTODY

ALS Laboratory, please tick ->

ALS Laboratory, please tick ->

ALS Laboratory, please tick ->

ALS Laboratory, please tick ->

ALS Laboratory, please tick ->

CLIENT: EP RISK MANAGEMENT PTY LTD

OFFICE: NEWCASTLE

PROJECT: Chisholm CRS Due Diligence

ORDER NUMBER: EP1995

PROJECT MANAGER: Luke Kerry

SAMPLER: Luke Kerry

COC emailed to ALS? (YES/NO)

Email Reports to (will default to PM if no other addresses are listed): Luke.Kerry@eprisk.com.au

Email Invoice to (will default to PM if no other addresses are listed): Accounts@eprisk.com.au

COMMENT/SPECIAL HANDLING/STORAGE OR DISPOSAL:

TURNAROUND REQUIREMENTS:

(Standard TAT may be longer for some tests)

ALS QUOTE NO.: SY 497-20

CONTACT PH: 0432286617

SAMPLER MOBILE: 0432286617

EDD FORMAT (or default): Esdat

RELINQUISHED BY: Luke Kerry

DATE/TIME: 8/03/2021

Standard TAT (List due date):

Non Standard or urgent TAT (List due date):

COC SEQUENCE NUMBER (Circle)

RECEIVED BY: A SIOSpm

DATE/TIME: 8/03/2021

RELINQUISHED BY: [Signature]

DATE/TIME: 8/3/21 17:00

FOR LABORATORY USE ONLY (Circle)

Custody Seal Intact? Yes No

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

Random Sample Temperature on Receipt: °C

Other comment:

RECEIVED BY: [Signature]

DATE/TIME: 08/03/21 01:20

SAMPLE DETAILS

MATRIX: Solid(s) Water(W)

CONTAINER INFORMATION

ANALYSIS REQUIRED INCLUDING SITES (NB: Site Codes must be listed to attach suite prices)

Additional Information

LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL BOTTLES	OCP, OPP, Heavy Metals	TRH, BTEXN, PAH, PCBs	PHF and Phfox	NEPM Screen for soil classification	Asbestos w/w%	Chromium Suite	TRH, BTEXN, PAH, Heavy Metals, OCP and OPP	Comments on likely contaminant levels, dilutions or samples requiring specific QC analysis etc.
40	TP04-ACS	8/03/2021	Soil	Jar	1								
41	TP07-ACS	8/03/2021	Soil	Jar	1								
42	TP23-ACS	8/03/2021	Soil	Jar	1								
43	TP05-ASB	8/03/2021	Soil	B	1								
44	TP07-ASB	8/03/2021	Soil	B	1								
45	TP24-ASB	8/03/2021	Soil	B	1								
		8/03/2021	Soil										
		8/03/2021	Soil										
		8/03/2021	Soil										

AGGRESSIVE

Water Container Codes: P = Unpreserved Plastic, N = Nitric Preserved Plastic, C = Sodium Hydroxide Preserved Plastic, S = Sodium Hydroxide Preserved Plastic, AG = Amber Glass Unpreserved, AP = Airtight Unpreserved Plastic, VOA = Vial No Preserved, VB = VOA Vial Sodium Bicarbonate Preserved, VS = VOA Vial Sulfuric Preserved, AV = Airtight Unpreserved Vial SG = Sulfuric Preserved Amber Glass, H = HCl preserved Plastic, HS = HCl preserved Specimen bottle, SP = Sulfuric Preserved Plastic, F = Formaldehyde Preserved Glass, Z = Zinc Acetate Preserved Bottle, E = EDTA Preserved Bottles, ST = Shrink Bottle, ASS = Plastic Bag for Acid Sulfate Slits, B = Unpreserved Bag



CHAIN OF CUSTODY

ALS Laboratory, please tick →

CLIENT: EP RISK MANAGEMENT PTY LTD
OFFICE: NEWCASTLE
PROJECT: Chisholm CRS Due Diligence
ORDER NUMBER: EP1995
PROJECT MANAGER: Luke Kerry
SAMPLER: Luke Kerry
COC emailed to ALS? (YES / NO)
Email Reports to (will default to PM if no other addresses are listed): Luke.Kerry@eprisk.com.au
Email Invoices to (will default to PM if no other addresses are listed): Accounts@eprisk.com.au

TURNAROUND REQUIREMENTS:
 Standard TAT may be longer for some tests
 Ultra Trace Organics
 Standard TAT (List due date)
 Non Standard or urgent TAT (List due date)
SY 497-20

COC SEQUENCE NUMBER (Circle)
 1 2 3 4 5 6 7
 OF: 1 2 3 4 5 6 7
 Other comment: *7*

FOR LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No
 Free ice / frozen ice bricks present upon receipt? Yes No
 Random Sample Temperature on Receipt: °C
 N/A

RECEIVED BY: *Ar* DATE/TIME: *8/05/2021 5:03pm*
RECEIVED BY: *Memo* DATE/TIME: *09/05/21 07:20*

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL BOTTLES	ANALYSIS REQUIRED INCLUDING SUITES (NB. Suite Codes must be listed to attract suite price) <small>Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).</small>							Additional Information	
						OCP, OPP, Heavy Metals	TRH, BTEXN, PAH, PCBs	PHf and Phfox	NEPM Screen for soil classification	Asbestos w/w%	Chromium Suite	TRH (F1), BTEXN		TRH, BTEXN, PAH, Heavy Metals, OCP and OPP
46	ASS01	8/03/2021	Soil		1 Bag	X	X	X						
47	ASS02	8/03/2021	Soil			X	X	X						
48	ASS03	8/03/2021	Soil			X	X	X						
49	ASS04	8/03/2021	Soil			X	X	X						
50	ASS05	8/03/2021	Soil			X	X	X		X				
51	ASS06	8/03/2021	Soil			X	X	X						
52	ASS07	8/03/2021	Soil			X	X	X						
53	ASS08	8/03/2021	Soil			X	X	X						
54	ASS09	8/03/2021	Soil			X	X	X						
55	ASS10	8/03/2021	Soil			X	X	X						
56	ASS11	8/03/2021	Soil			X	X	X						
57	ASS12	8/03/2021	Soil			X	X	X						
58	ASS13	8/03/2021	Soil			X	X	X		X				
59	ASS14	8/03/2021	Soil			X	X	X						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; CRG = Nitric Preserved CRG; SH = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airtight Unpreserved Plastic
 V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bicarbonate Preserved; VCS = VOA Vial Sulphur Preserved; AV = Airtight Unpreserved Vial SG = Sulphur Preserved Amber Glass; H = HCl Preserved Plastic; HE = HCl Preserved Speciation bottles; SP = Sulphur Preserved Plastic; F = Formaldehyde Preserved Glass
 Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottle; ST = Stainless Steel; ASS = Plastic Bin for Acid Sulphate Soils; S = Unpreserved Bin



CHAIN OF CUSTODY

ALS Laboratory, please tick →

1. Chain of Custody Form: This form is used to track the custody of samples from collection to analysis. It is a legal document and must be filled out accurately and completely. It is the responsibility of the person who collects the sample to ensure that the chain of custody is maintained throughout the process.

2. Sample Collection: The sample must be collected in a clean, uncontaminated container. The container must be clearly labeled with the sample ID, date, time, and location. The sample must be stored in a cool, dry place until it is ready to be analyzed.

3. Sample Transport: The sample must be transported in a secure, leak-proof container. The container must be clearly labeled with the sample ID, date, time, and location. The sample must be transported to the laboratory in a timely manner.

4. Sample Reception: The sample must be received by a qualified laboratory staff member. The staff member must check the sample ID, date, time, and location against the chain of custody form. The staff member must also check the sample for any signs of contamination or damage.

5. Sample Analysis: The sample must be analyzed using the appropriate analytical method. The results of the analysis must be reported to the client in a timely manner.

6. Sample Storage: The sample must be stored in a secure, leak-proof container until it is ready to be analyzed. The container must be clearly labeled with the sample ID, date, time, and location.

7. Sample Disposal: The sample must be disposed of in a secure, leak-proof container. The container must be clearly labeled with the sample ID, date, time, and location.

CLIENT: EP RISK MANAGEMENT PTY LTD
OFFICE: NEWCASTLE
PROJECT: Chisholm CRS Due Diligence
ORDER NUMBER: EP1998
PROJECT MANAGER: Luke Kerry
SAMPLER: Luke Kerry
COC emailed to ALS? (YES / NO): YES / NO
Email Reports to (will default to PM if no other addresses are listed): Luke.Kerry@eprisk.com.au
Email Invoice to (will default to PM if no other addresses are listed): Accounts@eprisk.com.au

TURNAROUND REQUIREMENTS: Standard TAT (List due date): Non Standard or urgent TAT (List due date):
ALS QUOTE NO.: SY 497-20
RECEIVED BY: DATE/TIME: 8/3/2021

FOR LABORATORY USE ONLY (Circle):
 Custody Seal Intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C
 Other comment:

RECEIVED BY: DATE/TIME: 8/3/2021 17:00
RECEIVED BY: DATE/TIME: 8/3/2021 07:31

LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL BOTTLES	ANALYSIS REQUIRED INCLUDING SUITES (NB: Suite Codes must be listed to attract suite price) <small>Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).</small>						Additional Information <small>Comments on likely contaminant levels, dilutions, or samples requiring specific CIC anal. etc.</small>	
						OCP, OPP, Heavy Metals	TRH, BTEXN, PAH, PCBs	PHf and Phfox	NEPM Screen for soil classification	Asbestos w/w%	Chromium Suite		TRH (F1), BTEXN
60	ASS15	8/03/2021	Soil		1 Bay	X							
61	ASS16	8/03/2021	Soil			X							
62	ASS17	8/03/2021	Soil			X							
63	ASS18	8/03/2021	Soil			X							
64	ASS19	8/03/2021	Soil			X			X				
65	ASS20	8/03/2021	Soil			X							
66	ASS21	8/03/2021	Soil			X							
67	ASS22	8/03/2021	Soil			X							
68	ASS23	8/03/2021	Soil			X							
69	ASS24	8/03/2021	Soil			X			X				
70	ASS25	8/03/2021	Soil			X							
71	ASS26	8/03/2021	Soil			X							
72	ASS27	8/03/2021	Soil			X							
73	ASS28	8/03/2021	Soil			X				X			

Water Container Codes: P = Unpreserved Plastic, N = Nitric Preserved Plastic, GCG = Sulfuric Preserved Plastic, SH = Sodium Hydroxide Preserved Plastic, AG = Amber Glass Unpreserved, AP = Amalgam Unpreserved Plastic
V = VOA Vial HCl Preserved, VB = VOA Vial Sodium Bisulfate Preserved, VS = VOA Vial Sulphuric Preserved, VAV = VOA Vial Sulphuric Preserved, VAVS = VOA Vial Sulphuric Preserved, VAVS = VOA Vial Sulphuric Preserved, VAVS = VOA Vial Sulphuric Preserved
Z = Zinc Acetate Preserved Bottle, E = EDTA Preserved Bottles, ST = Stottle Bottle, ASS = Plastic Bin for Acid Substrate Soils, S = Unpreserved Bin



CHAIN OF CUSTODY

ALS Laboratory, please tick →

25 Sydney Street, West Melbourne, Victoria 3040
Tel: 03 9347 2222 Fax: 03 9347 2223
Email: info@als.com.au Website: www.als.com.au

1. Date and time of collection
2. Name of client
3. Name of site
4. Name of sampler
5. Name of analyst
6. Name of supervisor
7. Name of courier
8. Name of driver
9. Name of receiver

10. Name of laboratory
11. Name of analyst
12. Name of supervisor
13. Name of courier
14. Name of driver
15. Name of receiver

CLIENT: EP RISK MANAGEMENT PTY LTD

OFFICE: NEWCASTLE

PROJECT: Chisholm CRS Due Diligence

ORDER NUMBER: EP1996

PROJECT MANAGER: Luke Kerry

SAMPLER: Luke Kerry

COC emailed to ALS? (YES / NO) EDD FORMAT (or default): Esdat

Email Reports to (will default to PM if no other addresses are listed): Luke.Kerry@eprisk.com.au

Email Invoice to (will default to PM if no other addresses are listed): Accounts@eprisk.com.au

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

TURNAROUND REQUIREMENTS:
Standard TAT (List due date): Standard TAT (List due date):
Non Standard or urgent TAT (List due date): Non Standard or urgent TAT (List due date):

SY 497-20

COC SEQUENCE NUMBER (Circle)
1 2 3 4 5 6 7

FOR LABORATORY USE ONLY (Circle)
Custody Seal Intact? Yes No
Free ice / frozen ice bricks present upon receipt? Yes No
Random Sample Temperature on Receipt: °C

RECEIVED BY: [Signature]

RELINQUISHED BY: Luke Kerry

DATE/TIME: 8/03/2021

RECEIVED BY: [Signature]

DATE/TIME: 8/03/2021

RECEIVED BY: [Signature]

LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL BOTTLES	ANALYSIS REQUIRED INCLUDING SUITES (NB: Suite Codes must be listed to attract suite prices) (Where Metals are required, specify Total (numbered bottle required) or Dissolved (field filtered bottle required))	Additional Information
74	ASS 29	8/03/2021	Soil		1 bag	OCP, OPP, Heavy Metals	
75	ASS 36	8/03/2021	Soil			TRH, BTEXN, PAH, PCBs	
76	ASS 31	8/03/2021	Soil			PHF and Phox	
77	ASS 32	8/03/2021	Soil			NEPM Screen for soil classification	
78	ASS 33	8/03/2021	Soil			Asbestos w/w%	
79	ASS 34	8/03/2021	Soil			Chromium Suite	
80	ASS 35	8/03/2021	Soil			TRH (F1), BTEXN	
81	ASS 36	8/03/2021	Soil			TRH, BTEXN, PAH, Heavy Metals, OCP and OPP	
82	ASS 37	8/03/2021	Soil				
83	Q101	8/03/2021	Soil				
84	Q102	8/03/2021	Soil				
85	TS	8/03/2021	Soil				
86	TB	8/03/2021	Soil				

Please send to Eucalyptus for analysis

Water Container Codes: P = Unreserved Plastic; N = Nitric Preserved Plastic; CRG = Nitric Preserved CRG; SH = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unreserved; AP = Airfreight Unreserved Plastic
V = VOA Vial HCl Preserved VB = VOA Vial Sodium Bisulfate Preserved VS = VOA Vial Sulfuric Preserved VA = Airfreight Unreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl Preserved Plastic; HS = HCl Preserved Speciation Bottle; SP = Sulfuric Preserved Plastic; F = Formaklenhydre Preserved Glass
L = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unreserved Bin

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

Newcastle

4/52 Industrial Drive
Mayfield East NSW 2304
PO Box 60 Wickham 2293
Phone : +61 2 4968 8448

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

Sample Receipt Advice

Company name: EP Risk Management (NSW)
Contact name: Luke Kerry
Project name: CHRISHOLM CRS DUE DELIGENCE
Project ID: Not provided
Turnaround time: 5 Day
Date/Time received: Mar 10, 2021 4:14 PM
Eurofins reference: 779529

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

Contact

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

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

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

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



Environment Testing

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

Newcastle
4/52 Industrial Drive
Mayfield East NSW 2304
PO Box 60 Wickham 2293
Phone : +61 2 4968 8448

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 email: EnviroSales@eurofins.com

Company Name:	EP Risk Management (NSW)	Order No.:	EP1995	Received:	Mar 10, 2021 4:14 PM
Address:	109/283 Alfred Street North Sydney NSW 2060	Report #:	779529	Due:	Mar 17, 2021
Project Name:	CHRISHOLM CRS DUE DELIGENCE	Phone:	02 99225021	Priority:	5 Day
		Fax:		Contact Name:	Luke Kerry
Eurofins Analytical Services Manager : Elvis Dsouza					

Sample Detail						Eurofins Suite B15	Moisture Set	Eurofins Suite B7
Melbourne Laboratory - NATA Site # 1254 & 14271								
Sydney Laboratory - NATA Site # 18217						X	X	X
Brisbane Laboratory - NATA Site # 20794								
Perth Laboratory - NATA Site # 23736								
Mayfield Laboratory								
External Laboratory								
No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID			
1	QC02	Mar 08, 2021		Soil	S21-Ma20968	X	X	X
Test Counts						1	1	1

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



NATA Accredited
Accreditation Number 1261
Site Number 18217

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

Attention: **Luke Kerry**

Report **779529-S**
Project name **CHISHOLM CRS DUE DELIGENCE**
Received Date **Mar 10, 2021**

Client Sample ID			QC02
Sample Matrix			Soil
Eurofins Sample No.			S21-Ma20968
Date Sampled			Mar 08, 2021
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	%	92
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
Polycyclic Aromatic Hydrocarbons			
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2
Acenaphthene	0.5	mg/kg	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5
Anthracene	0.5	mg/kg	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5
Benzo(b&j)fluoranthene ^{N07}	0.5	mg/kg	< 0.5
Benzo(g,h,i)perylene	0.5	mg/kg	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5
Chrysene	0.5	mg/kg	< 0.5
Dibenz(a,h)anthracene	0.5	mg/kg	< 0.5

Client Sample ID			QC02
Sample Matrix			Soil
Eurofins Sample No.			S21-Ma20968
Date Sampled			Mar 08, 2021
Test/Reference	LOR	Unit	
Polycyclic Aromatic Hydrocarbons			
Fluoranthene	0.5	mg/kg	< 0.5
Fluorene	0.5	mg/kg	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5
Naphthalene	0.5	mg/kg	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5
Pyrene	0.5	mg/kg	< 0.5
Total PAH*	0.5	mg/kg	< 0.5
2-Fluorobiphenyl (surr.)	1	%	80
p-Terphenyl-d14 (surr.)	1	%	136
Organochlorine Pesticides			
Chlordanes - Total	0.1	mg/kg	< 0.1
4.4'-DDD	0.05	mg/kg	< 0.05
4.4'-DDE	0.05	mg/kg	< 0.05
4.4'-DDT	0.05	mg/kg	< 0.05
a-BHC	0.05	mg/kg	< 0.05
Aldrin	0.05	mg/kg	< 0.05
b-BHC	0.05	mg/kg	< 0.05
d-BHC	0.05	mg/kg	< 0.05
Dieldrin	0.05	mg/kg	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05
Endrin	0.05	mg/kg	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05
g-BHC (Lindane)	0.05	mg/kg	< 0.05
Heptachlor	0.05	mg/kg	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05
Methoxychlor	0.2	mg/kg	< 0.2
Toxaphene	0.1	mg/kg	< 0.1
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.2
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.2
Dibutylchloroendate (surr.)	1	%	INT
Tetrachloro-m-xylene (surr.)	1	%	INT
Organophosphorus Pesticides			
Azinphos-methyl	0.2	mg/kg	< 0.2
Bolstar	0.2	mg/kg	< 0.2
Chlorfenvinphos	0.2	mg/kg	< 0.2
Chlorpyrifos	0.2	mg/kg	< 0.2
Chlorpyrifos-methyl	0.2	mg/kg	< 0.2
Coumaphos	2	mg/kg	< 2
Demeton-S	0.2	mg/kg	< 0.2
Demeton-O	0.2	mg/kg	< 0.2
Diazinon	0.2	mg/kg	< 0.2
Dichlorvos	0.2	mg/kg	< 0.2
Dimethoate	0.2	mg/kg	< 0.2

Client Sample ID			QC02
Sample Matrix			Soil
Eurofins Sample No.			S21-Ma20968
Date Sampled			Mar 08, 2021
Test/Reference	LOR	Unit	
Organophosphorus Pesticides			
Disulfoton	0.2	mg/kg	< 0.2
EPN	0.2	mg/kg	< 0.2
Ethion	0.2	mg/kg	< 0.2
Ethoprop	0.2	mg/kg	< 0.2
Ethyl parathion	0.2	mg/kg	< 0.2
Fenitrothion	0.2	mg/kg	< 0.2
Fensulfothion	0.2	mg/kg	< 0.2
Fenthion	0.2	mg/kg	< 0.2
Malathion	0.2	mg/kg	< 0.2
Merphos	0.2	mg/kg	< 0.2
Methyl parathion	0.2	mg/kg	< 0.2
Mevinphos	0.2	mg/kg	< 0.2
Monocrotophos	2	mg/kg	< 2
Naled	0.2	mg/kg	< 0.2
Omethoate	2	mg/kg	< 2
Phorate	0.2	mg/kg	< 0.2
Pirimiphos-methyl	0.2	mg/kg	< 0.2
Pyrazophos	0.2	mg/kg	< 0.2
Ronnel	0.2	mg/kg	< 0.2
Terbufos	0.2	mg/kg	< 0.2
Tetrachlorvinphos	0.2	mg/kg	< 0.2
Tokuthion	0.2	mg/kg	< 0.2
Trichloronate	0.2	mg/kg	< 0.2
Triphenylphosphate (surr.)	1	%	INT
Polychlorinated Biphenyls			
Aroclor-1016	0.5	mg/kg	< 0.5
Aroclor-1221	0.1	mg/kg	< 0.1
Aroclor-1232	0.5	mg/kg	< 0.5
Aroclor-1242	0.5	mg/kg	< 0.5
Aroclor-1248	0.5	mg/kg	< 0.5
Aroclor-1254	0.5	mg/kg	< 0.5
Aroclor-1260	0.5	mg/kg	< 0.5
Total PCB*	0.5	mg/kg	< 0.5
Dibutylchloroendate (surr.)	1	%	INT
Tetrachloro-m-xylene (surr.)	1	%	INT
Heavy Metals			
Arsenic	2	mg/kg	10
Cadmium	0.4	mg/kg	< 0.4
Chromium	5	mg/kg	21
Copper	5	mg/kg	10
Lead	5	mg/kg	20
Mercury	0.1	mg/kg	< 0.1
Nickel	5	mg/kg	< 5
Zinc	5	mg/kg	25
% Moisture			
	1	%	20

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	Sydney	Mar 12, 2021	14 Days
BTEX - Method: LTM-ORG-2010 TRH C6-C40	Sydney	Mar 12, 2021	14 Days
Total Recoverable Hydrocarbons - 2013 NEPM Fractions - Method: LTM-ORG-2010 TRH C6-C40	Sydney	Mar 12, 2021	14 Days
Total Recoverable Hydrocarbons - 2013 NEPM Fractions - Method: LTM-ORG-2010 TRH C6-C40	Sydney	Mar 12, 2021	14 Days
Polycyclic Aromatic Hydrocarbons - Method: LTM-ORG-2130 PAH and Phenols in Soil and Water	Sydney	Mar 12, 2021	14 Days
Metals M8 - Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS	Sydney	Mar 12, 2021	180 Days
Eurofins Suite B15			
Organochlorine Pesticides - Method: LTM-ORG-2220 OCP & PCB in Soil and Water	Sydney	Mar 12, 2021	14 Days
Organophosphorus Pesticides - Method: LTM-ORG-2200 Organophosphorus Pesticides by GC-MS	Sydney	Mar 12, 2021	14 Days
Polychlorinated Biphenyls - Method: LTM-ORG-2220 OCP & PCB in Soil and Water	Sydney	Mar 12, 2021	28 Days
% Moisture - Method: LTM-GEN-7080 Moisture	Sydney	Mar 10, 2021	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

Newcastle
 4/52 Industrial Drive
 Mayfield East NSW 2304
 PO Box 60 Wickham 2293
 Phone : +61 2 4968 8448

New Zealand

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

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

Company Name:	EP Risk Management (NSW)	Order No.:	EP1995	Received:	Mar 10, 2021 4:14 PM
Address:	109/283 Alfred Street North Sydney NSW 2060	Report #:	779529	Due:	Mar 17, 2021
Project Name:	CHRISHOLM CRS DUE DELIGENCE	Phone:	02 99225021	Priority:	5 Day
		Fax:		Contact Name:	Luke Kerry

Eurofins Analytical Services Manager : Elvis Dsouza

Sample Detail						Eurofins Suite B15	Moisture Set	Eurofins Suite B7
Melbourne Laboratory - NATA Site # 1254 & 14271								
Sydney Laboratory - NATA Site # 18217						X	X	X
Brisbane Laboratory - NATA Site # 20794								
Perth Laboratory - NATA Site # 23736								
Mayfield Laboratory								
External Laboratory								
No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID			
1	QC02	Mar 08, 2021		Soil	S21-Ma20968	X	X	X
Test Counts						1	1	1

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/kg	< 20			20	Pass	
TRH C10-C14	mg/kg	< 20			20	Pass	
TRH C15-C28	mg/kg	< 50			50	Pass	
TRH C29-C36	mg/kg	< 50			50	Pass	
Method Blank							
BTEX							
Benzene	mg/kg	< 0.1			0.1	Pass	
Toluene	mg/kg	< 0.1			0.1	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Xylenes - Total*	mg/kg	< 0.3			0.3	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/kg	< 0.5			0.5	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
TRH >C10-C16	mg/kg	< 50			50	Pass	
TRH >C16-C34	mg/kg	< 100			100	Pass	
TRH >C34-C40	mg/kg	< 100			100	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/kg	< 0.5			0.5	Pass	
Acenaphthylene	mg/kg	< 0.5			0.5	Pass	
Anthracene	mg/kg	< 0.5			0.5	Pass	
Benz(a)anthracene	mg/kg	< 0.5			0.5	Pass	
Benzo(a)pyrene	mg/kg	< 0.5			0.5	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Benzo(g,h,i)perylene	mg/kg	< 0.5			0.5	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Chrysene	mg/kg	< 0.5			0.5	Pass	
Dibenz(a,h)anthracene	mg/kg	< 0.5			0.5	Pass	
Fluoranthene	mg/kg	< 0.5			0.5	Pass	
Fluorene	mg/kg	< 0.5			0.5	Pass	
Indeno(1,2,3-cd)pyrene	mg/kg	< 0.5			0.5	Pass	
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Phenanthrene	mg/kg	< 0.5			0.5	Pass	
Pyrene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Organochlorine Pesticides							
Chlordanes - Total	mg/kg	< 0.1			0.1	Pass	
4,4'-DDD	mg/kg	< 0.05			0.05	Pass	
4,4'-DDE	mg/kg	< 0.05			0.05	Pass	
4,4'-DDT	mg/kg	< 0.05			0.05	Pass	
a-BHC	mg/kg	< 0.05			0.05	Pass	
Aldrin	mg/kg	< 0.05			0.05	Pass	
b-BHC	mg/kg	< 0.05			0.05	Pass	
d-BHC	mg/kg	< 0.05			0.05	Pass	
Dieldrin	mg/kg	< 0.05			0.05	Pass	
Endosulfan I	mg/kg	< 0.05			0.05	Pass	
Endosulfan II	mg/kg	< 0.05			0.05	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Endosulfan sulphate	mg/kg	< 0.05			0.05	Pass	
Endrin	mg/kg	< 0.05			0.05	Pass	
Endrin aldehyde	mg/kg	< 0.05			0.05	Pass	
Endrin ketone	mg/kg	< 0.05			0.05	Pass	
g-BHC (Lindane)	mg/kg	< 0.05			0.05	Pass	
Heptachlor	mg/kg	< 0.05			0.05	Pass	
Heptachlor epoxide	mg/kg	< 0.05			0.05	Pass	
Hexachlorobenzene	mg/kg	< 0.05			0.05	Pass	
Methoxychlor	mg/kg	< 0.2			0.2	Pass	
Toxaphene	mg/kg	< 0.1			0.1	Pass	
Method Blank							
Organophosphorus Pesticides							
Azinphos-methyl	mg/kg	< 0.2			0.2	Pass	
Bolstar	mg/kg	< 0.2			0.2	Pass	
Chlorfenvinphos	mg/kg	< 0.2			0.2	Pass	
Chlorpyrifos	mg/kg	< 0.2			0.2	Pass	
Chlorpyrifos-methyl	mg/kg	< 0.2			0.2	Pass	
Coumaphos	mg/kg	< 2			2	Pass	
Demeton-S	mg/kg	< 0.2			0.2	Pass	
Demeton-O	mg/kg	< 0.2			0.2	Pass	
Diazinon	mg/kg	< 0.2			0.2	Pass	
Dichlorvos	mg/kg	< 0.2			0.2	Pass	
Dimethoate	mg/kg	< 0.2			0.2	Pass	
Disulfoton	mg/kg	< 0.2			0.2	Pass	
EPN	mg/kg	< 0.2			0.2	Pass	
Ethion	mg/kg	< 0.2			0.2	Pass	
Ethoprop	mg/kg	< 0.2			0.2	Pass	
Ethyl parathion	mg/kg	< 0.2			0.2	Pass	
Fenitrothion	mg/kg	< 0.2			0.2	Pass	
Fensulfothion	mg/kg	< 0.2			0.2	Pass	
Fenthion	mg/kg	< 0.2			0.2	Pass	
Malathion	mg/kg	< 0.2			0.2	Pass	
Merphos	mg/kg	< 0.2			0.2	Pass	
Methyl parathion	mg/kg	< 0.2			0.2	Pass	
Mevinphos	mg/kg	< 0.2			0.2	Pass	
Monocrotophos	mg/kg	< 2			2	Pass	
Naled	mg/kg	< 0.2			0.2	Pass	
Omethoate	mg/kg	< 2			2	Pass	
Phorate	mg/kg	< 0.2			0.2	Pass	
Pirimiphos-methyl	mg/kg	< 0.2			0.2	Pass	
Pyrazophos	mg/kg	< 0.2			0.2	Pass	
Ronnel	mg/kg	< 0.2			0.2	Pass	
Terbufos	mg/kg	< 0.2			0.2	Pass	
Tetrachlorvinphos	mg/kg	< 0.2			0.2	Pass	
Tokuthion	mg/kg	< 0.2			0.2	Pass	
Trichloronate	mg/kg	< 0.2			0.2	Pass	
Method Blank							
Polychlorinated Biphenyls							
Aroclor-1016	mg/kg	< 0.5			0.5	Pass	
Aroclor-1221	mg/kg	< 0.1			0.1	Pass	
Aroclor-1232	mg/kg	< 0.5			0.5	Pass	
Aroclor-1242	mg/kg	< 0.5			0.5	Pass	
Aroclor-1248	mg/kg	< 0.5			0.5	Pass	
Aroclor-1254	mg/kg	< 0.5			0.5	Pass	

Test	Units	Result 1		Acceptance Limits	Pass Limits	Qualifying Code
Aroclor-1260	mg/kg	< 0.5		0.5	Pass	
Total PCB*	mg/kg	< 0.5		0.5	Pass	
Method Blank						
Heavy Metals						
Arsenic	mg/kg	< 2		2	Pass	
Cadmium	mg/kg	< 0.4		0.4	Pass	
Chromium	mg/kg	< 5		5	Pass	
Copper	mg/kg	< 5		5	Pass	
Lead	mg/kg	< 5		5	Pass	
Mercury	mg/kg	< 0.1		0.1	Pass	
Nickel	mg/kg	< 5		5	Pass	
Zinc	mg/kg	< 5		5	Pass	
LCS - % Recovery						
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	%	116		70-130	Pass	
TRH C10-C14	%	83		70-130	Pass	
LCS - % Recovery						
BTEX						
Benzene	%	102		70-130	Pass	
Toluene	%	106		70-130	Pass	
Ethylbenzene	%	109		70-130	Pass	
m&p-Xylenes	%	113		70-130	Pass	
o-Xylene	%	115		70-130	Pass	
Xylenes - Total*	%	114		70-130	Pass	
LCS - % Recovery						
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene	%	119		70-130	Pass	
TRH C6-C10	%	114		70-130	Pass	
TRH >C10-C16	%	78		70-130	Pass	
LCS - % Recovery						
Polycyclic Aromatic Hydrocarbons						
Acenaphthene	%	78		70-130	Pass	
Acenaphthylene	%	72		70-130	Pass	
Anthracene	%	98		70-130	Pass	
Benz(a)anthracene	%	93		70-130	Pass	
Benzo(a)pyrene	%	79		70-130	Pass	
Benzo(b&j)fluoranthene	%	84		70-130	Pass	
Benzo(g,h,i)perylene	%	76		70-130	Pass	
Benzo(k)fluoranthene	%	71		70-130	Pass	
Chrysene	%	82		70-130	Pass	
Dibenz(a,h)anthracene	%	86		70-130	Pass	
Fluoranthene	%	127		70-130	Pass	
Fluorene	%	86		70-130	Pass	
Indeno(1,2,3-cd)pyrene	%	85		70-130	Pass	
Naphthalene	%	95		70-130	Pass	
Phenanthrene	%	95		70-130	Pass	
Pyrene	%	102		70-130	Pass	
LCS - % Recovery						
Organochlorine Pesticides						
Chlordanes - Total	%	128		70-130	Pass	
4,4'-DDD	%	126		70-130	Pass	
4,4'-DDE	%	129		70-130	Pass	
4,4'-DDT	%	125		70-130	Pass	
a-BHC	%	112		70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code	
Aldrin	%	110			70-130	Pass		
b-BHC	%	100			70-130	Pass		
d-BHC	%	95			70-130	Pass		
Dieldrin	%	126			70-130	Pass		
Endosulfan I	%	115			70-130	Pass		
Endosulfan II	%	109			70-130	Pass		
Endosulfan sulphate	%	129			70-130	Pass		
Endrin	%	113			70-130	Pass		
Endrin aldehyde	%	106			70-130	Pass		
Endrin ketone	%	123			70-130	Pass		
g-BHC (Lindane)	%	100			70-130	Pass		
Heptachlor	%	122			70-130	Pass		
Heptachlor epoxide	%	88			70-130	Pass		
Hexachlorobenzene	%	109			70-130	Pass		
Methoxychlor	%	118			70-130	Pass		
LCS - % Recovery								
Organophosphorus Pesticides								
Diazinon	%	102			70-130	Pass		
Dimethoate	%	82			70-130	Pass		
Ethion	%	82			70-130	Pass		
Mevinphos	%	127			70-130	Pass		
LCS - % Recovery								
Polychlorinated Biphenyls								
Aroclor-1016	%	118			70-130	Pass		
Aroclor-1260	%	119			70-130	Pass		
LCS - % Recovery								
Heavy Metals								
Arsenic	%	106			80-120	Pass		
Cadmium	%	102			80-120	Pass		
Chromium	%	99			80-120	Pass		
Copper	%	98			80-120	Pass		
Lead	%	96			80-120	Pass		
Mercury	%	98			80-120	Pass		
Nickel	%	100			80-120	Pass		
Zinc	%	97			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	S21-Ma24645	NCP	%	77		70-130	Pass	
TRH C10-C14	S21-Ma24381	NCP	%	100		70-130	Pass	
Spike - % Recovery								
BTEX				Result 1				
Benzene	S21-Ma22768	NCP	%	82		70-130	Pass	
Toluene	S21-Ma22768	NCP	%	76		70-130	Pass	
Ethylbenzene	S21-Ma22768	NCP	%	83		70-130	Pass	
m&p-Xylenes	S21-Ma22768	NCP	%	85		70-130	Pass	
o-Xylene	S21-Ma22768	NCP	%	89		70-130	Pass	
Xylenes - Total*	S21-Ma22768	NCP	%	86		70-130	Pass	
Spike - % Recovery								
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1				
Naphthalene	S21-Ma22768	NCP	%	109		70-130	Pass	
TRH C6-C10	S21-Ma24645	NCP	%	75		70-130	Pass	
TRH >C10-C16	S21-Ma24381	NCP	%	99		70-130	Pass	
Spike - % Recovery								

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthylene	S21-Ma24374	NCP	%	128			70-130	Pass	
Anthracene	S21-Ma24374	NCP	%	123			70-130	Pass	
Benzo(k)fluoranthene	S21-Ma24374	NCP	%	126			70-130	Pass	
Spike - % Recovery									
Organochlorine Pesticides				Result 1					
Chlordanes - Total	S21-Ma24374	NCP	%	120			70-130	Pass	
4,4'-DDT	S21-Ma24374	NCP	%	128			70-130	Pass	
a-BHC	S21-Ma24374	NCP	%	114			70-130	Pass	
Aldrin	S21-Ma24374	NCP	%	114			70-130	Pass	
b-BHC	S21-Ma24374	NCP	%	102			70-130	Pass	
d-BHC	S21-Ma24374	NCP	%	105			70-130	Pass	
Dieldrin	S21-Ma24374	NCP	%	126			70-130	Pass	
Endosulfan I	S21-Ma24374	NCP	%	118			70-130	Pass	
Endosulfan II	S21-Ma24374	NCP	%	119			70-130	Pass	
Endosulfan sulphate	S21-Ma24374	NCP	%	130			70-130	Pass	
Endrin aldehyde	S21-Ma24374	NCP	%	130			70-130	Pass	
Endrin ketone	S21-Ma24374	NCP	%	122			70-130	Pass	
g-BHC (Lindane)	S21-Ma24374	NCP	%	96			70-130	Pass	
Methoxychlor	S21-Ma24374	NCP	%	87			70-130	Pass	
Spike - % Recovery									
Organophosphorus Pesticides				Result 1					
Diazinon	S21-Ma24374	NCP	%	118			70-130	Pass	
Dimethoate	S21-Ma24374	NCP	%	74			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	S21-Ma20357	NCP	%	111			75-125	Pass	
Cadmium	S21-Ma20357	NCP	%	100			75-125	Pass	
Chromium	S21-Ma20357	NCP	%	104			75-125	Pass	
Copper	S21-Ma20357	NCP	%	103			75-125	Pass	
Lead	S21-Ma20357	NCP	%	107			75-125	Pass	
Mercury	S21-Ma20357	NCP	%	98			75-125	Pass	
Nickel	S21-Ma20357	NCP	%	92			75-125	Pass	
Zinc	S21-Ma20357	NCP	%	105			75-125	Pass	
Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C6-C9	S21-Ma20744	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C10-C14	S21-Ma24605	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	S21-Ma24605	NCP	mg/kg	63	< 50	79	30%	Fail	Q15
TRH C29-C36	S21-Ma24605	NCP	mg/kg	68	< 50	69	30%	Fail	Q15
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	S21-Ma20744	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	S21-Ma20744	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	S21-Ma20744	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	S21-Ma20744	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	S21-Ma20744	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	S21-Ma20744	NCP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	

Duplicate								
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD		
Naphthalene	S21-Ma20744	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
TRH C6-C10	S21-Ma20744	NCP	mg/kg	< 20	< 20	<1	30%	Pass
TRH >C10-C16	S21-Ma24605	NCP	mg/kg	< 50	< 50	<1	30%	Pass
TRH >C16-C34	S21-Ma24605	NCP	mg/kg	110	< 100	74	30%	Fail Q15
TRH >C34-C40	S21-Ma24605	NCP	mg/kg	< 100	< 100	<1	30%	Pass
Duplicate								
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD		
Acenaphthene	S21-Ma24373	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Acenaphthylene	S21-Ma24373	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Anthracene	S21-Ma24373	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Benz(a)anthracene	S21-Ma24373	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Benzo(a)pyrene	S21-Ma24373	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Benzo(b&j)fluoranthene	S21-Ma24373	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Benzo(g,h,i)perylene	S21-Ma24373	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Benzo(k)fluoranthene	S21-Ma24373	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Chrysene	S21-Ma24373	NCP	mg/kg	< 1	< 1	<1	30%	Pass
Dibenz(a,h)anthracene	S21-Ma24373	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Fluoranthene	S21-Ma24373	NCP	mg/kg	< 1	< 1	<1	30%	Pass
Fluorene	S21-Ma24373	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Indeno(1,2,3-cd)pyrene	S21-Ma24373	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Naphthalene	S21-Ma24373	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Phenanthrene	S21-Ma24373	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Pyrene	S21-Ma24373	NCP	mg/kg	< 1	< 1	<1	30%	Pass
Duplicate								
Organochlorine Pesticides				Result 1	Result 2	RPD		
Chlordanes - Total	S21-Ma24373	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
4,4'-DDD	S21-Ma24373	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
4,4'-DDE	S21-Ma24373	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
4,4'-DDT	S21-Ma24373	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
a-BHC	S21-Ma24373	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Aldrin	S21-Ma24373	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
b-BHC	S21-Ma24373	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
d-BHC	S21-Ma24373	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Dieldrin	S21-Ma24373	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endosulfan I	S21-Ma24373	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endosulfan II	S21-Ma24373	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endosulfan sulphate	S21-Ma24373	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endrin	S21-Ma24373	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endrin aldehyde	S21-Ma24373	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endrin ketone	S21-Ma24373	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
g-BHC (Lindane)	S21-Ma24373	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Heptachlor	S21-Ma24373	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Heptachlor epoxide	S21-Ma24373	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Hexachlorobenzene	S21-Ma24373	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Methoxychlor	S21-Ma24373	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Duplicate								
Organophosphorus Pesticides				Result 1	Result 2	RPD		
Azinphos-methyl	S21-Ma24373	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Bolstar	S21-Ma24373	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Chlorfenvinphos	S21-Ma24373	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Chlorpyrifos	S21-Ma24373	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Chlorpyrifos-methyl	S21-Ma24373	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Coumaphos	S21-Ma24373	NCP	mg/kg	< 2	< 2	<1	30%	Pass
Demeton-S	S21-Ma24373	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass

Duplicate									
Organophosphorus Pesticides				Result 1	Result 2	RPD			
Demeton-O	S21-Ma24373	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Diazinon	S21-Ma24373	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Dichlorvos	S21-Ma24373	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Dimethoate	S21-Ma24373	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Disulfoton	S21-Ma24373	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
EPN	S21-Ma24373	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Ethion	S21-Ma24373	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Ethoprop	S21-Ma24373	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Ethyl parathion	S21-Ma24373	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Fenitrothion	S21-Ma24373	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Fensulfothion	S21-Ma24373	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Fenthion	S21-Ma24373	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Malathion	S21-Ma24373	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Merphos	S21-Ma24373	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Methyl parathion	S21-Ma24373	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Mevinphos	S21-Ma24373	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Monocrotophos	S21-Ma24373	NCP	mg/kg	< 2	< 2	<1	30%	Pass	
Naled	S21-Ma24373	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Omethoate	S21-Ma24373	NCP	mg/kg	< 2	< 2	<1	30%	Pass	
Phorate	S21-Ma24373	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Pirimiphos-methyl	S21-Ma24373	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Pyrazophos	S21-Ma24373	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Ronnel	S21-Ma24373	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Terbufos	S21-Ma24373	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Tetrachlorvinphos	S21-Ma24373	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Tokuthion	S21-Ma24373	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Trichloronate	S21-Ma24373	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	S21-Ma19177	NCP	mg/kg	2.6	3.8	36	30%	Fail	Q15
Cadmium	S21-Ma19177	NCP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	S21-Ma19177	NCP	mg/kg	9.5	13	28	30%	Pass	
Copper	S21-Ma19177	NCP	mg/kg	80	72	11	30%	Pass	
Lead	S21-Ma19177	NCP	mg/kg	12	14	12	30%	Pass	
Mercury	S21-Ma19177	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Nickel	S21-Ma19177	NCP	mg/kg	5.2	< 5	5.0	30%	Pass	
Zinc	S21-Ma19177	NCP	mg/kg	35	36	2.0	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
% Moisture	S21-Ma20968	CP	%	20	18	12	30%	Pass	

Comments
Sample Integrity

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

Qualifier Codes/Comments

Code	Description
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.
N07	Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs
Q15	The RPD reported passes Eurofins Environment Testing's QC - Acceptance Criteria as defined in the Internal Quality Control Review and Glossary page of this report.

Authorised by:

Elvis Dsouza	Analytical Services Manager
Andrew Sullivan	Senior Analyst-Organic (NSW)
John Nguyen	Senior Analyst-Metal (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](#).


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.



CHAIN OF CUSTODY

ALS Laboratory: please tick →

787617

CLIENT:		EP RISK MANAGEMENT PTY LTD		TURNAROUND REQUIREMENTS:		FOR LABORATORY USE ONLY (Circle)	
OFFICE:		NEWCASTLE		Standard TAT may be longer for some tests (e.g. Ultra Trace Organics)		Custody Seal Intact? Yes No	
PROJECT:		EP1995		Non Standard or urgent TAT (List due date):		Free Ice / frozen ice bricks present upon receipt? Yes No	
ORDER NUMBER:		N/A		ALS QUOTE NO.: SY496/20 V2		Random Sample Temperature on Receipt: Yes No	
PROJECT MANAGER:		Luke Kerry		CONTACT PH: 0432 266 617		Other comment:	
SAMPLER:		Gilles Renda		SAMPLER MOBILE: 0420 234 123		RECEIVED BY: <i>Ganda</i>	
COC emailed to ALS? (YES / NO)		NO		EDD FORMAT (or default):		DATE/TIME: <i>140421</i>	
Email Reports to (will default to PM if no other addresses are listed):		gilles.renda@eprisk.com.au		RELINQUISHED BY:		DATE/TIME: <i>140421</i>	
Email Invoice to (will default to PM if no other addresses are listed):		accounts@eprisk.com.au		DATE/TIME: <i>15/12/21</i>		DATE/TIME: <i>140421</i>	
COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL: Also email luke.kerry@eprisk.com.au							
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL BOTTLES	ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) <small>Where Metals are required, specify Total (unfiltered/bottle required) or Discharge (field filtered/bottle required).</small>	Additional Information
1	TP53_ASB	12/04/2021	S	Asbestos Bag	1		<p><i>Enviro Res</i></p> <p><i>0408 0616 0022 0024</i></p> <p><i>0426 0022 0024</i></p> <p><i>Need to check, Brisbane 6 Nov 2021</i></p> <p>UPDATED COC</p> <p>ES2113633</p> <p>Environmental Division Sydney Work Order Reference ES2113633</p>  <p>Telephone - 81-2-8784 8554</p>
2	TP56_ASB	12/04/2021	S	Asbestos Bag	1		
3	TP64_ASB	12/04/2021	S	Asbestos Bag	1		
4	TP36_ASB	12/04/2021	S	Asbestos Bag	1		
5	TP161_ASB	12/04/2021	S	Asbestos Bag	1		
6	TP165_ASB	12/04/2021	S	Asbestos Bag	1		
7	TP146_ACM	12/04/2021	S	Asbestos Bag	1		
8	TP132_ACM	12/04/2021	S	Asbestos Bag	1		
9	TP85_ACM	12/04/2021	S	Asbestos Bag	1		
10	TP29_ACM	12/04/2021	S	Asbestos Bag	1		
11	TP140_ACM	12/04/2021	S	Asbestos Bag	1		
12	TP142_ACM	12/04/2021	S	Asbestos Bag	1		
13	TP129_ACM	12/04/2021	S	Asbestos Bag	1		
TOTAL					13		

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/CCl Preserved; S = Sodium Hydroxide Preserved Plastic; AC = Amber Glass Unpreserved; AP = Airflight Unpreserved Plastic
 V = VOA Vial Preserved; VB = VOA Vial Sodium Bisulfate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airflight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl Preserved Speciation Bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
 Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

CHAIN OF CUSTODY

ALS Laboratory: please tick →



CLIENT: EP RISK MANAGEMENT PTY LTD NEWCASTLE EP1995 N/A PROJECT MANAGER: Luke Kerry CONTACT PH: 0432 266 617 SAMPLER MOBILE: 0420 234 123 EDD FORMAT (or default):		TURNAROUND REQUIREMENTS: <input checked="" type="checkbox"/> Standard TAT (List due date): <input type="checkbox"/> Non Standard or urgent TAT (List due date): ALS QUOTE NO.: SY/496/20 V2		FOR LABORATORY USE ONLY (Circle) Caddy Seal Intact? Yes No Free ice / frozen ice bricks present upon receipt? Yes No Random Sample Temperature on Receipt °C Other comment:	
ORDER NUMBER: N/A PROJECT MANAGER: Luke Kerry CONTACT PH: 0432 266 617 SAMPLER MOBILE: 0420 234 123 EDD FORMAT (or default):		COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 7 OF: 1 2 3 4 5 6 7		RECEIVED BY: DATE/TIME:	
SAMPLER: Gilles Renda COC emailed to ALS? (YES / NO) Email Reports to (will default to PM if no other addresses are listed): gilles.renda@eprisk.com.au Email Invoice to (will default to PM if no other addresses are listed): accounts@eprisk.com.au		RECEIVED BY: GAV DATE/TIME: 15/11/21 3:30PM		RECEIVED BY: DATE/TIME:	

ALS USE ONLY	SAMPLE DETAILS MATRIX: Solid(S) Water(W)	CONTAINER INFORMATION	ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) <small>Where Metals are required, specify Total (unfiltered both required) or Dissolved (field filtered bottle required).</small>	Additional Information				
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE <small>(refer to codes below)</small>	TOTAL BOTTLES	ANALYSIS REQUIRED	Additional Information	
14	ASS_TP49	12/04/2021	S	ASS	1	pH & pH fox EAO37		
15	ASS_TP50	12/04/2021	S	ASS	1	Chromium reducible sulfur EAO23		
16	ASS_TP51	12/04/2021	S	ASS	1			
17	ASS_TP52	12/04/2021	S	ASS	1			
18	ASS_TP53	12/04/2021	S	ASS	1			
19	ASS_TP54	12/04/2021	S	ASS	1			
20	ASS_TP55	12/04/2021	S	ASS	1			
21	ASS_TP56	12/04/2021	S	ASS	1			
22	ASS_TP57	12/04/2021	S	ASS	1			
23	ASS_TP58	12/04/2021	S	ASS	1			
					TOTAL	10	3	

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; CR = Nitric Preserved CR; SH = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic
 V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
 Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bottle; for Acid Sulphate Solids; B = Unpreserved Bar

CHAIN OF CUSTODY

ALS Laboratory: please tick →

ALS
LABORATORY

CLIENT: EP RISK MANAGEMENT PTY LTD
OFFICE: NEWCASTLE
PROJECT: EP1995
ORDER NUMBER: N/A
PROJECT MANAGER: Luke Kerry
SAMPLER: Gilles Renda
COC emailed to ALS? (YES / NO)
Email Reports to (will default to PM if no other addresses are listed): gilles.renda@eprisk.com.au
Email Invoice to (will default to PM if no other addresses are listed): accounts@eprisk.com.au

TURNAROUND REQUIREMENTS: Standard TAT (List due date): Non Standard or urgent TAT (List due date):
 (Standard TAT may be longer for some lists e.g. Ultra Trace Organics)
ALS QUOTE NO.: SY496/20 V2

FOR LABORATORY USE ONLY (Circle)
 Custody Seal Intact? Yes No
 Free ice / frozen ice bricks present upon receipt? Yes No
 Random Sample Temperature on Receipt: °C
 Other comment:

RECEIVED BY: GFM
RELINQUISHED BY:
 DATE/TIME: 15/11/21 3:30PM

RECEIVED BY:
 DATE/TIME:

RELINQUISHED BY:
 DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL: Also email luke.kerry@eprisk.com.au

ALS USE ONLY		SAMPLE DETAILS MATRIX: Solid(S) Water(W)		CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required)							Additional Information		
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL BOTTLES	Heavy metals, TRH, BTEXN, PAH, PCBs, OCP, OPP	TRH, BTEXN, PAH, Heavy Metals, OCP, OPP	Chromium Reducible Sulfur	pH & pH fox						
24	QC07	12/04/2021	S	Soil Jar	1	1									
25	QC08	12/04/2021	S	Soil Jar	1	1									
26	QC15	12/04/2021	S	Soil Jar	1	1									
27	QC16	12/04/2021	S	Soil Jar	1	1									
28	QC17	12/04/2021	S	Asbestos Bag	1	1									
29	QC18	12/04/2021	S	Asbestos Bag	1	1									
30	QC19	12/04/2021	S	Asbestos Bag	1	1									
31	QC20	12/04/2021	S	Asbestos Bag	1	1									
	QC21	12/04/2021	S	Asbestos Bag	1	1									
	QC22	12/04/2021	S	Asbestos Bag	1	1									
	QC23	12/04/2021	S	Asbestos Bag	1	1									
	QC24	12/04/2021	S	Asbestos Bag	1	1									
	Rinaste05	12/04/2021	Water	Bottles	4	1									
	QC25	12/04/2021	S	ASS Bag	1	1									
					TOTAL:	17	12	1	1	1					

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved ORC; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic
 V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulfate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial; SG = Sulfuric Preserved Amber Glass; H = HCl Preserved Plastic; HS = HCl Preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
 Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Solids; B = Unreserved Bag.

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

46-48 Banksia Road
Welshpool WA 6106
Phone : +61 8 9251 9600
NATA # 1261
Site # 23736

Newcastle

4/52 Industrial Drive
Mayfield East NSW 2304
PO Box 60 Wickham 2293
Phone : +61 2 4968 8448

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

Sample Receipt Advice

Company name: EP Risk Management (NSW)
Contact name: Luke Kerry
Project name: Not provided
Project ID: EP1995
Turnaround time: 5 Day
Date/Time received: Apr 15, 2021 3:30 PM
Eurofins reference: 787617

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

Contact

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

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

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

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

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
46-48 Banksia Road
Welshpool WA 6106
Phone : +61 8 9251 9600
NATA # 1261
Site # 23736

Newcastle
4/52 Industrial Drive
Mayfield East NSW 2304
PO Box 60 Wickham 2293
Phone : +61 2 4968 8448

New Zealand

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

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

Company Name:	EP Risk Management (NSW)	Order No.:		Received:	Apr 15, 2021 3:30 PM
Address:	109/283 Alfred Street North Sydney NSW 2060	Report #:	787617	Due:	Apr 22, 2021
Project Name:		Phone:	02 99225021	Priority:	5 Day
Project ID:	EP1995	Fax:		Contact Name:	Luke Kerry
Eurofins Analytical Services Manager : Elvis Dsouza					

Sample Detail						Eurofins Suite B15	Moisture Set	Eurofins Suite B7
Melbourne Laboratory - NATA Site # 1254 & 14271								
Sydney Laboratory - NATA Site # 18217						X	X	X
Brisbane Laboratory - NATA Site # 20794								
Perth Laboratory - NATA Site # 23736								
Mayfield Laboratory								
External Laboratory								
No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID			
1	QC08	Apr 12, 2021		Soil	S21-Ap24316	X	X	X
2	QC16	Apr 12, 2021		Soil	S21-Ap24317	X	X	X
3	QC18	Apr 12, 2021		Soil	S21-Ap24318	X	X	X
4	QC20	Apr 12, 2021		Soil	S21-Ap24319	X	X	X
5	QC22	Apr 12, 2021		Soil	S21-Ap24320	X	X	X
6	QC24	Apr 12, 2021		Soil	S21-Ap24321	X	X	X
Test Counts						6	6	6

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



NATA Accredited
Accreditation Number 1261
Site Number 18217

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

Attention: **Luke Kerry**

Report **787617-S**

Project name

Project ID **EP1995**

Received Date **Apr 15, 2021**

Client Sample ID			QC08	QC16	QC18	QC20
Sample Matrix	LOR	Unit	Soil	Soil	Soil	Soil
Eurofins Sample No.			S21-Ap24316	S21-Ap24317	S21-Ap24318	S21-Ap24319
Date Sampled			Apr 12, 2021	Apr 12, 2021	Apr 12, 2021	Apr 12, 2021
Test/Reference	LOR	Unit				
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	INT	81	INT	90
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene ^{N02}	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1) ^{N04}	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2) ^{N01}	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	< 100	< 100
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	< 50	< 50
TRH C29-C36	50	mg/kg	51	< 50	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	51	< 50	< 50	< 50
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	0.6	0.6	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.2	1.2	1.2
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(b&j)fluoranthene ^{N07}	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(g,h,i)perylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5

Client Sample ID			QC08	QC16	QC18	QC20
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S21-Ap24316	S21-Ap24317	S21-Ap24318	S21-Ap24319
Date Sampled			Apr 12, 2021	Apr 12, 2021	Apr 12, 2021	Apr 12, 2021
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Chrysene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Dibenz(a,h)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Total PAH*	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2-Fluorobiphenyl (surr.)	1	%	113	106	99	102
p-Terphenyl-d14 (surr.)	1	%	96	97	94	101
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
4.4'-DDD	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4.4'-DDE	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4.4'-DDT	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
a-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Aldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
b-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
d-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
g-BHC (Lindane)	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Methoxychlor	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Toxaphene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Dibutylchloroendate (surr.)	1	%	89	100	97	70
Tetrachloro-m-xylene (surr.)	1	%	114	121	112	120
Organophosphorus Pesticides						
Azinphos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Bolstar	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Chlorfenvinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Chlorpyrifos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Chlorpyrifos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Coumaphos	2	mg/kg	< 2	< 2	< 2	< 2
Demeton-S	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Demeton-O	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Diazinon	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2

Client Sample ID			QC08	QC16	QC18	QC20
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S21-Ap24316	S21-Ap24317	S21-Ap24318	S21-Ap24319
Date Sampled			Apr 12, 2021	Apr 12, 2021	Apr 12, 2021	Apr 12, 2021
Test/Reference	LOR	Unit				
Organophosphorus Pesticides						
Dichlorvos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Dimethoate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Disulfoton	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
EPN	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ethion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ethoprop	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ethyl parathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fenitrothion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fensulfothion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fenthion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Malathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Merphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Methyl parathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Mevinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Monocrotophos	2	mg/kg	< 2	< 2	< 2	< 2
Naled	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Omethoate	2	mg/kg	< 2	< 2	< 2	< 2
Phorate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Pirimiphos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Pyrazophos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ronnel	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Terbufos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Tetrachlorvinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Tokuthion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Trichloronate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Triphenylphosphate (surr.)	1	%	121	136	145	121
Polychlorinated Biphenyls						
Aroclor-1016	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Aroclor-1221	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1232	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Aroclor-1242	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Aroclor-1248	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Aroclor-1254	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Aroclor-1260	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Total PCB*	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Dibutylchlorendate (surr.)	1	%	89	100	97	70
Tetrachloro-m-xylene (surr.)	1	%	114	121	112	120
Heavy Metals						
Arsenic	2	mg/kg	21	10	8.3	7.8
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	22	15	13	14
Copper	5	mg/kg	< 5	14	15	13
Lead	5	mg/kg	17	13	20	15
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	< 5	7.4	17	11
Zinc	5	mg/kg	13	42	77	57
% Moisture	1	%	20	19	12	15

Client Sample ID			QC22	QC24
Sample Matrix			Soil	Soil
Eurofins Sample No.			S21-Ap24320	S21-Ap24321
Date Sampled			Apr 12, 2021	Apr 12, 2021
Test/Reference	LOR	Unit		
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	%	78	149
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	390
TRH >C10-C16 less Naphthalene (F2) ^{N01}	50	mg/kg	< 50	390
TRH >C16-C34	100	mg/kg	150	2000
TRH >C34-C40	100	mg/kg	< 100	< 500
TRH >C10-C40 (total)*	100	mg/kg	150	2390
Total Recoverable Hydrocarbons				
TRH C6-C9	20	mg/kg	< 20	< 20
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				
TRH C10-C14	20	mg/kg	< 20	370
TRH C15-C28	50	mg/kg	80	1200
TRH C29-C36	50	mg/kg	96	1100
TRH C10-C36 (Total)	50	mg/kg	176	2670
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	%	103	122
p-Terphenyl-d14 (surr.)	1	%	82	80

Client Sample ID			QC22	QC24
Sample Matrix			Soil	Soil
Eurofins Sample No.			S21-Ap24320	S21-Ap24321
Date Sampled			Apr 12, 2021	Apr 12, 2021
Test/Reference	LOR	Unit		
Organochlorine Pesticides				
Chlordanes - Total	0.1	mg/kg	< 0.1	< 0.1
4.4'-DDD	0.05	mg/kg	< 0.05	< 0.05
4.4'-DDE	0.05	mg/kg	< 0.05	< 0.05
4.4'-DDT	0.05	mg/kg	< 0.05	< 0.05
a-BHC	0.05	mg/kg	< 0.05	< 0.05
Aldrin	0.05	mg/kg	< 0.05	< 0.05
b-BHC	0.05	mg/kg	< 0.05	< 0.05
d-BHC	0.05	mg/kg	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05
Endrin	0.05	mg/kg	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05
g-BHC (Lindane)	0.05	mg/kg	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05
Methoxychlor	0.2	mg/kg	< 0.2	< 0.2
Toxaphene	0.1	mg/kg	< 0.1	< 0.1
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.2	< 0.2
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.2	< 0.2
Dibutylchlorendate (surr.)	1	%	68	INT
Tetrachloro-m-xylene (surr.)	1	%	119	127
Organophosphorus Pesticides				
Azinphos-methyl	0.2	mg/kg	< 0.2	< 0.2
Bolstar	0.2	mg/kg	< 0.2	< 0.2
Chlorfenvinphos	0.2	mg/kg	< 0.2	< 0.2
Chlorpyrifos	0.2	mg/kg	< 0.2	< 0.2
Chlorpyrifos-methyl	0.2	mg/kg	< 0.2	< 0.2
Coumaphos	2	mg/kg	< 2	< 2
Demeton-S	0.2	mg/kg	< 0.2	< 0.2
Demeton-O	0.2	mg/kg	< 0.2	< 0.2
Diazinon	0.2	mg/kg	< 0.2	< 0.2
Dichlorvos	0.2	mg/kg	< 0.2	< 0.2
Dimethoate	0.2	mg/kg	< 0.2	< 0.2
Disulfoton	0.2	mg/kg	< 0.2	< 0.2
EPN	0.2	mg/kg	< 0.2	< 0.2
Ethion	0.2	mg/kg	< 0.2	< 0.2
Ethoprop	0.2	mg/kg	< 0.2	< 0.2
Ethyl parathion	0.2	mg/kg	< 0.2	< 0.2
Fenitrothion	0.2	mg/kg	< 0.2	< 0.2
Fensulfothion	0.2	mg/kg	< 0.2	< 0.2
Fenthion	0.2	mg/kg	< 0.2	< 0.2
Malathion	0.2	mg/kg	< 0.2	< 0.2
Merphos	0.2	mg/kg	< 0.2	< 0.2

Client Sample ID			QC22	QC24
Sample Matrix			Soil	Soil
Eurofins Sample No.			S21-Ap24320	S21-Ap24321
Date Sampled			Apr 12, 2021	Apr 12, 2021
Test/Reference	LOR	Unit		
Organophosphorus Pesticides				
Methyl parathion	0.2	mg/kg	< 0.2	< 0.2
Mevinphos	0.2	mg/kg	< 0.2	< 0.2
Monocrotophos	2	mg/kg	< 2	< 2
Naled	0.2	mg/kg	< 0.2	< 0.2
Omethoate	2	mg/kg	< 2	< 2
Phorate	0.2	mg/kg	< 0.2	< 0.2
Pirimiphos-methyl	0.2	mg/kg	< 0.2	< 0.2
Pyrazophos	0.2	mg/kg	< 0.2	< 0.2
Ronnel	0.2	mg/kg	< 0.2	< 0.2
Terbufos	0.2	mg/kg	< 0.2	< 0.2
Tetrachlorvinphos	0.2	mg/kg	< 0.2	< 0.2
Tokuthion	0.2	mg/kg	< 0.2	< 0.2
Trichloronate	0.2	mg/kg	< 0.2	< 0.2
Triphenylphosphate (surr.)	1	%	131	INT
Polychlorinated Biphenyls				
Aroclor-1016	0.5	mg/kg	< 0.5	< 0.5
Aroclor-1221	0.1	mg/kg	< 0.1	< 0.1
Aroclor-1232	0.5	mg/kg	< 0.5	< 0.5
Aroclor-1242	0.5	mg/kg	< 0.5	< 0.5
Aroclor-1248	0.5	mg/kg	< 0.5	< 0.5
Aroclor-1254	0.5	mg/kg	< 0.5	< 0.5
Aroclor-1260	0.5	mg/kg	< 0.5	< 0.5
Total PCB*	0.5	mg/kg	< 0.5	< 0.5
Dibutylchlorodate (surr.)	1	%	68	INT
Tetrachloro-m-xylene (surr.)	1	%	119	127
Heavy Metals				
Arsenic	2	mg/kg	13	5.6
Cadmium	0.4	mg/kg	< 0.4	< 0.4
Chromium	5	mg/kg	19	5.8
Copper	5	mg/kg	6.0	< 5
Lead	5	mg/kg	17	23
Mercury	0.1	mg/kg	< 0.1	< 0.1
Nickel	5	mg/kg	5.2	< 5
Zinc	5	mg/kg	21	32
% Moisture	1	%	11	32

Sample History

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

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

Description	Testing Site	Extracted	Holding Time
BTEX - Method: LTM-ORG-2010 TRH C6-C40	Sydney	Apr 20, 2021	14 Days
Total Recoverable Hydrocarbons - 2013 NEPM Fractions - Method: LTM-ORG-2010 TRH C6-C40	Sydney	Apr 20, 2021	14 Days
Total Recoverable Hydrocarbons - 2013 NEPM Fractions - Method: LTM-ORG-2010 TRH C6-C40	Sydney	Apr 20, 2021	14 Days
Total Recoverable Hydrocarbons - Method: LTM-ORG-2010 TRH C6-C40	Sydney	Apr 20, 2021	14 Days
Total Recoverable Hydrocarbons - 1999 NEPM Fractions - Method: LTM-ORG-2010 TRH C6-C40	Sydney	Apr 20, 2021	14 Days
Polycyclic Aromatic Hydrocarbons - Method: LTM-ORG-2130 PAH and Phenols in Soil and Water	Sydney	Apr 20, 2021	14 Days
Metals M8 - Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS	Sydney	Apr 20, 2021	180 Days
Eurofins Suite B15			
Organochlorine Pesticides - Method: LTM-ORG-2220 OCP & PCB in Soil and Water	Sydney	Apr 20, 2021	14 Days
Organophosphorus Pesticides - Method: LTM-ORG-2200 Organophosphorus Pesticides by GC-MS	Sydney	Apr 20, 2021	14 Days
Polychlorinated Biphenyls - Method: LTM-ORG-2220 OCP & PCB in Soil and Water	Sydney	Apr 20, 2021	28 Days
% Moisture - Method: LTM-GEN-7080 Moisture	Sydney	Apr 16, 2021	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
46-48 Banksia Road
Welshpool WA 6106
Phone : +61 8 9251 9600
NATA # 1261
Site # 23736

Newcastle
4/52 Industrial Drive
Mayfield East NSW 2304
PO Box 60 Wickham 2293
Phone : +61 2 4968 8448

New Zealand

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

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

Company Name:	EP Risk Management (NSW)	Order No.:		Received:	Apr 15, 2021 3:30 PM
Address:	109/283 Alfred Street North Sydney NSW 2060	Report #:	787617	Due:	Apr 22, 2021
Project Name:		Phone:	02 99225021	Priority:	5 Day
Project ID:	EP1995	Fax:		Contact Name:	Luke Kerry
Eurofins Analytical Services Manager : Elvis Dsouza					

Sample Detail						Eurofins Suite B15	Moisture Set	Eurofins Suite B7
Melbourne Laboratory - NATA Site # 1254 & 14271								
Sydney Laboratory - NATA Site # 18217						X	X	X
Brisbane Laboratory - NATA Site # 20794								
Perth Laboratory - NATA Site # 23736								
Mayfield Laboratory								
External Laboratory								
No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID			
1	QC08	Apr 12, 2021		Soil	S21-Ap24316	X	X	X
2	QC16	Apr 12, 2021		Soil	S21-Ap24317	X	X	X
3	QC18	Apr 12, 2021		Soil	S21-Ap24318	X	X	X
4	QC20	Apr 12, 2021		Soil	S21-Ap24319	X	X	X
5	QC22	Apr 12, 2021		Soil	S21-Ap24320	X	X	X
6	QC24	Apr 12, 2021		Soil	S21-Ap24321	X	X	X
Test Counts						6	6	6

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										
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 C10-C14				mg/kg	< 20			20	Pass	
TRH C15-C28				mg/kg	< 50			50	Pass	
TRH C29-C36				mg/kg	< 50			50	Pass	
LCS - % Recovery										
Total Recoverable Hydrocarbons - 2013 NEPM Fractions										
TRH >C10-C16				%	114			70-130	Pass	
LCS - % Recovery										
Total Recoverable Hydrocarbons - 1999 NEPM Fractions										
TRH C10-C14				%	122			70-130	Pass	
Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code	
Duplicate										
Total Recoverable Hydrocarbons					Result 1	Result 2	RPD			
TRH C6-C9	S21-Ap22185	NCP	mg/kg	< 20	< 20	< 1	30%	Pass		
Duplicate										
Total Recoverable Hydrocarbons - 1999 NEPM Fractions					Result 1	Result 2	RPD			
TRH C10-C14	S21-Ap24348	NCP	mg/kg	< 20	< 20	< 1	30%	Pass		
TRH C15-C28	S21-Ap24348	NCP	mg/kg	< 50	< 50	< 1	30%	Pass		
TRH C29-C36	S21-Ap24348	NCP	mg/kg	< 50	< 50	< 1	30%	Pass		
Duplicate										
Polycyclic Aromatic Hydrocarbons					Result 1	Result 2	RPD			
Acenaphthene	N21-Ap20413	NCP	mg/kg	< 0.5	< 0.5	< 1	30%	Pass		
Acenaphthylene	N21-Ap20413	NCP	mg/kg	< 0.5	< 0.5	< 1	30%	Pass		
Anthracene	N21-Ap20413	NCP	mg/kg	< 0.5	< 0.5	< 1	30%	Pass		
Benz(a)anthracene	N21-Ap20413	NCP	mg/kg	< 0.5	< 0.5	< 1	30%	Pass		
Benzo(a)pyrene	N21-Ap20413	NCP	mg/kg	< 0.5	< 0.5	< 1	30%	Pass		
Benzo(b&j)fluoranthene	N21-Ap20413	NCP	mg/kg	< 0.5	< 0.5	< 1	30%	Pass		
Benzo(g,h,i)perylene	N21-Ap20413	NCP	mg/kg	< 0.5	< 0.5	< 1	30%	Pass		
Benzo(k)fluoranthene	N21-Ap20413	NCP	mg/kg	< 0.5	< 0.5	< 1	30%	Pass		
Chrysene	N21-Ap20413	NCP	mg/kg	< 0.5	< 0.5	< 1	30%	Pass		
Dibenz(a,h)anthracene	N21-Ap20413	NCP	mg/kg	< 0.5	< 0.5	< 1	30%	Pass		
Fluoranthene	N21-Ap20413	NCP	mg/kg	< 0.5	< 0.5	< 1	30%	Pass		
Fluorene	N21-Ap20413	NCP	mg/kg	< 0.5	< 0.5	< 1	30%	Pass		
Indeno(1,2,3-cd)pyrene	N21-Ap20413	NCP	mg/kg	< 0.5	< 0.5	< 1	30%	Pass		
Naphthalene	N21-Ap20413	NCP	mg/kg	< 0.5	< 0.5	< 1	30%	Pass		
Phenanthrene	N21-Ap20413	NCP	mg/kg	< 0.5	< 0.5	< 1	30%	Pass		
Pyrene	N21-Ap20413	NCP	mg/kg	< 0.5	< 0.5	< 1	30%	Pass		
Duplicate										
					Result 1	Result 2	RPD			
% Moisture	S21-Ap24319	CP	%	15	13	18	30%	Pass		

Comments
Sample Integrity

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

Qualifier Codes/Comments

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

Authorised by:

John Nguyen	Analytical Services Manager
Andrew Sullivan	Senior Analyst-Organic (NSW)
John Nguyen	Senior Analyst-Metal (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](#).

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.

CHAIN OF CUSTODY

ALS Laboratory, please tick →

Brisbane
 100 South Brisbane Rd, Brisbane QLD 4000
 Ph: 07 3257 7777
 Fax: 07 3257 7778
 Perth
 100 South Perth Rd, Perth WA 6150
 Ph: 08 9447 9447
 Fax: 08 9447 9448
 Sydney
 100 South Sydney Rd, Sydney NSW 1585
 Ph: 02 9550 9550
 Fax: 02 9550 9551
 Melbourne
 100 South Melbourne Rd, Melbourne VIC 3207
 Ph: 03 9594 9594
 Fax: 03 9594 9595
 Adelaide
 100 South Adelaide Rd, Adelaide SA 5000
 Ph: 08 8363 8363
 Fax: 08 8363 8364
 Darwin
 100 South Darwin Rd, Darwin NT 1100
 Ph: 08 9399 9399
 Fax: 08 9399 9400

Standard TAT (List due date):
 Standard TAT (List due date):
 Non Standard or urgent TAT (List due date):
 SY/499/20 V2

TURNAROUND REQUIREMENTS:
 (Standard TAT may be longer for some tests
 e.g. Ultra Trace Organics)

FOR LABORATORY USE ONLY (Circle)
 Custody Seal Intact? Yes No
 Free ice / frozen ice bricks present upon receipt? Yes No
 Random Sample Temperature on Receipt: °C
 Other comment:

CLIENT: EP RISK MANAGEMENT PTY LTD
OFFICE: NEWCASTLE
PROJECT: EP1995
ORDER NUMBER: N/A
PROJECT MANAGER: Luke Kerry
SAMPLER: Giles Renda
COC emailed to ALS? (YES / NO)
 Email Reports to (will default to PM if no other addresses are listed): gilles.renda@eprisk.com.au
 Email Invoice to (will default to PM if no other addresses are listed): accounts@eprisk.com.au
COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL: Also email luke.kerry@eprisk.com.au

TURNAROUND REQUIREMENTS:
 Standard TAT (List due date):
 Non Standard or urgent TAT (List due date):
 SY/499/20 V2

ALS QUOTE NO.: SY/499/20 V2
CONTACT PH: 0432 266 617
SAMPLER MOBILE: 0420 234 123
EDD FORMAT (or default):
 gilles.renda@eprisk.com.au
 accounts@eprisk.com.au

RECEIVED BY: Helene
DATE/TIME: 14/4/21 9am

RELINQUISHED BY:
DATE/TIME:

LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL BOTTLES	ANALYSIS REQUIRED INCLUDING SUITES (NB. Suite Codes must be listed to attract suite price)						Additional Information			
						TRH, BTEX, PAH (ultra-trace), OCP (ultra-trace), OPP (ultra-trace), PCB, Heavy Metals (low level Hg)	TRH, PAH (trace), OCP (trace), OPP (trace), PCB (trace), Heavy metals	OCP, OPP, Heavy metals	TRH, BTEX, PAH, PCB	TRH (F1), BTEXN	TRH, BTEXN, PAH, Heavy Metals, OCP, OPP		Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.		
17	QC9	6/04/2021	S	Glass Jar	1										
	QC10	6/04/2021	S	Glass Jar	1										
18	QC13	8/04/2021	W	SG, N, A	4	1									Please send to eurofins
	QC14	8/04/2021	W	SG, N, A	4	1									Please send to eurofins
19	QC11	8/04/2021	Sad	Glass Jar	1										
	QC12	8/04/2021	Sad	Glass Jar	1										
20	TB_S	31/03/2021	S	Glass Jar	1										
21	TS_S	31/03/2021	S	Glass Jar	1										
22	TB_W	31/03/2021	W	Glass Jar	1										
23	TS_W	31/03/2021	W	Glass Jar	1										
24	Rinsate01	8/04/2021	W	SG	1										
25	Rinsate02	8/04/2021	W	SG	1										
26	Rinsate03	8/04/2021	W	SG	1										
27	Rinsate04	8/04/2021	W	SG	1										
TOTAL					20	2	2	2	2	4	4				

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic; V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulfate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial; SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation Bottle; SP = Sulfuric Preserved Plastic; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottle; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

767 632

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

46-48 Banksia Road
Welshpool WA 6106
Phone : +61 8 9251 9600
NATA # 1261
Site # 23736

Newcastle

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

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

Sample Receipt Advice

Company name: EP Risk Management (NSW)
Contact name: Luke Kerry
Project name: EP1995
Project ID: EP1995
Turnaround time: 5 Day
Date/Time received: Apr 15, 2021 3:25 PM
Eurofins reference: 787632

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

Contact

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

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

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

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



Environment Testing

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
46-48 Banksia Road
Welshpool WA 6106
Phone : +61 8 9251 9600
NATA # 1261
Site # 23736

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

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 email: EnviroSales@eurofins.com

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

Order No.:
Report #: 787632
Phone: 02 99225021
Fax:

Received: Apr 15, 2021 3:25 PM
Due: Apr 22, 2021
Priority: 5 Day
Contact Name: Luke Kerry

Project Name: EP1995
Project ID: EP1995

Eurofins Analytical Services Manager : Elvis Dsouza

Sample Detail						Mercury (low-level)	Polychlorinated Biphenyls	Metals M8	Eurofins Suite B15	Moisture Set	Total Recoverable Hydrocarbons	Eurofins Suite B7	Eurofins Suite B7	Polycyclic Aromatic Hydrocarbons (Trace level)	Organophosphorus Pesticides (Trace level)	Polychlorinated Biphenyls (PCB trace level)	Organochlorine Pesticides (Trace level)	
Melbourne Laboratory - NATA Site # 1254 & 14271						X	X	X	X		X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217									X	X	X	X						
Brisbane Laboratory - NATA Site # 20794																		
Perth Laboratory - NATA Site # 23736																		
Mayfield Laboratory - NATA Site # 25079																		
External Laboratory																		
No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID													
1	QC10	Apr 06, 2021		Soil	S21-Ap24521				X	X			X					
2	QC12	Apr 08, 2021		Soil	S21-Ap24522			X			X			X	X	X	X	X
3	QC14	Apr 08, 2021		Water	S21-Ap24523	X	X					X		X	X			X
Test Counts						1	1	1	1	1	1	2	2	2	2	1	1	2

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



NATA Accredited
Accreditation Number 1261
Site Number 18217

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

Attention: **Luke Kerry**

Report **787632-S**
Project name **EP1995**
Project ID **EP1995**
Received Date **Apr 15, 2021**

Client Sample ID			QC10	QC12
Sample Matrix			Soil	Soil
Eurofins Sample No.			S21-Ap24521	S21-Ap24522
Date Sampled			Apr 06, 2021	Apr 08, 2021
Test/Reference	LOR	Unit		
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				
TRH C6-C9	20	mg/kg	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	< 50
TRH C29-C36	50	mg/kg	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50
BTEX				
Benzene	0.1	mg/kg	< 0.1	-
Toluene	0.1	mg/kg	< 0.1	-
Ethylbenzene	0.1	mg/kg	< 0.1	-
m&p-Xylenes	0.2	mg/kg	< 0.2	-
o-Xylene	0.1	mg/kg	< 0.1	-
Xylenes - Total*	0.3	mg/kg	< 0.3	-
4-Bromofluorobenzene (surr.)	1	%	82	-
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				
Naphthalene ^{N02}	0.5	mg/kg	< 0.5	< 0.5
TRH C6-C10	20	mg/kg	< 20	< 20
TRH C6-C10 less BTEX (F1) ^{N04}	20	mg/kg	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50
TRH >C10-C16 less Naphthalene (F2) ^{N01}	50	mg/kg	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100
Polycyclic Aromatic Hydrocarbons				
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	-
Acenaphthene	0.5	mg/kg	< 0.5	-
Acenaphthylene	0.5	mg/kg	< 0.5	-
Anthracene	0.5	mg/kg	< 0.5	-
Benz(a)anthracene	0.5	mg/kg	< 0.5	-
Benzo(a)pyrene	0.5	mg/kg	< 0.5	-
Benzo(b&j)fluoranthene ^{N07}	0.5	mg/kg	< 0.5	-
Benzo(g,h,i)perylene	0.5	mg/kg	< 0.5	-
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	-
Chrysene	0.5	mg/kg	< 0.5	-

Client Sample ID			QC10	QC12
Sample Matrix			Soil	Soil
Eurofins Sample No.			S21-Ap24521	S21-Ap24522
Date Sampled			Apr 06, 2021	Apr 08, 2021
Test/Reference	LOR	Unit		
Polycyclic Aromatic Hydrocarbons				
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	%	106	-
p-Terphenyl-d14 (surr.)	1	%	103	-
Organochlorine Pesticides				
Chlordanes - Total	0.1	mg/kg	< 0.1	-
4.4'-DDD	0.05	mg/kg	< 0.05	-
4.4'-DDE	0.05	mg/kg	< 0.05	-
4.4'-DDT	0.05	mg/kg	< 0.05	-
a-BHC	0.05	mg/kg	< 0.05	-
Aldrin	0.05	mg/kg	< 0.05	-
b-BHC	0.05	mg/kg	< 0.05	-
d-BHC	0.05	mg/kg	< 0.05	-
Dieldrin	0.05	mg/kg	< 0.05	-
Endosulfan I	0.05	mg/kg	< 0.05	-
Endosulfan II	0.05	mg/kg	< 0.05	-
Endosulfan sulphate	0.05	mg/kg	< 0.05	-
Endrin	0.05	mg/kg	< 0.05	-
Endrin aldehyde	0.05	mg/kg	< 0.05	-
Endrin ketone	0.05	mg/kg	< 0.05	-
g-BHC (Lindane)	0.05	mg/kg	< 0.05	-
Heptachlor	0.05	mg/kg	< 0.05	-
Heptachlor epoxide	0.05	mg/kg	< 0.05	-
Hexachlorobenzene	0.05	mg/kg	< 0.05	-
Methoxychlor	0.2	mg/kg	< 0.2	-
Toxaphene	0.1	mg/kg	< 0.1	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.2	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.2	-
Dibutylchloroendate (surr.)	1	%	111	-
Tetrachloro-m-xylene (surr.)	1	%	111	-
Organophosphorus Pesticides				
Azinphos-methyl	0.2	mg/kg	< 0.2	< 0.2
Bolstar	0.2	mg/kg	< 0.2	< 0.2
Chlorfenvinphos	0.2	mg/kg	< 0.2	< 0.2
Chlorpyrifos	0.2	mg/kg	< 0.2	< 0.2
Chlorpyrifos-methyl	0.2	mg/kg	< 0.2	< 0.2
Coumaphos	2	mg/kg	< 2	< 2
Demeton-S	0.2	mg/kg	< 0.2	< 0.2
Demeton-O	0.2	mg/kg	< 0.2	< 0.2
Diazinon	0.2	mg/kg	< 0.2	< 0.2
Dichlorvos	0.2	mg/kg	< 0.2	< 0.2

Client Sample ID			QC10	QC12
Sample Matrix			Soil	Soil
Eurofins Sample No.			S21-Ap24521	S21-Ap24522
Date Sampled			Apr 06, 2021	Apr 08, 2021
Test/Reference	LOR	Unit		
Organophosphorus Pesticides				
Dimethoate	0.2	mg/kg	< 0.2	< 0.2
Disulfoton	0.2	mg/kg	< 0.2	< 0.2
EPN	0.2	mg/kg	< 0.2	< 0.2
Ethion	0.2	mg/kg	< 0.2	< 0.2
Ethoprop	0.2	mg/kg	< 0.2	< 0.2
Ethyl parathion	0.2	mg/kg	< 0.2	< 0.2
Fenitrothion	0.2	mg/kg	< 0.2	< 0.2
Fensulfothion	0.2	mg/kg	< 0.2	< 0.2
Fenthion	0.2	mg/kg	< 0.2	< 0.2
Malathion	0.2	mg/kg	< 0.2	< 0.2
Merphos	0.2	mg/kg	< 0.2	< 0.2
Methyl parathion	0.2	mg/kg	< 0.2	< 0.2
Mevinphos	0.2	mg/kg	< 0.2	< 0.2
Monocrotophos	2	mg/kg	< 2	< 2
Naled	0.2	mg/kg	< 0.2	< 0.2
Omethoate	2	mg/kg	< 2	< 2
Phorate	0.2	mg/kg	< 0.2	< 0.2
Pirimiphos-methyl	0.2	mg/kg	< 0.2	< 0.2
Pyrazophos	0.2	mg/kg	< 0.2	< 0.2
Ronnel	0.2	mg/kg	< 0.2	< 0.2
Terbufos	0.2	mg/kg	< 0.2	< 0.2
Tetrachlorvinphos	0.2	mg/kg	< 0.2	< 0.2
Tokuthion	0.2	mg/kg	< 0.2	< 0.2
Trichloronate	0.2	mg/kg	< 0.2	< 0.2
Triphenylphosphate (surr.)	1	%	109	77
Polychlorinated Biphenyls				
Aroclor-1016	0.5	mg/kg	< 0.5	-
Aroclor-1221	0.1	mg/kg	< 0.1	-
Aroclor-1232	0.5	mg/kg	< 0.5	-
Aroclor-1242	0.5	mg/kg	< 0.5	-
Aroclor-1248	0.5	mg/kg	< 0.5	-
Aroclor-1254	0.5	mg/kg	< 0.5	-
Aroclor-1260	0.5	mg/kg	< 0.5	-
Total PCB*	0.5	mg/kg	< 0.5	-
Dibutylchloroendate (surr.)	1	%	111	-
Tetrachloro-m-xylene (surr.)	1	%	111	-
Heavy Metals				
Arsenic	2	mg/kg	5.3	4.1
Cadmium	0.4	mg/kg	< 0.4	< 0.4
Chromium	5	mg/kg	9.3	11
Copper	5	mg/kg	< 5	11
Lead	5	mg/kg	10	9.8
Mercury	0.1	mg/kg	< 0.1	< 0.1
Nickel	5	mg/kg	< 5	11
Zinc	5	mg/kg	11	41
% Moisture				
	1	%	9.8	-

Client Sample ID			QC10	QC12
Sample Matrix			Soil	Soil
Eurofins Sample No.			S21-Ap24521	S21-Ap24522
Date Sampled			Apr 06, 2021	Apr 08, 2021
Test/Reference	LOR	Unit		
Polycyclic Aromatic Hydrocarbons (Trace level)				
Acenaphthene	0.005	mg/kg	-	< 0.005
Acenaphthylene	0.005	mg/kg	-	< 0.005
Anthracene	0.005	mg/kg	-	< 0.005
Benz(a)anthracene	0.005	mg/kg	-	< 0.005
Benzo(a)pyrene	0.005	mg/kg	-	< 0.005
Benzo(b&j)fluoranthene	0.005	mg/kg	-	< 0.005
Benzo(g,h,i)perylene	0.005	mg/kg	-	< 0.005
Benzo(k)fluoranthene	0.005	mg/kg	-	< 0.005
Chrysene	0.005	mg/kg	-	< 0.005
Dibenz(a,h)anthracene	0.005	mg/kg	-	< 0.005
Fluoranthene	0.005	mg/kg	-	< 0.005
Fluorene	0.005	mg/kg	-	< 0.005
Indeno(1.2.3-cd)pyrene	0.005	mg/kg	-	< 0.005
Naphthalene	0.005	mg/kg	-	< 0.005
Phenanthrene	0.005	mg/kg	-	< 0.005
Pyrene	0.005	mg/kg	-	< 0.005
Total PAH*	0.005	mg/kg	-	< 0.005
2-Fluorobiphenyl (surr.)	1	%	-	90
p-Terphenyl-d14 (surr.)	1	%	-	70
Polychlorinated Biphenyls (PCB trace level)				
Aroclor-1016	0	mg/kg	-	< 0.01
Aroclor-1221	0	mg/kg	-	< 0.01
Aroclor-1232	0	mg/kg	-	< 0.01
Aroclor-1242	0	mg/kg	-	< 0.01
Aroclor-1248	0	mg/kg	-	< 0.01
Aroclor-1254	0	mg/kg	-	< 0.01
Aroclor-1260	0	mg/kg	-	< 0.01
Total PCB*	0	mg/kg	-	< 0.01
Dibutylchloroendate (surr.)	1	%	-	87
Tetrachloro-m-xylene (surr.)	1	%	-	83
Organochlorine Pesticides (Trace level)				
4,4'-DDD	0.005	mg/kg	-	< 0.005
4,4'-DDE	0.005	mg/kg	-	< 0.005
4,4'-DDT	0.005	mg/kg	-	< 0.005
a-BHC	0.005	mg/kg	-	< 0.005
Aldrin	0.005	mg/kg	-	< 0.005
b-BHC	0.005	mg/kg	-	< 0.005
Chlordanes - Total	0.01	mg/kg	-	< 0.01
d-BHC	0.005	mg/kg	-	< 0.005
Dieldrin	0.005	mg/kg	-	< 0.005
Endosulfan I	0.005	mg/kg	-	< 0.005
Endosulfan II	0.005	mg/kg	-	< 0.005
Endosulfan sulphate	0.005	mg/kg	-	< 0.005
Endrin	0.005	mg/kg	-	< 0.005
Endrin aldehyde	0.005	mg/kg	-	< 0.005
Endrin ketone	0.005	mg/kg	-	< 0.005
g-BHC (Lindane)	0.005	mg/kg	-	< 0.005
Heptachlor	0.005	mg/kg	-	< 0.005
Heptachlor epoxide	0.005	mg/kg	-	< 0.005

Client Sample ID			QC10	QC12
Sample Matrix			Soil	Soil
Eurofins Sample No.			S21-Ap24521	S21-Ap24522
Date Sampled			Apr 06, 2021	Apr 08, 2021
Test/Reference	LOR	Unit		
Organochlorine Pesticides (Trace level)				
Hexachlorobenzene	0.005	mg/kg	-	< 0.005
Methoxychlor	0.005	mg/kg	-	< 0.005
Toxaphene	0.1	mg/kg	-	< 0.1
DDT + DDE + DDD (Total)*	0.005	mg/kg	-	< 0.005
Aldrin and Dieldrin (Total)*	0.005	mg/kg	-	< 0.005
Vic EPA IWRG 621 OCP (Total)*	0.01	mg/kg	-	< 0.01
Vic EPA IWRG 621 Other OCP (Total)*	0.01	mg/kg	-	< 0.01

Sample History

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

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

Description	Testing Site	Extracted	Holding Time
Total Recoverable Hydrocarbons - 1999 NEPM Fractions - Method: LTM-ORG-2010 TRH C6-C40	Melbourne	Apr 22, 2021	14 Days
BTEX - Method: LTM-ORG-2010 TRH C6-C40	Sydney	Apr 20, 2021	14 Days
Total Recoverable Hydrocarbons - 2013 NEPM Fractions - Method: LTM-ORG-2010 TRH C6-C40	Melbourne	Apr 22, 2021	14 Days
Total Recoverable Hydrocarbons - 2013 NEPM Fractions - Method: LTM-ORG-2010 TRH C6-C40	Melbourne	Apr 22, 2021	14 Days
Polycyclic Aromatic Hydrocarbons - Method: LTM-ORG-2130 PAH and Phenols in Soil and Water	Sydney	Apr 20, 2021	14 Days
Metals M8 - Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS	Melbourne	Apr 22, 2021	180 Days
Eurofins Suite B15			
Organochlorine Pesticides - Method: LTM-ORG-2220 OCP & PCB in Soil and Water	Sydney	Apr 20, 2021	14 Days
Organophosphorus Pesticides - Method: LTM-ORG-2200 Organophosphorus Pesticides by GC-MS - Method: LTM-ORG-2200 Organophosphorus Pesticides by GC-MS (USEPA 8081)	Melbourne	Apr 28, 2021	14 Days
Polychlorinated Biphenyls - Method: LTM-ORG-2220 OCP & PCB in Soil and Water	Sydney	Apr 20, 2021	28 Days
% Moisture - Method: LTM-GEN-7080 Moisture	Sydney	Apr 16, 2021	14 Days
Polycyclic Aromatic Hydrocarbons (Trace level) - Method: LTM-ORG-2130 PAH and Phenols in Soil and Water (trace)	Melbourne	Apr 22, 2021	14 Days
Polychlorinated Biphenyls (PCB trace level) - Method:	Melbourne	Apr 22, 2021	0 Days
Organochlorine Pesticides (Trace level) - Method: LTM-ORG-2220 OCP & PCB in Soil and Water (USEPA 8270) trace	Melbourne	Apr 22, 2021	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
46-48 Banksia Road
Welshpool WA 6106
Phone : +61 8 9251 9600
NATA # 1261
Site # 23736

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

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 email: EnviroSales@eurofins.com

Company Name:	EP Risk Management (NSW)	Order No.:		Received:	Apr 15, 2021 3:25 PM
Address:	109/283 Alfred Street North Sydney NSW 2060	Report #:	787632	Due:	Apr 22, 2021
Project Name:	EP1995	Phone:	02 99225021	Priority:	5 Day
Project ID:	EP1995	Fax:		Contact Name:	Luke Kerry

Eurofins Analytical Services Manager : Elvis Dsouza

Sample Detail						Mercury (low-level)	Polychlorinated Biphenyls	Metals M8	Eurofins Suite B15	Moisture Set	Total Recoverable Hydrocarbons	Eurofins Suite B7	Eurofins Suite B7	Polycyclic Aromatic Hydrocarbons (Trace level)	Organophosphorus Pesticides (Trace level)	Polychlorinated Biphenyls (PCB trace level)	Organochlorine Pesticides (Trace level)
Melbourne Laboratory - NATA Site # 1254 & 14271						X	X	X	X		X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217									X	X	X	X					
Brisbane Laboratory - NATA Site # 20794																	
Perth Laboratory - NATA Site # 23736																	
Mayfield Laboratory - NATA Site # 25079																	
External Laboratory																	
No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID												
1	QC10	Apr 06, 2021		Soil	S21-Ap24521				X	X			X				
2	QC12	Apr 08, 2021		Soil	S21-Ap24522			X			X		X	X	X	X	X
3	QC14	Apr 08, 2021		Water	S21-Ap24523	X	X				X		X	X			X
Test Counts						1	1	1	1	1	1	2	2	2	2	1	2

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							
Heavy Metals							
Arsenic	mg/kg	< 2			2	Pass	
Cadmium	mg/kg	< 0.4			0.4	Pass	
Chromium	mg/kg	< 5			5	Pass	
Copper	mg/kg	< 5			5	Pass	
Lead	mg/kg	< 5			5	Pass	
Mercury	mg/kg	< 0.1			0.1	Pass	
Nickel	mg/kg	< 5			5	Pass	
Zinc	mg/kg	< 5			5	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons (Trace level)							
Acenaphthene	mg/kg	< 0.005			0.005	Pass	
Acenaphthylene	mg/kg	< 0.005			0.005	Pass	
Anthracene	mg/kg	< 0.005			0.005	Pass	
Benzo(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	
Total PAH*	mg/kg	-			0.005	N/A	
Method Blank							
Polychlorinated Biphenyls (PCB trace level)							
Aroclor-1016	mg/kg	0.0000000			0	Pass	
Aroclor-1221	mg/kg	0.0000000			0	Pass	
Aroclor-1232	mg/kg	0.0000000			0	Pass	
Aroclor-1242	mg/kg	0.0000000			0	Pass	
Aroclor-1248	mg/kg	0.0000000			0	Pass	
Aroclor-1254	mg/kg	0.0000000			0	Pass	
Aroclor-1260	mg/kg	0.0000000			0	Pass	
Total PCB*	mg/kg	-			0	N/A	
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	

Test	Units	Result 1		Acceptance Limits	Pass Limits	Qualifying Code
Endosulfan sulphate	mg/kg	< 0.005		0.005	Pass	
Endrin	mg/kg	< 0.005		0.005	Pass	
Endrin aldehyde	mg/kg	< 0.005		0.005	Pass	
Endrin ketone	mg/kg	< 0.005		0.005	Pass	
g-BHC (Lindane)	mg/kg	< 0.005		0.005	Pass	
Heptachlor	mg/kg	< 0.005		0.005	Pass	
Heptachlor epoxide	mg/kg	< 0.005		0.005	Pass	
Hexachlorobenzene	mg/kg	< 0.005		0.005	Pass	
Methoxychlor	mg/kg	< 0.005		0.005	Pass	
Toxaphene	mg/kg	< 0.1		0.1	Pass	
LCS - % Recovery						
Heavy Metals						
Arsenic	%	99		80-120	Pass	
Cadmium	%	103		80-120	Pass	
Chromium	%	95		80-120	Pass	
Copper	%	94		80-120	Pass	
Lead	%	101		80-120	Pass	
Mercury	%	99		80-120	Pass	
Nickel	%	93		80-120	Pass	
Zinc	%	92		80-120	Pass	
LCS - % Recovery						
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	%	98		70-130	Pass	
Acenaphthylene	%	109		70-130	Pass	
Anthracene	%	89		70-130	Pass	
Benz(a)anthracene	%	109		70-130	Pass	
Benzo(a)pyrene	%	86		70-130	Pass	
Benzo(b&j)fluoranthene	%	86		70-130	Pass	
Benzo(g,h,i)perylene	%	100		70-130	Pass	
Benzo(k)fluoranthene	%	77		70-130	Pass	
Chrysene	%	99		70-130	Pass	
Dibenz(a,h)anthracene	%	72		70-130	Pass	
Fluoranthene	%	88		70-130	Pass	
Fluorene	%	96		70-130	Pass	
Indeno(1,2,3-cd)pyrene	%	77		70-130	Pass	
Naphthalene	%	97		70-130	Pass	
Phenanthrene	%	86		70-130	Pass	
Pyrene	%	86		70-130	Pass	
LCS - % Recovery						
Polychlorinated Biphenyls (PCB trace level)						
Aroclor-1016	%	91		70-130	Pass	
Aroclor-1260	%	102		70-130	Pass	
LCS - % Recovery						
Organochlorine Pesticides (Trace level)						
4,4'-DDD	%	85		70-130	Pass	
4,4'-DDE	%	91		70-130	Pass	
4,4'-DDT	%	83		70-130	Pass	
a-BHC	%	81		70-130	Pass	
Aldrin	%	80		70-130	Pass	
b-BHC	%	79		70-130	Pass	
Chlordanes - Total	%	91		70-130	Pass	
d-BHC	%	85		70-130	Pass	
Dieldrin	%	71		70-130	Pass	
Endosulfan I	%	72		70-130	Pass	

Test			Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Endosulfan II			%	80			70-130	Pass	
Endosulfan sulphate			%	74			70-130	Pass	
Endrin			%	83			70-130	Pass	
Endrin aldehyde			%	93			70-130	Pass	
Endrin ketone			%	107			70-130	Pass	
g-BHC (Lindane)			%	87			70-130	Pass	
Heptachlor			%	79			70-130	Pass	
Heptachlor epoxide			%	90			70-130	Pass	
Hexachlorobenzene			%	94			70-130	Pass	
Methoxychlor			%	77			70-130	Pass	
Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C6-C9	M21-Ap31597	NCP	mg/kg	< 20	< 20	<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

Authorised by:

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



Glenn Jackson
General Manager

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

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

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

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 18217

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

Attention: **Luke Kerry**

Report **787632-W**
Project name **EP1995**
Project ID **EP1995**
Received Date **Apr 15, 2021**

Client Sample ID	LOR	Unit	QC14 Water S21-Ap24523 Apr 08, 2021
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	0.07
TRH C15-C28	0.1	mg/L	0.2
TRH C29-C36	0.1	mg/L	< 0.1
TRH C10-C36 (Total)	0.1	mg/L	0.27
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	%	91
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	0.11
TRH >C10-C16 less Naphthalene (F2) ^{N01}	0.05	mg/L	0.11
TRH >C16-C34	0.1	mg/L	0.2
TRH >C34-C40	0.1	mg/L	< 0.1
TRH >C10-C40 (total)*	0.1	mg/L	0.31
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			QC14
Sample Matrix			Water
Eurofins Sample No.			S21-Ap24523
Date Sampled			Apr 08, 2021
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	%	76
p-Terphenyl-d14 (surr.)	1	%	78
Polychlorinated Biphenyls			
Aroclor-1016	0.001	mg/L	< 0.001
Aroclor-1221	0.001	mg/L	< 0.001
Aroclor-1232	0.001	mg/L	< 0.001
Aroclor-1242	0.001	mg/L	< 0.001
Aroclor-1248	0.001	mg/L	< 0.001
Aroclor-1254	0.001	mg/L	< 0.001
Aroclor-1260	0.001	mg/L	< 0.001
Total PCB*	0.001	mg/L	< 0.001
Dibutylchloroendate (surr.)	1	%	73
Tetrachloro-m-xylene (surr.)	1	%	84
Polycyclic Aromatic Hydrocarbons (Trace level)			
Acenaphthene	0.00001	mg/L	< 0.00001
Acenaphthylene	0.00001	mg/L	< 0.00001
Anthracene	0.00001	mg/L	< 0.00001
Benz(a)anthracene	0.00001	mg/L	< 0.00001
Benzo(a)pyrene	0.00001	mg/L	< 0.00001
Benzo(b&j)fluoranthene	0.00001	mg/L	< 0.00001
Benzo(g,h,i)perylene	0.00001	mg/L	< 0.00001
Benzo(k)fluoranthene	0.00001	mg/L	< 0.00001
Chrysene	0.00001	mg/L	< 0.00001
Dibenz(a,h)anthracene	0.00001	mg/L	< 0.00001
Fluoranthene	0.00001	mg/L	< 0.00001
Fluorene	0.00001	mg/L	< 0.00001
Indeno(1.2.3-cd)pyrene	0.00001	mg/L	< 0.00001
Naphthalene	0.00001	mg/L	< 0.00001
Phenanthrene	0.00001	mg/L	< 0.00001
Pyrene	0.00001	mg/L	< 0.00001
Total PAH*	0.00001	mg/L	< 0.00001
2-Fluorobiphenyl (surr.)	1	%	76
p-Terphenyl-d14 (surr.)	1	%	78
Organophosphorus Pesticides (Trace level)			
Azinphos-methyl	0.001	mg/L	< 0.001
Bolstar	0.001	mg/L	< 0.001
Chlorfenvinphos	0.001	mg/L	< 0.001
Chlorpyrifos	0.01	mg/L	< 0.01
Chlorpyrifos-methyl	0.001	mg/L	< 0.001
Coumaphos	0.01	mg/L	< 0.01
Demeton-O	0.001	mg/L	< 0.001
Demeton-S	0.01	mg/L	< 0.01
Diazinon	0.001	mg/L	< 0.001
Dichlorvos	0.001	mg/L	< 0.001

Client Sample ID			QC14
Sample Matrix			Water
Eurofins Sample No.			S21-Ap24523
Date Sampled			Apr 08, 2021
Test/Reference	LOR	Unit	
Organophosphorus Pesticides (Trace level)			
Dimethoate	0.001	mg/L	< 0.001
Disulfoton	0.001	mg/L	< 0.001
EPN	0.001	mg/L	< 0.001
Ethion	0.001	mg/L	< 0.001
Ethoprop	0.001	mg/L	< 0.001
Ethyl parathion	0.001	mg/L	< 0.001
Fenitrothion	0.001	mg/L	< 0.001
Fensulfothion	0.001	mg/L	< 0.001
Fenthion	0.001	mg/L	< 0.001
Malathion	0.001	mg/L	< 0.001
Merphos	0.001	mg/L	< 0.001
Methyl parathion	0.001	mg/L	< 0.001
Mevinphos	0.001	mg/L	< 0.001
Monocrotophos	0.001	mg/L	< 0.001
Naled	0.001	mg/L	< 0.001
Omethoate	0.001	mg/L	< 0.001
Phorate	0.001	mg/L	< 0.001
Pirimiphos-methyl	0.01	mg/L	< 0.01
Pyrazophos	0.001	mg/L	< 0.001
Ronnel	0.001	mg/L	< 0.001
Terbufos	0.001	mg/L	< 0.001
Tetrachlorvinphos	0.001	mg/L	< 0.001
Tokuthion	0.001	mg/L	< 0.001
Trichloronate	0.001	mg/L	< 0.001
Triphenylphosphate (surr.)	1	%	62
Organochlorine Pesticides (Trace level)			
4,4'-DDD	0.00001	mg/L	< 0.00001
4,4'-DDE	0.00001	mg/L	< 0.00001
4,4'-DDT	0.00001	mg/L	< 0.00001
a-BHC	0.00001	mg/L	< 0.00001
Aldrin	0.00001	mg/L	< 0.00001
b-BHC	0.00001	mg/L	< 0.00001
Chlordanes - Total	0.00001	mg/L	< 0.00001
d-BHC	0.00001	mg/L	< 0.00001
Dieldrin	0.00001	mg/L	< 0.00001
Endosulfan I	0.00001	mg/L	< 0.00001
Endosulfan II	0.00001	mg/L	< 0.00001
Endosulfan sulphate	0.00001	mg/L	< 0.00001
Endrin	0.00001	mg/L	< 0.00001
Endrin aldehyde	0.00001	mg/L	< 0.00001
Endrin ketone	0.00001	mg/L	< 0.00001
g-BHC (Lindane)	0.00001	mg/L	< 0.00001
Heptachlor	0.00001	mg/L	< 0.00001
Heptachlor epoxide	0.00001	mg/L	< 0.00001
Hexachlorobenzene	0.00001	mg/L	< 0.00001
Methoxychlor	0.00001	mg/L	< 0.00001
Toxaphene	0.0001	mg/L	< 0.0001
DDT + DDE + DDD (Total)*	0.00001	mg/L	< 0.00001
Aldrin and Dieldrin (Total)*	0.00001	mg/L	< 0.00001

Client Sample ID			QC14
Sample Matrix			Water
Eurofins Sample No.			S21-Ap24523
Date Sampled			Apr 08, 2021
Test/Reference	LOR	Unit	
Organochlorine Pesticides (Trace level)			
Vic EPA IWRG 621 OCP (Total)*	0.00001	mg/L	< 0.00001
Vic EPA IWRG 621 Other OCP (Total)*	0.00001	mg/L	< 0.00001
Heavy Metals			
Arsenic	0.001	mg/L	0.004
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
Mercury (low-level)	0.00001	mg/L	< 0.00001
Nickel	0.001	mg/L	0.015
Zinc	0.005	mg/L	< 0.005

Sample History

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

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

Description	Testing Site	Extracted	Holding Time
Total Recoverable Hydrocarbons - 1999 NEPM Fractions - Method: LTM-ORG-2010 TRH C6-C40	Melbourne	Apr 19, 2021	7 Days
BTEX - Method: LTM-ORG-2010 TRH C6-C40	Melbourne	Apr 19, 2021	14 Days
Total Recoverable Hydrocarbons - 2013 NEPM Fractions - Method: LTM-ORG-2010 TRH C6-C40	Melbourne	Apr 19, 2021	7 Days
Total Recoverable Hydrocarbons - 2013 NEPM Fractions - Method: LTM-ORG-2010 TRH C6-C40	Melbourne	Apr 19, 2021	7 Days
Polycyclic Aromatic Hydrocarbons - Method: LTM-ORG-2130 PAH and Phenols in Soil and Water	Melbourne	Apr 19, 2021	7 Days
Metals M8 - Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS	Melbourne	Apr 19, 2021	180 Days
Eurofins Suite B15			
Polychlorinated Biphenyls - Method: LTM-ORG-2220 OCP & PCB in Soil and Water (USEPA 8082)	Melbourne	Apr 19, 2021	7 Days
Polycyclic Aromatic Hydrocarbons (Trace level) - Method: LTM-ORG-2130 PAH and Phenols in Soil and Water (trace)	Melbourne	Apr 19, 2021	7 Days
Organophosphorus Pesticides (Trace level) - Method: LTM-ORG-2200 Organophosphorus Pesticides by GC-MS (USEPA 8081)	Melbourne	Apr 19, 2021	7 Days
Organochlorine Pesticides (Trace level) - Method: LTM-ORG-2220 OCP & PCB in Soil and Water (USEPA 8270) trace	Melbourne	Apr 19, 2021	7 Days
Mercury (low-level) - Method: LTM-MET-3050 Mercury by Cold Vapour Atomic Absorption Analysis	Melbourne	Apr 19, 2021	28 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
46-48 Banksia Road
Welshpool WA 6106
Phone : +61 8 9251 9600
NATA # 1261
Site # 23736

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

New Zealand

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

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

Company Name:	EP Risk Management (NSW)	Order No.:		Received:	Apr 15, 2021 3:25 PM
Address:	109/283 Alfred Street North Sydney NSW 2060	Report #:	787632	Due:	Apr 22, 2021
Project Name:	EP1995	Phone:	02 99225021	Priority:	5 Day
Project ID:	EP1995	Fax:		Contact Name:	Luke Kerry

Eurofins Analytical Services Manager : Elvis Dsouza

Sample Detail						Mercury (low-level)	Polychlorinated Biphenyls	Metals M8	Eurofins Suite B15	Moisture Set	Total Recoverable Hydrocarbons	Eurofins Suite B7	Eurofins Suite B7	Polycyclic Aromatic Hydrocarbons (Trace level)	Organophosphorus Pesticides (Trace level)	Polychlorinated Biphenyls (PCB trace level)	Organochlorine Pesticides (Trace level)
Melbourne Laboratory - NATA Site # 1254 & 14271						X	X	X	X		X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217									X	X	X	X					
Brisbane Laboratory - NATA Site # 20794																	
Perth Laboratory - NATA Site # 23736																	
Mayfield Laboratory - NATA Site # 25079																	
External Laboratory																	
No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID												
1	QC10	Apr 06, 2021		Soil	S21-Ap24521				X	X			X				
2	QC12	Apr 08, 2021		Soil	S21-Ap24522			X			X			X	X	X	X
3	QC14	Apr 08, 2021		Water	S21-Ap24523	X	X					X		X	X		X
Test Counts						1	1	1	1	1	1	2	2	2	2	1	2

Internal Quality Control Review and Glossary

General

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

Holding Times

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

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

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

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

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

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

Units

mg/kg: milligrams per kilogram

mg/L: milligrams per litre

ug/L: micrograms per litre

ppm: Parts per million

ppb: Parts per billion

%: Percentage

org/100mL: Organisms per 100 millilitres

NTU: Nephelometric Turbidity Units

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

Terms

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

QC - Acceptance Criteria

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

Results <10 times the LOR : No Limit

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

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

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

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

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

QC Data General Comments

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

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	mg/L	< 0.02			0.02	Pass	
TRH C10-C14	mg/L	< 0.05			0.05	Pass	
TRH C15-C28	mg/L	< 0.1			0.1	Pass	
TRH C29-C36	mg/L	< 0.1			0.1	Pass	
Method Blank							
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							
Polychlorinated Biphenyls							
Aroclor-1016	mg/L	< 0.001			0.001	Pass	
Aroclor-1221	mg/L	< 0.001			0.001	Pass	
Aroclor-1232	mg/L	< 0.001			0.001	Pass	
Aroclor-1242	mg/L	< 0.001			0.001	Pass	
Aroclor-1248	mg/L	< 0.001			0.001	Pass	
Aroclor-1254	mg/L	< 0.001			0.001	Pass	
Aroclor-1260	mg/L	< 0.001			0.001	Pass	
Total PCB*	mg/L	< 0.001			0.001	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons (Trace level)							
Acenaphthene	mg/L	< 0.00001			0.00001	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
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	
Benzo(g,h,i)perylene	mg/L	< 0.00001			0.00001	Pass	
Benzo(k)fluoranthene	mg/L	< 0.00001			0.00001	Pass	
Chrysene	mg/L	< 0.00001			0.00001	Pass	
Dibenz(a,h)anthracene	mg/L	< 0.00001			0.00001	Pass	
Fluoranthene	mg/L	< 0.00001			0.00001	Pass	
Fluorene	mg/L	< 0.00001			0.00001	Pass	
Indeno(1,2,3-cd)pyrene	mg/L	< 0.00001			0.00001	Pass	
Naphthalene	mg/L	< 0.00001			0.00001	Pass	
Phenanthrene	mg/L	< 0.00001			0.00001	Pass	
Pyrene	mg/L	< 0.00001			0.00001	Pass	
Total PAH*	mg/L	-			0.00001	N/A	
Method Blank							
Organophosphorus Pesticides (Trace level)							
Azinphos-methyl	mg/L	< 0.001			0.001	Pass	
Bolstar	mg/L	< 0.001			0.001	Pass	
Chlorfenvinphos	mg/L	< 0.001			0.001	Pass	
Chlorpyrifos	mg/L	< 0.01			0.01	Pass	
Chlorpyrifos-methyl	mg/L	< 0.001			0.001	Pass	
Coumaphos	mg/L	< 0.01			0.01	Pass	
Demeton-O	mg/L	< 0.001			0.001	Pass	
Demeton-S	mg/L	< 0.01			0.01	Pass	
Diazinon	mg/L	< 0.001			0.001	Pass	
Dichlorvos	mg/L	< 0.001			0.001	Pass	
Dimethoate	mg/L	< 0.001			0.001	Pass	
Disulfoton	mg/L	< 0.001			0.001	Pass	
EPN	mg/L	< 0.001			0.001	Pass	
Ethion	mg/L	< 0.001			0.001	Pass	
Ethoprop	mg/L	< 0.001			0.001	Pass	
Ethyl parathion	mg/L	< 0.001			0.001	Pass	
Fenitrothion	mg/L	< 0.001			0.001	Pass	
Fensulfothion	mg/L	< 0.001			0.001	Pass	
Fenthion	mg/L	< 0.001			0.001	Pass	
Malathion	mg/L	< 0.001			0.001	Pass	
Merphos	mg/L	< 0.001			0.001	Pass	
Methyl parathion	mg/L	< 0.001			0.001	Pass	
Mevinphos	mg/L	< 0.001			0.001	Pass	
Monocrotophos	mg/L	< 0.001			0.001	Pass	
Naled	mg/L	< 0.001			0.001	Pass	
Omethoate	mg/L	< 0.001			0.001	Pass	
Phorate	mg/L	< 0.001			0.001	Pass	
Pirimiphos-methyl	mg/L	< 0.01			0.01	Pass	
Pyrazophos	mg/L	< 0.001			0.001	Pass	
Ronnel	mg/L	< 0.001			0.001	Pass	
Terbufos	mg/L	< 0.001			0.001	Pass	
Tetrachlorvinphos	mg/L	< 0.001			0.001	Pass	
Tokuthion	mg/L	< 0.001			0.001	Pass	
Trichloronate	mg/L	< 0.001			0.001	Pass	
Method Blank							
Organochlorine Pesticides (Trace level)							

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
4.4'-DDD	mg/L	< 0.00001			0.00001	Pass	
4.4'-DDE	mg/L	< 0.00001			0.00001	Pass	
4.4'-DDT	mg/L	< 0.00001			0.00001	Pass	
a-BHC	mg/L	< 0.00001			0.00001	Pass	
Aldrin	mg/L	< 0.00001			0.00001	Pass	
b-BHC	mg/L	< 0.00001			0.00001	Pass	
Chlordanes - Total	mg/L	< 0.00001			0.00001	Pass	
d-BHC	mg/L	< 0.00001			0.00001	Pass	
Dieldrin	mg/L	< 0.00001			0.00001	Pass	
Endosulfan I	mg/L	< 0.00001			0.00001	Pass	
Endosulfan II	mg/L	< 0.00001			0.00001	Pass	
Endosulfan sulphate	mg/L	< 0.00001			0.00001	Pass	
Endrin	mg/L	< 0.00001			0.00001	Pass	
Endrin aldehyde	mg/L	< 0.00001			0.00001	Pass	
Endrin ketone	mg/L	< 0.00001			0.00001	Pass	
g-BHC (Lindane)	mg/L	< 0.00001			0.00001	Pass	
Heptachlor	mg/L	< 0.00001			0.00001	Pass	
Heptachlor epoxide	mg/L	< 0.00001			0.00001	Pass	
Hexachlorobenzene	mg/L	< 0.00001			0.00001	Pass	
Methoxychlor	mg/L	< 0.00001			0.00001	Pass	
Toxaphene	mg/L	< 0.0001			0.0001	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	
Mercury (low-level)	mg/L	< 0.00001			0.00001	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	%	120			70-130	Pass	
TRH C10-C14	%	99			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	109			70-130	Pass	
Toluene	%	106			70-130	Pass	
Ethylbenzene	%	105			70-130	Pass	
m&p-Xylenes	%	111			70-130	Pass	
Xylenes - Total*	%	110			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	115			70-130	Pass	
TRH C6-C10	%	115			70-130	Pass	
TRH >C10-C16	%	98			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	86			70-130	Pass	
Acenaphthylene	%	80			70-130	Pass	
Anthracene	%	78			70-130	Pass	
Benz(a)anthracene	%	74			70-130	Pass	

Test	Units	Result 1		Acceptance Limits	Pass Limits	Qualifying Code
Benzo(a)pyrene	%	73		70-130	Pass	
Benzo(b&j)fluoranthene	%	74		70-130	Pass	
Benzo(g,h,i)perylene	%	77		70-130	Pass	
Benzo(k)fluoranthene	%	111		70-130	Pass	
Chrysene	%	118		70-130	Pass	
Dibenz(a,h)anthracene	%	79		70-130	Pass	
Fluoranthene	%	102		70-130	Pass	
Fluorene	%	113		70-130	Pass	
Indeno(1,2,3-cd)pyrene	%	87		70-130	Pass	
Naphthalene	%	79		70-130	Pass	
Phenanthrene	%	82		70-130	Pass	
Pyrene	%	100		70-130	Pass	
LCS - % Recovery						
Polychlorinated Biphenyls						
Aroclor-1260	%	102		70-130	Pass	
LCS - % Recovery						
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	%	86		70-130	Pass	
Acenaphthylene	%	80		70-130	Pass	
Anthracene	%	78		70-130	Pass	
Benz(a)anthracene	%	74		70-130	Pass	
Benzo(a)pyrene	%	73		70-130	Pass	
Benzo(b&j)fluoranthene	%	74		70-130	Pass	
Benzo(g,h,i)perylene	%	77		70-130	Pass	
Benzo(k)fluoranthene	%	111		70-130	Pass	
Chrysene	%	118		70-130	Pass	
Dibenz(a,h)anthracene	%	79		70-130	Pass	
Fluoranthene	%	102		70-130	Pass	
Fluorene	%	113		70-130	Pass	
Indeno(1,2,3-cd)pyrene	%	87		70-130	Pass	
Naphthalene	%	79		70-130	Pass	
Phenanthrene	%	82		70-130	Pass	
Pyrene	%	100		70-130	Pass	
LCS - % Recovery						
Organophosphorus Pesticides (Trace level)						
Diazinon	%	76		70-130	Pass	
Dimethoate	%	109		70-130	Pass	
Ethion	%	72		70-130	Pass	
Fenitrothion	%	81		70-130	Pass	
Methyl parathion	%	82		70-130	Pass	
Mevinphos	%	77		70-130	Pass	
Omethoate	%	81		70-130	Pass	
Ronnel	%	108		70-130	Pass	
LCS - % Recovery						
Organochlorine Pesticides (Trace level)						
4,4'-DDD	%	81		70-130	Pass	
4,4'-DDE	%	91		70-130	Pass	
4,4'-DDT	%	99		70-130	Pass	
a-BHC	%	89		70-130	Pass	
Aldrin	%	97		70-130	Pass	
b-BHC	%	86		70-130	Pass	
Chlordanes - Total	%	87		70-130	Pass	
d-BHC	%	72		70-130	Pass	
Dieldrin	%	94		70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code	
Endosulfan I	%	103			70-130	Pass		
Endosulfan II	%	97			70-130	Pass		
Endosulfan sulphate	%	87			70-130	Pass		
Endrin	%	82			70-130	Pass		
Endrin aldehyde	%	74			70-130	Pass		
Endrin ketone	%	98			70-130	Pass		
g-BHC (Lindane)	%	93			70-130	Pass		
Heptachlor	%	79			70-130	Pass		
Heptachlor epoxide	%	71			70-130	Pass		
Hexachlorobenzene	%	80			70-130	Pass		
Methoxychlor	%	78			70-130	Pass		
LCS - % Recovery								
Heavy Metals								
Arsenic	%	96			80-120	Pass		
Cadmium	%	96			80-120	Pass		
Chromium	%	96			80-120	Pass		
Copper	%	96			80-120	Pass		
Lead	%	94			80-120	Pass		
Mercury	%	97			80-120	Pass		
Mercury (low-level)	%	97			80-120	Pass		
Nickel	%	95			80-120	Pass		
Zinc	%	96			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	M21-Ap26734	NCP	%	116		70-130	Pass	
TRH C10-C14	M21-Ap30738	NCP	%	120		70-130	Pass	
Spike - % Recovery								
BTEX				Result 1				
Benzene	M21-Ap26734	NCP	%	105		70-130	Pass	
Toluene	M21-Ap26734	NCP	%	98		70-130	Pass	
Ethylbenzene	M21-Ap26734	NCP	%	100		70-130	Pass	
m&p-Xylenes	M21-Ap26734	NCP	%	102		70-130	Pass	
o-Xylene	M21-Ap26734	NCP	%	101		70-130	Pass	
Xylenes - Total*	M21-Ap26734	NCP	%	102		70-130	Pass	
Spike - % Recovery								
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1				
Naphthalene	M21-Ap26734	NCP	%	86		70-130	Pass	
TRH C6-C10	M21-Ap26734	NCP	%	108		70-130	Pass	
TRH >C10-C16	M21-Ap30738	NCP	%	117		70-130	Pass	
Spike - % Recovery								
Polycyclic Aromatic Hydrocarbons				Result 1				
Acenaphthene	M21-Ap13434	NCP	%	111		70-130	Pass	
Acenaphthylene	M21-Ap13434	NCP	%	94		70-130	Pass	
Anthracene	M21-Ap13434	NCP	%	86		70-130	Pass	
Benz(a)anthracene	M21-Ap13434	NCP	%	104		70-130	Pass	
Benzo(a)pyrene	M21-Ap13434	NCP	%	78		70-130	Pass	
Benzo(b&j)fluoranthene	M21-Ap13434	NCP	%	117		70-130	Pass	
Benzo(g,h,i)perylene	M21-Ap13434	NCP	%	111		70-130	Pass	
Benzo(k)fluoranthene	M21-Ap13434	NCP	%	111		70-130	Pass	
Chrysene	M21-Ap13434	NCP	%	103		70-130	Pass	
Dibenz(a,h)anthracene	M21-Ap13434	NCP	%	91		70-130	Pass	
Fluoranthene	M21-Ap13434	NCP	%	121		70-130	Pass	
Fluorene	M21-Ap13434	NCP	%	112		70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Indeno(1.2.3-cd)pyrene	M21-Ap13434	NCP	%	92			70-130	Pass	
Naphthalene	M21-Ap13434	NCP	%	92			70-130	Pass	
Phenanthrene	M21-Ap13434	NCP	%	113			70-130	Pass	
Pyrene	M21-Ap13434	NCP	%	123			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	M21-Ap29549	NCP	%	94			75-125	Pass	
Cadmium	M21-Ap29549	NCP	%	94			75-125	Pass	
Chromium	M21-Ap26312	NCP	%	96			75-125	Pass	
Copper	M21-Ap29549	NCP	%	95			75-125	Pass	
Lead	M21-Ap29549	NCP	%	92			75-125	Pass	
Mercury	M21-Ap29549	NCP	%	114			75-125	Pass	
Nickel	M21-Ap29549	NCP	%	95			75-125	Pass	
Zinc	M21-Ap29549	NCP	%	95			75-125	Pass	
Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C6-C9	M21-Ap26861	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
TRH C10-C14	P21-Ap28746	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
TRH C15-C28	P21-Ap28746	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH C29-C36	P21-Ap28746	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M21-Ap26861	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Toluene	M21-Ap26861	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Ethylbenzene	M21-Ap26861	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
m&p-Xylenes	M21-Ap26861	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
o-Xylene	M21-Ap26861	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Xylenes - Total*	M21-Ap26861	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	M21-Ap26861	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
TRH C6-C10	M21-Ap26861	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
TRH >C10-C16	P21-Ap28746	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
TRH >C16-C34	P21-Ap28746	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH >C34-C40	P21-Ap28746	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	P21-Ap32181	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Acenaphthylene	P21-Ap32181	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Anthracene	P21-Ap32181	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benz(a)anthracene	P21-Ap32181	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(a)pyrene	P21-Ap32181	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(b&j)fluoranthene	P21-Ap32181	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(g,h,i)perylene	P21-Ap32181	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(k)fluoranthene	P21-Ap32181	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Chrysene	P21-Ap32181	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Dibenz(a,h)anthracene	P21-Ap32181	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Fluoranthene	P21-Ap32181	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Fluorene	P21-Ap32181	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	P21-Ap32181	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Naphthalene	P21-Ap32181	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Phenanthrene	P21-Ap32181	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Pyrene	P21-Ap32181	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	

Duplicate								
Heavy Metals				Result 1	Result 2	RPD		
Arsenic	M21-Ap29549	NCP	mg/L	0.005	0.005	7.0	30%	Pass
Cadmium	M21-Ap29549	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass
Chromium	M21-Ap26312	NCP	mg/L	0.009	0.009	<1	30%	Pass
Copper	M21-Ap29549	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Lead	M21-Ap29549	NCP	mg/L	0.005	0.005	2.0	30%	Pass
Mercury	M21-Ap29549	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass
Nickel	M21-Ap29549	NCP	mg/L	0.001	0.001	<1	30%	Pass
Zinc	M21-Ap29549	NCP	mg/L	0.007	0.007	<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

Authorised by:

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



Glenn Jackson
General Manager

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

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

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

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.

Appendix F

CALIBRATION CERTIFICATES



EP Risk Management Pty Ltd
Photo-ionisation Detector (PID) Calibration Certificate

Project Details		
Date: 6/4/21	Project No.: EP1995	Project Manager: Luke Kerry.
Time:	Location: Chisholm	
Weather: Clear.		

PID Information				
Calibration	Actual Value	Reading	Pass	
Zero - Fresh Air	0 ppm	0 ppm	✓	
Span - Isobutylene	100 ppm	99.8 ppm	✓	
Set Alarm Limits to	High	15 ppm	Low	5 ppm
Operations Check				
✓	Performance Check (pump, lamp, sensor and battery voltage check)			
✓	Battery Charge	✓	Filters Check	✓ Spare battery voltage (5.5 V min) V
✓	Bump Test	Date: 6/4/21		

Date: 6/4/21 Check By: Luke Kerry.

Signed: 





EP Risk Management Pty Ltd
Photo-ionisation Detector (PID) Calibration Certificate

Project Details		
Date: 8/4/21	Project No.: EP1995	Project Manager: Luke Kerry
Time:	Location: Chisholm	
Weather: Clear		

PID Information				
Calibration	Actual Value	Reading	Pass	
Zero - Fresh Air	0 ppm	0 ppm	✓	
Span - Isobutylene	100 ppm	100.2 ppm	✓	
Set Alarm Limits to	✓ High	15 ppm	Low	5 ppm
Operations Check				
✓	Performance Check (pump, lamp, sensor and battery voltage check)			
✓	Battery Charge	✓	Filters Check	✓ Spare battery voltage (5.5 V min) V
✓	Bump Test	Date:.....8/4/21.....		

Date: 8/4/21 Check By: Luke Kerry

Signed: 






EP Risk Management Pty Ltd
Photo-ionisation Detector (PID) Calibration Certificate

Project Details		
Date: 12/4/21	Project No.: EP1995	Project Manager: Luke Kerry.
Time:	Location: Chisholm.	
Weather: clear		

PID Information				
Calibration	Actual Value	Reading	Pass	
Zero - Fresh Air	0 ppm	0 ppm	✓	
Span - Isobutylene	100 ppm	99.6 ppm	✓	
Set Alarm Limits to	High	15 ppm	Low	5 ppm
Operations Check				
✓	Performance Check (pump, lamp, sensor and battery voltage check)			
✓	Battery Charge	✓	Filters Check	✓ Spare battery voltage (5.5 V min) V
✓	Bump Test	Date: 12/4/21.....		

Date: 12/4/21 Check By: Luke Kerry

Signed: 





EP Risk Management Pty Ltd
Photo-ionisation Detector (PID) Calibration Certificate

Project Details		
Date: 20/4/21 20/4/21	Project No.: EP1995	Project Manager: Luke Kerry.
Time:	Location: Chisholm.	
Weather: clear.		

PID Information				
Calibration	Actual Value	Reading	Pass	
Zero - Fresh Air	0 ppm	0 ppm	✓	
Span - Isobutylene	100 ppm	99.7 ppm	✓	
Set Alarm Limits to	High	15 ppm	Low	5 ppm
Operations Check				
<input checked="" type="checkbox"/>	Performance Check (pump, lamp, sensor and battery voltage check)			
<input checked="" type="checkbox"/>	Battery Charge	<input checked="" type="checkbox"/>	Filters Check	<input checked="" type="checkbox"/> Spare battery voltage (5.5 V min) V
<input checked="" type="checkbox"/>	Bump Test	Date: 20/4/21		

Date: 20/4/21 Check By: Luke Kerry

Signed:



Appendix G

SUMMARY OF SUBSURFACE CONDITIONS

Summary of subsurface conditions				
Test Pit and borehole ID	Depth of Topsoil/ Fill (m BGL)	Depth to Rock (mBGL)	Anthropogenic material: Brick and Tiles (Depth of FILL in meters)	Summary of subsurface profile
TP01	0.2 ¹	N/A	Yes (0.2 m)	FILL (Silty SAND with gravel) / Residual (Sandy CLAY)
TP02	0.2	N/A	No	TOPSOIL (Silty clayey SAND) / Residual (Sandy CLAY)
TP03	0.2	N/A	Yes (0.2 m)	FILL (Silty SAND with gravel) / Residual (Sandy CLAY)
TP04	0.2	0.8	No	TOPSOIL (Silty clayey SAND) / Residual (Sandy CLAY) / XW SANDSTONE
TP05	0.4	N/A	Yes (0.4 m)	FILL (Silty clayey SAND) / Residual (Sandy CLAY)
TP06	0.4	N/A	Yes (0.4 m)	FILL (Silty clayey SAND) / Residual (Sandy CLAY)
TP07	0.2	N/A	No	TOPSOIL (Silty clayey SAND) / Residual (Sandy CLAY)
TP08	0.2	N/A	Yes (0.2 m)	FILL (Clayey SAND) / Residual (Sandy CLAY)
TP09	0.2	N/A	Yes (0.2 m)	FILL (Silty SAND) / Residual (Sandy CLAY)
TP10	0.2	N/A	Yes (0.2 m)	FILL (Silty SAND) / Residual (Sandy CLAY)
TP11	0.2	N/A	Yes (0.2 m)	FILL (Silty SAND) / Residual (Sandy CLAY)
TP12	0.3	N/A	Yes (0.3 m)	FILL (Silty SAND with gravel) / Residual (Sandy CLAY)
TP13	N/A	0.4	No	Residual (Clayey SAND) / XW SANDSTONE
TP14	0.2	N/A	No	TOPSOIL (Silty clayey SAND) / Residual (Sandy CLAY)
TP15	0.2	N/A	No	TOPSOIL (Silty clayey SAND) / Residual (Sandy CLAY)
TP16	0.1	N/A	Yes (0.1 m)	FILL (Silty SAND with gravel) / Residual (Sandy CLAY)
TP17	0.1	N/A	Yes (0.1 m)	FILL (Silty SAND with gravel) / Residual (Sandy CLAY)
TP18	0.2	N/A	Yes (0.2 m)	FILL (Silty SAND with gravel) / Residual (Sandy CLAY)
TP19	0.2	N/A	No	TOPSOIL (Silty SAND) / Residual (Sandy CLAY)
TP20	0.2	N/A	No	TOPSOIL (Silty SAND) / Residual (Sandy CLAY)
TP21	0.2	N/A	Yes (0.2 m)	FILL (Silty SAND with gravel) / Residual (Sandy CLAY)

¹ Bold indicates FILL depth.

Summary of subsurface conditions

Test Pit and borehole ID	Depth of Topsoil/ Fill (m BGL)	Depth to Rock (mBGL)	Anthropogenic material: Brick and Tiles (Depth of FILL in meters)	Summary of subsurface profile
TP22	0.3	N/A	Yes (0.3 m)	FILL (Silty SAND with gravel) / Residual (Sandy CLAY)
TP23	0.2	1	No	TOPSOIL (Silty clayey SAND) / Residual (Sandy CLAY) / XW SANDSTONE
TP24	0.2	N/A	Yes (0.2 m)	FILL (Silty SAND with gravel) / Residual (Sandy CLAY)
TP25	0.2	N/A	No	FILL (Silty SAND with gravel) / Residual (Sandy CLAY)
TP26	0.3	N/A	No	FILL (Silty SAND with gravel) / Residual (Sandy CLAY)
TP27	0.3	N/A	Yes (0.3 m)	FILL (Silty SAND with gravel) / Residual (Sandy CLAY)
TP28	0.3	N/A	No	TOPSOIL (Silty SAND) / Residual (Sandy CLAY)
TP29	0.2	N/A	Yes (0.2 m)	FILL (Silty SAND with gravel) / Residual (Sandy CLAY)
TP30	0.4	N/A	No	FILL (Silty SAND with gravel) / Residual (Sandy CLAY)
TP31	1	N/A	Yes (1.5 m)	FILL (Sandy gravelly CLAY / Residual (Sandy CLAY)
TP32	1.2	N/A	Yes (1.2 m)	FILL (Sandy gravelly CLAY / Residual (Sandy CLAY)
TP33	1.5	N/A	No	FILL (Sandy gravelly CLAY / Residual (Sandy CLAY)
TP34	0.2	N/A	No	TOPSOIL (Sandy SILT) / Residual (Sandy CLAY)
TP35	0.2	N/A	No	TOPSOIL (Sandy SILT) / Residual (Sandy CLAY)
TP36	0.2	N/A	No	TOPSOIL (Sandy SILT) / Residual (Sandy CLAY)
TP37	0.2	N/A	No	TOPSOIL (Sandy SILT) / Residual (Sandy CLAY)
TP38	0.2	N/A	No	TOPSOIL (Sandy SILT) / Residual (Sandy silty CLAY) / Residual (Sandy CLAY)
TP39	0.2	N/A	No	TOPSOIL (Sandy SILT) / Residual (Sandy silty CLAY) / Residual (Sandy CLAY)
TP40	0.2	N/A	No	FILL (Sandy SILT) / Residual (Sandy silty CLAY) / Residual (Sandy CLAY)
TP41	0.2	N/A	No	TOPSOIL (Sandy SILT) / Residual (Sandy CLAY)

Summary of subsurface conditions

Test Pit and borehole ID	Depth of Topsoil/ Fill (m BGL)	Depth to Rock (mBGL)	Anthropogenic material: Brick and Tiles (Depth of FILL in meters)	Summary of subsurface profile
TP42	0.2	N/A	No	TOPSOIL (Sandy SILT) / Residual (Sandy CLAY)
TP43	0.2	N/A	No	TOPSOIL (Sandy SILT) / Residual (Clayey sandy SILT) / Residual (Sandy CLAY)
TP44	0.1	N/A	No	TOPSOIL (Sandy SILT) / Residual (Clayey sandy SILT) / Residual (Sandy CLAY)
TP45	0.1	N/A	No	TOPSOIL (Sandy SILT) / Residual (Sandy silty CLAY) / Residual (Sandy CLAY)
TP46	0.2	N/A	No	TOPSOIL (Sandy SILT) / Residual (Clayey sandy SILT) / Residual (Sandy CLAY)
TP47	0.2	N/A	No	TOPSOIL (Sandy SILT) / Residual (Clayey sandy SILT) / Residual (Sandy CLAY)
TP48	0.2	N/A	No	TOPSOIL (Sandy SILT) / Residual (Sandy CLAY)
TP49	0.2	N/A	No	TOPSOIL (Sandy SILT) / Residual (Sandy CLAY)
TP50	0.2	N/A	No	TOPSOIL (Sandy SILT) / Residual (Sandy CLAY)
TP51	0.2	N/A	No	TOPSOIL (Sandy SILT) / Residual (Sandy CLAY)
TP52	0.2	N/A	No	TOPSOIL (Sandy SILT) / Residual (Sandy CLAY)
TP53	0.2	N/A	No	TOPSOIL (Sandy SILT) / Residual (Sandy CLAY)
TP54	0.2	N/A	No	TOPSOIL (Sandy SILT) / Residual (Sandy CLAY)
TP55	0.2	N/A	No	TOPSOIL (Sandy SILT) / Residual (Sandy CLAY)
TP56	0.2	N/A	No	TOPSOIL (Sandy SILT) / Residual (Sandy CLAY)
TP57	0.2	N/A	No	TOPSOIL (Sandy SILT) / Residual (Sandy CLAY)
TP58	0.2	N/A	No	TOPSOIL (Sandy SILT) / Residual (Sandy CLAY)
BH59	0.2	N/A	No	TOPSOIL (Silty SAND) / Residual (Sandy CLAY)
BH60	0.2	N/A	No	TOPSOIL (Silty SAND) / Residual (Sandy CLAY)

Summary of subsurface conditions

Test Pit and borehole ID	Depth of Topsoil/ Fill (m BGL)	Depth to Rock (mBGL)	Anthropogenic material: Brick and Tiles (Depth of FILL in meters)	Summary of subsurface profile
BH61	0.2	N/A	No	TOPSOIL (Silty SAND) / Residual (Sandy CLAY)
BH62	0.2	N/A	No	TOPSOIL (Silty SAND) / Residual (Sandy CLAY)
BH63	0.2	N/A	No	TOPSOIL (Silty SAND) / Residual (Sandy CLAY)
BH64	0.2	N/A	No	TOPSOIL (Silty SAND) / Residual (Sandy CLAY)
BH65	0.2	N/A	No	TOPSOIL (Silty SAND) / Residual (Sandy CLAY)
BH66	0.2	N/A	No	TOPSOIL (Silty SAND) / Residual (Sandy CLAY)
BH67	0.2	N/A	No	TOPSOIL (Silty SAND) / Residual (Sandy CLAY)
BH68	0.2	N/A	No	TOPSOIL (Silty SAND) / Residual (Sandy CLAY)
BH69	0.2	N/A	No	TOPSOIL (Silty SAND) / Residual (Sandy CLAY)
BH70	0.2	N/A	No	TOPSOIL (Silty SAND) / Residual (Sandy CLAY)
BH71	0.2	N/A	No	TOPSOIL (Silty SAND) / Residual (Sandy CLAY)
BH72	0.2	N/A	No	TOPSOIL (Silty SAND) / Residual (Sandy CLAY)
BH73	0.2	N/A	No	TOPSOIL (Silty SAND) / Residual (Sandy CLAY)
BH74	0.2	N/A	No	TOPSOIL (Silty SAND) / Residual (Sandy CLAY)
BH75	0.2	N/A	No	TOPSOIL (Silty SAND) / Residual (Sandy CLAY)
BH76	0.2	N/A	No	TOPSOIL (Silty SAND) / Residual (Sandy CLAY)
BH77	0.2	N/A	Yes	FILL (Silty SAND) / Residual (Sandy CLAY)
BH78	0.2	N/A	Yes	FILL (Silty SAND with gravel) / Residual (Sandy CLAY)
BH79	0.2	N/A	No	TOPSOIL (Silty SAND) / Residual (Sandy CLAY)
BH80	0.2	N/A	No	TOPSOIL (Silty SAND) / Residual (Sandy CLAY)
BH81	0.2	N/A	No	TOPSOIL (Silty SAND) / Residual (Sandy CLAY)

Summary of subsurface conditions

Test Pit and borehole ID	Depth of Topsoil/ Fill (m BGL)	Depth to Rock (mBGL)	Anthropogenic material: Brick and Tiles (Depth of FILL in meters)	Summary of subsurface profile
BH82	0.2	N/A	No	TOPSOIL (Silty SAND) / Residual (Sandy CLAY)
BH83	0.2	N/A	No	TOPSOIL (Silty SAND) / Residual (Sandy CLAY)
TP84	0.1	N/A	No	TOPSOIL (Silty SAND) / Residual (Sandy CLAY)
TP85	0.4	N/A	Yes	FILL (Silty SAND with gravel) / Residual (Sandy CLAY)
TP86	0.1	N/A	No	TOPSOIL (Silty SAND) / Residual (Sandy CLAY)
TP87	0.1	N/A	No	TOPSOIL (Silty SAND) / Residual (Sandy CLAY)
TP88	0.1	N/A	No	TOPSOIL (Silty SAND) / Residual (Sandy CLAY)
TP89	0.1	N/A	No	TOPSOIL (Silty SAND) / Residual (Sandy CLAY)
TP90	0.3	N/A	Yes	FILL (Silty SAND with gravel) / Residual (Sandy CLAY)
TP91	0.2	N/A	No	TOPSOIL (Silty SAND) / Residual (Sandy CLAY)
TP92	0.6	N/A	No	FILL (Silty SAND with gravel) / Residual (Sandy CLAY)
TP93	0.2	N/A	No	TOPSOIL (Silty SAND) / Residual (Sandy CLAY)
TP94	0.1	N/A	No	TOPSOIL (Silty SAND) / Residual (Sandy CLAY)
TP95	0.2	N/A	No	TOPSOIL (Silty SAND) / Residual (Sandy CLAY)
TP96	0.2	N/A	No	TOPSOIL (Silty SAND) / Residual (Sandy CLAY)
TP97	0.8	N/A	No	FILL (Silty SAND with gravel) / Residual (Sandy CLAY)
TP98	0.2	N/A	Yes	FILL (Silty SAND with gravel) / Residual (Sandy CLAY)
TP99	0.3	N/A	No	TOPSOIL (Silty SAND) / Residual (Sandy CLAY)
TP100	0.2	N/A	No	TOPSOIL (Silty SAND) / Residual (Sandy CLAY)
TP101	0.2	N/A	No	TOPSOIL (Silty SAND) / Residual (Sandy CLAY)
TP102	0.8	N/A	Yes (0.4 m)	FILL (Silty SAND with gravel) / Residual (Sandy CLAY)

Summary of subsurface conditions				
Test Pit and borehole ID	Depth of Topsoil/ Fill (m BGL)	Depth to Rock (mBGL)	Anthropogenic material: Brick and Tiles (Depth of FILL in meters)	Summary of subsurface profile
TP103	0.2	N/A	No	TOPSOIL (Silty SAND) / Residual (Sandy CLAY)
TP104	N/A	0.5	No	Residual (Gravelly SAND) / XW SANDSTONE
TP105	0.2	N/A	No	TOPSOIL (Silty SAND) / Residual (Sandy CLAY)
TP106	0.2	N/A	No	TOPSOIL (Silty SAND) / Residual (Sandy CLAY)
TP107	0.2	N/A	No	TOPSOIL (Silty SAND) / Residual (Sandy CLAY)
TP108	0.2	N/A	No	TOPSOIL (Silty SAND) / Residual (Sandy CLAY)
TP109	0.2	N/A	No	TOPSOIL (Silty SAND) / Residual (Sandy CLAY)
TP110	0.2	N/A	No	TOPSOIL (Silty SAND) / Residual (Sandy CLAY)
TP111	0.2	0.2	Yes	FILL (Silty SAND with gravel) / XW SANDSTONE
TP112	0.4	N/A	Yes (0.1 m)	FILL (Silty SAND with gravel) / Residual (Sandy CLAY)
TP113	0.4	N/A	Yes (0.1 m)	FILL (Silty SAND with gravel) / Residual (Sandy CLAY)
TP114	0.4	N/A	Yes (0.1 m)	FILL (Silty SAND with gravel) / Residual (Sandy CLAY)
TP115	0.1	N/A	Yes (0.1 m)	FILL (Silty SAND) / Residual (Sandy CLAY)
TP116	0.1	N/A	Yes (0.1 m)	FILL (Silty SAND) / Residual (Sandy CLAY)
TP117	0.1	N/A	Yes (0.1 m)	FILL (Silty SAND) / Residual (Sandy CLAY)
TP118	0.1	N/A	No	TOPSOIL (Silty SAND) / Residual (Sandy CLAY)
TP119	0.1	N/A	No	FILL (sandy CLAY) / Residual (Sandy CLAY)
TP120	0.1	N/A	No	TOPSOIL (Silty SAND) / Residual (Sandy CLAY)
TP121	0.1	N/A	No	FILL (sandy CLAY) / Residual (Sandy CLAY)
TP122	0.1	N/A	No	TOPSOIL (Silty SAND) / Residual (Sandy CLAY)
TP123	0.8	0	No	FILL (Silty SAND with gravel) / XW SHALE

Summary of subsurface conditions				
Test Pit and borehole ID	Depth of Topsoil/ Fill (m BGL)	Depth to Rock (mBGL)	Anthropogenic material: Brick and Tiles (Depth of FILL in meters)	Summary of subsurface profile
TP124	0.8	0	No	FILL (Silty SAND with gravel) / XW SHALE
TP125	0.5	0.5	No	FILL (Silty SAND with gravel) / XW SHALE
TP126	0.1	0.4	No	FILL (Silty SAND with gravel) / Residual (Sandy CLAY) / XW SHALE
TP127	0.5	0.5	No	FILL (Silty SAND with gravel) / XW SHALE
TP128	0.1	N/A	No	TOPSOIL (Silty SAND) / Residual (Sandy CLAY)
TP129	0.2	0.2	Yes	FILL (Silty SAND with gravel) / XW SANDSTONE
TP130	0.3	N/A	Yes	FILL (Silty SAND with gravel) / Residual (Sandy CLAY)
TP131	0.3	N/A	Yes	FILL (Silty SAND with gravel) / Residual (Sandy CLAY)
TP132	3	0	No	FILL (Sandy gravelly CLAY) / XW SHALE
TP133	3	0	No	FILL (Sandy gravelly CLAY) / XW SHALE
TP134	3	0	No	FILL (Sandy gravelly CLAY) / XW SHALE
TP135	2	0	No	FILL (Sandy gravelly CLAY) / XW SHALE
TP136	0.1	N/A	No	TOPSOIL (Silty SAND) / Residual (Sandy CLAY)
TP137	1.8	N/A	Yes (0.1 m)	FILL (Sandy gravelly CLAY) / Residual (Sandy CLAY)
TP138	0.1	0.1	Yes (0.1 m)	FILL (Silty SAND with gravel) / XW SHALE
TP139	3	N/A	No	FILL (Sandy gravelly CLAY) / Residual (Sandy CLAY)
TP140	0.2	0.5	Yes (0.2 m)	FILL (Silty SAND with gravel) / Residual (Sandy CLAY) / XW SANDSTONE
TP141	0.2	0.2	Yes (0.2 m)	FILL (Silty SAND with gravel) / XW SANDSTONE
TP142	0.2	0.2	Yes (0.2 m)	FILL (Silty SAND with gravel) / XW SANDSTONE
TP143	0.1	0.5	No	TOPSOIL (Silty SAND) / Residual (Sandy CLAY) / XW SHALE
TP144	0.1	0.1	Yes (0.1 m)	FILL (Silty SAND with gravel) / XW SHALE
TP145	1.5	N/A	No	FILL (Sandy gravelly CLAY) / Residual (Sandy CLAY)
TP146	0.1	N/A	Yes (0.1)	FILL (Sandy gravelly CLAY) / Residual (Sandy CLAY)

Summary of subsurface conditions				
Test Pit and borehole ID	Depth of Topsoil/ Fill (m BGL)	Depth to Rock (mBGL)	Anthropogenic material: Brick and Tiles (Depth of FILL in meters)	Summary of subsurface profile
TP147	0.1	0.5	No	TOPSOIL (Silty SAND) / Residual (Sandy CLAY) / XW SHALE
TP148	0.1	N/A	No	TOPSOIL (Silty SAND) / Residual (Sandy CLAY)
TP149	1.5	N/A	No	FILL (Sandy gravelly CLAY) / Residual (Sandy CLAY)
TP150	1.5	N/A	Yes (1.5 m)	FILL (Sandy CLAY with gravel) / Residual (Sandy CLAY)
TP151	0.1	0.6	No	TOPSOIL (Silty SAND) / Residual (Sandy CLAY) / XW SHALE
TP152	0.8	0	No	FILL (Silty SAND with gravel) / XW SHALE
TP153	0.3	N/A	No	FILL (Gravelly sandy SILT) / Residual (Sandy CLAY)
TP154	0.2	N/A	No	FILL (Sandy SILT) / Residual (Sandy CLAY)
TP155	0.2	N/A	Yes (0.2 m)	FILL (Sandy SILT) / Residual (Sandy CLAY)
TP156	0.2	N/A	Yes (0.2 m)	FILL (Sandy SILT) / Residual (Sandy CLAY)
TP157	0.3	N/A	Yes (0.3 m)	FILL (Silty SAND) / Residual (Sandy CLAY)
TP158	0.2	N/A	Yes (0.2 m)	FILL (Sandy SILT) / Residual (Sandy CLAY)
TP159	0.5	N/A	No	FILL (Silty SAND) / Residual (Sandy CLAY)
TP160	0.2	N/A	No	FILL (Sandy SILT) / Residual (Sandy CLAY)
TP161	0.2	N/A	Yes (0.2 m)	FILL (Sandy SILT) / Residual (Sandy CLAY)
TP162	1	N/A	Yes (1.0 m)	FILL (Sandy SILT) / Residual (Sandy CLAY)
TP163	0.4	N/A	Yes (0.4 m)	FILL (Sandy SILT) / Residual (Sandy CLAY)
TP164	0.2	1	Yes (0.2 m)	FILL (Sandy SILT) / Residual (Sandy CLAY) / Residual (Sandy gravelly CLAY) / XW SANDSTONE
TP165	1	1	Yes (1.0 m)	FILL (Sandy gravelly SILT) / XW SHALE
TP166	0.5	N/A	Yes (0.5 m)	FILL (Sandy gravelly SILT) / Residual (Sandy CLAY)
TP167	N/A	0.4	No	Residual (Clayey SAND with gravel) / XW SANDSTONE

Summary of subsurface conditions

Test Pit and borehole ID	Depth of Topsoil/ Fill (m BGL)	Depth to Rock (mBGL)	Anthropogenic material: Brick and Tiles (Depth of FILL in meters)	Summary of subsurface profile
TP168	N/A	0.4	No	Residual (Clayey SAND with gravel) / XW SANDSTONE
TP169	N/A	0.4	No	Residual (Clayey SAND with gravel) / XW SANDSTONE
TP170	3	N/A	No	FILL (Sandy gravelly CLAY) / Residual (Sandy CLAY)
TP171	N/A	0.4	No	Residual (Clayey SAND with gravel) / XW SANDSTONE
TP172	N/A	0.4	No	Residual (Clayey SAND with gravel) / XW SANDSTONE

Appendix H

SUMMARY OF STOCKPILED MATERIAL

Summary of Stockpiled Material						
Test Pit ID	Maximum Depth of Stockpile (m)	Test Pit and Borehole IDs	Anthropogenic material present?	Approximate Stockpile Volume (m ³)	Approximate Brick and tile Volume (m ³)	Description of Soil encountered
SP01	1.5	TP149	No	480	0	FILL (Sandy gravelly CLAY)
SP02	0.8	TP123	No	330	0	FILL (Silty SAND with gravel)
SP03	0.8	TP124	No	105	0	FILL (Silty SAND with gravel)
SP04	0.8	TP152	No	72	0	FILL (Silty SAND with gravel)
SP05	3.0	TP33, TP132, TP133	No	960	0	FILL (Sandy gravelly CLAY)
SP06	3.0	TP134, TP135	No	1870	0	FILL (Sandy gravelly CLAY)
SP07	3.0	TP139, TP145, TP170	No	2500	0	FILL (Sandy gravelly CLAY)
SP08	1.5	TP31, TP32, TP150	Yes (1.5 m)	540	540	FILL (Silty SAND with gravel)
SP09	1.8	TP30, TP102, TP137	Yes (0.4 m)	990	220	FILL (Silty SAND with gravel)
SP10	0.8	TP97	No	200	0	FILL (Silty SAND with gravel)
SP11	0.3	TP26	No	95	0	FILL (Silty SAND with gravel)
SP12	0.4	TP10, TP18	Yes (0.2 m)	12	5	FILL (Silty SAND with gravel)
SP13	0.3	TP22	Yes (0.3 m)	5	5	FILL (Silty SAND with gravel)
SP14	0.2	TP25	No	30	0	FILL (Silty SAND with gravel)
SP15	0.3	TP27	Yes (0.3 m)	10	10	FILL (Silty SAND with gravel)
SP16	0.5	TP92	No	14	0	FILL (Silty SAND with gravel)
SP17	0.4	TP112, TP113, TP114	Yes (0.1 m)	250	65	FILL (Silty SAND with gravel)
SP18	0.1	TP117	Yes (0.1 m)	5	5	FILL (Silty SAND)

Appendix I

ECOLOGICAL INVESTIGATION LEVEL CALCULATIONS

Inputs	
Select contaminant from list below	
Cr_III	
Below needed to calculate fresh and aged ACLs	
Enter % clay (values from 0 to 100%)	
20	
Below needed to calculate fresh and aged ABCs	
Measured background concentration (mg/kg). Leave blank if no measured value	
or for fresh ABCs only	
Enter iron content (aqua regia method) (values from 0 to 50%) to obtain estimate of background concentration	
1.97	
or for aged ABCs only	
Enter State (or closest State)	
NSW	
Enter traffic volume (high or low)	
low	

Outputs		
Land use	Cr III soil-specific EILs	
	(mg contaminant/kg dry soil)	
	Fresh	Aged
National parks and areas of high conservation value	95	170
Urban residential and open public spaces	230	510
Commercial and industrial	360	840

Inputs	
Select contaminant from list below	
Cu	
Below needed to calculate fresh and aged ACLs	
Enter cation exchange capacity (silver thiourea method) (values from 0 to 100 cmolc/kg dwt)	
12.9	
Enter soil pH (calcium chloride method) (values from 1 to 14)	
4.8	
Enter organic carbon content (%OC) (values from 0 to 50%)	
0.6	
Below needed to calculate fresh and aged ABCs	
Measured background concentration (mg/kg). Leave blank if no measured value	
or for fresh ABCs only	
Enter iron content (aqua regia method) (values from 0 to 50%) to obtain estimate of background concentration	
1.97	
or for aged ABCs only	
Enter State (or closest State)	
NSW	
Enter traffic volume (high or low)	
low	

Outputs		
Land use	Cu soil-specific EILs	
	(mg contaminant/kg dry soil)	
	Fresh	Aged
National parks and areas of high conservation value	20	35
Urban residential and open public spaces	35	65
Commercial and industrial	45	90

Inputs	
Select contaminant from list below	
Ni	
Below needed to calculate fresh and aged ACLs	
Enter cation exchange capacity (silver thiourea method) (values from 0 to 100 cmolc/kg dwt)	
12.9	
Below needed to calculate fresh and aged ABCs	
Measured background concentration (mg/kg). Leave blank if no measured value	
or for fresh ABCs only	
Enter iron content (aqua regia method) (values from 0 to 50%) to obtain estimate of background concentration	
1.97	
or for aged ABCs only	
Enter State (or closest State)	
NSW	
Enter traffic volume (high or low)	
low	

Outputs		
Land use	Ni soil-specific EILs	
	(mg contaminant/kg dry soil)	
	Fresh	Aged
National parks and areas of high conservation value	20	40
Urban residential and open public spaces	70	200
Commercial and industrial	130	340

Inputs	
Select contaminant from list below	Zn
Below needed to calculate fresh and aged ACLs	
Enter cation exchange capacity (silver thiourea method) (values from 0 to 100 cmolc/kg dwt)	12.9
Enter soil pH (calcium chloride method) (values from 1 to 14)	4.8
Below needed to calculate fresh and aged ABCs	
Measured background concentration (mg/kg). Leave blank if no measured value	
or for fresh ABCs only	
Enter iron content (aqua regia method) (values from 0 to 50%) to obtain estimate of background concentration	1.97
or for aged ABCs only	
Enter State (or closest State)	NSW
Enter traffic volume (high or low)	low

Outputs		
Land use	Zn soil-specific EILs	
	(mg contaminant/kg dry soil)	
	Fresh	Aged
National parks and areas of high conservation value	30	110
Urban residential and open public spaces	75	230
Commercial and industrial	110	320

Appendix J

95% UCL CALCULATIONS

	A	B	C	D	E	F	G	H	I	J	K	L
1	UCL Statistics for Uncensored Full Data Sets											
2												
3	User Selected Options		C10 - C16 Fraction F2									
4	Date/Time of Computation		2/08/2021 9:46:16 AM									
5	From File		WorkSheet.xls									
6	Full Precision		OFF									
7	Confidence Coefficient		95%									
8	Number of Bootstrap Operations		2000									
9												
10												
11	C0											
12												
13	General Statistics											
14	Total Number of Observations			75			Number of Distinct Observations			6		
15							Number of Missing Observations			0		
16	Minimum			50			Mean			54.13		
17	Maximum			160			Median			50		
18	SD			17.71			Std. Error of Mean			2.045		
19	Coefficient of Variation			0.327			Skewness			4.891		
20												
21	Normal GOF Test											
22	Shapiro Wilk Test Statistic			0.268			Shapiro Wilk GOF Test					
23	5% Shapiro Wilk P Value			0			Data Not Normal at 5% Significance Level					
24	Lilliefors Test Statistic			0.512			Lilliefors GOF Test					
25	5% Lilliefors Critical Value			0.102			Data Not Normal at 5% Significance Level					
26	Data Not Normal at 5% Significance Level											
27												
28	Assuming Normal Distribution											
29	95% Normal UCL						95% UCLs (Adjusted for Skewness)					
30	95% Student's-t UCL			57.54			95% Adjusted-CLT UCL (Chen-1995)			58.73		
31							95% Modified-t UCL (Johnson-1978)			57.73		
32												
33	Gamma GOF Test											
34	A-D Test Statistic			24.59			Anderson-Darling Gamma GOF Test					
35	5% A-D Critical Value			0.75			Data Not Gamma Distributed at 5% Significance Level					
36	K-S Test Statistic			0.519			Kolmogrov-Smirnoff Gamma GOF Test					
37	5% K-S Critical Value			0.103			Data Not Gamma Distributed at 5% Significance Level					
38	Data Not Gamma Distributed at 5% Significance Level											
39												
40	Gamma Statistics											
41	k hat (MLE)			17.86			k star (bias corrected MLE)			17.16		
42	Theta hat (MLE)			3.03			Theta star (bias corrected MLE)			3.155		
43	nu hat (MLE)			2680			nu star (bias corrected)			2574		
44	MLE Mean (bias corrected)			54.13			MLE Sd (bias corrected)			13.07		
45							Approximate Chi Square Value (0.05)			2457		
46	Adjusted Level of Significance			0.0468			Adjusted Chi Square Value			2455		
47												
48	Assuming Gamma Distribution											
49	95% Approximate Gamma UCL (use when n>=50)			56.71			95% Adjusted Gamma UCL (use when n<50)			56.76		
50												
51	Lognormal GOF Test											
52	Shapiro Wilk Test Statistic			0.286			Shapiro Wilk Lognormal GOF Test					
53	5% Shapiro Wilk P Value			0			Data Not Lognormal at 5% Significance Level					
54	Lilliefors Test Statistic			0.519			Lilliefors Lognormal GOF Test					
55	5% Lilliefors Critical Value			0.102			Data Not Lognormal at 5% Significance Level					
56	Data Not Lognormal at 5% Significance Level											
57												

	A	B	C	D	E	F	G	H	I	J	K	L
58	Lognormal Statistics											
59	Minimum of Logged Data				3.912		Mean of logged Data				3.963	
60	Maximum of Logged Data				5.075		SD of logged Data				0.205	
61												
62	Assuming Lognormal Distribution											
63	95% H-UCL				55.98		90% Chebyshev (MVUE) UCL				57.58	
64	95% Chebyshev (MVUE) UCL				59.32		97.5% Chebyshev (MVUE) UCL				61.74	
65	99% Chebyshev (MVUE) UCL				66.5							
66												
67	Nonparametric Distribution Free UCL Statistics											
68	Data do not follow a Discernible Distribution (0.05)											
69												
70	Nonparametric Distribution Free UCLs											
71	95% CLT UCL				57.5		95% Jackknife UCL				57.54	
72	95% Standard Bootstrap UCL				57.45		95% Bootstrap-t UCL				62.04	
73	95% Hall's Bootstrap UCL				58.68		95% Percentile Bootstrap UCL				58	
74	95% BCA Bootstrap UCL				58.93							
75	90% Chebyshev(Mean, Sd) UCL				60.27		95% Chebyshev(Mean, Sd) UCL				63.05	
76	97.5% Chebyshev(Mean, Sd) UCL				66.91		99% Chebyshev(Mean, Sd) UCL				74.48	
77												
78	Suggested UCL to Use											
79	95% Student's-t UCL				57.54		or 95% Modified-t UCL				57.73	
80												
81	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
82	These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)											
83	and Singh and Singh (2003). However, simulations results will not cover all Real World data sets.											
84	For additional insight the user may want to consult a statistician.											
85												

	A	B	C	D	E	F	G	H	I	J	K	L
1	UCL Statistics for Uncensored Full Data Sets											
2												
3	User Selected Options		FILL - C10 - C16 fraction (F2)									
4	Date/Time of Computation		2/08/2021 10:44:34 AM									
5	From File		WorkSheet_f.xls									
6	Full Precision		OFF									
7	Confidence Coefficient		95%									
8	Number of Bootstrap Operations		2000									
9												
10												
11	C0											
12												
13	General Statistics											
14	Total Number of Observations			37			Number of Distinct Observations			5		
15							Number of Missing Observations			0		
16	Minimum			50			Mean			56.76		
17	Maximum			160			Median			50		
18	SD			23.69			Std. Error of Mean			3.895		
19	Coefficient of Variation			0.417			Skewness			3.761		
20												
21	Normal GOF Test											
22	Shapiro Wilk Test Statistic			0.327			Shapiro Wilk GOF Test					
23	5% Shapiro Wilk Critical Value			0.936			Data Not Normal at 5% Significance Level					
24	Lilliefors Test Statistic			0.504			Lilliefors GOF Test					
25	5% Lilliefors Critical Value			0.146			Data Not Normal at 5% Significance Level					
26	Data Not Normal at 5% Significance Level											
27												
28	Assuming Normal Distribution											
29	95% Normal UCL						95% UCLs (Adjusted for Skewness)					
30	95% Student's-t UCL			63.33			95% Adjusted-CLT UCL (Chen-1995)			65.74		
31							95% Modified-t UCL (Johnson-1978)			63.73		
32												
33	Gamma GOF Test											
34	A-D Test Statistic			11.56			Anderson-Darling Gamma GOF Test					
35	5% A-D Critical Value			0.748			Data Not Gamma Distributed at 5% Significance Level					
36	K-S Test Statistic			0.512			Kolmogrov-Smirnoff Gamma GOF Test					
37	5% K-S Critical Value			0.145			Data Not Gamma Distributed at 5% Significance Level					
38	Data Not Gamma Distributed at 5% Significance Level											
39												
40	Gamma Statistics											
41	k hat (MLE)			10.88			k star (bias corrected MLE)			10.01		
42	Theta hat (MLE)			5.218			Theta star (bias corrected MLE)			5.668		
43	nu hat (MLE)			804.9			nu star (bias corrected)			740.9		
44	MLE Mean (bias corrected)			56.76			MLE Sd (bias corrected)			17.94		
45							Approximate Chi Square Value (0.05)			678.8		
46	Adjusted Level of Significance			0.0431			Adjusted Chi Square Value			676.2		
47												
48	Assuming Gamma Distribution											
49	95% Approximate Gamma UCL (use when n>=50)			61.95			95% Adjusted Gamma UCL (use when n<50)			62.19		
50												
51	Lognormal GOF Test											
52	Shapiro Wilk Test Statistic			0.344			Shapiro Wilk Lognormal GOF Test					
53	5% Shapiro Wilk Critical Value			0.936			Data Not Lognormal at 5% Significance Level					
54	Lilliefors Test Statistic			0.51			Lilliefors Lognormal GOF Test					
55	5% Lilliefors Critical Value			0.146			Data Not Lognormal at 5% Significance Level					
56	Data Not Lognormal at 5% Significance Level											
57												

	A	B	C	D	E	F	G	H	I	J	K	L
58	Lognormal Statistics											
59	Minimum of Logged Data				3.912		Mean of logged Data				3.992	
60	Maximum of Logged Data				5.075		SD of logged Data				0.266	
61												
62	Assuming Lognormal Distribution											
63	95% H-UCL				60.71		90% Chebyshev (MVUE) UCL				63.54	
64	95% Chebyshev (MVUE) UCL				66.92		97.5% Chebyshev (MVUE) UCL				71.62	
65	99% Chebyshev (MVUE) UCL				80.84							
66												
67	Nonparametric Distribution Free UCL Statistics											
68	Data do not follow a Discernible Distribution (0.05)											
69												
70	Nonparametric Distribution Free UCLs											
71	95% CLT UCL				63.16		95% Jackknife UCL				63.33	
72	95% Standard Bootstrap UCL				62.98		95% Bootstrap-t UCL				77.21	
73	95% Hall's Bootstrap UCL				66.35		95% Percentile Bootstrap UCL				63.78	
74	95% BCA Bootstrap UCL				65.95							
75	90% Chebyshev(Mean, Sd) UCL				68.44		95% Chebyshev(Mean, Sd) UCL				73.74	
76	97.5% Chebyshev(Mean, Sd) UCL				81.08		99% Chebyshev(Mean, Sd) UCL				95.51	
77												
78	Suggested UCL to Use											
79	95% Student's-t UCL				63.33		or 95% Modified-t UCL				63.73	
80												
81	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
82	These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)											
83	and Singh and Singh (2003). However, simulations results will not cover all Real World data sets.											
84	For additional insight the user may want to consult a statistician.											
85												

	A	B	C	D	E	F	G	H	I	J	K	L
1	UCL Statistics for Uncensored Full Data Sets											
2												
3	User Selected Options		C10 - C16 Fraction minus F2									
4	Date/Time of Computation		2/08/2021 9:51:11 AM									
5	From File		WorkSheet_a.xls									
6	Full Precision		OFF									
7	Confidence Coefficient		95%									
8	Number of Bootstrap Operations		2000									
9												
10												
11	C0											
12												
13	General Statistics											
14	Total Number of Observations			75			Number of Distinct Observations			6		
15							Number of Missing Observations			0		
16	Minimum			50			Mean			54.13		
17	Maximum			160			Median			50		
18	SD			17.71			Std. Error of Mean			2.045		
19	Coefficient of Variation			0.327			Skewness			4.891		
20												
21	Normal GOF Test											
22	Shapiro Wilk Test Statistic			0.268			Shapiro Wilk GOF Test					
23	5% Shapiro Wilk P Value			0			Data Not Normal at 5% Significance Level					
24	Lilliefors Test Statistic			0.512			Lilliefors GOF Test					
25	5% Lilliefors Critical Value			0.102			Data Not Normal at 5% Significance Level					
26	Data Not Normal at 5% Significance Level											
27												
28	Assuming Normal Distribution											
29	95% Normal UCL						95% UCLs (Adjusted for Skewness)					
30	95% Student's-t UCL			57.54			95% Adjusted-CLT UCL (Chen-1995)			58.73		
31							95% Modified-t UCL (Johnson-1978)			57.73		
32												
33	Gamma GOF Test											
34	A-D Test Statistic			24.59			Anderson-Darling Gamma GOF Test					
35	5% A-D Critical Value			0.75			Data Not Gamma Distributed at 5% Significance Level					
36	K-S Test Statistic			0.519			Kolmogrov-Smirnoff Gamma GOF Test					
37	5% K-S Critical Value			0.103			Data Not Gamma Distributed at 5% Significance Level					
38	Data Not Gamma Distributed at 5% Significance Level											
39												
40	Gamma Statistics											
41	k hat (MLE)			17.86			k star (bias corrected MLE)			17.16		
42	Theta hat (MLE)			3.03			Theta star (bias corrected MLE)			3.155		
43	nu hat (MLE)			2680			nu star (bias corrected)			2574		
44	MLE Mean (bias corrected)			54.13			MLE Sd (bias corrected)			13.07		
45							Approximate Chi Square Value (0.05)			2457		
46	Adjusted Level of Significance			0.0468			Adjusted Chi Square Value			2455		
47												
48	Assuming Gamma Distribution											
49	95% Approximate Gamma UCL (use when n>=50)			56.71			95% Adjusted Gamma UCL (use when n<50)			56.76		
50												
51	Lognormal GOF Test											
52	Shapiro Wilk Test Statistic			0.286			Shapiro Wilk Lognormal GOF Test					
53	5% Shapiro Wilk P Value			0			Data Not Lognormal at 5% Significance Level					
54	Lilliefors Test Statistic			0.519			Lilliefors Lognormal GOF Test					
55	5% Lilliefors Critical Value			0.102			Data Not Lognormal at 5% Significance Level					
56	Data Not Lognormal at 5% Significance Level											
57												

	A	B	C	D	E	F	G	H	I	J	K	L
58	Lognormal Statistics											
59	Minimum of Logged Data				3.912		Mean of logged Data				3.963	
60	Maximum of Logged Data				5.075		SD of logged Data				0.205	
61												
62	Assuming Lognormal Distribution											
63	95% H-UCL				55.98		90% Chebyshev (MVUE) UCL				57.58	
64	95% Chebyshev (MVUE) UCL				59.32		97.5% Chebyshev (MVUE) UCL				61.74	
65	99% Chebyshev (MVUE) UCL				66.5							
66												
67	Nonparametric Distribution Free UCL Statistics											
68	Data do not follow a Discernible Distribution (0.05)											
69												
70	Nonparametric Distribution Free UCLs											
71	95% CLT UCL				57.5		95% Jackknife UCL				57.54	
72	95% Standard Bootstrap UCL				57.46		95% Bootstrap-t UCL				62.51	
73	95% Hall's Bootstrap UCL				58.83		95% Percentile Bootstrap UCL				57.73	
74	95% BCA Bootstrap UCL				58.8							
75	90% Chebyshev(Mean, Sd) UCL				60.27		95% Chebyshev(Mean, Sd) UCL				63.05	
76	97.5% Chebyshev(Mean, Sd) UCL				66.91		99% Chebyshev(Mean, Sd) UCL				74.48	
77												
78	Suggested UCL to Use											
79	95% Student's-t UCL				57.54		or 95% Modified-t UCL				57.73	
80												
81	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
82	These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)											
83	and Singh and Singh (2003). However, simulations results will not cover all Real World data sets.											
84	For additional insight the user may want to consult a statistician.											
85												

	A	B	C	D	E	F	G	H	I	J	K	L
1	UCL Statistics for Uncensored Full Data Sets											
2												
3	User Selected Options		FILL - C10 - C16 minus F2									
4	Date/Time of Computation		2/08/2021 10:42:39 AM									
5	From File		WorkSheet_e.xls									
6	Full Precision		OFF									
7	Confidence Coefficient		95%									
8	Number of Bootstrap Operations		2000									
9												
10												
11	C0											
12												
13	General Statistics											
14	Total Number of Observations			37			Number of Distinct Observations			5		
15							Number of Missing Observations			0		
16	Minimum			50			Mean			56.76		
17	Maximum			160			Median			50		
18	SD			23.69			Std. Error of Mean			3.895		
19	Coefficient of Variation			0.417			Skewness			3.761		
20												
21	Normal GOF Test											
22	Shapiro Wilk Test Statistic			0.327			Shapiro Wilk GOF Test					
23	5% Shapiro Wilk Critical Value			0.936			Data Not Normal at 5% Significance Level					
24	Lilliefors Test Statistic			0.504			Lilliefors GOF Test					
25	5% Lilliefors Critical Value			0.146			Data Not Normal at 5% Significance Level					
26	Data Not Normal at 5% Significance Level											
27												
28	Assuming Normal Distribution											
29	95% Normal UCL						95% UCLs (Adjusted for Skewness)					
30	95% Student's-t UCL			63.33			95% Adjusted-CLT UCL (Chen-1995)			65.74		
31							95% Modified-t UCL (Johnson-1978)			63.73		
32												
33	Gamma GOF Test											
34	A-D Test Statistic			11.56			Anderson-Darling Gamma GOF Test					
35	5% A-D Critical Value			0.748			Data Not Gamma Distributed at 5% Significance Level					
36	K-S Test Statistic			0.512			Kolmogrov-Smirnoff Gamma GOF Test					
37	5% K-S Critical Value			0.145			Data Not Gamma Distributed at 5% Significance Level					
38	Data Not Gamma Distributed at 5% Significance Level											
39												
40	Gamma Statistics											
41	k hat (MLE)			10.88			k star (bias corrected MLE)			10.01		
42	Theta hat (MLE)			5.218			Theta star (bias corrected MLE)			5.668		
43	nu hat (MLE)			804.9			nu star (bias corrected)			740.9		
44	MLE Mean (bias corrected)			56.76			MLE Sd (bias corrected)			17.94		
45							Approximate Chi Square Value (0.05)			678.8		
46	Adjusted Level of Significance			0.0431			Adjusted Chi Square Value			676.2		
47												
48	Assuming Gamma Distribution											
49	95% Approximate Gamma UCL (use when n>=50)			61.95			95% Adjusted Gamma UCL (use when n<50)			62.19		
50												
51	Lognormal GOF Test											
52	Shapiro Wilk Test Statistic			0.344			Shapiro Wilk Lognormal GOF Test					
53	5% Shapiro Wilk Critical Value			0.936			Data Not Lognormal at 5% Significance Level					
54	Lilliefors Test Statistic			0.51			Lilliefors Lognormal GOF Test					
55	5% Lilliefors Critical Value			0.146			Data Not Lognormal at 5% Significance Level					
56	Data Not Lognormal at 5% Significance Level											
57												

	A	B	C	D	E	F	G	H	I	J	K	L
58	Lognormal Statistics											
59	Minimum of Logged Data				3.912		Mean of logged Data				3.992	
60	Maximum of Logged Data				5.075		SD of logged Data				0.266	
61												
62	Assuming Lognormal Distribution											
63	95% H-UCL				60.71		90% Chebyshev (MVUE) UCL				63.54	
64	95% Chebyshev (MVUE) UCL				66.92		97.5% Chebyshev (MVUE) UCL				71.62	
65	99% Chebyshev (MVUE) UCL				80.84							
66												
67	Nonparametric Distribution Free UCL Statistics											
68	Data do not follow a Discernible Distribution (0.05)											
69												
70	Nonparametric Distribution Free UCLs											
71	95% CLT UCL				63.16		95% Jackknife UCL				63.33	
72	95% Standard Bootstrap UCL				63.14		95% Bootstrap-t UCL				75.78	
73	95% Hall's Bootstrap UCL				66.35		95% Percentile Bootstrap UCL				63.78	
74	95% BCA Bootstrap UCL				66.22							
75	90% Chebyshev(Mean, Sd) UCL				68.44		95% Chebyshev(Mean, Sd) UCL				73.74	
76	97.5% Chebyshev(Mean, Sd) UCL				81.08		99% Chebyshev(Mean, Sd) UCL				95.51	
77												
78	Suggested UCL to Use											
79	95% Student's-t UCL				63.33		or 95% Modified-t UCL				63.73	
80												
81	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
82	These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)											
83	and Singh and Singh (2003). However, simulations results will not cover all Real World data sets.											
84	For additional insight the user may want to consult a statistician.											
85												

	A	B	C	D	E	F	G	H	I	J	K	L
1	UCL Statistics for Uncensored Full Data Sets											
2												
3	User Selected Options		C16 - C34 Fraction F3									
4	Date/Time of Computation		2/08/2021 9:56:31 AM									
5	From File		WorkSheet_b.xls									
6	Full Precision		OFF									
7	Confidence Coefficient		95%									
8	Number of Bootstrap Operations		2000									
9												
10												
11	C0											
12												
13	General Statistics											
14	Total Number of Observations			73			Number of Distinct Observations			13		
15							Number of Missing Observations			0		
16	Minimum			100			Mean			127.3		
17	Maximum			490			Median			100		
18	SD			80.37			Std. Error of Mean			9.406		
19	Coefficient of Variation			0.632			Skewness			3.419		
20												
21	Normal GOF Test											
22	Shapiro Wilk Test Statistic			0.396			Shapiro Wilk GOF Test					
23	5% Shapiro Wilk P Value			0			Data Not Normal at 5% Significance Level					
24	Lilliefors Test Statistic			0.427			Lilliefors GOF Test					
25	5% Lilliefors Critical Value			0.104			Data Not Normal at 5% Significance Level					
26	Data Not Normal at 5% Significance Level											
27												
28	Assuming Normal Distribution											
29	95% Normal UCL						95% UCLs (Adjusted for Skewness)					
30	95% Student's-t UCL			142.9			95% Adjusted-CLT UCL (Chen-1995)			146.8		
31							95% Modified-t UCL (Johnson-1978)			143.6		
32												
33	Gamma GOF Test											
34	A-D Test Statistic			18.62			Anderson-Darling Gamma GOF Test					
35	5% A-D Critical Value			0.754			Data Not Gamma Distributed at 5% Significance Level					
36	K-S Test Statistic			0.445			Kolmogrov-Smirnoff Gamma GOF Test					
37	5% K-S Critical Value			0.105			Data Not Gamma Distributed at 5% Significance Level					
38	Data Not Gamma Distributed at 5% Significance Level											
39												
40	Gamma Statistics											
41	k hat (MLE)			5.312			k star (bias corrected MLE)			5.103		
42	Theta hat (MLE)			23.96			Theta star (bias corrected MLE)			24.94		
43	nu hat (MLE)			775.6			nu star (bias corrected)			745		
44	MLE Mean (bias corrected)			127.3			MLE Sd (bias corrected)			56.34		
45							Approximate Chi Square Value (0.05)			682.7		
46	Adjusted Level of Significance			0.0467			Adjusted Chi Square Value			681.5		
47												
48	Assuming Gamma Distribution											
49	95% Approximate Gamma UCL (use when n>=50)			138.9			95% Adjusted Gamma UCL (use when n<50)			139.1		
50												
51	Lognormal GOF Test											
52	Shapiro Wilk Test Statistic			0.45			Shapiro Wilk Lognormal GOF Test					
53	5% Shapiro Wilk P Value			0			Data Not Lognormal at 5% Significance Level					
54	Lilliefors Test Statistic			0.445			Lilliefors Lognormal GOF Test					
55	5% Lilliefors Critical Value			0.104			Data Not Lognormal at 5% Significance Level					
56	Data Not Lognormal at 5% Significance Level											
57												

	A	B	C	D	E	F	G	H	I	J	K	L		
58	Lognormal Statistics													
59	Minimum of Logged Data					4.605	Mean of logged Data					4.749		
60	Maximum of Logged Data					6.194	SD of logged Data					0.372		
61														
62	Assuming Lognormal Distribution													
63	95% H-UCL				133.8	90% Chebyshev (MVUE) UCL				140.2				
64	95% Chebyshev (MVUE) UCL				147.8	97.5% Chebyshev (MVUE) UCL				158.2				
65	99% Chebyshev (MVUE) UCL				178.7									
66														
67	Nonparametric Distribution Free UCL Statistics													
68	Data do not follow a Discernible Distribution (0.05)													
69														
70	Nonparametric Distribution Free UCLs													
71	95% CLT UCL				142.7	95% Jackknife UCL				142.9				
72	95% Standard Bootstrap UCL				142.8	95% Bootstrap-t UCL				152.4				
73	95% Hall's Bootstrap UCL				143.7	95% Percentile Bootstrap UCL				144				
74	95% BCA Bootstrap UCL				146									
75	90% Chebyshev(Mean, Sd) UCL				155.5	95% Chebyshev(Mean, Sd) UCL				168.3				
76	97.5% Chebyshev(Mean, Sd) UCL				186	99% Chebyshev(Mean, Sd) UCL				220.9				
77														
78	Suggested UCL to Use													
79	95% Student's-t UCL				142.9	or 95% Modified-t UCL				143.6				
80														
81	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.													
82	These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)													
83	and Singh and Singh (2003). However, simulations results will not cover all Real World data sets.													
84	For additional insight the user may want to consult a statistician.													
85														

	A	B	C	D	E	F	G	H	I	J	K	L
1	UCL Statistics for Uncensored Full Data Sets											
2												
3	User Selected Options		FILL - C16 - C36									
4	Date/Time of Computation		2/08/2021 10:39:30 AM									
5	From File		WorkSheet_d.xls									
6	Full Precision		OFF									
7	Confidence Coefficient		95%									
8	Number of Bootstrap Operations		2000									
9												
10												
11	C0											
12												
13	General Statistics											
14	Total Number of Observations			35			Number of Distinct Observations			6		
15							Number of Missing Observations			0		
16	Minimum			100			Mean			117.7		
17	Maximum			490			Median			100		
18	SD			71			Std. Error of Mean			12		
19	Coefficient of Variation			0.603			Skewness			4.789		
20												
21	Normal GOF Test											
22	Shapiro Wilk Test Statistic			0.286			Shapiro Wilk GOF Test					
23	5% Shapiro Wilk Critical Value			0.934			Data Not Normal at 5% Significance Level					
24	Lilliefors Test Statistic			0.456			Lilliefors GOF Test					
25	5% Lilliefors Critical Value			0.15			Data Not Normal at 5% Significance Level					
26	Data Not Normal at 5% Significance Level											
27												
28	Assuming Normal Distribution											
29	95% Normal UCL						95% UCLs (Adjusted for Skewness)					
30	95% Student's-t UCL			138			95% Adjusted-CLT UCL (Chen-1995)			147.8		
31							95% Modified-t UCL (Johnson-1978)			139.6		
32												
33	Gamma GOF Test											
34	A-D Test Statistic			10.68			Anderson-Darling Gamma GOF Test					
35	5% A-D Critical Value			0.749			Data Not Gamma Distributed at 5% Significance Level					
36	K-S Test Statistic			0.471			Kolmogrov-Smirnoff Gamma GOF Test					
37	5% K-S Critical Value			0.149			Data Not Gamma Distributed at 5% Significance Level					
38	Data Not Gamma Distributed at 5% Significance Level											
39												
40	Gamma Statistics											
41	k hat (MLE)			6.93			k star (bias corrected MLE)			6.355		
42	Theta hat (MLE)			16.98			Theta star (bias corrected MLE)			18.52		
43	nu hat (MLE)			485.1			nu star (bias corrected)			444.9		
44	MLE Mean (bias corrected)			117.7			MLE Sd (bias corrected)			46.69		
45							Approximate Chi Square Value (0.05)			397		
46	Adjusted Level of Significance			0.0425			Adjusted Chi Square Value			394.8		
47												
48	Assuming Gamma Distribution											
49	95% Approximate Gamma UCL (use when n>=50)			131.9			95% Adjusted Gamma UCL (use when n<50)			132.6		
50												
51	Lognormal GOF Test											
52	Shapiro Wilk Test Statistic			0.331			Shapiro Wilk Lognormal GOF Test					
53	5% Shapiro Wilk Critical Value			0.934			Data Not Lognormal at 5% Significance Level					
54	Lilliefors Test Statistic			0.469			Lilliefors Lognormal GOF Test					
55	5% Lilliefors Critical Value			0.15			Data Not Lognormal at 5% Significance Level					
56	Data Not Lognormal at 5% Significance Level											
57												

	A	B	C	D	E	F	G	H	I	J	K	L	
58	Lognormal Statistics												
59	Minimum of Logged Data					4.605	Mean of logged Data					4.694	
60	Maximum of Logged Data					6.194	SD of logged Data					0.314	
61													
62	Assuming Lognormal Distribution												
63	95% H-UCL				126.6	90% Chebyshev (MVUE) UCL				133.3			
64	95% Chebyshev (MVUE) UCL				141.7	97.5% Chebyshev (MVUE) UCL				153.4			
65	99% Chebyshev (MVUE) UCL				176.3								
66													
67	Nonparametric Distribution Free UCL Statistics												
68	Data do not follow a Discernible Distribution (0.05)												
69													
70	Nonparametric Distribution Free UCLs												
71	95% CLT UCL				137.5	95% Jackknife UCL				138			
72	95% Standard Bootstrap UCL				137	95% Bootstrap-t UCL				317.7			
73	95% Hall's Bootstrap UCL				318.4	95% Percentile Bootstrap UCL				139.7			
74	95% BCA Bootstrap UCL				154.3								
75	90% Chebyshev(Mean, Sd) UCL				153.7	95% Chebyshev(Mean, Sd) UCL				170			
76	97.5% Chebyshev(Mean, Sd) UCL				192.7	99% Chebyshev(Mean, Sd) UCL				237.1			
77													
78	Suggested UCL to Use												
79	95% Student's-t UCL				138	or 95% Modified-t UCL				139.6			
80													
81	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.												
82	These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)												
83	and Singh and Singh (2003). However, simulations results will not cover all Real World data sets.												
84	For additional insight the user may want to consult a statistician.												
85													

	A	B	C	D	E	F	G	H	I	J	K	L
1	UCL Statistics for Uncensored Full Data Sets											
2												
3	User Selected Options											
4	Date/Time of Computation		2/08/2021 10:32:53 AM									
5	From File		WorkSheet_c.xls									
6	Full Precision		OFF									
7	Confidence Coefficient		95%									
8	Number of Bootstrap Operations		2000									
9												
10												
11	C0											
12												
13	General Statistics											
14	Total Number of Observations			22			Number of Distinct Observations			9		
15							Number of Missing Observations			0		
16	Minimum			100			Mean			146.4		
17	Maximum			430			Median			100		
18	SD			96.88			Std. Error of Mean			20.66		
19	Coefficient of Variation			0.662			Skewness			2.465		
20												
21	Normal GOF Test											
22	Shapiro Wilk Test Statistic			0.544			Shapiro Wilk GOF Test					
23	5% Shapiro Wilk Critical Value			0.911			Data Not Normal at 5% Significance Level					
24	Lilliefors Test Statistic			0.32			Lilliefors GOF Test					
25	5% Lilliefors Critical Value			0.189			Data Not Normal at 5% Significance Level					
26	Data Not Normal at 5% Significance Level											
27												
28	Assuming Normal Distribution											
29	95% Normal UCL						95% UCLs (Adjusted for Skewness)					
30	95% Student's-t UCL			181.9			95% Adjusted-CLT UCL (Chen-1995)			191.9		
31							95% Modified-t UCL (Johnson-1978)			183.7		
32												
33	Gamma GOF Test											
34	A-D Test Statistic			3.771			Anderson-Darling Gamma GOF Test					
35	5% A-D Critical Value			0.747			Data Not Gamma Distributed at 5% Significance Level					
36	K-S Test Statistic			0.347			Kolmogrov-Smirnoff Gamma GOF Test					
37	5% K-S Critical Value			0.186			Data Not Gamma Distributed at 5% Significance Level					
38	Data Not Gamma Distributed at 5% Significance Level											
39												
40	Gamma Statistics											
41	k hat (MLE)			4.112			k star (bias corrected MLE)			3.582		
42	Theta hat (MLE)			35.59			Theta star (bias corrected MLE)			40.86		
43	nu hat (MLE)			180.9			nu star (bias corrected)			157.6		
44	MLE Mean (bias corrected)			146.4			MLE Sd (bias corrected)			77.34		
45							Approximate Chi Square Value (0.05)			129.6		
46	Adjusted Level of Significance			0.0386			Adjusted Chi Square Value			127.7		
47												
48	Assuming Gamma Distribution											
49	95% Approximate Gamma UCL (use when n>=50)			178			95% Adjusted Gamma UCL (use when n<50)			180.7		
50												
51	Lognormal GOF Test											
52	Shapiro Wilk Test Statistic			0.63			Shapiro Wilk Lognormal GOF Test					
53	5% Shapiro Wilk Critical Value			0.911			Data Not Lognormal at 5% Significance Level					
54	Lilliefors Test Statistic			0.349			Lilliefors Lognormal GOF Test					
55	5% Lilliefors Critical Value			0.189			Data Not Lognormal at 5% Significance Level					
56	Data Not Lognormal at 5% Significance Level											
57												

	A	B	C	D	E	F	G	H	I	J	K	L	
58	Lognormal Statistics												
59	Minimum of Logged Data					4.605	Mean of logged Data					4.86	
60	Maximum of Logged Data					6.064	SD of logged Data					0.454	
61													
62	Assuming Lognormal Distribution												
63	95% H-UCL				173.5	90% Chebyshev (MVUE) UCL				184.8			
64	95% Chebyshev (MVUE) UCL				204.1	97.5% Chebyshev (MVUE) UCL				230.9			
65	99% Chebyshev (MVUE) UCL				283.5								
66													
67	Nonparametric Distribution Free UCL Statistics												
68	Data do not follow a Discernible Distribution (0.05)												
69													
70	Nonparametric Distribution Free UCLs												
71	95% CLT UCL				180.3	95% Jackknife UCL				181.9			
72	95% Standard Bootstrap UCL				180.4	95% Bootstrap-t UCL				237.7			
73	95% Hall's Bootstrap UCL				289.3	95% Percentile Bootstrap UCL				181.4			
74	95% BCA Bootstrap UCL				189.5								
75	90% Chebyshev(Mean, Sd) UCL				208.3	95% Chebyshev(Mean, Sd) UCL				236.4			
76	97.5% Chebyshev(Mean, Sd) UCL				275.4	99% Chebyshev(Mean, Sd) UCL				351.9			
77													
78	Suggested UCL to Use												
79	95% Student's-t UCL				181.9	or 95% Modified-t UCL				183.7			
80													
81	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.												
82	These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)												
83	and Singh and Singh (2003). However, simulations results will not cover all Real World data sets.												
84	For additional insight the user may want to consult a statistician.												
85													

