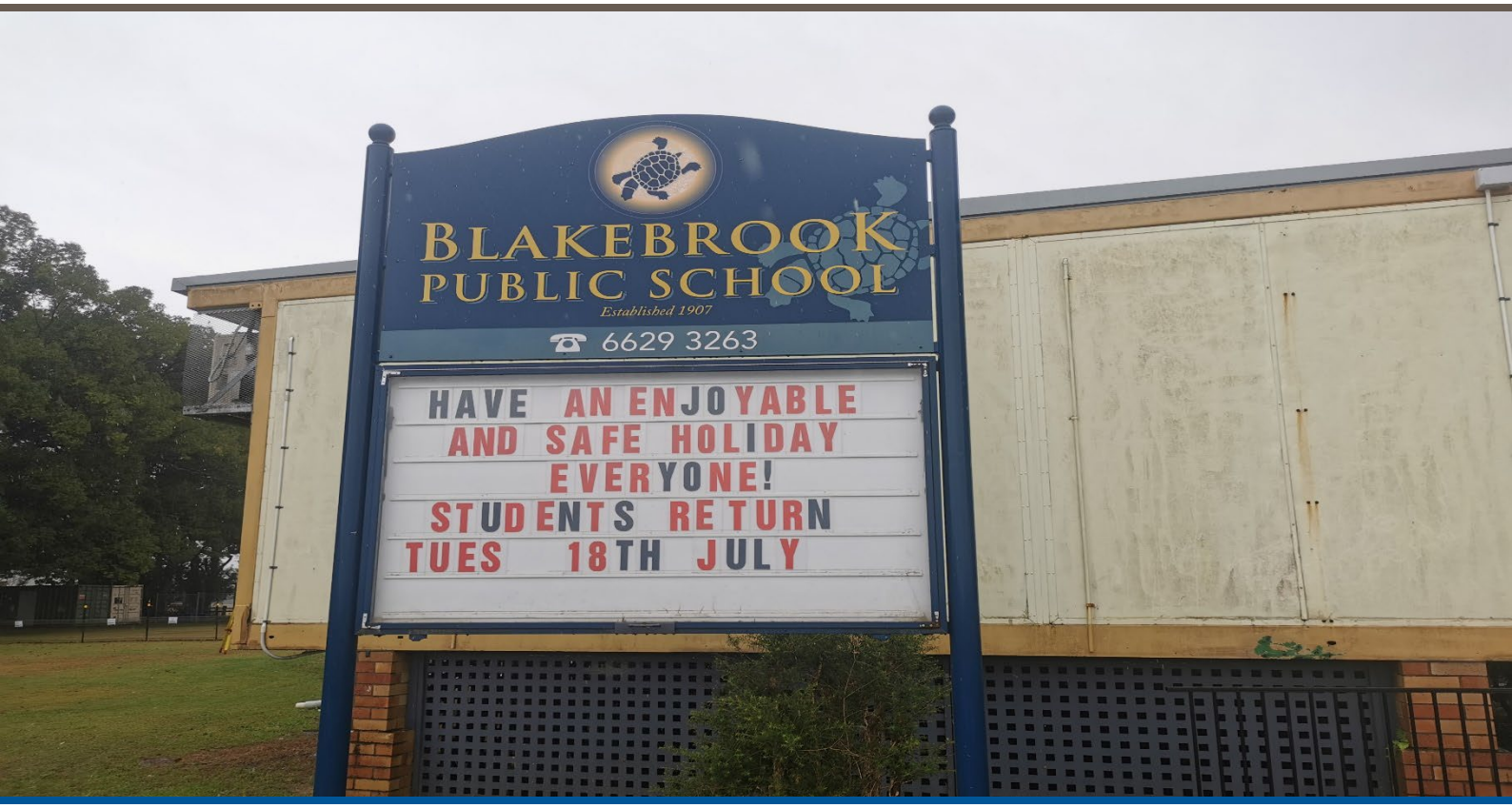
Blakebrook Public School
417 Rosehill Road, Blakebrook NSW 2480

Contamination Investigation

ADCO Constructions Pty Ltd



Reference: 754-SYDGE319200-R02

14 December 2023

BLAKEBROOK PUBLIC SCHOOL

Contamination Investigation

Report reference number: 754-SYDGE319200-R02
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QUALITY INFORMATION

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EXECUTIVE SUMMARY[1]

Tetra Tech Coffey Pty Ltd (Coffey) was engaged by ADCO Constructions Pty Ltd (ADCO) to provide contamination management services to inform/support a programme of refurbishments and development (referred to as the development area herein) within a portion of Blakebrook Public School, 417 Rosehill Road, Blakebrook NSW 2480 (the site) previously damaged by flood events in February/March 2022. The development site covers an approximate area of 1.3ha.

The objective of this assessment was to identify potential contamination issues relevant to the site in reference to the proposed refurbishments and developments.

In accordance with NSW EPA guidance, Coffey completed the following scope of works:

- A desktop review of the following information sources:
  - Acid sulfate soil risk maps
  - Local geology
  - Local hydrogeology
  - Local topography
  - A review of local Council Section 10.7 certificate in relation to the site
  - Review of historical imagery
  - Registered groundwater bore information in the public register held by NSW Office of Water.
  - Contaminated land records and environmental protection licence information in the public registers held by the NSW Environment Protection Authority.
  - A site walkover by an experienced environmental consultant to identify potential sources of contamination.

The review of available records, and observations made during a site walkover has identified the following potential contamination sources within the site:

- Potential for hazardous building materials to impact the ground surface from flood damaged buildings.
- Likely presence of hazardous materials in existing flood impacted buildings.
- Potential for floodwaters to have deposited contaminated material on site.

Based on our investigation findings, Coffey consider the following:

- No unacceptable human health soil impacts were identified within the investigation area.
- No unacceptable ecological soil impacts were identified in the investigation area

The investigation area is considered suitable for the proposed development with respect to contamination, subject to:

- Implementation of an unexpected finds protocol
- Appropriate waste/spoil management

Acid sulfate soil are not known to occur within the site. No actual acid sulfate soil (AASS) or potential acid sulfate soil (PASS) were detected in the shallow soil samples analysed. Coffey considers that an acid sulfate soils management would not be required for the proposed development.

This report should be read in conjunction with the attached “Important information about your Coffey Environmental Report”.

[1] This executive summary must be read in the context of the full report and the attached limitations.

CONTENTS

APPENDICES

ABBREVIATIONS

Abbreviations	Definition
AEC	Area of Environmental Concern
AHD	Australian Height Datum
ASC NEPM	National Environment Protection (Assessment of Site Contamination Measure 1999
BTEX	Benzene, toluene, ethylbenzene and xylene
CLM Act	Contaminated Land Management Act 1997
COPC	Contaminant of Potential Concern
CSM	Conceptual Site Model
GDE	Groundwater Dependant Ecosystem
OCP	Organochlorine pesticides
OPP	Organophosphorus Pesticides
PAH	Polycyclic aromatic hydrocarbons
POEO Act	Protection of the Environment Operations Act 1997
TRH	Total Recoverable Hydrocarbons

1. INTRODUCTION

1.1 GENERAL

Tetra Tech Coffey Pty Ltd (Coffey) was engaged by ADCO Constructions Pty Ltd (ADCO) to provide contamination management services to inform/support a programme of refurbishments and development (referred to as the development area herein) within a portion of Blakebrook Public School, 417 Rosehill Road, Blakebrook NSW 2480 (the site) previously damaged by flood events in February/March 2022. The site location, development area and site boundary are illustrated in Figure 1.

The Investigation was prepared in accordance with Coffey's fee proposal dated 24 March 2023 (ref: SYDGE319200-AB).

1.2 OBJECTIVES

The objective of this investigation was to provide contamination management services (including preparation of contamination documentation) to support ADCO in delivering the project. The investigation will assist with the characterisation of the extent and type of contamination (if present) within the development area.

1.3 SCOPE OF WORKS

To meet the above objective, Coffey has prepared this Investigation in general accordance with relevant guidelines including the *Guidelines for Consultants Reporting on Contaminated Land* (NSW EPA, 2020), and Schedule B2 of the *National Environment Protection (Assessment of Site Contamination) Measure 1999* (the 'ASC NEPM') (NEPC, 2013).

In accordance with NSW EPA guidance, Coffey completed the following scope of works:

- A desktop review of the following information sources:
  - Local geology, hydrogeology, topography and acid sulfate soil risk maps.
  - A selection of relevant historical aerial photographs available in public online portals, covering the site and the surrounds.
  - Registered groundwater bore information in the public register held by NSW Office of Water .
  - Contaminated land records and environmental protection licence information in the public registers held by the NSW Environment Protection Authority.
  - Current and historical titles records (if land use cannot be established by aerial photographs).
  - Review of the Section 10.7 (2 & 5) certificates for the site maintained by Council .
  - Previous contamination assessments reports made available by ADCO.
- A walkover of the site was undertaken to observe current activities and conditions within the site, and adjacent properties.
- Limited soil sampling utilising geotechnical boreholes extending at least 1.0 m below ground level (mbgl) depth, and/or into the natural soil profile. Soil samples were collected at selected depth intervals.
- Limited soil sampling within the development area using hand tools up to 0.2 mbgl to target shallow impacts associated with the flood event.
- Chemical analysis at a NATA accredited laboratory for selected analytes.
- Preparation of this report.

2. SITE INFORMATION

2.1 SITE LOCATION

The site location information is summarised in Table 2.1 below:

Table 2.1: Site Information

Item	Description
Site Address	Blakebrook Public School, 417 Rosehill Road, Blakebrook
Site Area	Approximately 13,000 m^2
Development Area	Approximately 13,000 m^2
Title Identification	Lot 2, DP859866
Current Land Zoning	SP2 – Infrastructure, Educational Establishment
Local Government Authority	Lismore City Council
Current Land Use	Educational Establishment
Proposed Land Use	Educational Establishment

2.2 SITE DESCRIPTION

An experienced environmental scientist attended site to undertake a walkover on 4 July 2023. The following observations were made:

- The site was observed to be predominately grass covered with areas of hardstand in good condition.
- Two temporary demountable buildings (photograph 1) were observed in the central east portion of the site which are understood to be occupied during school hours. The unoccupied, flood damaged buildings were located to the west. In the northern portion of the site, three unoccupied buildings and a small orchard were located.
- A shed/garage was located towards the northwest which was reported to contain sports equipment and small quantities of cleaning chemicals.
- Upon inspection of the exterior of the unoccupied, flood damaged buildings and given the observed age it is considered possible for building materials to comprise asbestos containing material (ACM).
- Water tanks were observed on site to supply the school.
- A signboard indicates that the school was established in 1907.

2.3 SURROUNDING LAND USES

Table 2.3 summarises the uses of surrounding land based on observations made from accessible areas within the site and site boundary during the walkover, and a review of recent, web-based aerial imagery.

Table 2.3: Surrounding Land Uses

Direction	Land use summary

North	A dam towards the immediate north, fenced agricultural land and associated structures, one residential property towards the northeast.
East	A residential property followed by Nimbin Road and agricultural land intercepted by Terania Creek.
South	Rosehill Road and agricultural land intercepted by Goolmangar Creek.
West	Goolmangar Creek followed by agricultural land.

3. ENVIRONMENTAL SITE SETTING

Table 3.1 presents a summary of information to describe the environmental setting of the site and surrounding land.

Table 3.1: Summary of Environmental Setting of Site and Surrounding Land

Aspect	Description
Topography	Available topographic mapping shows regional topography is relatively flat. Based on the site survey information, the site ground surface sloped gently from approximately 15.5mAHD at the north-east boundary to approximately RL13.5mAHD at the south-west boundary. The different ground elevation across the school boundary is up to approximately 2m.
Geology & Soil Landscape	According to the Geological Survey of Tweed Heads map, the site is underlain by Quaternary alluvium (Q_af) comprising "silt, very fine to medium grained lithin to quartz rich sand, clay". The area to the north of the site indicated to be underlain by Lismore Basalt (NMlal). Available soil landscape information from the eSPADE website[2] indicates the northern portion of the site is located within disturbed terrain. The southern portion of the site is seated within the Leycester soil landscape which is characterised by "deep, poorly to moderately well-drained alluvial Black Earths and structured clays". Acid sulfate soil are not known to occur within the site or its immediate surrounds.
Hydrogeology	Groundwater was intercepted between 2.1mBGL to 2.4mBGL in the boreholes. Available records from Water NSW indicated that there was one licensed groundwater bore (GW307918) within 500m of the site. This was used for water supply.
Hydrology	Goolmanger Creek is located approximately 150m to the west of the site. Terania Creek is situated approximately 350m to the east of the site.
Acid Sulfate Soils Risk / Classification	The site is not within an area classified as acid sulfate soils under the Lismore Council Local Environmental Plan 2012. The site is not in an area determined to be at risk by the Acid Sulfate Soil Risk maps prepared by the Department of Land and Water Conservation.

[2] Available: https://www.environment.nsw.gov.au/eSpade2Webapp/

4. SITE HISTORY

4.1 HISTORIC AERIAL PHOTOGRAPHS

A review of historical aerial photographs supplied by NSW Government Historical Imagery website is summarised in Table 4.1 below. The historical aerial photographs reviewed are provided in Appendix C.

Table 4.1: Summary of historic land uses based on aerial photographs

Date	Site Features	Features of Surrounding Land
1958	The site area appears to be relatively flat (floodplain), vacant grassland with sporadic trees and a line of trees established along the western boundary. A building appears to be present within the central portion of the site.	Goolmangar Creek is observed beyond the western boundary. Rosehill Road runs along the southern boundary of the site. The surrounding area appears to be vacant grassland.
1971	Several buildings appear to have been developed on the site. The line of trees remains along the western boundary and a portion of the southern boundary.	Buildings have been developed to the north and the ground surface appears to be disturbed in this area.
1979	An area of hardstand has appeared in the central portion of the site.	A residential property and associated driveway have been developed to the east, off Rosehill Road. The ground disturbance to the north has been exacerbated.
1987	A building in the central portion of the site has been demolished. Buildings towards the western portion of the site have been connected via pathway and/or veranda.	A driveway from Rosehill Road has been constructed to the west of the site connecting to a structure in the north. Trees have been established around the boundary of the property towards the east and an additional small structure has been constructed. A parcel of land, south of Rosehill Road, has been ploughed likely for agricultural purposes. Several buildings to the north have been demolished and the area of disturbance appears to have been filled.
1997	A building has been constructed in the northern portion of the site	An extension has been developed to the building east of the site. A retention dam has been constructed towards the north of the site.
2014	An additional building has been constructed in the north-eastern portion of the site	The retention dam has been deepened. The surrounding area remains largely unchanged from the previous aerial photograph.
2023	Two buildings have been constructed in the central portion of the site.	A new building has been constructed towards the north-east of the site. Otherwise, the surrounding area remains relatively unchanged from the previous aerial photograph.

4.2 PUBLIC RECORDS AND REGISTERS

Table 4.2: Summary of Records from Public Records and Registers

Register	Summary
NSW EPA Contaminated Land Public Record[3]	A search of the List of NSW Contaminated Sites Notified to NSW EPA updated 9 May 2023 was undertaken. The search indicates that the site, or properties within a 500m radius of the site, had not been notified to the NSW EPA under Section 60 of the Contaminated Land Management Act 1997.
NSW POEO Public Registers	A search of the NSW EPA POEO Public Registers, was undertaken on 20 April 2023 for: • Activities licensed by the NSW EPA under Schedule 1 of the POEO Act 1997. • Unlicensed premises regulated by the NSW EPA. The search identified the following licensed activities within or in close proximity to the site: • Lismore or Blakebrook Quarry – extractive activities, bitumen pre-mix or hot-mix industries located approximately 2.5 km east of the site.
Former Gasworks	A search of NSW EPA List of Former Gasworks[4] was undertaken on the 9 June 2023. The search indicated that there are no known gasworks at or within 500m of the Site.
Waste Management Facilities	A search of the National Waste Reporting Mapping Tool undertaken on 9 June 2023. The search identified no waste transfer facilities or landfill sites within the site or within 500m of the site.
NSW Government PFAS Investigation Programme	The NSW EPA is leading an investigation program to assess the legacy of Per- and poly-fluoroalkyl substances (PFAS) use across NSW. Current investigations are focused on sites where it is likely that large quantities of PFAS have been used. A search of the NSW EPA website[5] undertaken on 9 June 2023 did not identify properties within 1,000m of the site which are being investigated for PFAS use under the NSW Government PFAS Investigation Program.
Known James Hardie Waste Disposal Sites	The NSW EPA published a summary project report titled Regulation Project – James Hardie Asbestos Waste Contamination Legacy in 2012. This report presented a summary of asbestos impacted sites resulting from former operations of James Hardie Industries and related entities (James Hardie). A review of the report indicates that the site is not listed as a known James Hardie Waste Disposal Site, and no known James Hardie disposal site is listed within 1,000m of the Site.

[3] https://www.epa.nsw.gov.au/your-environment/contaminated-land/notified-and-regulated-contaminated-land/list-of-notified-sites
[4] https://www.epa.nsw.gov.au/your-environment/contaminated-land/other-contamination-issues/former-gasworks-sites
[5] https://www.epa.nsw.gov.au/your-environment/contaminated-land/pfas-investigation-program

4.3 PREVIOUS ENVIRONMENTAL ASSESSMENTS

No previous environmental assessments were provided for review from ADCO.

4.4 SECTION 10.7 PLANNING CERTIFICATE

Coffey obtained the Section 10.7 Planning Certificate for Lot 2 and DP859866. Coffey reviewed this certificate, noting the following in relation to contaminated land:

- These lots have not been designated significantly contaminated land or is the subject of an approved voluntary management proposal, ongoing maintenance order or has previously been the subject of a site audit statement.
- These lots have not been listed on the Loose Fill Asbestos Register, as maintained by NSW Fair Trading.

4.5 SUMMARY OF SITE INFORMATION

Based on the review of site history and publicly available information sources, a summary of site history information is provided below.

- The site appears to have maintained buildings on the land since prior to the oldest available aerial photograph dated 1958. A signboard indicates that the school was established in 1907.
- Additional buildings have been developed on the site over time, within the central portion.
- The site has not been listed on any public registers in relation to contamination.
- Surrounding areas appear to be for agricultural uses and rural residential from the period the aerial photographs were reviewed.

4.6 INTEGRITY ASSESSMENT OF INFORMATION REVIEWED

The following information sources were referred to for this assessment.

- Historic aerial photographs for the period between 1958 and 2023.
- Section 10.7 Planning Certificate.
- Public registers, records and maps maintained and provided by various government departments; and
- Observations and interviews made in the field during the site walkover.

The site inspection was made from accessible areas of the site, which included observations from property boundaries.

Review of site history indicated that the site has been used for the same land-use since occupation. The planning certificate indicates that the site has not been designated significantly contaminated land or designated orders in relation to contamination. Public registers did not indicate any items of concern in relation to contamination.

Historic aerial photographs were reviewed for the period between 1958 and 2023. This source of information used to describe these historic land uses is considered to be reliable and suitable to inform the preliminary assessment of potential contamination.

5. CONCEPTUAL SITE MODEL

A conceptual side model (CSM) was developed based on the information reviewed and observations made during a site inspection. A CSM is a representation of site-related information regarding potential sources of contamination, receptors and exposure pathways.

Contamination, if not managed appropriately could pose a potential risk to human health or the environment. For an unacceptable risk to exist, there must be a plausible pollutant linkage between the source and a receptor by means of a transport mechanism (pathway).

5.1 AREAS OF ENVIRONMENTAL CONCERN

Based on the information reviewed, the following AEC have been identified in Table 5.1 below.

Table 5.1: Areas of Environmental Concern and Contaminants of Potential Concern

AEC	Location	Description of AEC	COPC
Fill material/flood material	Exposed surface soils across the site	Whilst on site observations did not identify significant, flood related impacts to surface soils, it is possible that flood waters may deposit contaminants and contaminated material from the surrounding area.	Fill and/or flood material may contain a range of potential contaminants, including hydrocarbon residues (TRH, BTEX, PAH), pesticides (OCP, OPP), metals, asbestos
Hazardous building materials	Central portion of site (multiple buildings)	Structures on site have potential to contain hazardous building materials (e.g., asbestos, lead-based paint residues, which may enter surface soils due to poor demolition practices or weathering over time.	Heavy metals, asbestos

COPC Abbreviations:
TRH: Total recoverable hydrocarbons
BTEX: Benzene, toluene, ethylbenzene and xylene
PAH: Polycyclic aromatic hydrocarbons
OCP: Organochlorine pesticides
OPP: Organophosphorus Pesticides

5.2 RECEPTORS, POTENTIAL TRANSPORT MECHANISMS & EXPOSURE PATHWAYS

Table 5.2 summarises the potentially affected media, key potential receptors and transport mechanisms in the context of the proposed development. The following receptors were considered:

- Current site users.
- Site visitors including construction or maintenance workers.
- Terrestrial ecology including mature trees and protected biodiversity areas.

Table 5.2: Summary of potentially affected media, receptors, transport mechanisms and exposure routes

Source & Media	Receptor	Pathway	Likelihood of Exposure
Soil – fill material from historical placements or flood deposition.	Construction worker undertaking ground disturbance activities. School users and visitors Terrestrial Ecology	Dermal contact and accidental ingestion/inhalation of soil/fibres Direct contact and uptake by terrestrial ecology	Low to moderate likelihood – No significant mounding or flood deposit was observed. Pathway potentially complete if the impacted soil is exposed.
Soil - hazardous building materials impact on surface soil.	Construction worker undertaking ground disturbance activities. School users and visitors Terrestrial ecology	Dermal contact and accidental ingestion/inhalation of soil/fibres Direct contact and uptake by terrestrial ecology	Low to moderate likelihood – Impacts, if present, are typically superficial and/or localised. Pathway potentially complete if the impacted soil is exposed.

6. SAMPLE PLAN AND METHODOLOGY

6.1 OVERVIEW

The sampling locations are shown in Figure 1 in Appendix A.

The proposed sampling strategy for the site was established with consideration to the requirements of the *National Environment Protection (Assessment of Site Contamination) Measure 1999 (NEPM)* and the NSW *Contaminated Sites: Sampling Design Guidelines* (NSW EPA, 2022) (NSW Sampling Guidelines).

This section summarises the sampling undertaken by Coffey.

6.2 SOIL

The site is shown in Figures 2-8 in Appendix B.

Coffey completed a total of eleven sampling locations (five surface samples and six boreholes) concurrently with the geotechnical investigation. The locations were positioned across the subject development area to provide general coverage with some of these sampling points targeting the weathering/remnants of hazardous building materials in the vicinity of existing/demolished buildings.

Overall, the sampling completed is considered to present reasonable coverage to enable identification of contamination constraints for the proposed development.

The soil sampling methodology is described in Table 6.1 below.

Table 6.1: Soil Sampling Methodology

Activity	Detail / Comments
Drilling method	Boreholes extended to depths of between 1.0 m and 11.0 mbgl using a combination of a hand auger and a drill rig.
Sampling Frequency	Samples were collected from the near surface and then at selected intervals in fill materials based on signs of contamination. Deeper soil samples were collected from natural material for acid sulfate soil testing. Suspected asbestos-containing materials (ACM) were not observed at the sampling locations. Selected samples were collected for asbestos identification screening.
Surface sampling	Surface samples were collected by gloved hand or with the aid of hand tools.

Soil Sampling Containers	Soil samples were placed in clean acid washed glass jars supplied by the laboratory and sealed with a Teflon-lined lid. Laboratory provided plastic sample bags were used for asbestos analysis and acid sulfate soils.
Sample collection	Each soil sample was collected with new nitrile gloves to reduce the potential for cross contamination. The samples were generally collected from the split spoon sampler.
Soil Logging	Soil samples were logged by a suitably qualified and experienced Coffey environmental scientist in accordance with Coffey's relevant Standard Operating Practice (SOP), based on AS 1726-2017. Presence or absence of anthropogenic material and contamination (i.e., odours or staining) was recorded on the borehole logs.
Sample Handling and Transportation	Sample collection, storage and transport was conducted in general accordance with Coffey's SOP. Soil samples were placed into laboratory prepared and supplied glass jars, fitted with Teflon lined seals to limit possible volatile loss. Sample jars were filled to minimise headspace. Separate samples for asbestos analysis were collected and placed in double zip lock bags. The samples were placed into ice chilled coolers and dispatched to NATA accredited laboratories for analysis under chain of custody (COC) control.
QA/QC Samples	To measure the accuracy and precision of the data generated by the field and laboratory procedures for this assessment, Coffey collected and analyse QC samples in general accordance with Coffey's standard operating procedures (SOP) and industry's guidelines.

Samples were analysed by laboratories holding accreditation to ISO 17025 General requirements for the competence of testing and calibration laboratories and using National Association of Testing Authorities (NATA) accredited methods.

7. ASSESSMENT CRITERIA

To assess the significance of contaminant concentrations in soil, reference was primarily made to NEPM 2013, specifically 'Schedule B1 Guideline on Investigation Levels for Soil and Groundwater' (Schedule B1) for assessment criteria, where available.

Schedule B1 provides a framework for the use of investigation and screening levels based on human health and ecological risks. In the absence of relative criteria in NEPM 2013, reference was made to other appropriate state, national or international guideline.

Table 7.1: Adopted Soil Assessment Criteria

Criteria Adopted	Reference	Receptors/Relevance	Pathway/Comments
HIL-A for non-volatile contaminants	ASC NEPM (2013)	Primary school receptors	Dermal contact and ingestion
HSL-A for petroleum volatiles	ASC NEPM (2013)	Primary school receptors in buildings	Inhalation
HSL intrusive maintenance worker 0m to<2m, fine grained, for petroleum volatiles	CRC CARE (2011)	Intrusive maintenance worker (shallow trench)	Inhalation
HSL-A for direct contact, for petroleum contaminants	CRC CARE (2011)	Primary school receptors	Dermal contact and inhalation
Management limits, residential, parkland and public open space, fine grained soil texture, for petroleum TPH fractions	ASC NEPM (2013)	Primary school setting	Formation of LNAPL, fire and explosion and property damage

EIL and ESL for residential and open space, fine grained soil texture, for soil contaminants^	ASC NEPM (2013) & Olszowy et al (1995)^	Plants and terrestrial organisms (top 2m)	Leaching, adsorption, intake or direct exposure
HSL-A for asbestos	ASC NEPM (2013)	Primary school receptors	Inhalation

^ EIL developed based on pH of 6, CEC of 10cmol/kg, iron content of 5%, in a low traffic old suburb setting

8. RESULTS

8.1 SUBSURFACE CONDITIONS

Subsurface conditions are summarised in Table 8.1 below.

Table 8.1: Vertical Profile Overview

Fill/ Natural	Depth (mbgl)	Material Description
Fill	0.0 – 0.2	Silty CLAY and Sandy CLAY– grey, trace rootlets, loose
Natural	0.2 – 1.0	CLAY – brown
Natural	1.0 – 7.0	CLAY – red
Natural	7.0 – 10.0	CLAY – red mottled grey

It is noted that fill material (dark brown clay and gravels) to 1.2 mbgl was identified within C-BH3, which is not represented in the table above.

During the investigation, materials suspected to be asbestos containing material (ACM) were not apparent in or around the borehole/sampling locations. Furthermore, indicators of contamination (staining, demolition waste, odorous soil etc.) were not apparent during the investigation.

9. ANALYTICAL RESULTS

9.1 SOIL

The laboratory results are presented in Table I1 in Appendix I and indicate that the current and previous results were all within the site assessment criteria (SAC) with the following exceptions:

9.1.1 Heavy Metals

With the exceptions of lead and zinc, heavy metals were either not detected above the LOR or were detected within the SAC.

- One lead concentration exceeded the HIL-A criteria of 300 mg/kg:
  - 310 mg/kg in BL-SS4.
  - The exceedance is only marginal, unlikely to present an unacceptable human health risk when the combined dataset is considered[6].
- One zinc concentration exceeded the EIL-A criteria of 480 mg/kg:
  - 520 mg/kg in CBH1 0-0.1m.
  - The exceedance is only marginal, unlikely to present an unacceptable ecological risk when the combined dataset is considered[7].

9.1.2 BTEX

BTEX compounds were not detected above the laboratory limit of reporting (LOR) in any of the samples tested.

9.1.3 Organochlorine Pesticides

OCP compounds were not detected above the LOR in any of the samples tested.

9.1.4 Total Petroleum Hydrocarbons

TPH compounds were either not detected above the LOR or were detected within the SAC.

9.1.5 Polyaromatic Hydrocarbons

PAH were either not detected above the LOR or were detected within the SAC.

9.1.6 Pesticides

Pesticides were not detected above the LOR in any of the samples tested.

9.1.7 Asbestos

Asbestos was not detected above the reporting limit in any of the samples tested.

[6] Marginal exceedance not considered to be a hotspot; 95% UCL (not calculated) unlikely to exceed the SAC.
[7] Marginal exceedance not considered to be a hotspot; 95% UCL (not calculated) unlikely to exceed the SAC.

9.2 PRELIMINARY WASTE CLASSIFICATION

Subject to further characterisation (including TCLP) during excavation, the assessed shallow soils are likely to meet the General Solid Waste (non-putrescible) criteria.

9.3 ACID SULFATE SOIL ASSESSMENT

Three shallow samples were assessed for acid sulfate soils properties. $pH_{(f)}$ values were reported to range from 6.2 to 7.4, not indicative of actual acid sulfate soils (AASS). $pH_{(ox)}$ values were reported to range from 4.5 to 5.1, not indicative of potential acid sulfate soils (PASS).

9.4 QUALITY CONTROLS AND DATA USEABILITY

Coffey has reviewed the quality control (QC) results and considers the data reasonably representative for the purposes of this report. The majority of the field and laboratory QC results is generally reported within the acceptable control limits. The data is considered useable for this contamination investigation.

10. CONCLUSIONS AND RECOMMENDATIONS

Based on our investigation findings, Coffey considers that:

- No unacceptable human health soil impacts were identified in the investigation area
- No unacceptable ecological soil impacts were identified in the investigation area

The investigation area is considered suitable for the proposed development with respect to contamination, subject to:

- Implementation of an unexpected finds protocol
- Appropriate waste/spoil management

Acid sulfate soil are not known to occur within the site. No actual acid sulfate soil (AASS) or potential acid sulfate soil (PASS) were detected in the shallow soil samples analysed. Coffey considers that an acid sulfate soils management would not be required for the proposed development.

This report should be read in conjunction with the attached “Important information about your Coffey Environmental Report”.

11. LIMITATIONS

This contamination assessment was completed as per the scope outlined in Coffey Proposal ref SYDGE319200-AB. It is applicable to the proposed development and is not intended to identify or address all contamination issues, if present, for the wider school site. Visual assessments during site walkover are subject to access and visual limitations (eg. long grass).

IMPORTANT INFORMATION ABOUT YOUR TETRA TECH COFFEY ENVIRONMENTAL REPORT

Introduction

This report has been prepared by Tetra Tech Coffey for you, as Tetra Tech Coffey's client, in accordance with our agreed purpose, scope, schedule and budget.

The report has been prepared using accepted procedures and practices of the consulting profession at the time it was prepared, and the opinions, recommendations and conclusions set out in the report are made in accordance with generally accepted principles and practices of that profession.

The report is based on information gained from environmental conditions (including assessment of some or all of soil, groundwater, vapour and surface water) and supplemented by reported data of the local area and professional experience. Assessment has been scoped with consideration to industry standards, regulations, guidelines and your specific requirements, including budget and timing. The characterisation of site conditions is an interpretation of information collected during assessment, in accordance with industry practice.

This interpretation is not a complete description of all material on or in the vicinity of the site, due to the inherent variation in spatial and temporal patterns of contaminant presence and impact in the natural environment. Tetra Tech Coffey may have also relied on data and other information provided by you and other qualified individuals in preparing this report. Tetra Tech Coffey has not verified the accuracy or completeness of such data or information except as otherwise stated in the report. For these reasons the report must be regarded as interpretative, in accordance with industry standards and practice, rather than being a definitive record.

Your report has been written for a specific purpose

Your report has been developed for a specific purpose as agreed by us and applies only to the site or area investigated. Unless otherwise stated in the report, this report cannot be applied to an adjacent site or area, nor can it be used when the nature of the specific purpose changes from that which we agreed.

For each purpose, a tailored approach to the assessment of potential soil and groundwater contamination is required. In most cases, a key objective is to identify, and if possible quantify, risks that both recognised and potential contamination pose in the context of the agreed purpose. Such risks may be financial (for example, clean up costs or constraints on site use) and/or physical (for example, potential health risks to users of the site or the general public).

Limitations of the Report

The work was conducted, and the report has been prepared, in response to an agreed purpose and scope, within time and budgetary constraints, and in reliance on certain data and information made available to Tetra Tech Coffey.

The analyses, evaluations, opinions and conclusions presented in this report are based on that purpose and scope, requirements, data or information, and they could change if such requirements or data are inaccurate or incomplete.

This report is valid as of the date of preparation. The condition of the site (including subsurface conditions) and extent or nature of contamination or other environmental hazards can change over time, as a result of either natural processes or human influence. Tetra Tech Coffey should be kept appraised of any such events and should be consulted for further investigations if any changes are noted, particularly during construction activities where excavations often reveal subsurface conditions.

In addition, advancements in professional practice regarding contaminated land and changes in applicable statues and/or guidelines may affect the validity of this report. Consequently, the currency of conclusions and recommendations in this report should be verified if you propose to use this report more than 6 months after its date of issue.

The report does not include the evaluation or assessment of potential geotechnical engineering constraints of the site.

Interpretation of factual data

Environmental site assessments identify actual conditions only at those points where samples are taken and on the date collected. Data derived from indirect field measurements, and sometimes other reports on the site, are interpreted by geologists, engineers or scientists to provide an opinion about overall site conditions, their likely impact with respect to the report purpose and recommended actions.

Variations in soil and groundwater conditions may occur between test or sample locations and actual conditions may differ from those inferred to exist. No environmental assessment program, no matter how comprehensive, can reveal all subsurface details and anomalies. Similarly, no professional, no matter how well qualified, can reveal what is hidden by earth, rock or changed through time.

The actual interface between different materials may be far more gradual or abrupt than assumed based on the facts obtained. Nothing can be done to change the actual site conditions which exist, but steps can be taken to reduce the impact of unexpected conditions.

For this reason, parties involved with land acquisition, management and/or redevelopment should retain the services of a suitably qualified and experienced environmental consultant through the development and use of the site to identify variances, conduct additional tests if required, and recommend solutions to unexpected conditions or other unrecognised features encountered on site. Tetra Tech Coffey would be pleased to assist with any investigation or advice in such circumstances.

Recommendations in this report

This report assumes, in accordance with industry practice, that the site conditions recognised through discrete sampling are representative of actual conditions throughout the investigation area. Recommendations are based on the resulting interpretation.

Should further data be obtained that differs from the data on which the report recommendations are based (such as through excavation or other additional assessment), then the recommendations would need to be reviewed and may need to be revised.

Report for benefit of client

Unless otherwise agreed between us, the report has been prepared for your benefit and no other party. Other parties should not rely upon the report or the accuracy or completeness of any recommendation and should make their own enquiries and obtain independent advice in relation to such matters.

Tetra Tech Coffey assumes no responsibility and will not be liable to any other person or organisation for, or in relation to, any matter dealt with or conclusions expressed in the report, or for any loss or damage suffered by any other person or organisation arising from matters dealt with or conclusions expressed in the report.

To avoid misuse of the information presented in your report, we recommend that Tetra Tech Coffey be consulted before the report is provided to another party who may not be familiar with the background and the purpose of the report. In particular, an environmental disclosure report for a property vendor may not be suitable for satisfying the needs of that property's purchaser. This report should not be applied for any purpose other than that stated in the report.

Interpretation by other professionals

Costly problems can occur when other professionals develop their plans based on misinterpretations of a report. To help avoid misinterpretations, a suitably qualified and experienced environmental consultant should be retained to explain the implications of the report to other professionals referring to the report and then review plans and specifications produced to see how other professionals have incorporated the report findings.

Given Tetra Tech Coffey prepared the report and has familiarity with the site, Tetra Tech Coffey is well placed to provide such assistance. If another party is engaged to interpret the recommendations of the report, there is a risk that the contents of the report may be misinterpreted and Tetra Tech Coffey disowns any responsibility for such misinterpretation.

Data should not be separated from the report

The report as a whole presents the findings of the site assessment and the report should not be copied in part or altered in any way. Logs, figures, laboratory data, drawings, etc. are customarily included in our reports and are developed by scientists or engineers based on their interpretation of field logs, field testing and laboratory evaluation of samples. This information should not under any circumstances be redrawn for inclusion in other documents or separated from the report in any way.

This report should be reproduced in full. No responsibility is accepted for use of any part of this report in any other context or for any other purpose or by third parties.

Responsibility

Environmental reporting relies on interpretation of factual information using professional judgement and opinion and has a level of uncertainty attached to it, which is much less exact than other design disciplines. This has often resulted in claims being lodged against consultants, which are unfounded. As noted earlier, the recommendations and findings set out in this report should only be regarded as interpretive and should not be taken as accurate and complete information about all environmental media at all depths and locations across the site.

APPENDIX A: FIGURES

LEGEND

- 2022 Geotechnial boreholes by DP
- 2023 Geotechnical boreholes by Coffey
- 2023 Environmental boreholes by Coffey
- Approximate Surface Sample

drawn	KM
approved	EW
date	21/07/2023
scale	NTC
original size	A4

TETRA TECH COFFEY

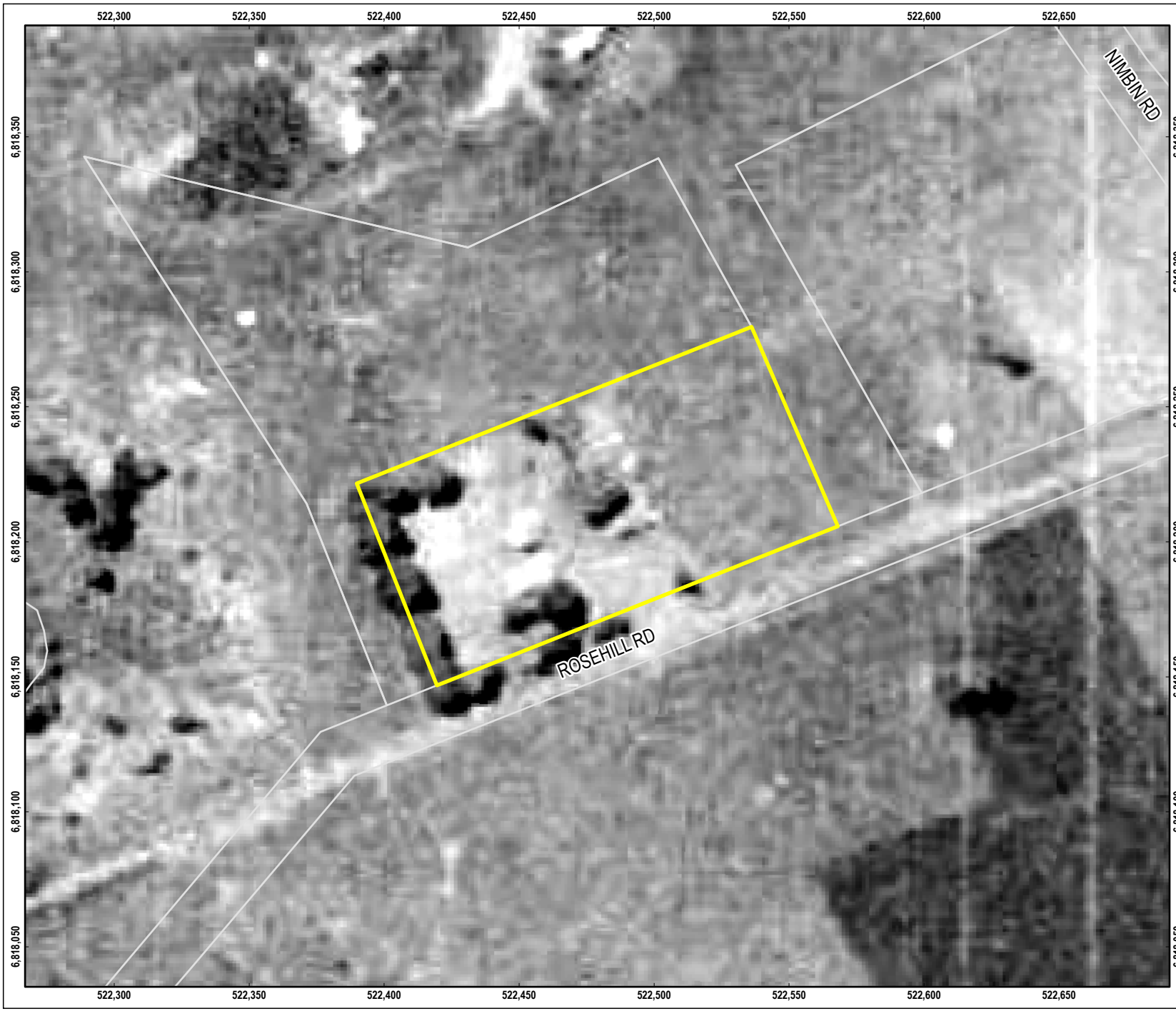
client: **ADCO Construction Pty Ltd**

project: **Northern River School Cluster**

title: **Borehole Location Plan**

project no: **SYDGE319200**

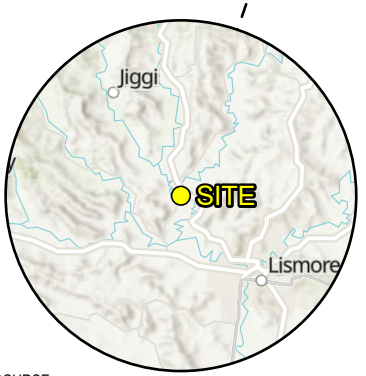
figure no: 1



LEGEND

Property boundary

Site boundary



SOURCE
Site boundary from Tetra Tech Coffey.
Property boundary and road names from NSW government.
Aerial imagery from NSW Government Portal (capture date 1958) approximately georeferenced by Tetra Tech Coffey.

0 25 50 m

SCALE **1:2,000**
PAGE SIZE: **A4**
PROJECTION: **GDA2020 MGA Zone 56**

ADCO CONSTRUCTIONS

417 ROSEHILL ROAD, BLAKEBROOK NSW
PRELIMINARY SITE INVESTIGATION

FIGURE 2

Aerial Imagery
1958

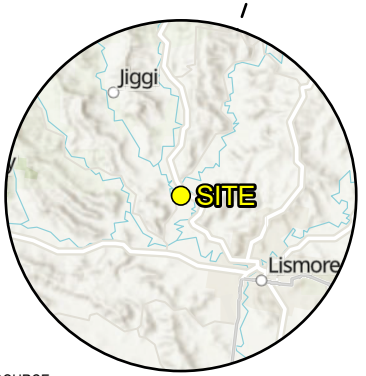
TETRA TECH COFFEY

DATE: **09.06.23** PROJECT: **754-SYDGE319200** FILE: **319200_PSI_R01_F002_GIS**

LEGEND

Property boundary

Site boundary



SOURCE
Site boundary from Tetra Tech Coffey.
Property boundary and road names from NSW government.
Aerial imagery from NSW Government Portal (capture date 1971) approximately georeferenced by Tetra Tech Coffey.

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SCALE **1:2,000**
PAGE SIZE: **A4**
PROJECTION: **GDA2020 MGA Zone 56**

ADCO CONSTRUCTIONS

417 ROSEHILL ROAD, BLAKEBROOK NSW
PRELIMINARY SITE INVESTIGATION

FIGURE 3

Aerial Imagery
1971

TETRA TECH COFFEY

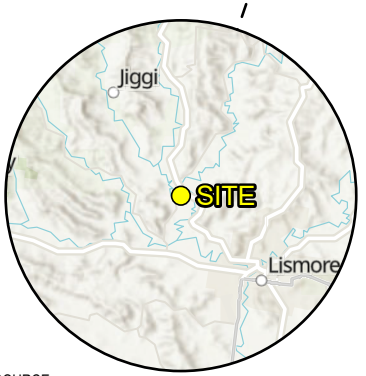
DATE: **09.06.23** PROJECT: **754-SYDGE319200** FILE: **319200_PSI_R01_F003_GIS**

DOC REFERENCE: \\TT-LOCAL\COOP\S772\S\GIS\319200_SYDGE_ADCO_NORTHERNRIVERSSCHOOLS\1_ADCO_NORTHERNRIVERSSCHOOLS_GIS\APRX\319200_R01_FIGS_BLAKEBROOKSPS.APRX LAYOUT:301716_R01_GIS003_1 SAVED BY: VASSO.KOSTI 09.06.23 12:48 PM

LEGEND

Property boundary

Site boundary



SOURCE
Site boundary from Tetra Tech Coffey.
Property boundary and road names from NSW government.
Aerial imagery from NSW Government Portal (capture date 1979) approximately georeferenced by Tetra Tech Coffey.

0 25 50 m

SCALE **1:2,000**
PAGE SIZE: **A4**
PROJECTION: **GDA2020 MGA Zone 56**

ADCO CONSTRUCTIONS

417 ROSEHILL ROAD, BLAKEBROOK NSW
PRELIMINARY SITE INVESTIGATION

FIGURE 4

Aerial Imagery
1979

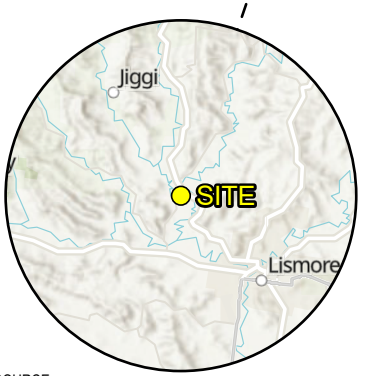
TETRA TECH COFFEY

DATE: **09.06.23** PROJECT: **754-SYDGE319200** FILE: **319200_PSI_R01_F004_GIS**

LEGEND

Property boundary

Site boundary



SOURCE
Site boundary from Tetra Tech Coffey.
Property boundary and road names from NSW government.
Aerial imagery from NSW Government Portal (capture date 1987) approximately georeferenced by Tetra Tech Coffey.

N

0 25 50 m

SCALE **1:2,000**
PAGE SIZE: **A4**
PROJECTION: **GDA2020 MGA Zone 56**

ADCO CONSTRUCTIONS

417 ROSEHILL ROAD, BLAKEBROOK NSW
PRELIMINARY SITE INVESTIGATION

FIGURE 5

Aerial Imagery
1987

TETRA TECH COFFEY

DATE: **09.06.23** PROJECT: **754-SYDGE319200** FILE: **319200_PSI_R01_F005_GIS**

LEGEND

Property boundary

Site boundary

SOURCE
Site boundary from Tetra Tech Coffey.
Property boundary and road names from NSW government.
Aerial imagery from NSW Government Portal (capture date 1997) approximately georeferenced by Tetra Tech Coffey.

0 25 50 m

SCALE **1:2,000**
PAGE SIZE: **A4**
PROJECTION: **GDA2020 MGA Zone 56**

ADCO CONSTRUCTIONS

417 ROSEHILL ROAD, BLAKEBROOK NSW
PRELIMINARY SITE INVESTIGATION

FIGURE 6

Aerial Imagery
1997

TETRA TECH COFFEY

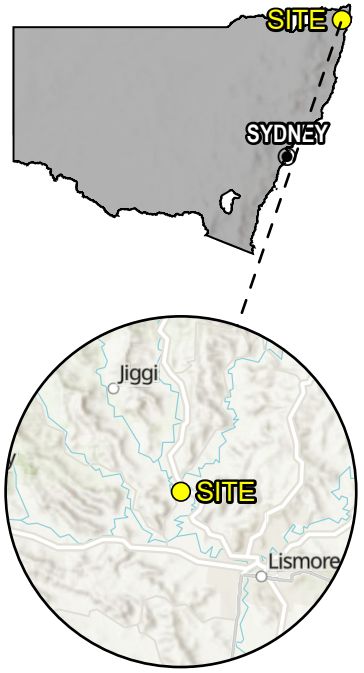
DATE: **09.06.23** PROJECT: **754-SYDGE319200** FILE: **319200_PSI_R01_F006_GIS**

DOC REFERENCE: \\TT.LOCAL\COP\S772\S\GIS\319200_SYDGE_ADCO_NORTHERNRIVERSSCHOOLS\1_ADCO_NORTHERNRIVERSSCHOOLS_GIS\APRX\319200_R01_FIGS_BLAKEBROOKSPS.APRX LAYOUT:301716_R01_GIS006_1 SAVED BY: VASSO.KOSTI 09.06.23 12:48 PM

LEGEND

Property boundary

Site boundary



SOURCE
Site boundary from Tetra Tech Coffey.
Property boundary and road names from NSW government.
Aerial imagery from Neamap (capture date 29/07/2014).

0 25 50 m

SCALE **1:2,000**
PAGE SIZE: **A4**
PROJECTION: **GDA2020 MGA Zone 56**

ADCO CONSTRUCTIONS

417 ROSEHILL ROAD, BLAKEBROOK NSW
PRELIMINARY SITE INVESTIGATION

FIGURE 7

Aerial Imagery
2014

TETRA TECH COFFEY

DATE: **09.06.23** PROJECT: **754-SYDGE319200** FILE: **319200_PSI_R01_F007_GIS**

LEGEND

Property boundary

Site boundary

SOURCE
Site boundary from Tetra Tech Coffey.
Property boundary and road names from NSW government.
Aerial imagery from Neamap (capture date 17/03/2023).

0 25 50 m

SCALE **1:2,000**
PAGE SIZE: **A4**
PROJECTION: **GDA2020 MGA Zone 56**

ADCO CONSTRUCTIONS

417 ROSEHILL ROAD, BLAKEBROOK NSW
CONTAMINATION INVESTIGATION

FIGURE 8

Aerial Imagery
2023

TETRA TECH COFFEY

DATE: **09.06.23** PROJECT: **754-SYDGE319200** FILE: **319200_PSI_R01_F008_GIS**

DOC REFERENCE: \\TT.LOCAL\COF\S772\S\GIS\319200_SYDGE_ADCO_NORTHERNRIVERSSCHOOLS\1_ADCO_NORTHERNRIVERSSCHOOLS_GIS\APRX\319200_R01_FIG3_BLAKEBROOKSPS.APRX LAYOUT:301716_R01_GIS008_1 SAVED BY: VASSO.KOSTI 09.06.23 12:48 PM

APPENDIX B: PHOTOGRAPHS

Photograph 1: Temporary demountable building on site

Photograph 2: Western school field, grass covered surface

Photograph 3: Orchard area within the central northern portion of the site and adjacent unoccupied buildings.

Photograph 4: Example of surface soils (silty clay)

APPENDIX C: DATA QUALITY OBJECTIVES

As stated in Section 18 of Appendix B of Schedule B2 of the National Environment Protection (Assessment of Site Contamination) Measure 1999 ('ASC NEPM') (NEPC, 2013), the DQO process is a seven-step iterative planning approach used to define the type, quantity and quality of data needed to support decisions relating to the environmental condition of a site.

The seven-step DQO process adopted for the assessment of soil is presented in Table 5.

Table C: Data Quality Objectives

1. State the problem	The site was previously impacted by flood events in February/March 2022. The investigation was required to characterise the soil materials to assess contamination status and to develop appropriate management requirements.
2. Identify the decision	The key decisions include: - Does soil contamination present an unacceptable health and/or ecological risk to the site users with respect to the proposed development? - What is the extent and type of contamination, if present?
3. Identify inputs to the decision	The primary inputs to assessing the above included: - Previous investigations (where applicable). - Field observations including the presence of visual / olfactory indicators of contamination. - Analytical data of sample media, and QA/QC samples. - Outcome of QA/QC samples; and - Nominated investigation levels / assessment criteria.
4. Define the boundaries of the study	The boundaries for the investigation are identified as follows: - Spatial Boundaries: The locations at which the soil samples are collected from, shown in Figure 1 in Appendix A. - Temporal boundaries: The status of the sampling points at the time of the investigation. - Soil materials were investigated to typically the base of fill.
5. Develop a decision rule	The decision rules applied to the investigation included: - If the concentrations of analytes were below the adopted assessment criteria for samples representative of the exposure pathway, then the risk to human health and / or the environment was considered to be acceptable for the intended land use. - If the concentrations of analytes were above the adopted assessment criteria for samples representative of the exposure pathway, then further assessment was recommended and may have included the following: - Review of the results in-conjunction with a refined CSM to consider if exposure pathways and associated representative concentrations represent an unacceptable risk to potential receptors for the intended land use; - Completion of further investigations to refine the understanding of extent and magnitude of contamination; - Use of statistics in the assessment of data to develop relevant exposure concentrations; and

	- Completion of a site-specific risk assessment to refine assumptions of intake to relevant specific site pathways and indicate whether the contamination poses an unacceptable risk to receptors If the completion of the above determined there was an unacceptable risk to receptors, appropriate remediation and / or management actions would have been developed to make the site suitable for its intended use.
6. Acceptable limits on decision error	Decision errors are incorrect decisions caused by using data that is not representative of site conditions due to sampling or analytical error, or by assessing data against incorrect criteria. As a result, in this investigation a decision may have been made that remediation / management is not needed when it is (false negative), or vice versa (false positive). There are three identified sources of decision error: - Sampling errors, which occur when the samples collected are not representative of the conditions within the investigation area. Sampling errors are reduced by collecting samples using industry standard methods, across material types and depths and ensuring a spatial distribution that will identify hot spots of meaningful size; - Measurement errors, which occur during sample collection, handling, preparation, analysis and data reduction. Measurement errors are reduced by following industry standards (QA practices) and conducting quality control assessment (QC analysis); and - Assumption errors, which occur when the assumptions that are used to develop assessment criteria do not accurately reflect the site setting, migration pathways or receptor behaviours. False negative assumption errors are typically reduced by using conservative assumptions in the initial data review, and then false positive errors are reduced by conducting refined risk assessment. To consider the potential for decision errors to have been made, an assessment of data quality indicators was undertaken as described in Section 11. The closeness of the data to the assessment criteria was also be considered.
7. Optimise the design for obtaining data	The methodology and rationale for obtaining relevant data for the investigation is presented in this report. The methodology and analytical plan were optimised based on site constraints, visual observations, and interim review of results.

APPENDIX D: LABORATORY REPORT AND SUMMARY TABLES

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

TETRA TECH COFFEY

Consigning Office: kelsie.mcgillen@tetratech.com
Report Results to: Edward.Wu@ tetratech.com
Invoices to: Accounts
Mobile: 61294061030 Email:
Phone: Email:

Project No: SYDGE319200
Project Name: Northern Rivers
Sampler's Name:
Quote number (if different to current quoted prices):
Special Instructions:
Task No:
Laboratory:
Project Manager: Kelsie McGillen

Analysis Request Section

Lab Batch Ref	Sample ID	Sample Date	Time	Matrix (Soil...etc)	Container Type & Preservative*	T-A-T (specify)	B6 (TRH BTEX PAH 8 Metals)	B14 (OCP OPP)	B1 (TRH BTEX)	CEC TOC Iron	Asbestos 50g	ASS ph Screening	HOLD	NOTES
	BROAD C-BH1 0-0.1	3/7/23		Soil	Jar	Standard	X	X		X			X	
	" " 0.1-0.5				"		X					X		
	" " 0.5-1.0				"									
	" " 0.8-7.0				Ziploc								X	
	BROAD C-BH2 0-0.1				Jar		X			X				
	" " 0.1-0.35				Jar		X							
	" " 0.35-0.8				"							X		
	" " 6.8-7.0				Ziploc								X	
	BROAD E-BH1 0-0.1				J		X							
	" " 0.1-0.4				"		X							
	" " 0.4-1.0				"		X							
	BR-SS1				"		X							
	" SS2				"		X							
	" SS3				"		X							
	" SS4				"		X				X			
	" SS5				J 2		X							

RELINQUISHED BY

Name: Kelsie McGillen Date: 5/7/23
Coffey Time:

Name: Date:
Company: Time:

RECEIVED BY

Name: Date: 5/7/23
Company: Time: 9:20

Name: Date:
Company: Time:

Sample Receipt Advice: (Lab Use Only)

All Samples Recieved in Good Condition ☑
All Documentation is in Proper Order ☑
Samples Received Properly Chilled ☑ 2.7
Lab. Ref/Batch No.

*Container Type & Preservation Codes: **P** - Plastic, **G**- Glass Bottle, **J** - Glass Jar, **V**- Vial, **Z** - Ziplock bag, **N** - Nitric Acid Preserved, **C** - Hydrochloric **Acid** Preserved, **S** - Sulphuric Acid Preserved, **I** - Ice, **ST** - Sodium Thiosulfate, **NP** - No Preservative

1005684

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

TETRA TECH COFFEY

Consigning Office:	kelsie.mcgillen@tetratech.com				
Report Results to:	Edward.Wu@ tetratech.com	Mobile:	61294061030	Email:	
Invoices to:	Accounts	Phone:		Email:	

Project No:	SYDGE319200	Task No:	
Project Name:	Northern Rivers	Laboratory:	
Sampler's Name:		Project Manager:	Kelsie McGillen
Quote number (if different to current quoted prices):			
Special Instructions:			

Lab Batch Ref	Sample ID	Sample Date	Time	Matrix (Soil...etc)	Container Type & Preservative*	T-A-T (specify)	B6 (TRH BTEX PAH 8 Metals)	B14 (OCP OPP)	B1 (TRH BTEX)	CEC TOC Iron	Asbestos 50g	ASS ph Screening	HOLD	NOTES
	BR - SS6	3/7/23		Soil	Jar + Z. plx	Standard.	X	X		X	X			
	DUP1	↓		↓	J	↓	X		~~X~~					
	TS / TB								X					
	WA - SS1	4/7/23			J Z		X				X	X		
	" SS2				↓		X				X	X		
	" SS3						X					X		
	" SS4						X				X	X		
	" SS5						X				X	X		
	DUP2						X							
	DUP3						X							
	TS / TB								X					
	BROAD E-BH2 0-0.1	3/7/23					X							
	" " 0.1-0.5	↓					X							
	" " 0.5-1.0													

Analysis Request Section

RELINQUISHED BY		RECEIVED BY	
Name: Kelsie McGillen	Date: 5/7/23	Name:	Date:
Coffey	Time:	Company:	Time:
Name:	Date:	Name:	Date:
Company:	Time:	Company:	Time:

Sample Receipt Advice: (Lab Use Only)

- All Samples Recieved in Good Condition ☐
- All Documentation is in Proper Order ☐
- Samples Received Properly Chilled ☐
- Lab. Ref/Batch No.

***Container Type & Preservation Codes:** **P** - Plastic, **G**- Glass Bottle, **J** - Glass Jar, **V**- Vial, **Z** - Ziplock bag, **N** - Nitric Acid Preserved, **C** - Hydrochloric Acid Preserved, **S** - Sulphuric Acid Preserved, **I** - Ice, **ST** - Sodium Thiosulfate, **NP** - No Preservative

1005684

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Invoices to:	Accounts	Phone:		Email:	

Project No:	SYDGE319200	Task No:	
Project Name:	Northern Rivers	Laboratory:	
Sampler's Name:		Project Manager:	Kelsie McGillen
Quote number (if different to current quoted prices):			
Special Instructions:			

Lab Batch Ref	Sample ID	Sample Date	Time	Matrix (Soil...etc)	Container Type & Preservative*	T-A-T (specify)	B6 (TRH BTEX PAH 8 Metals)	B14 (OCP OPP)	B1 (TRH BTEX)	CEC TOC Iron	Asbestos 50g	ASS ph Screening	HOLD	NOTES
	EM-SS1	4/7/23		Soil	JZ	Standard	X				X	X		
	" SS2				"								X	
	" SS3				"		X				X	X		
	" SS4				"		X				X	X		
	" SS5				"		X				X	X		
	BL-SS1				"		X				X	X		
	" SS2				"		X				X	X		
	" SS3				"		X				X	X		
	" SS4				"		X				X	X		
	" SS5				"								X	
	WA-CBH10-0.1				J		X							
	" " 0.1-0.3				J		X							
	~~" " 0.2-0.5~~				~~JZ~~									
	" " 0.3-0.8				JZ						X			
	" " 1.0-1.25				JZ		X					X		

RELINQUISHED BY

Name:	Kelsie McGillen	Date:	5/7/23
Company:	Coffey	Time:	
Name:		Date:	
Company:		Time:	

RECEIVED BY

Name:		Date:	
Company:		Time:	
Name:		Date:	
Company:		Time:	

Sample Receipt Advice: (Lab Use Only)

- All Samples Recieved in Good Condition ☐
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***Container Type & Preservation Codes:** **P** - Plastic, **G**- Glass Bottle, **J** - Glass Jar, **V**- Vial, **Z** - Ziplock bag, **N** - Nitric Acid Preserved, **C** - Hydrochloric Acid Preserved, **S** - Sulphuric Acid Preserved, **I** - Ice, **ST** - Sodium Thiosulfate, **NP** - No Preservative

1005684

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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Invoices to:	Accounts	Phone:		Email:	

Project No:	SYDGE319200	Task No:	
Project Name:	Northern Rivers	Laboratory:	
Sampler's Name:		Project Manager:	Kelsie McGillen
Quote number (if different to current quoted prices):			
Special Instructions:			

Lab Batch Ref	Sample ID	Sample Date	Time	Matrix (Soil...etc)	Container Type & Preservative*	T-A-T (specify)	B6 (TRH BTEX PAH 8 Metals)	B14 (OCP OPP)	B1 (TRH BTEX)	CEC TOC Iron	Asbestos 50g	ASS ph Screening	HOLD	NOTES
	WA-CBH2 0-0.1	4/7/23		So-i	J	Standard	X							
	" " 0.1-0.3				J2		X	X		X	X			
	" " 0.3-0.8				J							X		
	" " 1.5-1.9				Z							X		
	WA-EBH1 0-0.1				J									
	" " 0.1-0.5				J2		X				X			
	" " 0.5-1.0				J									
	" " 1.0-1.5				J2		X					X		
	WA GBH2 0-0.1				J									
	" " 0.1-0.9				J		X							
	" " 0.7-0.8				J2		X				X			
	" " 0.8-1.5				J2							X		

RELINQUISHED BY

Name:	Kelsie McGillen	Date:	5/7/23
Coffey		Time:	
Name:		Date:	
Company:		Time:	

RECEIVED BY

Name:		Date:	
Company:		Time:	
Name:		Date:	
Company:		Time:	

Sample Receipt Advice: (Lab Use Only)

- All Samples Recieved in Good Condition ☐
- All Documentation is in Proper Order ☐
- Samples Received Properly Chilled ☐
- Lab. Ref/Batch No.

***Container Type & Preservation Codes:** P - Plastic, G- Glass Bottle, J - Glass Jar, V- Vial, Z - Ziplock bag, N - Nitric Acid Preserved, C - Hydrochloric Acid Preserved, S - Sulphuric Acid Preserved, I - Ice, ST - Sodium Thiosulfate, NP - No Preservative

1005684

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

TETRA TECH COFFEY

Consigning Office:	kelsie.mcgillen@tetratech.com				
Report Results to:	Edward.Wu@ tetratech.com	Mobile:	61294061030	Email:	
Invoices to:	Accounts	Phone:		Email:	

Project No:	SYDGE319200	Task No:	
Project Name:	Northern Rivers	Laboratory:	
Sampler's Name:		Project Manager:	Kelsie McGillen
Quote number (if different to current quoted prices):			
Special Instructions:			

Lab Batch Ref	Sample ID	Sample Date	Time	Matrix (Soil...etc)	Container Type & Preservative*	T-A-T (specify)	B6 (TRH BTEX PAH 8 Metals)	B14 (OCP OPP)	B1 (TRH BTEX)	CEC TOC Iron	Asbestos 50g	ASS ph Screening								HOLD	NOTES
	DUP4	5/7/23		Soil	J	Standard	X														
	EM-C BH1 0-0.1				J2		X	X		X	X										
	" " 0.1-0.3				J																
	" " 0.3-				J		X														
	" " 0.8-1.5				J																
	TS/TB											X									
	EMC BH1 1.25-1.5				Z																

RELINQUISHED BY

Name: Kelsie McGillen	Date: 5/7/23	Name:	Date:
Coffey	Time:	Company:	Time:
Name:	Date:	Name:	Date:
Company:	Time:	Company:	Time:

Sample Receipt Advice: (Lab Use Only)

- All Samples Recieved in Good Condition ☐
- All Documentation is in Proper Order ☐
- Samples Received Properly Chilled ☐
- Lab. Ref/Batch No.

***Container Type & Preservation Codes:** **P** - Plastic, **G**- Glass Bottle, **J** - Glass Jar, **V**- Vial, **Z** - Ziplock bag, **N** - Nitric Acid Preserved, **C** - Hydrochloric Acid Preserved, **S** - Sulphuric Acid Preserved, **I** - Ice, **ST** - Sodium Thiosulfate, **NP** - No Preservative

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IANZ# 1290

Sample Receipt Advice

Company name:	Tetra Tech Coffey Geotechnics Pty Ltd Chatswood
Contact name:	Kelsie McGillen
Project name:	NORTHERN RIVERS
Project ID:	SYDGE319200
Turnaround time:	5 Day
Date/Time received	Jul 6, 2023 9:30 AM
Eurofins reference	1005684

Sample Information

✓	A detailed list of analytes logged into our LIMS, is included in the attached summary table.
✓	Sample Temperature of chilled sample on the batch as recorded by Eurofins Sample Receipt : 2.4 degrees Celsius.
✓	All samples have been received as described on the above COC.
✓	COC has been completed correctly.
✓	Attempt to chill was evident.
✓	Appropriately preserved sample containers have been used.
✓	All samples were received in good condition.
✓	Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
✓	Appropriate sample containers have been used.
✓	Sample containers for volatile analysis received with zero headspace.
X	Split sample sent to requested external lab.
X	Some samples have been subcontracted.
N/A	Custody Seals intact (if used).

Notes

Contact

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

Asim Khan on phone : or by email: AsimKhan@eurofins.com

Results will be delivered electronically via email to Kelsie McGillen - kelsie.mcgillen@tetratech.com.

Note: A copy of these results will also be delivered to the general Tetra Tech Coffey Geotechnics Pty Ltd Chatswood email address.

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Company Name: Tetra Tech Coffey Geotechnics Pty Ltd Chatswood
Address: Level 18, Tower B, Citadel Tower 799 Pacific Highway
Chatswood
NSW 2067

Project Name: NORTHERN RIVERS
Project ID: SYDGE319200

Order No.:
Report #: 1005684
Phone: +61 2 9406 1000
Fax: +61 2 9406 1002

Received: Jul 6, 2023 9:30 AM
Due: Jul 13, 2023
Priority: 5 Day
Contact Name: Kelsie McGillen

Eurofins Analytical Services Manager : Asim Khan

Sample Detail						Asbestos - AS4964	HOLD	Iron	Total Organic Carbon	Acid Sulfate Soils Field pH Test	Suite B14: OCP/OPP	Moisture Set	Cation Exchange Capacity	Eurofins Suite B7	BTEXN and Volatile TRH	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254									X				X	X		
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X		X	X	X	X	X	X	X
External Laboratory																
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**											
1	BROAD C-BH1 0.1-0.5	Jul 03, 2023		Soil	S23-Jl0012203			X	X		X	X	X	X		
2	BROAD C-BH1 0.5-1.0	Jul 03, 2023		Soil	S23-Jl0012204							X		X		
3	BROAD C-BH1 6.8-7.0	Jul 03, 2023		Soil	S23-Jl0012205					X						
4	BROAD C-BH2 0.1-0.35	Jul 03, 2023		Soil	S23-Jl0012206			X	X			X	X	X		
5	BROAD C-BH2 0.35-0.8	Jul 03, 2023		Soil	S23-Jl0012207							X		X		
6	BROAD C-BH2 6.8-7.0	Jul 03, 2023		Soil	S23-Jl0012208					X						
7	BROAD E-BH1 0.1-0.4	Jul 03, 2023		Soil	S23-Jl0012209							X		X		

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Melbourne Laboratory - NATA # 1261 Site # 1254									X				X	X		
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X		X	X	X	X	X	X	X
8	BROAD E-BH1 0.4-1.0	Jul 03, 2023		Soil	S23-Jl0012210							X		X		
9	BR-SS1	Jul 03, 2023		Soil	S23-Jl0012211							X		X		
10	BR-SS2	Jul 03, 2023		Soil	S23-Jl0012212							X		X		
11	BR-SS3	Jul 03, 2023		Soil	S23-Jl0012213							X		X		
12	BR-SS4	Jul 03, 2023		Soil	S23-Jl0012214							X		X		
13	BR-SS5	Jul 03, 2023		Soil	S23-Jl0012215	X						X		X		
14	BR-SS6	Jul 03, 2023		Soil	S23-Jl0012216	X		X	X		X	X	X	X		
15	DUP1	Jul 03, 2023		Soil	S23-Jl0012217							X		X		
16	TS	Jul 03, 2023		Trip Spike (liquid)	S23-Jl0012218											X
17	TB	Jul 03, 2023		Trip Blank (liquid)	S23-Jl0012219										X	
18	WA-SS1	Jul 04, 2023		Soil	S23-Jl0012220	X						X		X		
19	WA-SS2	Jul 04, 2023		Soil	S23-Jl0012221	X						X		X		
20	WA-SS3	Jul 04, 2023		Soil	S23-Jl0012222							X		X		

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Melbourne Laboratory - NATA # 1261 Site # 1254									X				X	X		
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X		X	X	X	X	X	X	X
21	WA-SS4	Jul 04, 2023		Soil	S23-Jl0012223	X						X		X		
22	WA-SS5	Jul 04, 2023		Soil	S23-Jl0012224	X						X		X		
23	DUP2	Jul 04, 2023		Soil	S23-Jl0012225							X		X		
24	DUP3	Jul 04, 2023		Soil	S23-Jl0012226							X		X		
25	TS	Jul 04, 2023		Trip Spike (liquid)	S23-Jl0012227											X
26	TB	Jul 04, 2023		Trip Blank (liquid)	S23-Jl0012228										X	
27	BROAD E-BH2 0.1-0.5	Jul 03, 2023		Soil	S23-Jl0012229							X		X		
28	BROAD E-BH2 0.5-1.0	Jul 03, 2023		Soil	S23-Jl0012230							X		X		
29	EM-SS1	Jul 04, 2023		Soil	S23-Jl0012231	X						X		X		
30	EM-SS3	Jul 04, 2023		Soil	S23-Jl0012232	X						X		X		
31	EM-SS4	Jul 04, 2023		Soil	S23-Jl0012233	X						X		X		
32	EM-SS5	Jul 04, 2023		Soil	S23-Jl0012234	X						X		X		

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Melbourne Laboratory - NATA # 1261 Site # 1254									X				X	X		
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X		X	X	X	X	X	X	X
33	BL-SS1	Jul 04, 2023		Soil	S23-Jl0012235	X						X		X		
34	BL-SS2	Jul 04, 2023		Soil	S23-Jl0012236	X						X		X		
35	BL-SS3	Jul 04, 2023		Soil	S23-Jl0012237	X						X		X		
36	BL-SS4	Jul 04, 2023		Soil	S23-Jl0012238	X						X		X		
37	WA-C BH1 0-0.1	Jul 04, 2023		Soil	S23-Jl0012239							X		X		
38	WA-C BH1 0.1-0.3	Jul 04, 2023		Soil	S23-Jl0012240							X		X		
39	WA-C BH1 0.3-0.8	Jul 04, 2023		Soil	S23-Jl0012241	X										
40	WA-C BH1 1.0-1.25	Jul 04, 2023		Soil	S23-Jl0012242					X		X		X		
41	WA-C BH2 0-0.1	Jul 04, 2023		Soil	S23-Jl0012243							X		X		
42	WA-C BH2 0.1-0.3	Jul 04, 2023		Soil	S23-Jl0012244	X		X	X		X	X	X	X		
43	WA-C BH2	Jul 04, 2023		Soil	S23-Jl0012245					X						

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Melbourne Laboratory - NATA # 1261 Site # 1254									X				X	X		
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X		X	X	X	X	X	X	X
43	WA-C BH2 1.5-1.9	Jul 04, 2023		Soil	S23-Jl0012245											
44	WA-E BH1 0.1-0.5	Jul 04, 2023		Soil	S23-Jl0012246	X						X		X		
45	WA-E BH1 1.0-1.5	Jul 04, 2023		Soil	S23-Jl0012247					X		X		X		
46	WA-E BH2 0.1-0.4	Jul 04, 2023		Soil	S23-Jl0012248							X		X		
47	WA-E BH2 0.4-0.8	Jul 04, 2023		Soil	S23-Jl0012249	X						X		X		
48	WA-E BH2 0.8-1.5	Jul 04, 2023		Soil	S23-Jl0012250					X						
49	DUP4	Jul 05, 2023		Soil	S23-Jl0012251							X		X		
50	EM-C BH1 0-0.1	Jul 05, 2023		Soil	S23-Jl0012252	X		X	X		X	X	X	X		
51	EM-C BH1 0.3-0.8	Jul 05, 2023		Soil	S23-Jl0012253							X		X		

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Company Name: Tetra Tech Coffey Geotechnics Pty Ltd Chatswood
Address: Level 18, Tower B, Citadel Tower 799 Pacific Highway
Chatswood
NSW 2067

Project Name: NORTHERN RIVERS
Project ID: SYDGE319200

Order No.:
Report #: 1005684
Phone: +61 2 9406 1000
Fax: +61 2 9406 1002

Received: Jul 6, 2023 9:30 AM
Due: Jul 13, 2023
Priority: 5 Day
Contact Name: Kelsie McGillen

Eurofins Analytical Services Manager : Asim Khan

Sample Detail						Asbestos - AS4964	HOLD	Iron	Total Organic Carbon	Acid Sulfate Soils Field pH Test	Suite B14: OCP/OPP	Moisture Set	Cation Exchange Capacity	Eurofins Suite B7	BTEXN and Volatile TRH	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254									X				X	X		
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X		X	X	X	X	X	X	X
52	TS	Jul 05, 2023		Trip Spike (liquid)	S23-Jl0012254											X
53	TB	Jul 05, 2023		Trip Blank (liquid)	S23-Jl0012255										X	
54	EMC BH1 1.25-1.5	Jul 05, 2023		Soil	S23-Jl0012256					X						
55	BROAD C-BH1 0-0.1	Jul 03, 2023		Soil	S23-Jl0012257		X									
56	BROAD C-BH2 0-0.1	Jul 03, 2023		Soil	S23-Jl0012258		X									
57	BROAD E-BH1 0-0.1	Jul 03, 2023		Soil	S23-Jl0012259		X									
58	BROAD E-BH2 0-0.1	Jul 03, 2023		Soil	S23-Jl0012260		X									
59	EM-SS2	Jul 04, 2023		Soil	S23-Jl0012261		X									
60	BL-SS5	Jul 04, 2023		Soil	S23-Jl0012262		X									
61	WA-C BH2	Jul 04, 2023		Soil	S23-Jl0012263		X									

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Melbourne Laboratory - NATA # 1261 Site # 1254									X				X	X		
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X		X	X	X	X	X	X	X
	0.3-0.8															
62	WA-E BH1 0-0.1	Jul 04, 2023		Soil	S23-Jl0012264		X									
63	WA-E BH1 0.5-1.0	Jul 04, 2023		Soil	S23-Jl0012265		X									
64	WA-E BH2 0-0.1	Jul 04, 2023		Soil	S23-Jl0012266		X									
65	EM-C BH1 0.1-0.3	Jul 05, 2023		Soil	S23-Jl0012267		X									
66	EM-C BH1 0.8-1.5	Jul 05, 2023		Soil	S23-Jl0012268		X									
Test Counts						19	12	5	5	7	4	42	5	42	3	3

Certificate of Analysis

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Tetra Tech Coffey Geotechnics Pty Ltd Chatswood
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Chatswood
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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, proficiency testing scheme providers and reference materials producers reports and certificates.

Attention:	Kelsie McGillen
Report	1005684-AID
Project Name	NORTHERN RIVERS
Project ID	SYDGE319200
Received Date	Jul 06, 2023
Date Reported	Jul 21, 2023

Methodology:

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

Project Name NORTHERN RIVERS
Project ID SYDGE319200
Date Sampled Jul 03, 2023 to Jul 05, 2023
Report 1005684-AID

Client Sample ID	Eurofins Sample No.	Date Sampled	Sample Description	Result
BR-SS5	23-Jl0012215	Jul 03, 2023	Approximate Sample 387g Sample consisted of: Grey coarse-grained sandy soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
BR-SS6	23-Jl0012216	Jul 03, 2023	Approximate Sample 349g Sample consisted of: Brown coarse-grained sandy soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
WA-SS1	23-Jl0012220	Jul 04, 2023	Approximate Sample 190g Sample consisted of: Grey coarse-grained sandy soil, plant residue and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
WA-SS2	23-Jl0012221	Jul 04, 2023	Approximate Sample 193g Sample consisted of: Grey fine-grained clayey soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
WA-SS4	23-Jl0012223	Jul 04, 2023	Approximate Sample 202g Sample consisted of: Brown fine-grained clayey soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
WA-SS5	23-Jl0012224	Jul 04, 2023	Approximate Sample 217g Sample consisted of: Brown fine-grained clayey soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
EM-SS1	23-Jl0012231	Jul 04, 2023	Approximate Sample 310g Sample consisted of: Grey fine-grained clayey soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
EM-SS3	23-Jl0012232	Jul 04, 2023	Approximate Sample 282g Sample consisted of: Grey coarse-grained sandy soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.

Client Sample ID	Eurofins Sample No.	Date Sampled	Sample Description	Result
EM-SS4	23-Jl0012233	Jul 04, 2023	Approximate Sample 263g Sample consisted of: Brown coarse-grained sandy soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
EM-SS5	23-Jl0012234	Jul 04, 2023	Approximate Sample 249g Sample consisted of: Brown coarse-grained sandy soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
BL-SS1	23-Jl0012235	Jul 04, 2023	Approximate Sample 233g Sample consisted of: Brown fine-grained clayey soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
BL-SS2	23-Jl0012236	Jul 04, 2023	Approximate Sample 171g Sample consisted of: Brown fine-grained clayey soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
BL-SS3	23-Jl0012237	Jul 04, 2023	Approximate Sample 321g Sample consisted of: Brown coarse-grained sandy soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
BL-SS4	23-Jl0012238	Jul 04, 2023	Approximate Sample 294g Sample consisted of: Brown fine-grained clayey soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
WA-C BH1 0.3-0.8	23-Jl0012241	Jul 04, 2023	Approximate Sample 296g Sample consisted of: Brown fine-grained clayey soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
WA-C BH2 0.1-0.3	23-Jl0012244	Jul 04, 2023	Approximate Sample 244g Sample consisted of: Grey coarse-grained sandy soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
WA-E BH1 0.1-0.5	23-Jl0012246	Jul 04, 2023	Approximate Sample 235g Sample consisted of: Grey coarse-grained sandy soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
WA-E BH2 0.4-0.8	23-Jl0012249	Jul 04, 2023	Approximate Sample 189g Sample consisted of: Grey coarse-grained sandy soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
EM-C BH1 0-0.1	23-Jl0012252	Jul 05, 2023	Approximate Sample 239g Sample consisted of: Grey coarse-grained sandy soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.

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
Asbestos - LTM-ASB-8020	Sydney	Jul 07, 2023	Indefinite

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Sample Detail						Asbestos - AS4964	HOLD	Iron	Total Organic Carbon	Acid Sulfate Soils Field pH Test	Suite B14: OCP/OPP	Moisture Set	Cation Exchange Capacity	Eurofins Suite B7	BTEXN and Volatile TRH	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254									X				X	X		
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X		X	X	X	X	X	X	X
External Laboratory																
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**											
1	BROAD C-BH1 0.1-0.5	Jul 03, 2023		Soil	S23-Jl0012203			X	X		X	X	X	X		
2	BROAD C-BH1 0.5-1.0	Jul 03, 2023		Soil	S23-Jl0012204							X		X		
3	BROAD C-BH1 6.8-7.0	Jul 03, 2023		Soil	S23-Jl0012205					X						
4	BROAD C-BH2 0.1-0.35	Jul 03, 2023		Soil	S23-Jl0012206			X	X			X	X	X		
5	BROAD C-BH2 0.35-0.8	Jul 03, 2023		Soil	S23-Jl0012207							X		X		
6	BROAD C-BH2 6.8-7.0	Jul 03, 2023		Soil	S23-Jl0012208					X						
7	BROAD E-BH1 0.1-0.4	Jul 03, 2023		Soil	S23-Jl0012209							X		X		

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Melbourne Laboratory - NATA # 1261 Site # 1254									X				X	X		
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X		X	X	X	X	X	X	X
8	BROAD E-BH1 0.4-1.0	Jul 03, 2023		Soil	S23-Jl0012210							X		X		
9	BR-SS1	Jul 03, 2023		Soil	S23-Jl0012211							X		X		
10	BR-SS2	Jul 03, 2023		Soil	S23-Jl0012212							X		X		
11	BR-SS3	Jul 03, 2023		Soil	S23-Jl0012213							X		X		
12	BR-SS4	Jul 03, 2023		Soil	S23-Jl0012214							X		X		
13	BR-SS5	Jul 03, 2023		Soil	S23-Jl0012215	X						X		X		
14	BR-SS6	Jul 03, 2023		Soil	S23-Jl0012216	X		X	X		X	X	X	X		
15	DUP1	Jul 03, 2023		Soil	S23-Jl0012217							X		X		
16	TS	Jul 03, 2023		Trip Spike (liquid)	S23-Jl0012218											X
17	TB	Jul 03, 2023		Trip Blank (liquid)	S23-Jl0012219										X	
18	WA-SS1	Jul 04, 2023		Soil	S23-Jl0012220	X						X		X		
19	WA-SS2	Jul 04, 2023		Soil	S23-Jl0012221	X						X		X		
20	WA-SS3	Jul 04, 2023		Soil	S23-Jl0012222							X		X		

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Melbourne Laboratory - NATA # 1261 Site # 1254									X				X	X		
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X		X	X	X	X	X	X	X
21	WA-SS4	Jul 04, 2023		Soil	S23-Jl0012223	X						X		X		
22	WA-SS5	Jul 04, 2023		Soil	S23-Jl0012224	X						X		X		
23	DUP2	Jul 04, 2023		Soil	S23-Jl0012225							X		X		
24	DUP3	Jul 04, 2023		Soil	S23-Jl0012226							X		X		
25	TS	Jul 04, 2023		Trip Spike (liquid)	S23-Jl0012227											X
26	TB	Jul 04, 2023		Trip Blank (liquid)	S23-Jl0012228										X	
27	BROAD E-BH2 0.1-0.5	Jul 03, 2023		Soil	S23-Jl0012229							X		X		
28	BROAD E-BH2 0.5-1.0	Jul 03, 2023		Soil	S23-Jl0012230							X		X		
29	EM-SS1	Jul 04, 2023		Soil	S23-Jl0012231	X						X		X		
30	EM-SS3	Jul 04, 2023		Soil	S23-Jl0012232	X						X		X		
31	EM-SS4	Jul 04, 2023		Soil	S23-Jl0012233	X						X		X		
32	EM-SS5	Jul 04, 2023		Soil	S23-Jl0012234	X						X		X		

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IANZ# 1290

Company Name: Tetra Tech Coffey Geotechnics Pty Ltd Chatswood
Address: Level 18, Tower B, Citadel Tower 799 Pacific Highway
Chatswood
NSW 2067

Project Name: NORTHERN RIVERS
Project ID: SYDGE319200

Order No.:
Report #: 1005684
Phone: +61 2 9406 1000
Fax: +61 2 9406 1002

Received: Jul 6, 2023 9:30 AM
Due: Jul 13, 2023
Priority: 5 Day
Contact Name: Kelsie McGillen

Eurofins Analytical Services Manager : Asim Khan

Sample Detail						Asbestos - AS4964	HOLD	Iron	Total Organic Carbon	Acid Sulfate Soils Field pH Test	Suite B14: OCP/OPP	Moisture Set	Cation Exchange Capacity	Eurofins Suite B7	BTEXN and Volatile TRH	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254									X				X	X		
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X		X	X	X	X	X	X	X
33	BL-SS1	Jul 04, 2023		Soil	S23-Jl0012235	X						X		X		
34	BL-SS2	Jul 04, 2023		Soil	S23-Jl0012236	X						X		X		
35	BL-SS3	Jul 04, 2023		Soil	S23-Jl0012237	X						X		X		
36	BL-SS4	Jul 04, 2023		Soil	S23-Jl0012238	X						X		X		
37	WA-C BH1 0-0.1	Jul 04, 2023		Soil	S23-Jl0012239							X		X		
38	WA-C BH1 0.1-0.3	Jul 04, 2023		Soil	S23-Jl0012240							X		X		
39	WA-C BH1 0.3-0.8	Jul 04, 2023		Soil	S23-Jl0012241	X										
40	WA-C BH1 1.0-1.25	Jul 04, 2023		Soil	S23-Jl0012242					X		X		X		
41	WA-C BH2 0-0.1	Jul 04, 2023		Soil	S23-Jl0012243							X		X		
42	WA-C BH2 0.1-0.3	Jul 04, 2023		Soil	S23-Jl0012244	X		X	X		X	X	X	X		
43	WA-C BH2	Jul 04, 2023		Soil	S23-Jl0012245					X						

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Melbourne Laboratory - NATA # 1261 Site # 1254									X				X	X		
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X		X	X	X	X	X	X	X
43	WA-C BH2 1.5-1.9	Jul 04, 2023		Soil	S23-Jl0012245											
44	WA-E BH1 0.1-0.5	Jul 04, 2023		Soil	S23-Jl0012246	X						X		X		
45	WA-E BH1 1.0-1.5	Jul 04, 2023		Soil	S23-Jl0012247					X		X		X		
46	WA-E BH2 0.1-0.4	Jul 04, 2023		Soil	S23-Jl0012248							X		X		
47	WA-E BH2 0.4-0.8	Jul 04, 2023		Soil	S23-Jl0012249	X						X		X		
48	WA-E BH2 0.8-1.5	Jul 04, 2023		Soil	S23-Jl0012250					X						
49	DUP4	Jul 05, 2023		Soil	S23-Jl0012251							X		X		
50	EM-C BH1 0-0.1	Jul 05, 2023		Soil	S23-Jl0012252	X		X	X		X	X	X	X		
51	EM-C BH1 0.3-0.8	Jul 05, 2023		Soil	S23-Jl0012253							X		X		

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Melbourne Laboratory - NATA # 1261 Site # 1254									X				X	X		
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X		X	X	X	X	X	X	X
52	TS	Jul 05, 2023		Trip Spike (liquid)	S23-Jl0012254											X
53	TB	Jul 05, 2023		Trip Blank (liquid)	S23-Jl0012255										X	
54	EMC BH1 1.25-1.5	Jul 05, 2023		Soil	S23-Jl0012256					X						
55	BROAD C-BH1 0-0.1	Jul 03, 2023		Soil	S23-Jl0012257		X									
56	BROAD C-BH2 0-0.1	Jul 03, 2023		Soil	S23-Jl0012258		X									
57	BROAD E-BH1 0-0.1	Jul 03, 2023		Soil	S23-Jl0012259		X									
58	BROAD E-BH2 0-0.1	Jul 03, 2023		Soil	S23-Jl0012260		X									
59	EM-SS2	Jul 04, 2023		Soil	S23-Jl0012261		X									
60	BL-SS5	Jul 04, 2023		Soil	S23-Jl0012262		X									
61	WA-C BH2	Jul 04, 2023		Soil	S23-Jl0012263		X									

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Sample Detail						Asbestos - AS4964	HOLD	Iron	Total Organic Carbon	Acid Sulfate Soils Field pH Test	Suite B14: OCP/OPP	Moisture Set	Cation Exchange Capacity	Eurofins Suite B7	BTEXN and Volatile TRH	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254									X				X	X		
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X		X	X	X	X	X	X	X
	0.3-0.8															
62	WA-E BH1 0-0.1	Jul 04, 2023		Soil	S23-Jl0012264		X									
63	WA-E BH1 0.5-1.0	Jul 04, 2023		Soil	S23-Jl0012265		X									
64	WA-E BH2 0-0.1	Jul 04, 2023		Soil	S23-Jl0012266		X									
65	EM-C BH1 0.1-0.3	Jul 05, 2023		Soil	S23-Jl0012267		X									
66	EM-C BH1 0.8-1.5	Jul 05, 2023		Soil	S23-Jl0012268		X									
Test Counts						19	12	5	5	7	4	42	5	42	3	3

Internal Quality Control Review and Glossary General

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

Holding Times

Please refer to the most recent version of the 'Sample Preservation and Container Guide' for holding times (QS3001).
If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported. Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

Units

% w/w:	Percentage weight-for-weight basis, e.g. of asbestos in asbestos-containing finds in soil samples (**% w/w**)
F/fld	Airborne fibre filter loading as Fibres (**N**) per Fields counted (**n**)
F/mL	Airborne fibre reported concentration as Fibres per millilitre of air drawn over the sampler membrane (**C**)
g, kg	Mass, e.g. of whole sample (**M**) or asbestos-containing find within the sample (**m**)
g/kg	Concentration in grams per kilogram
L, mL	Volume, e.g. of air as measured in AFM (**V** = **r** x **t**)
L/min	Airborne fibre sampling Flowrate as litres per minute of air drawn over the sampler membrane (**r**)
min	Time (**t**), e.g. of air sample collection period

Calculations

Airborne Fibre Concentration: $C = \left(\frac{A}{a}\right) \times \left(\frac{N}{n}\right) \times \left(\frac{1}{r}\right) \times \left(\frac{1}{t}\right) = K \times \left(\frac{N}{n}\right) \times \left(\frac{1}{V}\right)$

Asbestos Content (as asbestos): $\%\, w/w = \frac{(m \times P_A)}{M}$

Weighted Average (of asbestos): $\%_{WA} = \sum \frac{(m \times P_A)_x}{x}$

Terms

%asbestos	Estimated percentage of asbestos in a given matrix. May be derived from knowledge or experience of the material, informed by HSG264 *Appendix 2*, else assumed to be 15% in accordance with WA DOH *Appendix 2* (**P_A**).
ACM	Asbestos Containing Materials. Asbestos contained within a non-asbestos matrix, typically presented in bonded (non-friable) condition. For the purposes of the NEPM and WA DOH, ACM corresponds to material larger than 7 mm x 7 mm.
AF	Asbestos Fines. Asbestos contamination within a soil sample, as defined by WA DOH. Includes loose fibre bundles and small pieces of friable and non-friable material such as asbestos cement fragments mixed with soil. Considered under the NEPM as equivalent to “non-bonded / friable”.
AFM	Airborne Fibre Monitoring, e.g. by the MFM.
Amosite	Amosite Asbestos Detected. Amosite may also refer to Fibrous Grunerite or Brown Asbestos. Identified in accordance with AS 4964-2004.
AS	Australian Standard.
Asbestos Content (as asbestos)	Total % w/w asbestos content in asbestos-containing finds in a soil sample (**% w/w)**.
Chrysotile	Chrysotile Asbestos Detected. Chrysotile may also refer to Fibrous Serpentine or White Asbestos. Identified in accordance with AS 4964-2004.
COC	Chain of Custody.
Crocidolite	Crocidolite Asbestos Detected. Crocidolite may also refer to Fibrous Riebeckite or Blue Asbestos. Identified in accordance with AS 4964-2004.
Dry	Sample is dried by heating prior to analysis.
DS	Dispersion Staining. Technique required for Unequivocal Identification of asbestos fibres by PLM.
FA	Fibrous Asbestos. Asbestos containing material that is wholly or in part friable, including materials with higher asbestos content with a propensity to become friable with handling, and any material that was previously non-friable and in a severely degraded condition. For the purposes of the NEPM and WA DOH, FA generally corresponds to material larger than 7 mm x 7 mm, although FA may be more difficult to visibly distinguish and may be assessed as AF.
Fibre Count	Total of all fibres (whether asbestos or not) meeting the counting criteria set out in the NOHSC:3003
Fibre ID	Fibre Identification. Unequivocal identification of asbestos fibres according to AS 4964-2004. Includes Chrysotile, Amosite (Grunerite) or Crocidolite asbestos.
Friable	Asbestos-containing materials of any size that may be broken or crumbled by hand pressure. For the purposes of the NEPM, this includes both AF and FA. It is outside of the laboratory’s remit to assess degree of friability.
HSG248	UK HSE HSG248, *Asbestos: The Analysts Guide*, 2nd Edition (2021).
HSG264	UK HSE HSG264, *Asbestos: The Survey Guide* (2012).
ISO (also ISO/IEC)	International Organization for Standardization / International Electrotechnical Commission.
K Factor	Microscope constant (**K**) as derived from the effective filter area of the given AFM membrane used for collecting the sample (**A**) and the projected eyepiece graticule area of the specific microscope used for the analysis (**a**).
LOR	Limit of Reporting.
MFM (also NOHSC:3003)	Membrane Filter Method. As described by the Australian Government National Occupational Health and Safety Commission, *Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres*, 2nd Edition [NOHSC:3003(2005)].
NEPM (also ASC NEPM)	National Environment Protection (Assessment of Site Contamination) Measure, (2013, as amended).
Organic	Organic Fibres Detected. Organic may refer to Natural or Man-Made Polymeric Fibres. Identified in accordance with AS 4964-2004.
PCM	Phase Contrast Microscopy. As used for Fibre Counting according to the MFM.
PLM	Polarised Light Microscopy. As used for Fibre Identification and Trace Analysis according to AS 4964-2004.
Sampling	Unless otherwise stated Eurofins are not responsible for sampling equipment or the sampling process.
SMF	Synthetic Mineral Fibre Detected. SMF may also refer to Man Made Vitreous Fibres. Identified in accordance with AS 4964-2004.
SRA	Sample Receipt Advice.
Trace Analysis	Analytical procedure used to detect the presence of respirable fibres (particularly asbestos) in a given sample matrix.
UK HSE HSG	United Kingdom, Health and Safety Executive, Health and Safety Guidance, publication.
UMF	Unidentified Mineral Fibre Detected. Fibrous minerals that are detected but have not been unequivocally identified by PLM with DS according the AS 4964-2004. May include (but not limited to) Actinolite, Anthophyllite or Tremolite asbestos.
WA DOH	Reference document for the NEPM. Government of Western Australia, *Guidelines for the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia* (updated 2021), including Appendix Four: *Laboratory analysis*
Weighted Average	Combined average % w/w asbestos content of all asbestos-containing finds in the given aliquot or total soil sample (**$\%_{WA}$**).

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

Asbestos Counter/Identifier:

Chamath JHM Annakkage	Senior Analyst-Asbestos

Authorised by:

Sayeed Abu	Senior Analyst-Asbestos

Glenn Jackson
Managing Director

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.

Tetra Tech Coffey Geotechnics Pty Ltd Chatswood
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NSW 2067

Attention: **Kelsie McGillen**

Report **1005684-S**
Project name NORTHERN RIVERS
Project ID SYDGE319200
Received Date Jul 06, 2023

Client Sample ID			**BROAD C-BH1 0.1-0.5**	**BROAD C-BH1 0.5-1.0**	**BROAD C-BH1 6.8-7.0**	**BROAD C-BH2 0.1-0.35**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**S23-Jl0012203**	**S23-Jl0012204**	**S23-Jl0012205**	**S23-Jl0012206**
Date Sampled			**Jul 03, 2023**	**Jul 03, 2023**	**Jul 03, 2023**	**Jul 03, 2023**
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	-	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	-	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	-	< 50
TRH C29-C36	50	mg/kg	< 50	< 50	-	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	-	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	-	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	-	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	-	< 50
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	< 50	-	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	-	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	-	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	-	< 100
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	-	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	-	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	-	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	-	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	-	< 0.3
4-Bromofluorobenzene (surr.)	1	%	83	75	-	88
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	0.6	-	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.2	-	1.2
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Chrysene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5

Client Sample ID			BROAD C-BH1 0.1-0.5	BROAD C-BH1 0.5-1.0	BROAD C-BH1 6.8-7.0	BROAD C-BH2 0.1-0.35
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**S23-JI0012203**	**S23-JI0012204**	**S23-JI0012205**	**S23-JI0012206**
Date Sampled			**Jul 03, 2023**	**Jul 03, 2023**	**Jul 03, 2023**	**Jul 03, 2023**
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Fluorene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Pyrene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Total PAH*	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
2-Fluorobiphenyl (surr.)	1	%	95	91	-	80
p-Terphenyl-d14 (surr.)	1	%	115	78	-	65
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	-	-	-
4.4'-DDD	0.05	mg/kg	< 0.05	-	-	-
4.4'-DDE	0.05	mg/kg	< 0.05	-	-	-
4.4'-DDT	0.05	mg/kg	< 0.05	-	-	-
a-HCH	0.05	mg/kg	< 0.05	-	-	-
Aldrin	0.05	mg/kg	< 0.05	-	-	-
b-HCH	0.05	mg/kg	< 0.05	-	-	-
d-HCH	0.05	mg/kg	< 0.05	-	-	-
Dieldrin	0.05	mg/kg	< 0.05	-	-	-
Endosulfan I	0.05	mg/kg	< 0.05	-	-	-
Endosulfan II	0.05	mg/kg	< 0.05	-	-	-
Endosulfan sulphate	0.05	mg/kg	< 0.05	-	-	-
Endrin	0.05	mg/kg	< 0.05	-	-	-
Endrin aldehyde	0.05	mg/kg	< 0.05	-	-	-
Endrin ketone	0.05	mg/kg	< 0.05	-	-	-
g-HCH (Lindane)	0.05	mg/kg	< 0.05	-	-	-
Heptachlor	0.05	mg/kg	< 0.05	-	-	-
Heptachlor epoxide	0.05	mg/kg	< 0.05	-	-	-
Hexachlorobenzene	0.05	mg/kg	< 0.05	-	-	-
Methoxychlor	0.05	mg/kg	< 0.05	-	-	-
Toxaphene	0.5	mg/kg	< 0.5	-	-	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	-	-	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	-	-	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	-	-	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	-	-	-
Dibutylchlorendate (surr.)	1	%	130	-	-	-
Tetrachloro-m-xylene (surr.)	1	%	105	-	-	-
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	-	-	-

Client Sample ID			BROAD C-BH1 0.1-0.5	BROAD C-BH1 0.5-1.0	BROAD C-BH1 6.8-7.0	BROAD C-BH2 0.1-0.35
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**S23-JI0012203**	**S23-JI0012204**	**S23-JI0012205**	**S23-JI0012206**
Date Sampled			**Jul 03, 2023**	**Jul 03, 2023**	**Jul 03, 2023**	**Jul 03, 2023**
Test/Reference	LOR	Unit				
Organophosphorus Pesticides						
Dimethoate	0.2	mg/kg	< 0.2	-	-	-
Disulfoton	0.2	mg/kg	< 0.2	-	-	-
EPN	0.2	mg/kg	< 0.2	-	-	-
Ethion	0.2	mg/kg	< 0.2	-	-	-
Ethoprop	0.2	mg/kg	< 0.2	-	-	-
Ethyl parathion	0.2	mg/kg	< 0.2	-	-	-
Fenitrothion	0.2	mg/kg	< 0.2	-	-	-
Fensulfothion	0.2	mg/kg	< 0.2	-	-	-
Fenthion	0.2	mg/kg	< 0.2	-	-	-
Malathion	0.2	mg/kg	< 0.2	-	-	-
Merphos	0.2	mg/kg	< 0.2	-	-	-
Methyl parathion	0.2	mg/kg	< 0.2	-	-	-
Mevinphos	0.2	mg/kg	< 0.2	-	-	-
Monocrotophos	2	mg/kg	< 2	-	-	-
Naled	0.2	mg/kg	< 0.2	-	-	-
Omethoate	2	mg/kg	< 2	-	-	-
Phorate	0.2	mg/kg	< 0.2	-	-	-
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	%	104	-	-	-
Conductivity (1:5 aqueous extract at 25 °C as rec.)	10	uS/cm	12	-	-	< 10
Total Organic Carbon	0.1	%	0.5	-	-	0.8
Heavy Metals						
Arsenic	2	mg/kg	< 2	< 2	-	< 2
Cadmium	0.4	mg/kg	< 0.4	< 0.4	-	< 0.4
Chromium	5	mg/kg	< 5	34	-	< 5
Copper	5	mg/kg	< 5	22	-	< 5
Iron	20	mg/kg	1700	-	-	2200
Lead	5	mg/kg	10	10	-	8.6
Mercury	0.1	mg/kg	< 0.1	< 0.1	-	< 0.1
Nickel	5	mg/kg	< 5	18	-	< 5
Zinc	5	mg/kg	15	51	-	18
Cation Exchange Capacity						
Cation Exchange Capacity*	0.5	meq/100g	2.8	-	-	2.2
Sample Properties						
% Moisture	1	%	11	24	-	9.2
Acid Sulfate Soils Field pH Test						
pH-F (Field pH test)*	0.1	pH Units	-	-	6.4	-
pH-FOX (Field pH Peroxide test)*	0.1	pH Units	-	-	3.3	-
Reaction Ratings*[S05]	0	-	-	-	1.0	-

Client Sample ID			BROAD C-BH2 0.35-0.8	BROAD C-BH2 6.8-7.0	BROAD E-BH1 0.1-0.4	BROAD E-BH1 0.4-1.0
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**S23-Jl0012207**	**S23-Jl0012208**	**S23-Jl0012209**	**S23-Jl0012210**
Date Sampled			**Jul 03, 2023**	**Jul 03, 2023**	**Jul 03, 2023**	**Jul 03, 2023**
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	-	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	-	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	-	< 50	< 50
TRH C29-C36	50	mg/kg	< 50	-	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	-	< 50	< 50
TRH C6-C10	20	mg/kg	< 20	-	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	-	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	-	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	-	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	-	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	-	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	-	< 100	< 100
BTEX						
Benzene	0.1	mg/kg	< 0.1	-	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	-	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	-	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	-	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	-	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	-	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	74	-	81	75
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	-	0.6	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	-	1.2	1.2
Acenaphthene	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Chrysene	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Fluorene	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Pyrene	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Total PAH*	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
2-Fluorobiphenyl (surr.)	1	%	91	-	92	97
p-Terphenyl-d14 (surr.)	1	%	75	-	75	76

Client Sample ID			BROAD C-BH2 0.35-0.8	BROAD C-BH2 6.8-7.0	BROAD E-BH1 0.1-0.4	BROAD E-BH1 0.4-1.0
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**S23-JI0012207**	**S23-JI0012208**	**S23-JI0012209**	**S23-JI0012210**
Date Sampled			**Jul 03, 2023**	**Jul 03, 2023**	**Jul 03, 2023**	**Jul 03, 2023**
Test/Reference	LOR	Unit				
Heavy Metals						
Arsenic	2	mg/kg	2.0	-	< 2	< 2
Cadmium	0.4	mg/kg	< 0.4	-	< 0.4	< 0.4
Chromium	5	mg/kg	37	-	11	35
Copper	5	mg/kg	14	-	6.2	13
Lead	5	mg/kg	10	-	13	9.0
Mercury	0.1	mg/kg	< 0.1	-	< 0.1	< 0.1
Nickel	5	mg/kg	17	-	9.0	12
Zinc	5	mg/kg	46	-	44	33
Sample Properties						
% Moisture	1	%	31	-	19	28
Acid Sulfate Soils Field pH Test						
pH-F (Field pH test)*	0.1	pH Units	-	5.7	-	-
pH-FOX (Field pH Peroxide test)*	0.1	pH Units	-	2.6	-	-
Reaction Ratings*[S05]	0	-	-	1.0	-	-

Client Sample ID			BR-SS1	BR-SS2	BR-SS3	BR-SS4
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**S23-JI0012211**	**S23-JI0012212**	**S23-JI0012213**	**S23-JI0012214**
Date Sampled			**Jul 03, 2023**	**Jul 03, 2023**	**Jul 03, 2023**	**Jul 03, 2023**
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	< 50	< 50
TRH C29-C36	50	mg/kg	< 50	< 50	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	< 50	< 50
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
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	%	80	90	90	84
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5

Client Sample ID			BR-SS1	BR-SS2	BR-SS3	BR-SS4
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S23-JI0012211	S23-JI0012212	S23-JI0012213	S23-JI0012214
Date Sampled			Jul 03, 2023	Jul 03, 2023	Jul 03, 2023	Jul 03, 2023
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	0.6	0.6	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.2	1.2	1.2
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Chrysene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Total PAH*	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2-Fluorobiphenyl (surr.)	1	%	107	99	87	77
p-Terphenyl-d14 (surr.)	1	%	77	79	75	72
Heavy Metals						
Arsenic	2	mg/kg	< 2	< 2	< 2	< 2
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	< 5	< 5	14	30
Copper	5	mg/kg	< 5	< 5	14	14
Lead	5	mg/kg	5.6	< 5	43	27
Mercury	0.1	mg/kg	< 0.1	< 0.1	0.1	< 0.1
Nickel	5	mg/kg	< 5	< 5	9.7	9.1
Zinc	5	mg/kg	13	11	82	48
Sample Properties						
% Moisture	1	%	19	10.0	18	17

Client Sample ID			BR-SS5	BR-SS6	DUP1	WA-SS1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S23-JI0012215	S23-JI0012216	S23-JI0012217	S23-JI0012220
Date Sampled			Jul 03, 2023	Jul 03, 2023	Jul 03, 2023	Jul 04, 2023
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	< 50	< 50
TRH C29-C36	50	mg/kg	< 50	< 50	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	< 50	< 50
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

Client Sample ID			BR-SS5	BR-SS6	DUP1	WA-SS1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S23-Jl0012215	S23-Jl0012216	S23-Jl0012217	S23-Jl0012220
Date Sampled			Jul 03, 2023	Jul 03, 2023	Jul 03, 2023	Jul 04, 2023
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
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
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	%	79	70	87	84
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	0.6	0.6	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.2	1.2	1.2
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Chrysene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Total PAH*	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2-Fluorobiphenyl (surr.)	1	%	105	89	86	91
p-Terphenyl-d14 (surr.)	1	%	88	97	76	77
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	< 0.1	-	-
4.4'-DDD	0.05	mg/kg	-	< 0.05	-	-
4.4'-DDE	0.05	mg/kg	-	< 0.05	-	-
4.4'-DDT	0.05	mg/kg	-	< 0.05	-	-
a-HCH	0.05	mg/kg	-	< 0.05	-	-
Aldrin	0.05	mg/kg	-	< 0.05	-	-
b-HCH	0.05	mg/kg	-	< 0.05	-	-
d-HCH	0.05	mg/kg	-	< 0.05	-	-
Dieldrin	0.05	mg/kg	-	< 0.05	-	-
Endosulfan I	0.05	mg/kg	-	< 0.05	-	-
Endosulfan II	0.05	mg/kg	-	< 0.05	-	-

Client Sample ID			BR-SS5	BR-SS6	DUP1	WA-SS1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S23-Jl0012215	S23-Jl0012216	S23-Jl0012217	S23-Jl0012220
Date Sampled			Jul 03, 2023	Jul 03, 2023	Jul 03, 2023	Jul 04, 2023
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Endosulfan sulphate	0.05	mg/kg	-	< 0.05	-	-
Endrin	0.05	mg/kg	-	< 0.05	-	-
Endrin aldehyde	0.05	mg/kg	-	< 0.05	-	-
Endrin ketone	0.05	mg/kg	-	< 0.05	-	-
g-HCH (Lindane)	0.05	mg/kg	-	< 0.05	-	-
Heptachlor	0.05	mg/kg	-	< 0.05	-	-
Heptachlor epoxide	0.05	mg/kg	-	< 0.05	-	-
Hexachlorobenzene	0.05	mg/kg	-	< 0.05	-	-
Methoxychlor	0.05	mg/kg	-	< 0.05	-	-
Toxaphene	0.5	mg/kg	-	< 0.5	-	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	< 0.05	-	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	< 0.05	-	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	< 0.1	-	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	< 0.1	-	-
Dibutylchlorendate (surr.)	1	%	-	118	-	-
Tetrachloro-m-xylene (surr.)	1	%	-	95	-	-
Organophosphorus Pesticides						
Azinphos-methyl	0.2	mg/kg	-	< 0.2	-	-
Bolstar	0.2	mg/kg	-	< 0.2	-	-
Chlorfenvinphos	0.2	mg/kg	-	< 0.2	-	-
Chlorpyrifos	0.2	mg/kg	-	< 0.2	-	-
Chlorpyrifos-methyl	0.2	mg/kg	-	< 0.2	-	-
Coumaphos	2	mg/kg	-	< 2	-	-
Demeton-S	0.2	mg/kg	-	< 0.2	-	-
Demeton-O	0.2	mg/kg	-	< 0.2	-	-
Diazinon	0.2	mg/kg	-	< 0.2	-	-
Dichlorvos	0.2	mg/kg	-	< 0.2	-	-
Dimethoate	0.2	mg/kg	-	< 0.2	-	-
Disulfoton	0.2	mg/kg	-	< 0.2	-	-
EPN	0.2	mg/kg	-	< 0.2	-	-
Ethion	0.2	mg/kg	-	< 0.2	-	-
Ethoprop	0.2	mg/kg	-	< 0.2	-	-
Ethyl parathion	0.2	mg/kg	-	< 0.2	-	-
Fenitrothion	0.2	mg/kg	-	< 0.2	-	-
Fensulfothion	0.2	mg/kg	-	< 0.2	-	-
Fenthion	0.2	mg/kg	-	< 0.2	-	-
Malathion	0.2	mg/kg	-	< 0.2	-	-
Merphos	0.2	mg/kg	-	< 0.2	-	-
Methyl parathion	0.2	mg/kg	-	< 0.2	-	-
Mevinphos	0.2	mg/kg	-	< 0.2	-	-
Monocrotophos	2	mg/kg	-	< 2	-	-
Naled	0.2	mg/kg	-	< 0.2	-	-
Omethoate	2	mg/kg	-	< 2	-	-
Phorate	0.2	mg/kg	-	< 0.2	-	-
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	-	-

Client Sample ID			BR-SS5	BR-SS6	DUP1	WA-SS1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S23-Jl0012215	S23-Jl0012216	S23-Jl0012217	S23-Jl0012220
Date Sampled			Jul 03, 2023	Jul 03, 2023	Jul 03, 2023	Jul 04, 2023
Test/Reference	LOR	Unit				
Organophosphorus Pesticides						
Tokuthion	0.2	mg/kg	-	< 0.2	-	-
Trichloronate	0.2	mg/kg	-	< 0.2	-	-
Triphenylphosphate (surr.)	1	%	-	96	-	-
Conductivity (1:5 aqueous extract at 25 °C as rec.)	10	uS/cm	-	< 10	-	-
Total Organic Carbon	0.1	%	-	1.0	-	-
Heavy Metals						
Arsenic	2	mg/kg	3.2	< 2	< 2	< 2
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	7.1	< 5	< 5	6.3
Copper	5	mg/kg	7.2	< 5	< 5	11
Iron	20	mg/kg	-	5100	-	-
Lead	5	mg/kg	15	5.4	< 5	45
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	< 5	< 5	< 5	< 5
Zinc	5	mg/kg	29	31	9.3	150
Cation Exchange Capacity						
Cation Exchange Capacity*	0.5	meq/100g	-	3.0	-	-
Sample Properties						
% Moisture	1	%	15	9.8	8.3	15

Client Sample ID			WA-SS2	WA-SS3	WA-SS4	WA-SS5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S23-Jl0012221	S23-Jl0012222	S23-Jl0012223	S23-Jl0012224
Date Sampled			Jul 04, 2023	Jul 04, 2023	Jul 04, 2023	Jul 04, 2023
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	< 50	< 50
TRH C29-C36	50	mg/kg	< 50	< 50	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	< 50	< 50
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
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	%	85	72	76	79

Client Sample ID			WA-SS2	WA-SS3	WA-SS4	WA-SS5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S23-Jl0012221	S23-Jl0012222	S23-Jl0012223	S23-Jl0012224
Date Sampled			Jul 04, 2023	Jul 04, 2023	Jul 04, 2023	Jul 04, 2023
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	0.6	0.6	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.2	1.2	1.2
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Chrysene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Total PAH*	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2-Fluorobiphenyl (surr.)	1	%	104	106	94	91
p-Terphenyl-d14 (surr.)	1	%	77	81	82	105
Heavy Metals						
Arsenic	2	mg/kg	2.5	11	4.4	< 2
Cadmium	0.4	mg/kg	0.5	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	18	15	23	< 5
Copper	5	mg/kg	26	29	37	5.3
Lead	5	mg/kg	670	49	130	14
Mercury	0.1	mg/kg	0.4	< 0.1	0.1	< 0.1
Nickel	5	mg/kg	9.0	< 5	13	< 5
Zinc	5	mg/kg	410	89	150	26
Sample Properties						
% Moisture	1	%	20	13	16	24

Client Sample ID			DUP2	DUP3	BROAD E-BH2 0.1-0.5	BROAD E-BH2 0.5-1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S23-Jl0012225	S23-Jl0012226	S23-Jl0012229	S23-Jl0012230
Date Sampled			Jul 04, 2023	Jul 04, 2023	Jul 03, 2023	Jul 03, 2023
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	< 50	< 50
TRH C29-C36	50	mg/kg	< 50	57	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	57	< 50	< 50

Client Sample ID			DUP2	DUP3	BROAD E-BH2 0.1-0.5	BROAD E-BH2 0.5-1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S23-JI0012225	S23-JI0012226	S23-JI0012229	S23-JI0012230
Date Sampled			Jul 04, 2023	Jul 04, 2023	Jul 03, 2023	Jul 03, 2023
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
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
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	%	76	72	91	73
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	0.6	0.6	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.2	1.2	1.2
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Chrysene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Total PAH*	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2-Fluorobiphenyl (surr.)	1	%	79	90	86	82
p-Terphenyl-d14 (surr.)	1	%	81	104	94	95
Heavy Metals						
Arsenic	2	mg/kg	< 2	2.2	< 2	< 2
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	14	< 5	< 5	34
Copper	5	mg/kg	14	7.2	< 5	18
Lead	5	mg/kg	170	14	8.8	10
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	7.1	< 5	< 5	17
Zinc	5	mg/kg	93	44	22	49

Client Sample ID			DUP2	DUP3	BROAD E-BH2 0.1-0.5	BROAD E-BH2 0.5-1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S23-JI0012225	S23-JI0012226	S23-JI0012229	S23-JI0012230
Date Sampled			Jul 04, 2023	Jul 04, 2023	Jul 03, 2023	Jul 03, 2023
Test/Reference	LOR	Unit				
Sample Properties						
% Moisture	1	%	22	17	8.2	28

Client Sample ID			EM-SS1	EM-SS3	EM-SS4	EM-SS5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S23-JI0012231	S23-JI0012232	S23-JI0012233	S23-JI0012234
Date Sampled			Jul 04, 2023	Jul 04, 2023	Jul 04, 2023	Jul 04, 2023
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	< 50	< 50
TRH C29-C36	50	mg/kg	< 50	< 50	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	< 50	< 50
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
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	%	83	85	79	83
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	0.6	0.6	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.2	1.2	1.2
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Chrysene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5

Client Sample ID			EM-SS1	EM-SS3	EM-SS4	EM-SS5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S23-JI0012231	S23-JI0012232	S23-JI0012233	S23-JI0012234
Date Sampled			Jul 04, 2023	Jul 04, 2023	Jul 04, 2023	Jul 04, 2023
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
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	%	84	85	74	81
p-Terphenyl-d14 (surr.)	1	%	92	94	66	97
Heavy Metals						
Arsenic	2	mg/kg	3.6	< 2	6.7	< 2
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	< 5	< 5	6.7	< 5
Copper	5	mg/kg	12	< 5	5.6	< 5
Lead	5	mg/kg	14	17	16	14
Mercury	0.1	mg/kg	0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	6.2	< 5	< 5	< 5
Zinc	5	mg/kg	65	24	44	59
Sample Properties						
% Moisture	1	%	11	7.8	18	15

Client Sample ID			BL-SS1	BL-SS2	BL-SS3	BL-SS4
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S23-JI0012235	S23-JI0012236	S23-JI0012237	S23-JI0012238
Date Sampled			Jul 04, 2023	Jul 04, 2023	Jul 04, 2023	Jul 04, 2023
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	< 50	< 50
TRH C29-C36	50	mg/kg	< 50	< 50	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	< 50	< 50
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
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	%	82	INT	71	86
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5

Client Sample ID			BL-SS1	BL-SS2	BL-SS3	BL-SS4
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S23-JI0012235	S23-JI0012236	S23-JI0012237	S23-JI0012238
Date Sampled			Jul 04, 2023	Jul 04, 2023	Jul 04, 2023	Jul 04, 2023
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	0.6	0.6	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.2	1.2	1.2
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Chrysene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Total PAH*	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2-Fluorobiphenyl (surr.)	1	%	86	94	86	89
p-Terphenyl-d14 (surr.)	1	%	94	95	94	95
Heavy Metals						
Arsenic	2	mg/kg	< 2	< 2	< 2	2.1
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	0.4
Chromium	5	mg/kg	29	33	9.0	52
Copper	5	mg/kg	20	17	< 5	72
Lead	5	mg/kg	41	25	< 5	310
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	22	18	< 5	23
Zinc	5	mg/kg	86	110	43	340
Sample Properties						
% Moisture	1	%	23	23	11	23

Client Sample ID			WA-C BH1 0-0.1	WA-C BH1 0.1-0.3	WA-C BH1 1.0-1.25	WA-C BH2 0-0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S23-JI0012239	S23-JI0012240	S23-JI0012242	S23-JI0012243
Date Sampled			Jul 04, 2023	Jul 04, 2023	Jul 04, 2023	Jul 04, 2023
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	< 50	< 50
TRH C29-C36	50	mg/kg	< 50	< 50	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	< 50	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20

Client Sample ID			WA-C BH1 0-0.1	WA-C BH1 0.1-0.3	WA-C BH1 1.0-1.25	WA-C BH2 0-0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S23-JI0012239	S23-JI0012240	S23-JI0012242	S23-JI0012243
Date Sampled			Jul 04, 2023	Jul 04, 2023	Jul 04, 2023	Jul 04, 2023
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
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
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	%	52	72	86	87
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	0.6	0.6	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.2	1.2	1.2
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Chrysene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Total PAH*	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2-Fluorobiphenyl (surr.)	1	%	107	99	91	110
p-Terphenyl-d14 (surr.)	1	%	90	97	97	92
Heavy Metals						
Arsenic	2	mg/kg	< 2	< 2	< 2	< 2
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	14	28	12	8.5
Copper	5	mg/kg	53	15	< 5	7.4
Lead	5	mg/kg	87	33	< 5	16
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	7.6	13	< 5	< 5
Zinc	5	mg/kg	88	59	16	39
Sample Properties						
% Moisture	1	%	27	24	10	17

Client Sample ID			WA-C BH1 0-0.1	WA-C BH1 0.1-0.3	WA-C BH1 1.0-1.25	WA-C BH2 0-0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S23-JI0012239	S23-JI0012240	S23-JI0012242	S23-JI0012243
Date Sampled			Jul 04, 2023	Jul 04, 2023	Jul 04, 2023	Jul 04, 2023
Test/Reference	LOR	Unit				
Acid Sulfate Soils Field pH Test						
pH-F (Field pH test)*	0.1	pH Units	-	-	5.7	-
pH-FOX (Field pH Peroxide test)*	0.1	pH Units	-	-	3.9	-
Reaction Ratings*[S05]	0	-	-	-	1.0	-

Client Sample ID			WA-C BH2 0.1-0.3	WA-C BH2 1.5-1.9	WA-E BH1 0.1-0.5	WA-E BH1 1.0-1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S23-JI0012244	S23-JI0012245	S23-JI0012246	S23-JI0012247
Date Sampled			Jul 04, 2023	Jul 04, 2023	Jul 04, 2023	Jul 04, 2023
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	-	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	-	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	-	< 50	< 50
TRH C29-C36	50	mg/kg	< 50	-	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	-	< 50	< 50
TRH C6-C10	20	mg/kg	< 20	-	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	-	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	-	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	-	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	-	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	-	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	-	< 100	< 100
BTEX						
Benzene	0.1	mg/kg	< 0.1	-	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	-	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	-	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	-	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	-	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	-	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	61	-	76	77
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	-	0.6	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	-	1.2	1.2
Acenaphthene	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Chrysene	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5

Client Sample ID			WA-C BH2 0.1-0.3	WA-C BH2 1.5-1.9	WA-E BH1 0.1-0.5	WA-E BH1 1.0-1.5
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**S23-JI0012244**	**S23-JI0012245**	**S23-JI0012246**	**S23-JI0012247**
Date Sampled			**Jul 04, 2023**	**Jul 04, 2023**	**Jul 04, 2023**	**Jul 04, 2023**
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Fluorene	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Pyrene	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Total PAH*	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
2-Fluorobiphenyl (surr.)	1	%	95	-	110	108
p-Terphenyl-d14 (surr.)	1	%	116	-	100	97
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	-	-	-
4.4'-DDD	0.05	mg/kg	< 0.05	-	-	-
4.4'-DDE	0.05	mg/kg	< 0.05	-	-	-
4.4'-DDT	0.05	mg/kg	< 0.05	-	-	-
a-HCH	0.05	mg/kg	< 0.05	-	-	-
Aldrin	0.05	mg/kg	< 0.05	-	-	-
b-HCH	0.05	mg/kg	< 0.05	-	-	-
d-HCH	0.05	mg/kg	< 0.05	-	-	-
Dieldrin	0.05	mg/kg	< 0.05	-	-	-
Endosulfan I	0.05	mg/kg	< 0.05	-	-	-
Endosulfan II	0.05	mg/kg	< 0.05	-	-	-
Endosulfan sulphate	0.05	mg/kg	< 0.05	-	-	-
Endrin	0.05	mg/kg	< 0.05	-	-	-
Endrin aldehyde	0.05	mg/kg	< 0.05	-	-	-
Endrin ketone	0.05	mg/kg	< 0.05	-	-	-
g-HCH (Lindane)	0.05	mg/kg	< 0.05	-	-	-
Heptachlor	0.05	mg/kg	< 0.05	-	-	-
Heptachlor epoxide	0.05	mg/kg	< 0.05	-	-	-
Hexachlorobenzene	0.05	mg/kg	< 0.05	-	-	-
Methoxychlor	0.05	mg/kg	< 0.05	-	-	-
Toxaphene	0.5	mg/kg	< 0.5	-	-	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	-	-	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	-	-	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	-	-	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	-	-	-
Dibutylchlorendate (surr.)	1	%	133	-	-	-
Tetrachloro-m-xylene (surr.)	1	%	104	-	-	-
Organophosphorus Pesticides						
Azinphos-methyl	0.2	mg/kg	< 0.2	-	-	-
Bolstar	0.2	mg/kg	< 0.2	-	-	-
Chlorfenvinphos	0.2	mg/kg	< 0.2	-	-	-
Chlorpyrifos	0.2	mg/kg	< 0.2	-	-	-
Chlorpyrifos-methyl	0.2	mg/kg	< 0.2	-	-	-
Coumaphos	2	mg/kg	< 2	-	-	-
Demeton-S	0.2	mg/kg	< 0.2	-	-	-
Demeton-O	0.2	mg/kg	< 0.2	-	-	-
Diazinon	0.2	mg/kg	< 0.2	-	-	-
Dichlorvos	0.2	mg/kg	< 0.2	-	-	-
Dimethoate	0.2	mg/kg	< 0.2	-	-	-
Disulfoton	0.2	mg/kg	< 0.2	-	-	-

Client Sample ID			WA-C BH2 0.1-0.3	WA-C BH2 1.5-1.9	WA-E BH1 0.1-0.5	WA-E BH1 1.0-1.5
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**S23-JI0012244**	**S23-JI0012245**	**S23-JI0012246**	**S23-JI0012247**
Date Sampled			**Jul 04, 2023**	**Jul 04, 2023**	**Jul 04, 2023**	**Jul 04, 2023**
Test/Reference	LOR	Unit				
Organophosphorus Pesticides						
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	%	104	-	-	-
Conductivity (1:5 aqueous extract at 25 °C as rec.)	10	uS/cm	< 10	-	-	-
Total Organic Carbon	0.1	%	1.1	-	-	-
Heavy Metals						
Arsenic	2	mg/kg	< 2	-	3.1	< 2
Cadmium	0.4	mg/kg	< 0.4	-	< 0.4	< 0.4
Chromium	5	mg/kg	< 5	-	17	6.5
Copper	5	mg/kg	5.5	-	130	< 5
Iron	20	mg/kg	5200	-	-	-
Lead	5	mg/kg	8.4	-	360	< 5
Mercury	0.1	mg/kg	< 0.1	-	< 0.1	< 0.1
Nickel	5	mg/kg	< 5	-	12	< 5
Zinc	5	mg/kg	11	-	150	7.0
Cation Exchange Capacity						
Cation Exchange Capacity*	0.5	meq/100g	3.5	-	-	-
Sample Properties						
% Moisture	1	%	10	-	17	11
Acid Sulfate Soils Field pH Test						
pH-F (Field pH test)*	0.1	pH Units	-	5.6	-	6.1
pH-FOX (Field pH Peroxide test)*	0.1	pH Units	-	4.2	-	4.0
Reaction Ratings*[S05]	0	-	-	1.0	-	1.0

Client Sample ID			WA-E BH2 0.1-0.4	WA-E BH2 0.4-0.8	WA-E BH2 0.8-1.5	DUP4
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S23-JI0012248	S23-JI0012249	S23-JI0012250	S23-JI0012251
Date Sampled			Jul 04, 2023	Jul 04, 2023	Jul 04, 2023	Jul 05, 2023
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	-	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	-	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	-	< 50
TRH C29-C36	50	mg/kg	< 50	< 50	-	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	-	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	-	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	-	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	-	< 50
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	< 50	-	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	-	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	-	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	-	< 100
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	-	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	-	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	-	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	-	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	-	< 0.3
4-Bromofluorobenzene (surr.)	1	%	77	78	-	88
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	0.6	-	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.2	-	1.2
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Chrysene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Fluorene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Pyrene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Total PAH*	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
2-Fluorobiphenyl (surr.)	1	%	89	92	-	93
p-Terphenyl-d14 (surr.)	1	%	92	83	-	80

Client Sample ID			WA-E BH2 0.1-0.4	WA-E BH2 0.4-0.8	WA-E BH2 0.8-1.5	DUP4
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S23-JI0012248	S23-JI0012249	S23-JI0012250	S23-JI0012251
Date Sampled			Jul 04, 2023	Jul 04, 2023	Jul 04, 2023	Jul 05, 2023
Test/Reference	LOR	Unit				
Heavy Metals						
Arsenic	2	mg/kg	< 2	< 2	-	4.0
Cadmium	0.4	mg/kg	< 0.4	< 0.4	-	< 0.4
Chromium	5	mg/kg	9.3	22	-	< 5
Copper	5	mg/kg	8.0	7.5	-	16
Lead	5	mg/kg	14	5.8	-	8.1
Mercury	0.1	mg/kg	< 0.1	< 0.1	-	< 0.1
Nickel	5	mg/kg	5.7	9.8	-	6.1
Zinc	5	mg/kg	27	26	-	66
Sample Properties						
% Moisture	1	%	13	15	-	6.3
Acid Sulfate Soils Field pH Test						
pH-F (Field pH test)*	0.1	pH Units	-	-	6.5	-
pH-FOX (Field pH Peroxide test)*	0.1	pH Units	-	-	4.3	-
Reaction Ratings*[S05]	0	-	-	-	1.0	-

Client Sample ID			EM-C BH1 0-0.1	EM-C BH1 0.3-0.8	EMC BH1 1.25-1.5
Sample Matrix			Soil	Soil	Soil
Eurofins Sample No.			S23-JI0012252	S23-JI0012253	S23-JI0012256
Date Sampled			Jul 05, 2023	Jul 05, 2023	Jul 05, 2023
Test/Reference	LOR	Unit			
Total Recoverable Hydrocarbons					
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	-
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	-
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	%	54	76	-
Total Recoverable Hydrocarbons - 2013 NEPM Fractions					
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	-

Client Sample ID			EM-C BH1 0-0.1	EM-C BH1 0.3-0.8	EMC BH1 1.25-1.5
Sample Matrix			**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**S23-JI0012252**	**S23-JI0012253**	**S23-JI0012256**
Date Sampled			**Jul 05, 2023**	**Jul 05, 2023**	**Jul 05, 2023**
Test/Reference	LOR	Unit			
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	%	83	92	-
p-Terphenyl-d14 (surr.)	1	%	INT	81	-
Organochlorine Pesticides					
Chlordanes - Total	0.1	mg/kg	< 0.1	-	-
4.4'-DDD	0.05	mg/kg	< 0.05	-	-
4.4'-DDE	0.05	mg/kg	< 0.05	-	-
4.4'-DDT	0.05	mg/kg	< 0.05	-	-
a-HCH	0.05	mg/kg	< 0.05	-	-
Aldrin	0.05	mg/kg	< 0.05	-	-
b-HCH	0.05	mg/kg	< 0.05	-	-
d-HCH	0.05	mg/kg	< 0.05	-	-
Dieldrin	0.05	mg/kg	< 0.05	-	-
Endosulfan I	0.05	mg/kg	< 0.05	-	-
Endosulfan II	0.05	mg/kg	< 0.05	-	-
Endosulfan sulphate	0.05	mg/kg	< 0.05	-	-
Endrin	0.05	mg/kg	< 0.05	-	-
Endrin aldehyde	0.05	mg/kg	< 0.05	-	-
Endrin ketone	0.05	mg/kg	< 0.05	-	-
g-HCH (Lindane)	0.05	mg/kg	< 0.05	-	-
Heptachlor	0.05	mg/kg	< 0.05	-	-
Heptachlor epoxide	0.05	mg/kg	< 0.05	-	-
Hexachlorobenzene	0.05	mg/kg	< 0.05	-	-
Methoxychlor	0.05	mg/kg	< 0.05	-	-
Toxaphene	0.5	mg/kg	< 0.5	-	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	-	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	-	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	-	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	-	-
Dibutylchlorendate (surr.)	1	%	78	-	-
Tetrachloro-m-xylene (surr.)	1	%	55	-	-

Client Sample ID			EM-C BH1 0-0.1	EM-C BH1 0.3-0.8	EMC BH1 1.25-1.5
Sample Matrix			**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**S23-JI0012252**	**S23-JI0012253**	**S23-JI0012256**
Date Sampled			**Jul 05, 2023**	**Jul 05, 2023**	**Jul 05, 2023**
Test/Reference	LOR	Unit			
Organophosphorus Pesticides					
Azinphos-methyl	0.2	mg/kg	< 0.2	-	-
Bolstar	0.2	mg/kg	< 0.2	-	-
Chlorfenvinphos	0.2	mg/kg	< 0.2	-	-
Chlorpyrifos	0.2	mg/kg	< 0.2	-	-
Chlorpyrifos-methyl	0.2	mg/kg	< 0.2	-	-
Coumaphos	2	mg/kg	< 2	-	-
Demeton-S	0.2	mg/kg	< 0.2	-	-
Demeton-O	0.2	mg/kg	< 0.2	-	-
Diazinon	0.2	mg/kg	< 0.2	-	-
Dichlorvos	0.2	mg/kg	< 0.2	-	-
Dimethoate	0.2	mg/kg	< 0.2	-	-
Disulfoton	0.2	mg/kg	< 0.2	-	-
EPN	0.2	mg/kg	< 0.2	-	-
Ethion	0.2	mg/kg	< 0.2	-	-
Ethoprop	0.2	mg/kg	< 0.2	-	-
Ethyl parathion	0.2	mg/kg	< 0.2	-	-
Fenitrothion	0.2	mg/kg	< 0.2	-	-
Fensulfothion	0.2	mg/kg	< 0.2	-	-
Fenthion	0.2	mg/kg	< 0.2	-	-
Malathion	0.2	mg/kg	< 0.2	-	-
Merphos	0.2	mg/kg	< 0.2	-	-
Methyl parathion	0.2	mg/kg	< 0.2	-	-
Mevinphos	0.2	mg/kg	< 0.2	-	-
Monocrotophos	2	mg/kg	< 2	-	-
Naled	0.2	mg/kg	< 0.2	-	-
Omethoate	2	mg/kg	< 2	-	-
Phorate	0.2	mg/kg	< 0.2	-	-
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	-	-
Conductivity (1:5 aqueous extract at 25 °C as rec.)	10	uS/cm	10	-	-
Total Organic Carbon	0.1	%	< 0.1	-	-
Heavy Metals					
Arsenic	2	mg/kg	4.5	2.2	-
Cadmium	0.4	mg/kg	< 0.4	< 0.4	-
Chromium	5	mg/kg	< 5	38	-
Copper	5	mg/kg	18	10	-
Iron	20	mg/kg	26000	-	-
Lead	5	mg/kg	7.4	9.1	-
Mercury	0.1	mg/kg	< 0.1	< 0.1	-
Nickel	5	mg/kg	5.2	18	-
Zinc	5	mg/kg	77	57	-
Cation Exchange Capacity					
Cation Exchange Capacity*	0.5	meq/100g	9.2	-	-

Client Sample ID			EM-C BH1 0-0.1	EM-C BH1 0.3-0.8	EMC BH1 1.25-1.5
Sample Matrix			**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**S23-JI0012252**	**S23-JI0012253**	**S23-JI0012256**
Date Sampled			**Jul 05, 2023**	**Jul 05, 2023**	**Jul 05, 2023**
Test/Reference	LOR	Unit			
Sample Properties					
% Moisture	1	%	6.3	23	-
Acid Sulfate Soils Field pH Test					
pH-F (Field pH test)*	0.1	pH Units	-	-	7.2
pH-FOX (Field pH Peroxide test)*	0.1	pH Units	-	-	6.1
Reaction Ratings*[S05]	0	-	-	-	1.0

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	Sydney	Jul 13, 2023	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Sydney	Jul 13, 2023	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Sydney	Jul 13, 2023	14 Days
- Method: LTM-ORG-2010 BTEX and Volatile TRH			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Sydney	Jul 13, 2023	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Polycyclic Aromatic Hydrocarbons	Sydney	Jul 17, 2023	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Metals M8	Sydney	Jul 13, 2023	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Organochlorine Pesticides	Sydney	Jul 13, 2023	14 Days
- Method: LTM-ORG-2220 OCP & PCB in Soil and Water			
Organophosphorus Pesticides	Sydney	Jul 13, 2023	14 Days
- Method: LTM-ORG-2200 Organophosphorus Pesticides by GC-MS			
Conductivity (1:5 aqueous extract at 25 °C as rec.)	Sydney	Jul 13, 2023	7 Days
- Method: LTM-INO-4030 Conductivity			
Cation Exchange Capacity	Melbourne	Jul 15, 2023	28 Days
- Method: LTM-MET-3060 Cation Exchange Capacity by bases & Exchangeable Sodium Percentage			
Total Organic Carbon	Melbourne	Jul 15, 2023	28 Days
- Method: LTM-INO-4060 Total Organic Carbon in water and soil			
Heavy Metals	Sydney	Jul 13, 2023	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Acid Sulfate Soils Field pH Test	Sydney	Jul 13, 2023	7 Days
- Method: LTM-GEN-7060 Determination of field pH (pHF) and field pH peroxide (pHFOX) tests			
% Moisture	Sydney	Jul 07, 2023	14 Days
- Method: LTM-GEN-7080 Moisture			

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Project Name: NORTHERN RIVERS
Project ID: SYDGE319200

Order No.:
Report #: 1005684
Phone: +61 2 9406 1000
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Received: Jul 6, 2023 9:30 AM
Due: Jul 13, 2023
Priority: 5 Day
Contact Name: Kelsie McGillen

Eurofins Analytical Services Manager : Asim Khan

Sample Detail						Asbestos - AS4964	HOLD	Iron	Total Organic Carbon	Acid Sulfate Soils Field pH Test	Suite B14: OCP/OPP	Moisture Set	Cation Exchange Capacity	Eurofins Suite B7	BTEXN and Volatile TRH	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254									X				X	X		
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X		X	X	X	X	X	X	X
External Laboratory																
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**											
1	BROAD C-BH1 0.1-0.5	Jul 03, 2023		Soil	S23-Jl0012203			X	X		X	X	X	X		
2	BROAD C-BH1 0.5-1.0	Jul 03, 2023		Soil	S23-Jl0012204							X		X		
3	BROAD C-BH1 6.8-7.0	Jul 03, 2023		Soil	S23-Jl0012205					X						
4	BROAD C-BH2 0.1-0.35	Jul 03, 2023		Soil	S23-Jl0012206			X	X			X	X	X		
5	BROAD C-BH2 0.35-0.8	Jul 03, 2023		Soil	S23-Jl0012207							X		X		
6	BROAD C-BH2 6.8-7.0	Jul 03, 2023		Soil	S23-Jl0012208					X						
7	BROAD E-BH1 0.1-0.4	Jul 03, 2023		Soil	S23-Jl0012209							X		X		

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Project Name: NORTHERN RIVERS
Project ID: SYDGE319200

Order No.:
Report #: 1005684
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Received: Jul 6, 2023 9:30 AM
Due: Jul 13, 2023
Priority: 5 Day
Contact Name: Kelsie McGillen

Eurofins Analytical Services Manager : Asim Khan

Sample Detail						Asbestos - AS4964	HOLD	Iron	Total Organic Carbon	Acid Sulfate Soils Field pH Test	Suite B14: OCP/OPP	Moisture Set	Cation Exchange Capacity	Eurofins Suite B7	BTEXN and Volatile TRH	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254									X				X	X		
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X		X	X	X	X	X	X	X
8	BROAD E-BH1 0.4-1.0	Jul 03, 2023		Soil	S23-Jl0012210							X		X		
9	BR-SS1	Jul 03, 2023		Soil	S23-Jl0012211							X		X		
10	BR-SS2	Jul 03, 2023		Soil	S23-Jl0012212							X		X		
11	BR-SS3	Jul 03, 2023		Soil	S23-Jl0012213							X		X		
12	BR-SS4	Jul 03, 2023		Soil	S23-Jl0012214							X		X		
13	BR-SS5	Jul 03, 2023		Soil	S23-Jl0012215	X						X		X		
14	BR-SS6	Jul 03, 2023		Soil	S23-Jl0012216	X		X	X		X	X	X	X		
15	DUP1	Jul 03, 2023		Soil	S23-Jl0012217							X		X		
16	TS	Jul 03, 2023		Trip Spike (liquid)	S23-Jl0012218											X
17	TB	Jul 03, 2023		Trip Blank (liquid)	S23-Jl0012219										X	
18	WA-SS1	Jul 04, 2023		Soil	S23-Jl0012220	X						X		X		
19	WA-SS2	Jul 04, 2023		Soil	S23-Jl0012221	X						X		X		
20	WA-SS3	Jul 04, 2023		Soil	S23-Jl0012222							X		X		

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Address: Level 18, Tower B, Citadel Tower 799 Pacific Highway
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Project Name: NORTHERN RIVERS
Project ID: SYDGE319200

Order No.:
Report #: 1005684
Phone: +61 2 9406 1000
Fax: +61 2 9406 1002

Received: Jul 6, 2023 9:30 AM
Due: Jul 13, 2023
Priority: 5 Day
Contact Name: Kelsie McGillen

Eurofins Analytical Services Manager : Asim Khan

Sample Detail						Asbestos - AS4964	HOLD	Iron	Total Organic Carbon	Acid Sulfate Soils Field pH Test	Suite B14: OCP/OPP	Moisture Set	Cation Exchange Capacity	Eurofins Suite B7	BTEXN and Volatile TRH	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254									X				X	X		
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X		X	X	X	X	X	X	X
21	WA-SS4	Jul 04, 2023		Soil	S23-Jl0012223	X						X		X		
22	WA-SS5	Jul 04, 2023		Soil	S23-Jl0012224	X						X		X		
23	DUP2	Jul 04, 2023		Soil	S23-Jl0012225							X		X		
24	DUP3	Jul 04, 2023		Soil	S23-Jl0012226							X		X		
25	TS	Jul 04, 2023		Trip Spike (liquid)	S23-Jl0012227											X
26	TB	Jul 04, 2023		Trip Blank (liquid)	S23-Jl0012228										X	
27	BROAD E-BH2 0.1-0.5	Jul 03, 2023		Soil	S23-Jl0012229							X		X		
28	BROAD E-BH2 0.5-1.0	Jul 03, 2023		Soil	S23-Jl0012230							X		X		
29	EM-SS1	Jul 04, 2023		Soil	S23-Jl0012231	X						X		X		
30	EM-SS3	Jul 04, 2023		Soil	S23-Jl0012232	X						X		X		
31	EM-SS4	Jul 04, 2023		Soil	S23-Jl0012233	X						X		X		
32	EM-SS5	Jul 04, 2023		Soil	S23-Jl0012234	X						X		X		

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Melbourne Laboratory - NATA # 1261 Site # 1254									X				X	X		
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X		X	X	X	X	X	X	X
33	BL-SS1	Jul 04, 2023		Soil	S23-Jl0012235	X						X		X		
34	BL-SS2	Jul 04, 2023		Soil	S23-Jl0012236	X						X		X		
35	BL-SS3	Jul 04, 2023		Soil	S23-Jl0012237	X						X		X		
36	BL-SS4	Jul 04, 2023		Soil	S23-Jl0012238	X						X		X		
37	WA-C BH1 0-0.1	Jul 04, 2023		Soil	S23-Jl0012239							X		X		
38	WA-C BH1 0.1-0.3	Jul 04, 2023		Soil	S23-Jl0012240							X		X		
39	WA-C BH1 0.3-0.8	Jul 04, 2023		Soil	S23-Jl0012241	X										
40	WA-C BH1 1.0-1.25	Jul 04, 2023		Soil	S23-Jl0012242					X		X		X		
41	WA-C BH2 0-0.1	Jul 04, 2023		Soil	S23-Jl0012243							X		X		
42	WA-C BH2 0.1-0.3	Jul 04, 2023		Soil	S23-Jl0012244	X		X	X		X	X	X	X		
43	WA-C BH2	Jul 04, 2023		Soil	S23-Jl0012245					X						

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Melbourne Laboratory - NATA # 1261 Site # 1254									X				X	X		
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X		X	X	X	X	X	X	X
43	WA-C BH2 1.5-1.9	Jul 04, 2023		Soil	S23-Jl0012245											
44	WA-E BH1 0.1-0.5	Jul 04, 2023		Soil	S23-Jl0012246	X						X		X		
45	WA-E BH1 1.0-1.5	Jul 04, 2023		Soil	S23-Jl0012247					X		X		X		
46	WA-E BH2 0.1-0.4	Jul 04, 2023		Soil	S23-Jl0012248							X		X		
47	WA-E BH2 0.4-0.8	Jul 04, 2023		Soil	S23-Jl0012249	X						X		X		
48	WA-E BH2 0.8-1.5	Jul 04, 2023		Soil	S23-Jl0012250					X						
49	DUP4	Jul 05, 2023		Soil	S23-Jl0012251							X		X		
50	EM-C BH1 0-0.1	Jul 05, 2023		Soil	S23-Jl0012252	X		X	X		X	X	X	X		
51	EM-C BH1 0.3-0.8	Jul 05, 2023		Soil	S23-Jl0012253							X		X		

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Melbourne Laboratory - NATA # 1261 Site # 1254									X				X	X		
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X		X	X	X	X	X	X	X
52	TS	Jul 05, 2023		Trip Spike (liquid)	S23-Jl0012254											X
53	TB	Jul 05, 2023		Trip Blank (liquid)	S23-Jl0012255										X	
54	EMC BH1 1.25-1.5	Jul 05, 2023		Soil	S23-Jl0012256					X						
55	BROAD C-BH1 0-0.1	Jul 03, 2023		Soil	S23-Jl0012257		X									
56	BROAD C-BH2 0-0.1	Jul 03, 2023		Soil	S23-Jl0012258		X									
57	BROAD E-BH1 0-0.1	Jul 03, 2023		Soil	S23-Jl0012259		X									
58	BROAD E-BH2 0-0.1	Jul 03, 2023		Soil	S23-Jl0012260		X									
59	EM-SS2	Jul 04, 2023		Soil	S23-Jl0012261		X									
60	BL-SS5	Jul 04, 2023		Soil	S23-Jl0012262		X									
61	WA-C BH2	Jul 04, 2023		Soil	S23-Jl0012263		X									

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Melbourne Laboratory - NATA # 1261 Site # 1254									X				X	X		
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X		X	X	X	X	X	X	X
	0.3-0.8															
62	WA-E BH1 0-0.1	Jul 04, 2023		Soil	S23-Jl0012264		X									
63	WA-E BH1 0.5-1.0	Jul 04, 2023		Soil	S23-Jl0012265		X									
64	WA-E BH2 0-0.1	Jul 04, 2023		Soil	S23-Jl0012266		X									
65	EM-C BH1 0.1-0.3	Jul 05, 2023		Soil	S23-Jl0012267		X									
66	EM-C BH1 0.8-1.5	Jul 05, 2023		Soil	S23-Jl0012268		X									
Test Counts						19	12	5	5	7	4	42	5	42	3	3

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Internal Quality Control Review and Glossary

General

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

Holding Times

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

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

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

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

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

Units

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

Terms

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

QC - Acceptance Criteria

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

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

Results <10 times the LOR: No Limit

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

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

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

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

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

QC Data General Comments

1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
3. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time.Analysis will begin as soon as possible after sample receipt.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. Duplicate RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons							
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	
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							
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	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/kg	< 0.5			0.5	Pass	
Acenaphthylene	mg/kg	< 0.5			0.5	Pass	
Anthracene	mg/kg	< 0.5			0.5	Pass	
Benz(a)anthracene	mg/kg	< 0.5			0.5	Pass	
Benzo(a)pyrene	mg/kg	< 0.5			0.5	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.5			0.5	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Chrysene	mg/kg	< 0.5			0.5	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.5			0.5	Pass	
Fluoranthene	mg/kg	< 0.5			0.5	Pass	
Fluorene	mg/kg	< 0.5			0.5	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.5			0.5	Pass	
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Phenanthrene	mg/kg	< 0.5			0.5	Pass	
Pyrene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Organochlorine Pesticides							
Chlordanes - Total	mg/kg	< 0.1			0.1	Pass	
4.4'-DDD	mg/kg	< 0.05			0.05	Pass	
4.4'-DDE	mg/kg	< 0.05			0.05	Pass	
4.4'-DDT	mg/kg	< 0.05			0.05	Pass	
a-HCH	mg/kg	< 0.05			0.05	Pass	
Aldrin	mg/kg	< 0.05			0.05	Pass	
b-HCH	mg/kg	< 0.05			0.05	Pass	
d-HCH	mg/kg	< 0.05			0.05	Pass	
Dieldrin	mg/kg	< 0.05			0.05	Pass	
Endosulfan I	mg/kg	< 0.05			0.05	Pass	
Endosulfan II	mg/kg	< 0.05			0.05	Pass	

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-HCH (Lindane)	mg/kg	< 0.05			0.05	Pass	
Heptachlor	mg/kg	< 0.05			0.05	Pass	
Heptachlor epoxide	mg/kg	< 0.05			0.05	Pass	
Hexachlorobenzene	mg/kg	< 0.05			0.05	Pass	
Methoxychlor	mg/kg	< 0.05			0.05	Pass	
Toxaphene	mg/kg	< 0.5			0.5	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							
Conductivity (1:5 aqueous extract at 25 °C as rec.)	uS/cm	< 10			10	Pass	
Total Organic Carbon	%	< 0.1			0.1	Pass	
Method Blank							
Heavy Metals							
Arsenic	mg/kg	< 2			2	Pass	
Cadmium	mg/kg	< 0.4			0.4	Pass	
Chromium	mg/kg	< 5			5	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Copper	mg/kg	< 5			5	Pass	
Iron	mg/kg	< 20			20	Pass	
Lead	mg/kg	< 5			5	Pass	
Mercury	mg/kg	< 0.1			0.1	Pass	
Nickel	mg/kg	< 5			5	Pass	
Zinc	mg/kg	< 5			5	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C6-C9	%	87			70-130	Pass	
TRH C10-C14	%	71			70-130	Pass	
TRH C6-C10	%	87			70-130	Pass	
TRH >C10-C16	%	71			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	95			70-130	Pass	
Toluene	%	94			70-130	Pass	
Ethylbenzene	%	95			70-130	Pass	
m&p-Xylenes	%	95			70-130	Pass	
o-Xylene	%	93			70-130	Pass	
Xylenes - Total*	%	95			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	85			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	78			70-130	Pass	
Acenaphthylene	%	80			70-130	Pass	
Anthracene	%	86			70-130	Pass	
Benz(a)anthracene	%	97			70-130	Pass	
Benzo(a)pyrene	%	74			70-130	Pass	
Benzo(b&j)fluoranthene	%	105			70-130	Pass	
Benzo(g.h.i)perylene	%	72			70-130	Pass	
Benzo(k)fluoranthene	%	86			70-130	Pass	
Chrysene	%	77			70-130	Pass	
Dibenz(a.h)anthracene	%	100			70-130	Pass	
Fluoranthene	%	76			70-130	Pass	
Fluorene	%	81			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	96			70-130	Pass	
Naphthalene	%	83			70-130	Pass	
Phenanthrene	%	77			70-130	Pass	
Pyrene	%	78			70-130	Pass	
LCS - % Recovery							
Organochlorine Pesticides							
Chlordanes - Total	%	103			70-130	Pass	
4.4'-DDD	%	105			70-130	Pass	
4.4'-DDE	%	105			70-130	Pass	
4.4'-DDT	%	79			70-130	Pass	
a-HCH	%	103			70-130	Pass	
Aldrin	%	109			70-130	Pass	
b-HCH	%	93			70-130	Pass	
d-HCH	%	99			70-130	Pass	
Dieldrin	%	96			70-130	Pass	
Endosulfan I	%	102			70-130	Pass	
Endosulfan II	%	120			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Endosulfan sulphate	%	101			70-130	Pass	
Endrin	%	84			70-130	Pass	
Endrin aldehyde	%	111			70-130	Pass	
Endrin ketone	%	103			70-130	Pass	
g-HCH (Lindane)	%	108			70-130	Pass	
Heptachlor	%	96			70-130	Pass	
Heptachlor epoxide	%	96			70-130	Pass	
Hexachlorobenzene	%	103			70-130	Pass	
Methoxychlor	%	77			70-130	Pass	
LCS - % Recovery							
Organophosphorus Pesticides							
Diazinon	%	96			70-130	Pass	
Dimethoate	%	97			70-130	Pass	
Ethion	%	87			70-130	Pass	
Fenitrothion	%	78			70-130	Pass	
Methyl parathion	%	79			70-130	Pass	
Mevinphos	%	77			70-130	Pass	
LCS - % Recovery							
Conductivity (1:5 aqueous extract at 25 °C as rec.)	%	96			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic	%	100			80-120	Pass	
Cadmium	%	104			80-120	Pass	
Chromium	%	104			80-120	Pass	
Copper	%	105			80-120	Pass	
Iron	%	106			80-120	Pass	
Lead	%	104			80-120	Pass	
Mercury	%	102			80-120	Pass	
Nickel	%	104			80-120	Pass	
Zinc	%	105			80-120	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C10-C14	S23-Jl0020913	NCP	%	84			70-130	Pass	
TRH >C10-C16	S23-Jl0020913	NCP	%	80			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	S23-Jl0018194	NCP	%	84			70-130	Pass	
Spike - % Recovery									
Organochlorine Pesticides				Result 1					
Chlordanes - Total	S23-Jl0020073	NCP	%	92			70-130	Pass	
4.4'-DDD	S23-Jl0020073	NCP	%	101			70-130	Pass	
4.4'-DDE	S23-Jl0020073	NCP	%	90			70-130	Pass	
4.4'-DDT	S23-Jl0020073	NCP	%	73			70-130	Pass	
a-HCH	S23-Jl0020073	NCP	%	91			70-130	Pass	
Aldrin	S23-Jl0020073	NCP	%	91			70-130	Pass	
b-HCH	S23-Jl0020073	NCP	%	80			70-130	Pass	
d-HCH	S23-Jl0020073	NCP	%	84			70-130	Pass	
Dieldrin	S23-Jl0020073	NCP	%	88			70-130	Pass	
Endosulfan I	S23-Jl0020073	NCP	%	93			70-130	Pass	
Endosulfan II	S23-Jl0020073	NCP	%	110			70-130	Pass	
Endosulfan sulphate	S23-Jl0020073	NCP	%	89			70-130	Pass	
Endrin	S23-Jl0020073	NCP	%	81			70-130	Pass	
Endrin aldehyde	S23-Jl0020073	NCP	%	91			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Endrin ketone	S23-Jl0020073	NCP	%	93			70-130	Pass	
g-HCH (Lindane)	S23-Jl0020073	NCP	%	96			70-130	Pass	
Heptachlor	S23-Jl0020073	NCP	%	86			70-130	Pass	
Heptachlor epoxide	S23-Jl0020073	NCP	%	87			70-130	Pass	
Hexachlorobenzene	S23-Jl0020073	NCP	%	88			70-130	Pass	
Methoxychlor	S23-Jl0020073	NCP	%	73			70-130	Pass	
Spike - % Recovery									
Organophosphorus Pesticides				Result 1					
Dimethoate	S23-Jl0004748	NCP	%	84			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	S23-Jl0012204	CP	%	86			75-125	Pass	
Cadmium	S23-Jl0012204	CP	%	106			75-125	Pass	
Chromium	S23-Jl0012204	CP	%	99			75-125	Pass	
Copper	S23-Jl0012204	CP	%	101			75-125	Pass	
Lead	S23-Jl0012204	CP	%	99			75-125	Pass	
Mercury	S23-Jl0012204	CP	%	102			75-125	Pass	
Nickel	S23-Jl0012204	CP	%	102			75-125	Pass	
Zinc	S23-Jl0012204	CP	%	99			75-125	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C6-C9	S23-Jl0012216	CP	%	76			70-130	Pass	
TRH C6-C10	S23-Jl0012216	CP	%	73			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	S23-Jl0012216	CP	%	79			70-130	Pass	
Toluene	S23-Jl0012216	CP	%	77			70-130	Pass	
Ethylbenzene	S23-Jl0012216	CP	%	82			70-130	Pass	
m&p-Xylenes	S23-Jl0012216	CP	%	79			70-130	Pass	
o-Xylene	S23-Jl0012216	CP	%	78			70-130	Pass	
Xylenes - Total*	S23-Jl0012216	CP	%	79			70-130	Pass	
Spike - % Recovery									
Organophosphorus Pesticides				Result 1					
Diazinon	S23-Jl0012216	CP	%	115			70-130	Pass	
Ethion	S23-Jl0012216	CP	%	114			70-130	Pass	
Fenitrothion	S23-Jl0012216	CP	%	78			70-130	Pass	
Methyl parathion	S23-Jl0012216	CP	%	75			70-130	Pass	
Mevinphos	S23-Jl0012216	CP	%	89			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Iron	S23-Jl0012252	CP	%	102			75-125	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Cadmium	S23-Jl0012253	CP	%	80			75-125	Pass	
Copper	S23-Jl0012253	CP	%	79			75-125	Pass	
Lead	S23-Jl0012253	CP	%	79			75-125	Pass	
Mercury	S23-Jl0012253	CP	%	92			75-125	Pass	
Nickel	S23-Jl0012253	CP	%	75			75-125	Pass	
Zinc	S23-Jl0012253	CP	%	79			75-125	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	S23-Jl0012203	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C6-C10	S23-Jl0012203	CP	mg/kg	< 20	< 20	<1	30%	Pass	

Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	S23-Jl0012203	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	S23-Jl0012203	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	S23-Jl0012203	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	S23-Jl0012203	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	S23-Jl0012203	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	S23-Jl0012203	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	S23-Jl0012203	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	S23-Jl0019458	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
4.4'-DDD	S23-Jl0019458	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDE	S23-Jl0019458	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDT	S23-Jl0019458	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
a-HCH	S23-Jl0015023	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Aldrin	S23-Jl0019458	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
b-HCH	S23-Jl0019458	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
d-HCH	S23-Jl0019458	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Dieldrin	S23-Jl0019458	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan I	S23-Jl0019458	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan II	S23-Jl0019458	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan sulphate	S23-Jl0019458	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin	S23-Jl0019458	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin aldehyde	S23-Jl0019458	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin ketone	S23-Jl0019458	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
g-HCH (Lindane)	S23-Jl0015023	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Heptachlor	S23-Jl0019458	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor epoxide	S23-Jl0019458	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Hexachlorobenzene	S23-Jl0019458	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Methoxychlor	S23-Jl0019458	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Toxaphene	S23-Jl0019458	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Organophosphorus Pesticides				Result 1	Result 2	RPD			
Azinphos-methyl	S23-Jl0019458	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Bolstar	S23-Jl0019458	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Chlorfenvinphos	S23-Jl0019458	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Chlorpyrifos	S23-Jl0019458	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Chlorpyrifos-methyl	S23-Jl0019458	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Coumaphos	S23-Jl0019458	NCP	mg/kg	< 2	< 2	<1	30%	Pass	
Demeton-S	S23-Jl0019458	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Demeton-O	S23-Jl0019458	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Diazinon	S23-Jl0019458	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Dichlorvos	S23-Jl0019458	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Dimethoate	S23-Jl0019458	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Disulfoton	S23-Jl0019458	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
EPN	S23-Jl0019458	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Ethion	S23-Jl0019458	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Ethoprop	S23-Jl0019458	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Ethyl parathion	S23-Jl0019458	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Fenitrothion	S23-Jl0019458	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Fensulfothion	S23-Jl0019458	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Fenthion	S23-Jl0019458	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Malathion	S23-Jl0019458	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	

Duplicate									
Organophosphorus Pesticides				Result 1	Result 2	RPD			
Merphos	S23-Jl0019458	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Methyl parathion	S23-Jl0019458	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Mevinphos	S23-Jl0019458	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Monocrotophos	S23-Jl0019458	NCP	mg/kg	< 2	< 2	<1	30%	Pass	
Naled	S23-Jl0019458	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Omethoate	S23-Jl0019458	NCP	mg/kg	< 2	< 2	<1	30%	Pass	
Phorate	S23-Jl0019458	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Pirimiphos-methyl	S23-Jl0019458	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Pyrazophos	S23-Jl0019458	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Ronnel	S23-Jl0019458	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Terbufos	S23-Jl0019458	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Tetrachlorvinphos	S23-Jl0019458	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Tokuthion	S23-Jl0019458	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Trichloronate	S23-Jl0019458	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Conductivity (1:5 aqueous extract at 25 °C as rec.)	S23-Jl0016844	NCP	uS/cm	11	12	12	30%	Pass	
Total Organic Carbon	S23-Jl0012203	CP	%	0.5	0.5	3.5	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	S23-Jl0012203	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Cadmium	S23-Jl0012203	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	S23-Jl0012203	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Copper	S23-Jl0012203	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Lead	S23-Jl0012203	CP	mg/kg	10	9.1	9.5	30%	Pass	
Mercury	S23-Jl0012203	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Nickel	S23-Jl0012203	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Zinc	S23-Jl0012203	CP	mg/kg	15	20	27	30%	Pass	
Duplicate									
Acid Sulfate Soils Field pH Test				Result 1	Result 2	RPD			
pH-F (Field pH test)*	W23-Jl0006932	NCP	pH Units	6.5	6.4	pass	20%	Pass	
pH-FOX (Field pH Peroxide test)*	W23-Jl0006932	NCP	pH Units	3.2	3.2	pass	0%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	S23-Jl0012214	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Cadmium	S23-Jl0012214	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	S23-Jl0012214	CP	mg/kg	30	27	10	30%	Pass	
Copper	S23-Jl0012214	CP	mg/kg	14	22	43	30%	Fail	Q15
Iron	S23-Jl0012214	CP	mg/kg	18000	26000	36	30%	Fail	Q02
Lead	S23-Jl0012214	CP	mg/kg	27	39	34	30%	Fail	Q15
Mercury	S23-Jl0012214	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Nickel	S23-Jl0012214	CP	mg/kg	9.1	13	36	30%	Fail	Q15
Zinc	S23-Jl0012214	CP	mg/kg	48	66	30	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	S23-Jl0012215	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C10-C14	S23-Jl0012215	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	S23-Jl0012215	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C29-C36	S23-Jl0012215	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C6-C10	S23-Jl0012215	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH >C10-C16	S23-Jl0012215	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	S23-Jl0012215	CP	mg/kg	< 100	< 100	<1	30%	Pass	
TRH >C34-C40	S23-Jl0012215	CP	mg/kg	< 100	< 100	<1	30%	Pass	

Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	S23-Jl0012215	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	S23-Jl0012215	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	S23-Jl0012215	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	S23-Jl0012215	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	S23-Jl0012215	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	S23-Jl0012215	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	S23-Jl0012215	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	S23-Jl0012215	CP	mg/kg	3.2	< 2	53	30%	Fail	Q15
Cadmium	S23-Jl0012215	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	S23-Jl0012215	CP	mg/kg	7.1	5.8	20	30%	Pass	
Copper	S23-Jl0012215	CP	mg/kg	7.2	6.5	10	30%	Pass	
Lead	S23-Jl0012215	CP	mg/kg	15	12	21	30%	Pass	
Mercury	S23-Jl0012215	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Nickel	S23-Jl0012215	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Zinc	S23-Jl0012215	CP	mg/kg	29	24	18	30%	Pass	
Duplicate									
Sample Properties				Result 1	Result 2	RPD			
% Moisture	S23-Jl0012215	CP	%	15	15	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	S23-Jl0012229	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C10-C14	S23-Jl0012229	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	S23-Jl0012229	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C29-C36	S23-Jl0012229	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C6-C10	S23-Jl0012229	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH >C10-C16	S23-Jl0012229	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	S23-Jl0012229	CP	mg/kg	< 100	< 100	<1	30%	Pass	
TRH >C34-C40	S23-Jl0012229	CP	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	S23-Jl0012229	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	S23-Jl0012229	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	S23-Jl0012229	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	S23-Jl0012229	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	S23-Jl0012229	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	S23-Jl0012229	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	S23-Jl0012229	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	S23-Jl0012229	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Cadmium	S23-Jl0012229	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	S23-Jl0012229	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Copper	S23-Jl0012229	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Iron	S23-Jl0012229	CP	mg/kg	2200	1700	23	30%	Pass	
Lead	S23-Jl0012229	CP	mg/kg	8.8	7.2	19	30%	Pass	
Mercury	S23-Jl0012229	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Nickel	S23-Jl0012229	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Zinc	S23-Jl0012229	CP	mg/kg	22	19	16	30%	Pass	

Duplicate									
Sample Properties				Result 1	Result 2	RPD			
% Moisture	S23-Jl0012229	CP	%	8.2	11	26	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C10-C14	S23-Jl0012239	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	S23-Jl0012239	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C29-C36	S23-Jl0012239	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C10-C16	S23-Jl0012239	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	S23-Jl0012239	CP	mg/kg	< 100	< 100	<1	30%	Pass	
TRH >C34-C40	S23-Jl0012239	CP	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	S23-Jl0012239	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Cadmium	S23-Jl0012239	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	S23-Jl0012239	CP	mg/kg	14	14	3.6	30%	Pass	
Copper	S23-Jl0012239	CP	mg/kg	53	46	13	30%	Pass	
Iron	S23-Jl0012239	CP	mg/kg	14000	14000	2.4	30%	Pass	
Lead	S23-Jl0012239	CP	mg/kg	87	95	8.7	30%	Pass	
Mercury	S23-Jl0012239	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Nickel	S23-Jl0012239	CP	mg/kg	7.6	7.1	8.0	30%	Pass	
Zinc	S23-Jl0012239	CP	mg/kg	88	89	<1	30%	Pass	
Duplicate									
Sample Properties				Result 1	Result 2	RPD			
% Moisture	S23-Jl0012239	CP	%	27	28	6.2	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C10-C14	S23-Jl0012246	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	S23-Jl0012246	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C29-C36	S23-Jl0012246	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C10-C16	S23-Jl0012246	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	S23-Jl0012246	CP	mg/kg	< 100	< 100	<1	30%	Pass	
TRH >C34-C40	S23-Jl0012246	CP	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	S23-Jl0012249	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Cadmium	S23-Jl0012249	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	S23-Jl0012249	CP	mg/kg	22	25	12	30%	Pass	
Copper	S23-Jl0012249	CP	mg/kg	7.5	8.1	8.2	30%	Pass	
Iron	S23-Jl0012249	CP	mg/kg	14000	17000	19	30%	Pass	
Lead	S23-Jl0012249	CP	mg/kg	5.8	6.0	4.2	30%	Pass	
Mercury	S23-Jl0012249	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Nickel	S23-Jl0012249	CP	mg/kg	9.8	12	17	30%	Pass	
Zinc	S23-Jl0012249	CP	mg/kg	26	32	20	30%	Pass	
Duplicate									
Sample Properties				Result 1	Result 2	RPD			
% Moisture	S23-Jl0012252	CP	%	6.3	6.2	1.3	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
Q02	The duplicate %RPD is outside the recommended acceptance criteria. Further analysis indicates sample heterogeneity as the cause
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.
S05	Field Screen uses the following fizz rating to classify the rate the samples reacted to the peroxide: 1.0; No reaction to slight. 2.0; Moderate reaction. 3.0; Strong reaction with persistent froth. 4.0; Extreme reaction.

Authorised by:

Asim Khan	Analytical Services Manager
Caitlin Breeze	Senior Analyst-Inorganic
Caitlin Breeze	Senior Analyst-Metal
Fang Yee Tan	Senior Analyst-Metal
Roopesh Rangarajan	Senior Analyst-Organic
Roopesh Rangarajan	Senior Analyst-Volatile
Ryan Phillips	Senior Analyst-Inorganic
Sayeed Abu	Senior Analyst-Asbestos

Glenn Jackson
Managing Director

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.

Tetra Tech Coffey Geotechnics Pty Ltd Chatswood
Level 18, Tower B, Citadel Tower 799 Pacific Highway
Chatswood
NSW 2067

Attention: **Kelsie McGillen**

Report **1005684-W**
Project name NORTHERN RIVERS
Project ID SYDGE319200
Received Date Jul 06, 2023

Client Sample ID			**TS**	**TB**	**TS**	**TB**
Sample Matrix			**Trip Spike (liquid)**	**Trip Blank (liquid)**	**Trip Spike (liquid)**	**Trip Blank (liquid)**
Eurofins Sample No.			**S23-Jl0012218**	**S23-Jl0012219**	**S23-Jl0012227**	**S23-Jl0012228**
Date Sampled			**Jul 03, 2023**	**Jul 03, 2023**	**Jul 04, 2023**	**Jul 04, 2023**
Test/Reference	LOR	Unit				
TRH C6-C10	1	%	75	-	72	-
Naphthalene[N02]	0.01	mg/L	-	< 0.01	-	< 0.01
Total Recoverable Hydrocarbons						
Naphthalene	1	%	87	-	87	-
TRH C6-C9	1	%	75	-	72	-
BTEX						
Benzene	1	%	110	-	120	-
Ethylbenzene	1	%	97	-	95	-
m&p-Xylenes	1	%	97	-	98	-
o-Xylene	1	%	95	-	94	-
Toluene	1	%	87	-	87	-
Xylenes - Total	1	%	96	-	96	-
4-Bromofluorobenzene (surr.)	1	%	97	-	96	-
Total Recoverable Hydrocarbons						
TRH C6-C9	0.02	mg/L	-	< 0.02	-	< 0.02
TRH C6-C10	0.02	mg/L	-	< 0.02	-	< 0.02
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	-	< 0.02	-	< 0.02
BTEX						
Benzene	0.001	mg/L	-	< 0.001	-	< 0.001
Toluene	0.001	mg/L	-	< 0.001	-	< 0.001
Ethylbenzene	0.001	mg/L	-	< 0.001	-	< 0.001
m&p-Xylenes	0.002	mg/L	-	< 0.002	-	< 0.002
o-Xylene	0.001	mg/L	-	< 0.001	-	< 0.001
Xylenes - Total*	0.003	mg/L	-	< 0.003	-	< 0.003
4-Bromofluorobenzene (surr.)	1	%	-	89	-	85

Client Sample ID			TS	TB
Sample Matrix			Trip Spike (liquid)	Trip Blank (liquid)
Eurofins Sample No.			S23-Jl0012254	S23-Jl0012255
Date Sampled			Jul 05, 2023	Jul 05, 2023
Test/Reference	LOR	Unit		
TRH C6-C10	1	%	72	-
Naphthalene[N02]	0.01	mg/L	-	< 0.01
Total Recoverable Hydrocarbons				
Naphthalene	1	%	75	-
TRH C6-C9	1	%	72	-
BTEX				
Benzene	1	%	89	-
Ethylbenzene	1	%	84	-
m&p-Xylenes	1	%	87	-
o-Xylene	1	%	84	-
Toluene	1	%	77	-
Xylenes - Total	1	%	85	-
4-Bromofluorobenzene (surr.)	1	%	91	-
Total Recoverable Hydrocarbons				
TRH C6-C9	0.02	mg/L	-	< 0.02
TRH C6-C10	0.02	mg/L	-	< 0.02
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	-	< 0.02
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

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	Sydney	Jul 07, 2023	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons	Sydney	Jul 07, 2023	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Sydney	Jul 07, 2023	14 Days
- Method: LTM-ORG-2010 BTEX and Volatile TRH			

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Address: Level 18, Tower B, Citadel Tower 799 Pacific Highway
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NSW 2067

Project Name: NORTHERN RIVERS
Project ID: SYDGE319200

Order No.:
Report #: 1005684
Phone: +61 2 9406 1000
Fax: +61 2 9406 1002

Received: Jul 6, 2023 9:30 AM
Due: Jul 13, 2023
Priority: 5 Day
Contact Name: Kelsie McGillen

Eurofins Analytical Services Manager : Asim Khan

Sample Detail						Asbestos - AS4964	HOLD	Iron	Total Organic Carbon	Acid Sulfate Soils Field pH Test	Suite B14: OCP/OPP	Moisture Set	Cation Exchange Capacity	Eurofins Suite B7	BTEXN and Volatile TRH	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254									X				X	X		
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X		X	X	X	X	X	X	X
External Laboratory																
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**											
1	BROAD C-BH1 0.1-0.5	Jul 03, 2023		Soil	S23-Jl0012203			X	X		X	X	X	X		
2	BROAD C-BH1 0.5-1.0	Jul 03, 2023		Soil	S23-Jl0012204							X		X		
3	BROAD C-BH1 6.8-7.0	Jul 03, 2023		Soil	S23-Jl0012205					X						
4	BROAD C-BH2 0.1-0.35	Jul 03, 2023		Soil	S23-Jl0012206			X	X			X	X	X		
5	BROAD C-BH2 0.35-0.8	Jul 03, 2023		Soil	S23-Jl0012207							X		X		
6	BROAD C-BH2 6.8-7.0	Jul 03, 2023		Soil	S23-Jl0012208					X						
7	BROAD E-BH1 0.1-0.4	Jul 03, 2023		Soil	S23-Jl0012209							X		X		

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Project Name: NORTHERN RIVERS
Project ID: SYDGE319200

Order No.:
Report #: 1005684
Phone: +61 2 9406 1000
Fax: +61 2 9406 1002

Received: Jul 6, 2023 9:30 AM
Due: Jul 13, 2023
Priority: 5 Day
Contact Name: Kelsie McGillen

Eurofins Analytical Services Manager : Asim Khan

Sample Detail						Asbestos - AS4964	HOLD	Iron	Total Organic Carbon	Acid Sulfate Soils Field pH Test	Suite B14: OCP/OPP	Moisture Set	Cation Exchange Capacity	Eurofins Suite B7	BTEXN and Volatile TRH	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254									X				X	X		
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X		X	X	X	X	X	X	X
8	BROAD E-BH1 0.4-1.0	Jul 03, 2023		Soil	S23-Jl0012210							X		X		
9	BR-SS1	Jul 03, 2023		Soil	S23-Jl0012211							X		X		
10	BR-SS2	Jul 03, 2023		Soil	S23-Jl0012212							X		X		
11	BR-SS3	Jul 03, 2023		Soil	S23-Jl0012213							X		X		
12	BR-SS4	Jul 03, 2023		Soil	S23-Jl0012214							X		X		
13	BR-SS5	Jul 03, 2023		Soil	S23-Jl0012215	X						X		X		
14	BR-SS6	Jul 03, 2023		Soil	S23-Jl0012216	X		X	X		X	X	X	X		
15	DUP1	Jul 03, 2023		Soil	S23-Jl0012217							X		X		
16	TS	Jul 03, 2023		Trip Spike (liquid)	S23-Jl0012218											X
17	TB	Jul 03, 2023		Trip Blank (liquid)	S23-Jl0012219										X	
18	WA-SS1	Jul 04, 2023		Soil	S23-Jl0012220	X						X		X		
19	WA-SS2	Jul 04, 2023		Soil	S23-Jl0012221	X						X		X		
20	WA-SS3	Jul 04, 2023		Soil	S23-Jl0012222							X		X		

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Address: Level 18, Tower B, Citadel Tower 799 Pacific Highway
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Project Name: NORTHERN RIVERS
Project ID: SYDGE319200

Order No.:
Report #: 1005684
Phone: +61 2 9406 1000
Fax: +61 2 9406 1002

Received: Jul 6, 2023 9:30 AM
Due: Jul 13, 2023
Priority: 5 Day
Contact Name: Kelsie McGillen

Eurofins Analytical Services Manager : Asim Khan

Sample Detail						Asbestos - AS4964	HOLD	Iron	Total Organic Carbon	Acid Sulfate Soils Field pH Test	Suite B14: OCP/OPP	Moisture Set	Cation Exchange Capacity	Eurofins Suite B7	BTEXN and Volatile TRH	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254									X				X	X		
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X		X	X	X	X	X	X	X
21	WA-SS4	Jul 04, 2023		Soil	S23-Jl0012223	X						X		X		
22	WA-SS5	Jul 04, 2023		Soil	S23-Jl0012224	X						X		X		
23	DUP2	Jul 04, 2023		Soil	S23-Jl0012225							X		X		
24	DUP3	Jul 04, 2023		Soil	S23-Jl0012226							X		X		
25	TS	Jul 04, 2023		Trip Spike (liquid)	S23-Jl0012227											X
26	TB	Jul 04, 2023		Trip Blank (liquid)	S23-Jl0012228										X	
27	BROAD E-BH2 0.1-0.5	Jul 03, 2023		Soil	S23-Jl0012229							X		X		
28	BROAD E-BH2 0.5-1.0	Jul 03, 2023		Soil	S23-Jl0012230							X		X		
29	EM-SS1	Jul 04, 2023		Soil	S23-Jl0012231	X						X		X		
30	EM-SS3	Jul 04, 2023		Soil	S23-Jl0012232	X						X		X		
31	EM-SS4	Jul 04, 2023		Soil	S23-Jl0012233	X						X		X		
32	EM-SS5	Jul 04, 2023		Soil	S23-Jl0012234	X						X		X		

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Melbourne Laboratory - NATA # 1261 Site # 1254									X				X	X		
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X		X	X	X	X	X	X	X
33	BL-SS1	Jul 04, 2023		Soil	S23-Jl0012235	X						X		X		
34	BL-SS2	Jul 04, 2023		Soil	S23-Jl0012236	X						X		X		
35	BL-SS3	Jul 04, 2023		Soil	S23-Jl0012237	X						X		X		
36	BL-SS4	Jul 04, 2023		Soil	S23-Jl0012238	X						X		X		
37	WA-C BH1 0-0.1	Jul 04, 2023		Soil	S23-Jl0012239							X		X		
38	WA-C BH1 0.1-0.3	Jul 04, 2023		Soil	S23-Jl0012240							X		X		
39	WA-C BH1 0.3-0.8	Jul 04, 2023		Soil	S23-Jl0012241	X										
40	WA-C BH1 1.0-1.25	Jul 04, 2023		Soil	S23-Jl0012242					X		X		X		
41	WA-C BH2 0-0.1	Jul 04, 2023		Soil	S23-Jl0012243							X		X		
42	WA-C BH2 0.1-0.3	Jul 04, 2023		Soil	S23-Jl0012244	X		X	X		X	X	X	X		
43	WA-C BH2	Jul 04, 2023		Soil	S23-Jl0012245					X						

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Melbourne Laboratory - NATA # 1261 Site # 1254									X				X	X		
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X		X	X	X	X	X	X	X
43	WA-C BH2 1.5-1.9	Jul 04, 2023		Soil	S23-Jl0012245											
44	WA-E BH1 0.1-0.5	Jul 04, 2023		Soil	S23-Jl0012246	X						X		X		
45	WA-E BH1 1.0-1.5	Jul 04, 2023		Soil	S23-Jl0012247					X		X		X		
46	WA-E BH2 0.1-0.4	Jul 04, 2023		Soil	S23-Jl0012248							X		X		
47	WA-E BH2 0.4-0.8	Jul 04, 2023		Soil	S23-Jl0012249	X						X		X		
48	WA-E BH2 0.8-1.5	Jul 04, 2023		Soil	S23-Jl0012250					X						
49	DUP4	Jul 05, 2023		Soil	S23-Jl0012251							X		X		
50	EM-C BH1 0-0.1	Jul 05, 2023		Soil	S23-Jl0012252	X		X	X		X	X	X	X		
51	EM-C BH1 0.3-0.8	Jul 05, 2023		Soil	S23-Jl0012253							X		X		

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Melbourne Laboratory - NATA # 1261 Site # 1254									X				X	X		
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X		X	X	X	X	X	X	X
52	TS	Jul 05, 2023		Trip Spike (liquid)	S23-Jl0012254											X
53	TB	Jul 05, 2023		Trip Blank (liquid)	S23-Jl0012255										X	
54	EMC BH1 1.25-1.5	Jul 05, 2023		Soil	S23-Jl0012256					X						
55	BROAD C-BH1 0-0.1	Jul 03, 2023		Soil	S23-Jl0012257		X									
56	BROAD C-BH2 0-0.1	Jul 03, 2023		Soil	S23-Jl0012258		X									
57	BROAD E-BH1 0-0.1	Jul 03, 2023		Soil	S23-Jl0012259		X									
58	BROAD E-BH2 0-0.1	Jul 03, 2023		Soil	S23-Jl0012260		X									
59	EM-SS2	Jul 04, 2023		Soil	S23-Jl0012261		X									
60	BL-SS5	Jul 04, 2023		Soil	S23-Jl0012262		X									
61	WA-C BH2	Jul 04, 2023		Soil	S23-Jl0012263		X									

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Sample Detail						Asbestos - AS4964	HOLD	Iron	Total Organic Carbon	Acid Sulfate Soils Field pH Test	Suite B14: OCP/OPP	Moisture Set	Cation Exchange Capacity	Eurofins Suite B7	BTEXN and Volatile TRH	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254									X				X	X		
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X		X	X	X	X	X	X	X
	0.3-0.8															
62	WA-E BH1 0-0.1	Jul 04, 2023		Soil	S23-Jl0012264		X									
63	WA-E BH1 0.5-1.0	Jul 04, 2023		Soil	S23-Jl0012265		X									
64	WA-E BH2 0-0.1	Jul 04, 2023		Soil	S23-Jl0012266		X									
65	EM-C BH1 0.1-0.3	Jul 05, 2023		Soil	S23-Jl0012267		X									
66	EM-C BH1 0.8-1.5	Jul 05, 2023		Soil	S23-Jl0012268		X									
Test Counts						19	12	5	5	7	4	42	5	42	3	3

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Internal Quality Control Review and Glossary

General

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

Holding Times

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

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

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

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

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

Units

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

Terms

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

QC - Acceptance Criteria

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

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

Results <10 times the LOR: No Limit

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

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

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

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

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

QC Data General Comments

1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
3. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time.Analysis will begin as soon as possible after sample receipt.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. Duplicate RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Naphthalene	mg/L	< 0.01			0.01	Pass	
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/L	< 0.02			0.02	Pass	
TRH C6-C10	mg/L	< 0.02			0.02	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	
LCS - % Recovery							
Naphthalene	%	83			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C6-C9	%	102			70-130	Pass	
TRH C6-C10	%	102			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	108			70-130	Pass	
Toluene	%	102			70-130	Pass	
Ethylbenzene	%	101			70-130	Pass	
m&p-Xylenes	%	106			70-130	Pass	
o-Xylene	%	105			70-130	Pass	
Xylenes - Total*	%	106			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
				Result 1	Result 2	RPD			
Naphthalene	R23-JI0006822	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	R23-JI0006822	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
TRH C6-C10	R23-JI0006822	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	R23-JI0006822	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Toluene	R23-JI0006822	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Ethylbenzene	R23-JI0006822	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
m&p-Xylenes	R23-JI0006822	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
o-Xylene	R23-JI0006822	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Xylenes - Total*	R23-JI0006822	NCP	mg/L	< 0.003	< 0.003	<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
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.

Authorised by:

Asim Khan	Analytical Services Manager
Roopesh Rangarajan	Senior Analyst-Volatile

Glenn Jackson
Managing Director

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.

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

TETRA TECH COFFEY

Consigning Office: kelsie.mcgillen@tetratech.com
Report Results to: edward.wu@tetratech.com
Invoices to: Accounts

Mobile: 61294061030 Email:
Phone: Email:

Project No: SYDGE319200 Task No:
Project Name: Northern Rivers Laboratory: Eurofins
Sampler's Name: Will Shu Project Manager: Richard Wilkins
Quote number (if different to current quoted prices):
Special Instructions:

Lab Batch Ref	Sample ID	Sample Date	Time	Matrix (Soil...etc)	Container Type & Preservative*	T-A-T (specify)	B6 (TRH BTEX PAH 8 Metals)	B14 (OCP OPP)	B1 (TRH BTEX)	CEC TOC IRON	Asbestos 50g	ASS ph Screening								NOTES
	EM - EBH1 - 0-0.1	7/5/2023		Soil	J	Standard	X													
	EM - EBH1 - 0.1-0.5	7/5/2023		Soil	J	Standard	X	X		X											
	EM - EBH1 - 0.5-1	7/5/2023		Soil	J	Standard	X														
	EM - EBH1 - ASS	7/5/2023		Soil	Z	Standard						X									
	DUP5	7/5/2023		Soil	J	Standard	X														
	EM - C-BH2 0-0.1	7/6/2023		Soil	J	Standard															
	EM - C-BH2 0.1-0.5	7/6/2023		Soil	J	Standard	X														
	EM - C-BH2 0.5-0.8	7/6/2023		Soil	J	Standard	X														
	EM - C-BH2 ASS	7/6/2023		Soil	Z	Standard						X									
	EM - EBH2 0-0.1	7/6/2023		Soil	J	Standard															
	EM - EBH2 0.1-0.5	7/6/2023		Soil	J	Standard	X	X		X											
	EM - EBH2 0.5-1	7/6/2023		Soil	J	Standard															
	RB1	7/7/2023			P	Standard	X														
	TS TB	7/6/2023			V	Standard			X												

RELINQUISHED BY

Name: Coffey Date: Time:
Name: Company: Date: Time:

RECEIVED BY

Name: Ryan Phillips Date: 12/7/23
Company: Time: 9:38am
Name: Company: Date: Time:

Sample Receipt Advice: (Lab Use Only)

All Samples Recieved in Good Condition ☐
All Documentation is in Proper Order ☐
Samples Received Properly Chilled ☐ 15.1°C
Lab. Ref/Batch No. 1007959

*Container Type & Preservation Codes: P - Plastic, G- Glass Bottle, J - Glass Jar, V- Vial, Z - Ziplock bag, N - Nitric Acid Preserved, C - Hydrochloric Acid Preserved, S - Sulphuric Acid Preserved, I - Ice, ST - Sodium Thiosulfate, NP - No Preservative

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

TETRA TECH COFFEY

Consigning Office:	kelsie.mcgillen@tetratech.com				
Report Results to:	edward.wu@tetratech.com	Mobile:	61294061030	Email:	
Invoices to:	Accounts	Phone:		Email:	

Project No:	SYDGE319200	Task No:	
Project Name:	Northern Rivers	Laboratory:	Eurofins
Sampler's Name:	Will Shu	Project Manager:	Kelsie McGillen,
Quote number (if different to current quoted prices):			
Special Instructions:			

Lab Batch Ref	Sample ID	Sample Date	Time	Matrix *(Soil...etc)*	Container Type & Preservative*	T-A-T *(specify)*	B6 (TRH BTEX PAH 8 Metals)	B14 (OCP OPP)	B1 (TRH BTEX)	CEC TOC IRON	Asbestos 50g	ASS ph Screening	NOTES
	BL CBH1 0-0.1	7/07/2023		Soil	J	Standard	X						
	BL CBH1 0.1-0.5	7/07/2023		Soil	J	Standard	X	X		X			
	BL CBH1 0.5-0.8	7/07/2023		Soil	J	Standard	X						
	BL CBH1 ASS	7/07/2023		Soil	Z	Standard						X	
	DUP6	7/07/2023		Soil	J	Standard	X						
	BL EBH1 0-0.1	7/07/2023		Soil	J	Standard	X						
	BL EBH1 0.1-0.5	7/07/2023		Soil	J	Standard	X						
	BL EBH1 0.5-1	7/07/2023		Soil	J	Standard							
	BL EBH1 ASS	7/07/2023		Soil	Z	Standard						X	
	BL EBH2 0-0.1	7/07/2023		Soil	J	Standard							
	BL EBH2 0.1-0.5	7/07/2023		Soil	J	Standard	X	X		X			
	BL EBH2 0.5-1	7/07/2023		Soil	J	Standard	X						
	BL EBH2 ASS	7/07/2023		Soil	Z	Standard						X	
	DUP7	7/07/2023		Soil	J	Standard	X						
	BL CBH2 0-0.1	7/07/2023		Soil	J	Standard							
	BL CBH2 0.1-0.5	7/07/2023		Soil	J	Standard	X						

Analysis Request Section

RELINQUISHED BY		RECEIVED BY	
Name:	Date:	Name:	Date:
Coffey	Time:	Company:	Time:
Name:	Date: →	Name:	Date:
Company:	Time:	Company:	Time:

Sample Receipt Advice: (Lab Use Only)

- All Samples Recieved in Good Condition ☐
- All Documentation is in Proper Order ☐
- Samples Received Properly Chilled ☐
- Lab. Ref/Batch No. ☐

***Container Type & Preservation Codes: P** - Plastic, **G**- Glass Bottle, **J** - Glass Jar, **V**- Vial, **Z** - Ziplock bag, **N** - Nitric Acid Preserved, **C** - Hydrochloric Acid Preserved, **S** - Sulphuric Acid Preserved, **I** - Ice, **ST** - Sodium Thiosulfate, **NP** - No Preservative

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

TETRA TECH COFFEY

Consigning Office:	kelsie.mcgillen@tetratech.com				
Report Results to:	Edward.Wu@ tetratech.com	Mobile:	61294061030	Email:	
Invoices to:	Accounts	Phone:		Email:	

Project No:	SYDGE319200	Task No:	
Project Name:	Northern Rivers	Laboratory:	
Sampler's Name:		Project Manager:	Kelsie McGillen
Quote number (if different to current quoted prices):			
Special Instructions:			

Lab Batch Ref	Sample ID	Sample Date	Time	Matrix (Soil...etc)	Container Type & Preservative*	T-A-T (specify)
	BL.C-BH1 0-0.1	07/07/23		Soil	Jar	Standard
	" " 0.1-0.5				Jar	
	" " 0.5-0.8				Jar	
	" " ASS				Ziplock	
	Dup6				Jar	
	BL.E-BH1 0-0.1				Jar	
	" " 0.1-0.5				Jar	
	" " 0.5-1				Jar	
	" " ASS				Ziplock	
	BL.E-BH2 0-0.1				J	
	" " 0.1-0.5				J	
	" " 0.5-1				J	
	" " ASS				Ziplock	
	DUP7				Jar	
	BL.C-BH2 0-0.1				Jar	
	" " 0.1-0.5				Jar	
	" " 0.5-0.8				Jar	

Analysis Request Section

B6 (TRH BTEX PAH 8 Metals)	B14 (OCP OPP)	B1 (TRH BTEX)	CEC TOC Iron	Asbestos 50g	ASS ph Screening							HOLD	NOTES

RELINQUISHED BY		RECEIVED BY	
Name: Will Shi	Date: 07/07/23	Name:	Date:
Coffey	Time:	Company:	Time:
Name:	Date: →	Name:	Date:
Company:	Time:	Company:	Time:

Sample Receipt Advice: (Lab Use Only)

- All Samples Recieved in Good Condition ☐
- All Documentation is in Proper Order ☐
- Samples Received Properly Chilled ☐
- Lab. Ref/Batch No.

***Container Type & Preservation Codes:** **P** - Plastic, **G**- Glass Bottle, **J** - Glass Jar, **V**- Vial, **Z** - Ziplock bag, **N** - Nitric Acid Preserved, **C** - Hydrochloric Acid Preserved, **S** - Sulphuric Acid Preserved, **I** - Ice, **ST** - Sodium Thiosulfate, **NP** - No Preservative

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

TETRA TECH COFFEY

Consigning Office:	kelsie.mcgillen@tetratech.com				
Report Results to:	Edward.Wu@ tetratech.com	Mobile:	61294061030	Email:	
Invoices to:	Accounts	Phone:		Email:	

Project No:	SYDGE319200	Task No:	
Project Name:	Northern Rivers	Laboratory:	
Sampler's Name:		Project Manager:	Kelsie McGillen
Quote number (if different to current quoted prices):			
Special Instructions:			

Analysis Request Section

Lab Batch Ref	Sample ID	Sample Date	Time	Matrix (Soil...etc)	Container Type & Preservative*	T-A-T (specify)	B6 (TRH BTEX PAH 8 Metals)	B14 (OCP OPP)	B1 (TRH BTEX)	CEC TOC Iron	Asbestos 50g	ASS ph Screening							HOLD	NOTES
	EM.E-BH1 0-0.1	5/7/23	.	Soil	Jar	standard														
	" " 0.1-0.5	↓	.		"															
	" " 0.5-1		.		Jar, ~~ziplock~~															
	EM.E-BH1 ASS	5/7/23	.		Ziploc															
	~~EM.E-1~~ DUP5	5/7/23	.		Jar															
	EM.C-BH12 0-0.1	6/7/23	.		Jar															
	" " 0.1-0.5	6/7/23	.		Jar															
	" " 0.5-0.8	6/7/23	.		Jar															
	" " ASS	6/7/23	.		Ziploc															
	EM.E-BH2 0-0.1	6/7/23	.		Jar															
	" " 0.1-0.5	6/7/23	.		Jar															
	" " 0.5-1	6/7/23	.		Jar															
	RB1	6/7/23	.		Ziploc															
	TS	6/7/23	.		Ziploc															
	TB	6/7/23	.		Ziploc															
	~~EM.E-BH2~~		.																	

RELINQUISHED BY

Name:	Will Shu	Date:	06/07/23
Coffey		Time:	
Name:		Date:	
Company:		Time:	

RECEIVED BY

Name:	Brendan	Date:	6/7
Company:	Envirolab	Time:	12:59
Name:		Date:	
Company:		Time:	

Sample Receipt Advice: (Lab Use Only)

All Samples Recieved in Good Condition ☑

All Documentation is in Proper Order ☑

Samples Received Properly Chilled ☑ 15.1

Lab. Ref/Batch No.

***Container Type & Preservation Codes:** **P** - Plastic, **G**- Glass Bottle, **J** - Glass Jar, **V**- Vial, **Z** - Ziplock bag, **N** - Nitric Acid Preserved, **C** - Hydrochloric Acid Preserved, **S** - Sulphuric Acid Preserved, **I** - Ice, **ST** - Sodium Thiosulfate, **NP** - No Preservative

Ursula Long

From: McGillen, Kelsie <KELSIE.MCGILLEN@tetratech.com>
Sent: Monday, 17 July 2023 8:28 AM
To: Asim Khan; #AU25_Enviro_Sample_NSW
Cc: Wu, Edward
Subject: RE: Eurofins Sample Receipt Advice - Report 1007959 : Site NORTHERN RIVERS (SYDGE 319200)
Attachments: SYDGE319200 COC.xlsx

Follow Up Flag: Follow up
Flag Status: Flagged

Hi All,

Please see attached an amended COC which includes analysis for the additional samples noted below.

Kind Regards,

Kelsie McGillen | Environmental Consultant
Direct **+61 2 9406 1030** | Mobile **+61 428 226 146** | kelsie.mcgillen@tetratech.com

Tetra Tech Coffey | *Leading with Science®*
Level 19, Tower B | 799 Pacific Highway, Chatswood NSW 2067 | tetratech.com | tetratechcoffey.com

---

From: McGillen, Kelsie
Sent: Monday, July 17, 2023 8:20 AM
To: Asim Khan <AsimKhan@eurofins.com>; EnviroSampleNSW@eurofins.com
Subject: FW: Eurofins Sample Receipt Advice - Report 1007959 : Site NORTHERN RIVERS (SYDGE 319200)

Hi Asim,

Can you please ensure these results are sent to myself and Edward Wu as per the COC?

Kind Regards,

Kelsie McGillen | Environmental Consultant
Direct **+61 2 9406 1030** | Mobile **+61 428 226 146** | kelsie.mcgillen@tetratech.com

Tetra Tech Coffey | *Leading with Science®*

Level 19, Tower B | 799 Pacific Highway, Chatswood NSW 2067 | tetratech.com | tetratechcoffey.com

---

From: EnviroSampleNSW@eurofins.com <EnviroSampleNSW@eurofins.com>
Sent: Friday, July 14, 2023 4:41:34 PM
To: Wilkinson, Richard <Richard.Wilkinson@tetratech.com>
Cc: ETS.SVC.COF_Esdat <ETS.SVC.COF_Esdat@tetratech.com>
Subject: Eurofins Sample Receipt Advice - Report 1007959 : Site NORTHERN RIVERS (SYDGE 319200)

Dear Valued Client,

Sample TS/TB not received | Analysis cancel| Extra sample EM E-BH2-0.5-1 (ASS BG), BL-C-BH4-0.5-0.8 (ASS BG+JAR), EM-E-BH1-0-0.1 JAR received | Logged on hold | Please advise|

Please find attached a Sample Receipt Advice (SRA), a Summary Sheet and a scanned copy of your Chain-of-Custody (COC). It is important that you check this documentation to ensure that the details are correct such as the Client Job Number, Turn Around Time, any comments in the Notes section and sample numbers as well as the requested analysis. If there are any irregularities then please contact your Eurofins | Environment Testing Analytical Services Manager as soon as possible to make certain that they get changed.

Regards

Sita Gautam
Sample Receipt

Eurofins | Environmental Testing
179 Magowar Rd
Girraween, NSW 2145
Phone: +61 02 9900 8421
Email: EnviroSampleNSW@eurofins.com
Website:[http:///]environment.eurofins.com.au

View our latest EnviroNotes
View our latest EnviroNotes

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

TETRA TECH COFFEY

Consigning Office:	kelsie.mcgillen@tetratech.com				
Report Results to:	edward.wu@tetratech.com	Mobile:	61294061030	Email:	
Invoices to:	Accounts	Phone:		Email:	

Project No:	SYDGE319200	Task No:	
Project Name:	Northern Rivers	Laboratory:	Eurofins
Sampler's Name:	Will Shu	Project Manager:	Edward Wu
Quote number (if different to current quoted prices):			
Special Instructions:			

Analysis Request Section

Lab Batch Ref	Sample ID	Sample Date	Time	Matrix *(Soil...etc)*	Container Type & Preservative*	T-A-T *(specify)*	B6 (TRH BTEX PAH 8 Metals)	B14 (OCP OPP)	B1 (TRH BTEX)	CEC TOC IRON	Asbestos 50g	ASS ph Screening								NOTES
	EM E-BH2 0.5-1			Soil	Z	Standard						X								
	BL C-BH4 0.5-0.8			Soil	J Z	Standard	X					X								
	EM E-BH1 0-0.1			Soil	J	Standard	X													

RELINQUISHED BY		RECEIVED BY	
Name:	Date:	Name:	Date:
Coffey	Time:	Company:	Time:
Name:	Date: ➔	Name:	Date:
Company:	Time:	Company:	Time:

Sample Receipt Advice: (Lab Use Only)

All Samples Recieved in Good Condition	☐
All Documentation is in Proper Order	☐
Samples Received Properly Chilled	☐
Lab. Ref/Batch No.	

***Container Type & Preservation Codes:** **P** - Plastic, **G**- Glass Bottle, **J** - Glass Jar, **V**- Vial, **Z** - Ziplock bag, **N** - Nitric Acid Preserved, **C** - Hydrochloric Acid Preserved, **S** - Sulphuric Acid Preserved, **I** - Ice, **ST** - Sodium Thiosulfate, **NP** - No Preservative

eurofins | Environment Testing

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

Eurofins Environment Testing Australia Pty Ltd

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NATA# 1261 Site# 1254

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Tel: +61 3 8564 5000
NATA# 1261 Site# 25403

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

Canberra
Unit 1,2 Dacre Street
Mitchell
ACT 2911
Tel: +61 2 6113 8091
NATA# 1261 Site# 25466

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

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1/2 Frost Drive
Mayfield West NSW 2304
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NATA# 1261
Site# 25079 & 25289

Eurofins ARL Pty Ltd

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NATA# 2377 Site# 2370

Eurofins Environment Testing NZ Ltd

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Tel: +64 9 526 4551
IANZ# 1327

Christchurch
43 Detroit Drive
Rolleston,
Christchurch 7675
Tel: +64 3 343 5201
IANZ# 1290

Sample Receipt Advice

Company name:	Tetra Tech Coffey Geotechnics Pty Ltd Chatswood
Contact name:	Edward Wu
Project name:	NORTHERN RIVERS
Project ID:	SYDGE319200
Turnaround time:	3 Day
Date/Time received	Jul 12, 2023 9:36 AM
Eurofins reference	1007959

Sample Information

✓	A detailed list of analytes logged into our LIMS, is included in the attached summary table.
✓	Sample Temperature of chilled sample on the batch as recorded by Eurofins Sample Receipt : 15.1 degrees Celsius.
✓	All samples have been received as described on the above COC.
✓	COC has been completed correctly.
✓	Attempt to chill was evident.
✓	Appropriately preserved sample containers have been used.
✓	All samples were received in good condition.
✓	Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
✓	Appropriate sample containers have been used.
✓	Sample containers for volatile analysis received with zero headspace.
X	Split sample sent to requested external lab.
X	Some samples have been subcontracted.
N/A	Custody Seals intact (if used).

Notes

Sample TS/TB not received, Analysis cancelled.

Contact

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

Asim Khan on phone : or by email: AsimKhan@eurofins.com

Results will be delivered electronically via email to Edward Wu - edward.wu@coffey.com.

Note: A copy of these results will also be delivered to the general Tetra Tech Coffey Geotechnics Pty Ltd Chatswood email address.

eurofins

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

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

Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
6 Monterey Road	19/8 Lewalan Street	179 Magowar Road	Unit 1,2 Dacre Street	1/21 Smallwood Place	1/2 Frost Drive
Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West NSW 2304
VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	Tel: +61 2 4968 8448
Tel: +61 3 8564 5000	Tel: +61 3 8564 5000	Tel: +61 2 9900 8400	Tel: +61 2 6113 8091	Tel: +61 7 3902 4600	NATA# 1261
NATA# 1261 Site# 1254	NATA# 1261 Site# 25403	NATA# 1261 Site# 18217	NATA# 1261 Site# 25466	NATA# 1261 Site# 20794	Site# 25079 & 25289

Eurofins ARL Pty Ltd
ABN: 91 05 0159 898

Perth
46-48 Banksia Road
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NATA# 2377 Site# 2370

Eurofins Environment Testing NZ Ltd
NZBN: 9429046024954

Auckland	Christchurch
35 O'Rorke Road	43 Detroit Drive
Penrose,	Rolleston,
Auckland 1061	Christchurch 7675
Tel: +64 9 526 4551	Tel: +64 3 343 5201
IANZ# 1327	IANZ# 1290

Company Name: Tetra Tech Coffey Geotechnics Pty Ltd Chatswood
Address: Level 18, Tower B, Citadel Tower 799 Pacific Highway
Chatswood
NSW 2067

Project Name: NORTHERN RIVERS
Project ID: SYDGE319200

Order No.:
Report #: 1007959
Phone: +61 2 9406 1000
Fax: +61 2 9406 1002

Received: Jul 12, 2023 9:36 AM
Due: Jul 14, 2023
Priority: 3 Day
Contact Name: Edward Wu

Eurofins Analytical Services Manager : Asim Khan

Sample Detail						CANCELLED	HOLD	Iron	Total Organic Carbon	Acid Sulfate Soils Field pH Test	Suite B14: OCP/OPP	Moisture Set	Cation Exchange Capacity	Eurofins Suite B7
Melbourne Laboratory - NATA # 1261 Site # 1254									X				X	X
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X		X	X	X	X	X
External Laboratory														
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**									
1	BL CBH1 0-0.1	Jul 07, 2023		Soil	S23-Jl0029490							X		X
2	BL CBH1 0.10.5	Jul 07, 2023		Soil	S23-Jl0029491			X	X		X	X	X	X
3	BL CBH1 0.5-0.8	Jul 07, 2023		Soil	S23-Jl0029492							X		X
4	BL CBH1 ASS	Jul 07, 2023		Soil	S23-Jl0029493					X				
5	DUP6	Jul 07, 2023		Soil	S23-Jl0029494							X		X
6	BL EBH1 0-0.1	Jul 07, 2023		Soil	S23-Jl0029495							X		X
7	BL EBH1 0.1-0.5	Jul 07, 2023		Soil	S23-Jl0029496							X		X
8	BL EBH1 ASS	Jul 07, 2023		Soil	S23-Jl0029497					X				
9	BL EBH2 0.1-0.5	Jul 07, 2023		Soil	S23-Jl0029498			X	X		X	X	X	X

eurofins

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

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

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NATA# 1261 Site# 25403

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Company Name: Tetra Tech Coffey Geotechnics Pty Ltd Chatswood
Address: Level 18, Tower B, Citadel Tower 799 Pacific Highway
Chatswood
NSW 2067

Project Name: NORTHERN RIVERS
Project ID: SYDGE319200

Order No.:
Report #: 1007959
Phone: +61 2 9406 1000
Fax: +61 2 9406 1002

Received: Jul 12, 2023 9:36 AM
Due: Jul 14, 2023
Priority: 3 Day
Contact Name: Edward Wu

Eurofins Analytical Services Manager : Asim Khan

Sample Detail						CANCELLED	HOLD	Iron	Total Organic Carbon	Acid Sulfate Soils Field pH Test	Suite B14: OCP/OPP	Moisture Set	Cation Exchange Capacity	Eurofins Suite B7
Melbourne Laboratory - NATA # 1261 Site # 1254									X				X	X
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X		X	X	X	X	X
10	BL EBH2 0.5-1	Jul 07, 2023		Soil	S23-Jl0029499							X		X
11	BL EBH2 ASS	Jul 07, 2023		Soil	S23-Jl0029500					X				
12	DUP7	Jul 07, 2023		Soil	S23-Jl0029501							X		X
13	BL CBH2 0.1-0.5	Jul 07, 2023		Soil	S23-Jl0029502							X		X
14	EM-EBH1 0.1-0.5	May 07, 2023		Soil	S23-Jl0029503			X	X		X	X	X	X
15	EM-EBH1 0.5-1	May 07, 2023		Soil	S23-Jl0029504							X		X
16	EM-EBH1 ASS	May 07, 2023		Soil	S23-Jl0029505					X				
17	DUP5	May 07, 2023		Soil	S23-Jl0029506							X		X
18	EM-C-BH2 0.1-0.5	Jun 07, 2023		Soil	S23-Jl0029507							X		X
19	EM-C-BH2 0.5-0.8	Jun 07, 2023		Soil	S23-Jl0029508							X		X
20	EM-C-BH2 ASS	Jun 07, 2023		Soil	S23-Jl0029509					X				

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Melbourne Laboratory - NATA # 1261 Site # 1254									X				X	X
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X		X	X	X	X	X
21	EM-EBH2 0.1-0.5	Jun 07, 2023		Soil	S23-Jl0029510			X	X		X	X	X	X
22	RB1	Jun 07, 2023		Water	S23-Jl0029511									X
23	TS	Jun 07, 2023		Water	S23-Jl0029512	X								
24	TB	Jun 07, 2023		Water	S23-Jl0029513	X								
25	BL EBH1 0.5-1	Jul 07, 2023		Soil	S23-Jl0029514		X							
26	BL EBH2 0-0.1	Jul 07, 2023		Soil	S23-Jl0029515		X							
27	BL CBH2 0-0.1	Jul 07, 2023		Soil	S23-Jl0029516		X							
28	EM-C-BH2 0-0.1	Jun 07, 2023		Soil	S23-Jl0029517		X							
29	EM-EBH2 0-0.1	Jun 07, 2023		Soil	S23-Jl0029518		X							
30	EM-EBH2 0.5-1	Jun 07, 2023		Soil	S23-Jl0029519		X							
31	EM-E-BH2 0.5-1	Jun 07, 2023		Soil	S23-Jl0029864					X				

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Sample Detail						CANCELLED	HOLD	Iron	Total Organic Carbon	Acid Sulfate Soils Field pH Test	Suite B14: OCP/OPP	Moisture Set	Cation Exchange Capacity	Eurofins Suite B7
Melbourne Laboratory - NATA # 1261 Site # 1254									X				X	X
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X		X	X	X	X	X
32	EM-E-BH1 0-0.1	Jun 07, 2023		Soil	S23-Jl0029865							X		X
33	BL C-BH4-0.5-0.8	Jun 07, 2023		Soil	S23-Jl0029866					X		X		X
Test Counts						2	6	4	4	7	4	18	4	19

Tetra Tech Coffey Geotechnics Pty Ltd Chatswood
Level 18, Tower B, Citadel Tower 799 Pacific Highway
Chatswood
NSW 2067

Attention: **Edward Wu**

Report **1007959-S**
Project name NORTHERN RIVERS
Project ID SYDGE319200
Received Date Jul 12, 2023

Client Sample ID			**BL CBH1 0-0.1**	**BL CBH1 0.10.5**	**BL CBH1 0.5-0.8**	**BL CBH1 ASS**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**S23-Jl0029490**	**S23-Jl0029491**	**S23-Jl0029492**	**S23-Jl0029493**
Date Sampled			**Jul 07, 2023**	**Jul 07, 2023**	**Jul 07, 2023**	**Jul 07, 2023**
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	-
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	-
TRH C15-C28	50	mg/kg	< 50	< 50	< 50	-
TRH C29-C36	50	mg/kg	< 50	< 50	< 50	-
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	< 50	-
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	-
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	-
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	-
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	< 50	< 50	-
TRH >C16-C34	100	mg/kg	< 100	< 100	< 100	-
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	-
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	< 100	-
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	-
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	-
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	-
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	-
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	-
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	-
4-Bromofluorobenzene (surr.)	1	%	56	52	75	-
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	0.6	0.6	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.2	1.2	-
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Chrysene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-

Client Sample ID			BL CBH1 0-0.1	BL CBH1 0.10.5	BL CBH1 0.5-0.8	BL CBH1 ASS
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S23-JI0029490	S23-JI0029491	S23-JI0029492	S23-JI0029493
Date Sampled			Jul 07, 2023	Jul 07, 2023	Jul 07, 2023	Jul 07, 2023
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Total PAH*	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
2-Fluorobiphenyl (surr.)	1	%	78	95	102	-
p-Terphenyl-d14 (surr.)	1	%	88	83	82	-
Heavy Metals						
Arsenic	2	mg/kg	< 2	< 2	< 2	-
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	-
Chromium	5	mg/kg	30	31	25	-
Copper	5	mg/kg	18	12	8.8	-
Iron	20	mg/kg	-	61000	-	-
Lead	5	mg/kg	82	21	8.0	-
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	-
Nickel	5	mg/kg	14	12	8.8	-
Zinc	5	mg/kg	520	180	59	-
Sample Properties						
% Moisture	1	%	37	25	34	-
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	< 0.1	-	-
4.4'-DDD	0.05	mg/kg	-	< 0.05	-	-
4.4'-DDE	0.05	mg/kg	-	< 0.05	-	-
4.4'-DDT	0.05	mg/kg	-	< 0.05	-	-
a-HCH	0.05	mg/kg	-	< 0.05	-	-
Aldrin	0.05	mg/kg	-	< 0.05	-	-
b-HCH	0.05	mg/kg	-	< 0.05	-	-
d-HCH	0.05	mg/kg	-	< 0.05	-	-
Dieldrin	0.05	mg/kg	-	< 0.05	-	-
Endosulfan I	0.05	mg/kg	-	< 0.05	-	-
Endosulfan II	0.05	mg/kg	-	< 0.05	-	-
Endosulfan sulphate	0.05	mg/kg	-	< 0.05	-	-
Endrin	0.05	mg/kg	-	< 0.05	-	-
Endrin aldehyde	0.05	mg/kg	-	< 0.05	-	-
Endrin ketone	0.05	mg/kg	-	< 0.05	-	-
g-HCH (Lindane)	0.05	mg/kg	-	< 0.05	-	-
Heptachlor	0.05	mg/kg	-	< 0.05	-	-
Heptachlor epoxide	0.05	mg/kg	-	< 0.05	-	-
Hexachlorobenzene	0.05	mg/kg	-	< 0.05	-	-
Methoxychlor	0.05	mg/kg	-	< 0.05	-	-
Toxaphene	0.5	mg/kg	-	< 0.5	-	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	< 0.05	-	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	< 0.05	-	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	< 0.1	-	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	< 0.1	-	-
Dibutylchlorendate (surr.)	1	%	-	75	-	-
Tetrachloro-m-xylene (surr.)	1	%	-	100	-	-

Client Sample ID			BL CBH1 0-0.1	BL CBH1 0.10.5	BL CBH1 0.5-0.8	BL CBH1 ASS
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S23-JI0029490	S23-JI0029491	S23-JI0029492	S23-JI0029493
Date Sampled			Jul 07, 2023	Jul 07, 2023	Jul 07, 2023	Jul 07, 2023
Test/Reference	LOR	Unit				
Organophosphorus Pesticides						
Azinphos-methyl	0.2	mg/kg	-	< 0.2	-	-
Bolstar	0.2	mg/kg	-	< 0.2	-	-
Chlorfenvinphos	0.2	mg/kg	-	< 0.2	-	-
Chlorpyrifos	0.2	mg/kg	-	< 0.2	-	-
Chlorpyrifos-methyl	0.2	mg/kg	-	< 0.2	-	-
Coumaphos	2	mg/kg	-	< 2	-	-
Demeton-S	0.2	mg/kg	-	< 0.2	-	-
Demeton-O	0.2	mg/kg	-	< 0.2	-	-
Diazinon	0.2	mg/kg	-	< 0.2	-	-
Dichlorvos	0.2	mg/kg	-	< 0.2	-	-
Dimethoate	0.2	mg/kg	-	< 0.2	-	-
Disulfoton	0.2	mg/kg	-	< 0.2	-	-
EPN	0.2	mg/kg	-	< 0.2	-	-
Ethion	0.2	mg/kg	-	< 0.2	-	-
Ethoprop	0.2	mg/kg	-	< 0.2	-	-
Ethyl parathion	0.2	mg/kg	-	< 0.2	-	-
Fenitrothion	0.2	mg/kg	-	< 0.2	-	-
Fensulfothion	0.2	mg/kg	-	< 0.2	-	-
Fenthion	0.2	mg/kg	-	< 0.2	-	-
Malathion	0.2	mg/kg	-	< 0.2	-	-
Merphos	0.2	mg/kg	-	< 0.2	-	-
Methyl parathion	0.2	mg/kg	-	< 0.2	-	-
Mevinphos	0.2	mg/kg	-	< 0.2	-	-
Monocrotophos	2	mg/kg	-	< 2	-	-
Naled	0.2	mg/kg	-	< 0.2	-	-
Omethoate	2	mg/kg	-	< 2	-	-
Phorate	0.2	mg/kg	-	< 0.2	-	-
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	%	-	83	-	-
Conductivity (1:5 aqueous extract at 25 °C as rec.)	10	uS/cm	-	27	-	-
Total Organic Carbon	0.1	%	-	1.1	-	-
Cation Exchange Capacity						
Cation Exchange Capacity*	0.5	meq/100g	-	16	-	-
Acid Sulfate Soils Field pH Test						
pH-F (Field pH test)*	0.1	pH Units	-	-	-	7.4
pH-FOX (Field pH Peroxide test)*	0.1	pH Units	-	-	-	5.1
Reaction Ratings*[S05]	0	-	-	-	-	4.0

Client Sample ID			DUP6	BL EBH1 0-0.1	BL EBH1 0.1-0.5	BL EBH1 ASS
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S23-JI0029494	S23-JI0029495	S23-JI0029496	S23-JI0029497
Date Sampled			Jul 07, 2023	Jul 07, 2023	Jul 07, 2023	Jul 07, 2023
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	-
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	-
TRH C15-C28	50	mg/kg	< 50	< 50	< 50	-
TRH C29-C36	50	mg/kg	< 50	< 50	< 50	-
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	< 50	-
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	-
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	-
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	-
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	< 50	< 50	-
TRH >C16-C34	100	mg/kg	< 100	< 100	< 100	-
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	-
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	< 100	-
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	-
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	-
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	-
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	-
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	-
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	-
4-Bromofluorobenzene (surr.)	1	%	68	74	63	-
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	0.6	0.6	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.2	1.2	-
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5	0.6	-
Chrysene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Pyrene	0.5	mg/kg	< 0.5	< 0.5	0.5	-
Total PAH*	0.5	mg/kg	< 0.5	< 0.5	1.1	-
2-Fluorobiphenyl (surr.)	1	%	100	102	129	-
p-Terphenyl-d14 (surr.)	1	%	106	107	107	-

Client Sample ID			DUP6	BL EBH1 0-0.1	BL EBH1 0.1-0.5	BL EBH1 ASS
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S23-JI0029494	S23-JI0029495	S23-JI0029496	S23-JI0029497
Date Sampled			Jul 07, 2023	Jul 07, 2023	Jul 07, 2023	Jul 07, 2023
Test/Reference	LOR	Unit				
Heavy Metals						
Arsenic	2	mg/kg	< 2	2.6	2.3	-
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	-
Chromium	5	mg/kg	39	24	22	-
Copper	5	mg/kg	19	15	15	-
Lead	5	mg/kg	87	17	15	-
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	-
Nickel	5	mg/kg	16	16	20	-
Zinc	5	mg/kg	200	71	63	-
Sample Properties						
% Moisture	1	%	31	24	25	-
Acid Sulfate Soils Field pH Test						
pH-F (Field pH test)*	0.1	pH Units	-	-	-	6.4
pH-FOX (Field pH Peroxide test)*	0.1	pH Units	-	-	-	4.5
Reaction Ratings*[S05]	0	-	-	-	-	2.0

Client Sample ID			BL EBH2 0.1-0.5	BL EBH2 0.5-1	BL EBH2 ASS	DUP7
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S23-JI0029498	S23-JI0029499	S23-JI0029500	S23-JI0029501
Date Sampled			Jul 07, 2023	Jul 07, 2023	Jul 07, 2023	Jul 07, 2023
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	-	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	-	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	-	69
TRH C29-C36	50	mg/kg	< 50	< 50	-	98
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	-	167
TRH C6-C10	20	mg/kg	< 20	< 20	-	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	-	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	-	< 50
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	< 50	-	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	-	140
TRH >C34-C40	100	mg/kg	< 100	< 100	-	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	-	140
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	-	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	-	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	-	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	-	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	-	< 0.3
4-Bromofluorobenzene (surr.)	1	%	54	61	-	67
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5

Client Sample ID			BL EBH2 0.1-0.5	BL EBH2 0.5-1	BL EBH2 ASS	DUP7
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S23-JI0029498	S23-JI0029499	S23-JI0029500	S23-JI0029501
Date Sampled			Jul 07, 2023	Jul 07, 2023	Jul 07, 2023	Jul 07, 2023
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	0.6	-	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.2	-	1.2
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Chrysene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Fluorene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Pyrene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Total PAH*	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
2-Fluorobiphenyl (surr.)	1	%	96	72	-	118
p-Terphenyl-d14 (surr.)	1	%	100	95	-	123
Heavy Metals						
Arsenic	2	mg/kg	< 2	< 2	-	2.2
Cadmium	0.4	mg/kg	< 0.4	< 0.4	-	< 0.4
Chromium	5	mg/kg	21	16	-	24
Copper	5	mg/kg	11	9.9	-	15
Iron	20	mg/kg	49000	-	-	-
Lead	5	mg/kg	17	6.3	-	17
Mercury	0.1	mg/kg	< 0.1	< 0.1	-	< 0.1
Nickel	5	mg/kg	13	8.3	-	15
Zinc	5	mg/kg	120	26	-	72
Sample Properties						
% Moisture	1	%	23	23	-	31
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	-	-	-
4.4'-DDD	0.05	mg/kg	< 0.05	-	-	-
4.4'-DDE	0.05	mg/kg	< 0.05	-	-	-
4.4'-DDT	0.05	mg/kg	< 0.05	-	-	-
a-HCH	0.05	mg/kg	< 0.05	-	-	-
Aldrin	0.05	mg/kg	< 0.05	-	-	-
b-HCH	0.05	mg/kg	< 0.05	-	-	-
d-HCH	0.05	mg/kg	< 0.05	-	-	-
Dieldrin	0.05	mg/kg	< 0.05	-	-	-
Endosulfan I	0.05	mg/kg	< 0.05	-	-	-
Endosulfan II	0.05	mg/kg	< 0.05	-	-	-
Endosulfan sulphate	0.05	mg/kg	< 0.05	-	-	-
Endrin	0.05	mg/kg	< 0.05	-	-	-
Endrin aldehyde	0.05	mg/kg	< 0.05	-	-	-

Client Sample ID			BL EBH2 0.1-0.5	BL EBH2 0.5-1	BL EBH2 ASS	DUP7
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S23-JI0029498	S23-JI0029499	S23-JI0029500	S23-JI0029501
Date Sampled			Jul 07, 2023	Jul 07, 2023	Jul 07, 2023	Jul 07, 2023
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Endrin ketone	0.05	mg/kg	< 0.05	-	-	-
g-HCH (Lindane)	0.05	mg/kg	< 0.05	-	-	-
Heptachlor	0.05	mg/kg	< 0.05	-	-	-
Heptachlor epoxide	0.05	mg/kg	< 0.05	-	-	-
Hexachlorobenzene	0.05	mg/kg	< 0.05	-	-	-
Methoxychlor	0.05	mg/kg	< 0.05	-	-	-
Toxaphene	0.5	mg/kg	< 0.5	-	-	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	-	-	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	-	-	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	-	-	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	-	-	-
Dibutylchlorendate (surr.)	1	%	65	-	-	-
Tetrachloro-m-xylene (surr.)	1	%	116	-	-	-
Organophosphorus Pesticides						
Azinphos-methyl	0.2	mg/kg	< 0.2	-	-	-
Bolstar	0.2	mg/kg	< 0.2	-	-	-
Chlorfenvinphos	0.2	mg/kg	< 0.2	-	-	-
Chlorpyrifos	0.2	mg/kg	< 0.2	-	-	-
Chlorpyrifos-methyl	0.2	mg/kg	< 0.2	-	-	-
Coumaphos	2	mg/kg	< 2	-	-	-
Demeton-S	0.2	mg/kg	< 0.2	-	-	-
Demeton-O	0.2	mg/kg	< 0.2	-	-	-
Diazinon	0.2	mg/kg	< 0.2	-	-	-
Dichlorvos	0.2	mg/kg	< 0.2	-	-	-
Dimethoate	0.2	mg/kg	< 0.2	-	-	-
Disulfoton	0.2	mg/kg	< 0.2	-	-	-
EPN	0.2	mg/kg	< 0.2	-	-	-
Ethion	0.2	mg/kg	< 0.2	-	-	-
Ethoprop	0.2	mg/kg	< 0.2	-	-	-
Ethyl parathion	0.2	mg/kg	< 0.2	-	-	-
Fenitrothion	0.2	mg/kg	< 0.2	-	-	-
Fensulfothion	0.2	mg/kg	< 0.2	-	-	-
Fenthion	0.2	mg/kg	< 0.2	-	-	-
Malathion	0.2	mg/kg	< 0.2	-	-	-
Merphos	0.2	mg/kg	< 0.2	-	-	-
Methyl parathion	0.2	mg/kg	< 0.2	-	-	-
Mevinphos	0.2	mg/kg	< 0.2	-	-	-
Monocrotophos	2	mg/kg	< 2	-	-	-
Naled	0.2	mg/kg	< 0.2	-	-	-
Omethoate	2	mg/kg	< 2	-	-	-
Phorate	0.2	mg/kg	< 0.2	-	-	-
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	%	87	-	-	-

Client Sample ID			BL EBH2 0.1-0.5	BL EBH2 0.5-1	BL EBH2 ASS	DUP7
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S23-JI0029498	S23-JI0029499	S23-JI0029500	S23-JI0029501
Date Sampled			Jul 07, 2023	Jul 07, 2023	Jul 07, 2023	Jul 07, 2023
Test/Reference	LOR	Unit				
Conductivity (1:5 aqueous extract at 25 °C as rec.)	10	uS/cm	25	-	-	-
Total Organic Carbon	0.1	%	1.6	-	-	-
Cation Exchange Capacity						
Cation Exchange Capacity*	0.5	meq/100g	14	-	-	-
Acid Sulfate Soils Field pH Test						
pH-F (Field pH test)*	0.1	pH Units	-	-	6.2	-
pH-FOX (Field pH Peroxide test)*	0.1	pH Units	-	-	5.1	-
Reaction Ratings*[S05]	0	-	-	-	2.0	-

Client Sample ID			BL CBH2 0.1-0.5	EM-EBH1 0.1-0.5	EM-EBH1 0.5-1	EM-EBH1 ASS
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S23-JI0029502	S23-JI0029503	S23-JI0029504	S23-JI0029505
Date Sampled			Jul 07, 2023	May 07, 2023	May 07, 2023	May 07, 2023
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	-
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	-
TRH C15-C28	50	mg/kg	< 50	< 50	< 50	-
TRH C29-C36	50	mg/kg	< 50	< 50	< 50	-
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	< 50	-
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	-
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	-
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	-
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	< 50	< 50	-
TRH >C16-C34	100	mg/kg	< 100	< 100	< 100	-
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	-
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	< 100	-
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	-
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	-
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	-
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	-
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	-
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	-
4-Bromofluorobenzene (surr.)	1	%	99	106	79	-
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	0.6	0.6	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.2	1.2	-
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-

Client Sample ID			BL CBH2 0.1-0.5	EM-EBH1 0.1-0.5	EM-EBH1 0.5-1	EM-EBH1 ASS
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S23-JI0029502	S23-JI0029503	S23-JI0029504	S23-JI0029505
Date Sampled			Jul 07, 2023	May 07, 2023	May 07, 2023	May 07, 2023
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Chrysene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Total PAH*	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
2-Fluorobiphenyl (surr.)	1	%	95	101	97	-
p-Terphenyl-d14 (surr.)	1	%	90	88	89	-
Heavy Metals						
Arsenic	2	mg/kg	< 2	< 2	2.2	-
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	-
Chromium	5	mg/kg	31	17	20	-
Copper	5	mg/kg	13	10	9.2	-
Iron	20	mg/kg	-	24000	-	-
Lead	5	mg/kg	9.7	12	5.4	-
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	-
Nickel	5	mg/kg	12	8.3	11	-
Zinc	5	mg/kg	31	76	37	-
Sample Properties						
% Moisture	1	%	24	27	37	-
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	< 0.1	-	-
4.4'-DDD	0.05	mg/kg	-	< 0.05	-	-
4.4'-DDE	0.05	mg/kg	-	< 0.05	-	-
4.4'-DDT	0.05	mg/kg	-	< 0.05	-	-
a-HCH	0.05	mg/kg	-	< 0.05	-	-
Aldrin	0.05	mg/kg	-	< 0.05	-	-
b-HCH	0.05	mg/kg	-	< 0.05	-	-
d-HCH	0.05	mg/kg	-	< 0.05	-	-
Dieldrin	0.05	mg/kg	-	< 0.05	-	-
Endosulfan I	0.05	mg/kg	-	< 0.05	-	-
Endosulfan II	0.05	mg/kg	-	< 0.05	-	-
Endosulfan sulphate	0.05	mg/kg	-	< 0.05	-	-
Endrin	0.05	mg/kg	-	< 0.05	-	-
Endrin aldehyde	0.05	mg/kg	-	< 0.05	-	-
Endrin ketone	0.05	mg/kg	-	< 0.05	-	-
g-HCH (Lindane)	0.05	mg/kg	-	< 0.05	-	-
Heptachlor	0.05	mg/kg	-	< 0.05	-	-
Heptachlor epoxide	0.05	mg/kg	-	< 0.05	-	-
Hexachlorobenzene	0.05	mg/kg	-	< 0.05	-	-
Methoxychlor	0.05	mg/kg	-	< 0.05	-	-
Toxaphene	0.5	mg/kg	-	< 0.5	-	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	< 0.05	-	-

Client Sample ID			BL CBH2 0.1-0.5	EM-EBH1 0.1-0.5	EM-EBH1 0.5-1	EM-EBH1 ASS
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**S23-JI0029502**	**S23-JI0029503**	**S23-JI0029504**	**S23-JI0029505**
Date Sampled			**Jul 07, 2023**	**May 07, 2023**	**May 07, 2023**	**May 07, 2023**
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	< 0.05	-	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	< 0.1	-	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	< 0.1	-	-
Dibutylchlorendate (surr.)	1	%	-	55	-	-
Tetrachloro-m-xylene (surr.)	1	%	-	112	-	-
Organophosphorus Pesticides						
Azinphos-methyl	0.2	mg/kg	-	< 0.2	-	-
Bolstar	0.2	mg/kg	-	< 0.2	-	-
Chlorfenvinphos	0.2	mg/kg	-	< 0.2	-	-
Chlorpyrifos	0.2	mg/kg	-	< 0.2	-	-
Chlorpyrifos-methyl	0.2	mg/kg	-	< 0.2	-	-
Coumaphos	2	mg/kg	-	< 2	-	-
Demeton-S	0.2	mg/kg	-	< 0.2	-	-
Demeton-O	0.2	mg/kg	-	< 0.2	-	-
Diazinon	0.2	mg/kg	-	< 0.2	-	-
Dichlorvos	0.2	mg/kg	-	< 0.2	-	-
Dimethoate	0.2	mg/kg	-	< 0.2	-	-
Disulfoton	0.2	mg/kg	-	< 0.2	-	-
EPN	0.2	mg/kg	-	< 0.2	-	-
Ethion	0.2	mg/kg	-	< 0.2	-	-
Ethoprop	0.2	mg/kg	-	< 0.2	-	-
Ethyl parathion	0.2	mg/kg	-	< 0.2	-	-
Fenitrothion	0.2	mg/kg	-	< 0.2	-	-
Fensulfothion	0.2	mg/kg	-	< 0.2	-	-
Fenthion	0.2	mg/kg	-	< 0.2	-	-
Malathion	0.2	mg/kg	-	< 0.2	-	-
Merphos	0.2	mg/kg	-	< 0.2	-	-
Methyl parathion	0.2	mg/kg	-	< 0.2	-	-
Mevinphos	0.2	mg/kg	-	< 0.2	-	-
Monocrotophos	2	mg/kg	-	< 2	-	-
Naled	0.2	mg/kg	-	< 0.2	-	-
Omethoate	2	mg/kg	-	< 2	-	-
Phorate	0.2	mg/kg	-	< 0.2	-	-
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	%	-	88	-	-
Conductivity (1:5 aqueous extract at 25 °C as rec.)	10	uS/cm	-	33	-	-
Total Organic Carbon	0.1	%	-	2.6	-	-
Cation Exchange Capacity						
Cation Exchange Capacity*	0.5	meq/100g	-	17	-	-

Client Sample ID			BL CBH2 0.1-0.5	EM-EBH1 0.1-0.5	EM-EBH1 0.5-1	EM-EBH1 ASS
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S23-JI0029502	S23-JI0029503	S23-JI0029504	S23-JI0029505
Date Sampled			Jul 07, 2023	May 07, 2023	May 07, 2023	May 07, 2023
Test/Reference	LOR	Unit				
Acid Sulfate Soils Field pH Test						
pH-F (Field pH test)*	0.1	pH Units	-	-	-	6.0
pH-FOX (Field pH Peroxide test)*	0.1	pH Units	-	-	-	4.4
Reaction Ratings*[S05]	0	-	-	-	-	2.0

Client Sample ID			DUP5	EM-C-BH2 0.1-0.5	EM-C-BH2 0.5-0.8	EM-C-BH2 ASS
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S23-JI0029506	S23-JI0029507	S23-JI0029508	S23-JI0029509
Date Sampled			May 07, 2023	Jun 07, 2023	Jun 07, 2023	Jun 07, 2023
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	-
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	-
TRH C15-C28	50	mg/kg	< 50	< 50	< 50	-
TRH C29-C36	50	mg/kg	< 50	< 50	< 50	-
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	< 50	-
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	-
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	-
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	-
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	< 50	< 50	-
TRH >C16-C34	100	mg/kg	< 100	< 100	< 100	-
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	-
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	< 100	-
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	-
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	-
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	-
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	-
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	-
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	-
4-Bromofluorobenzene (surr.)	1	%	91	96	80	-
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	0.6	0.6	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.2	1.2	-
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Chrysene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-

Client Sample ID			DUP5	EM-C-BH2 0.1-0.5	EM-C-BH2 0.5-0.8	EM-C-BH2 ASS
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S23-JI0029506	S23-JI0029507	S23-JI0029508	S23-JI0029509
Date Sampled			May 07, 2023	Jun 07, 2023	Jun 07, 2023	Jun 07, 2023
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Total PAH*	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
2-Fluorobiphenyl (surr.)	1	%	95	108	95	-
p-Terphenyl-d14 (surr.)	1	%	85	96	79	-
Heavy Metals						
Arsenic	2	mg/kg	< 2	< 2	2.4	-
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	-
Chromium	5	mg/kg	9.3	28	28	-
Copper	5	mg/kg	10	12	16	-
Lead	5	mg/kg	12	8.4	6.6	-
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	-
Nickel	5	mg/kg	5.8	10	11	-
Zinc	5	mg/kg	110	47	44	-
Sample Properties						
% Moisture	1	%	22	33	37	-
Acid Sulfate Soils Field pH Test						
pH-F (Field pH test)*	0.1	pH Units	-	-	-	5.6
pH-FOX (Field pH Peroxide test)*	0.1	pH Units	-	-	-	4.2
Reaction Ratings*[S05]	0	-	-	-	-	2.0

Client Sample ID			EM-EBH2 0.1-0.5	EM-E-BH2 0.5-1	EM-E-BH1 0-0.1	BL C-BH4-0.5-0.8
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S23-JI0029510	S23-JI0029864	S23-JI0029865	S23-JI0029866
Date Sampled			Jun 07, 2023	Jun 07, 2023	Jun 07, 2023	Jun 07, 2023
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	-	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	-	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	-	71	< 50
TRH C29-C36	50	mg/kg	< 50	-	62	65
TRH C10-C36 (Total)	50	mg/kg	< 50	-	133	65
TRH C6-C10	20	mg/kg	< 20	-	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	-	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	-	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	-	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	-	110	< 100
TRH >C34-C40	100	mg/kg	< 100	-	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	-	110	< 100
BTEX						
Benzene	0.1	mg/kg	< 0.1	-	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	-	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	-	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	-	< 0.2	< 0.2

Client Sample ID			EM-EBH2 0.1-0.5	EM-E-BH2 0.5-1	EM-E-BH1 0-0.1	BL C-BH4-0.5-0.8
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S23-JI0029510	S23-JI0029864	S23-JI0029865	S23-JI0029866
Date Sampled			Jun 07, 2023	Jun 07, 2023	Jun 07, 2023	Jun 07, 2023
Test/Reference	LOR	Unit				
BTEX						
o-Xylene	0.1	mg/kg	< 0.1	-	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	-	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	76	-	94	88
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	-	0.6	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	-	1.2	1.2
Acenaphthene	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Chrysene	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Fluorene	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Pyrene	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Total PAH*	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
2-Fluorobiphenyl (surr.)	1	%	76	-	104	94
p-Terphenyl-d14 (surr.)	1	%	84	-	117	108
Heavy Metals						
Arsenic	2	mg/kg	< 2	-	2.4	2.0
Cadmium	0.4	mg/kg	< 0.4	-	< 0.4	< 0.4
Chromium	5	mg/kg	13	-	9.0	30
Copper	5	mg/kg	10	-	13	15
Iron	20	mg/kg	10000	-	-	-
Lead	5	mg/kg	170	-	15	6.5
Mercury	0.1	mg/kg	< 0.1	-	< 0.1	< 0.1
Nickel	5	mg/kg	7.1	-	5.2	14
Zinc	5	mg/kg	140	-	120	35
Sample Properties						
% Moisture	1	%	19	-	23	39
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	-	-	-
4.4'-DDD	0.05	mg/kg	< 0.05	-	-	-
4.4'-DDE	0.05	mg/kg	< 0.05	-	-	-
4.4'-DDT	0.05	mg/kg	< 0.05	-	-	-
a-HCH	0.05	mg/kg	< 0.05	-	-	-
Aldrin	0.05	mg/kg	< 0.05	-	-	-
b-HCH	0.05	mg/kg	< 0.05	-	-	-

Client Sample ID			EM-EBH2 0.1-0.5	EM-E-BH2 0.5-1	EM-E-BH1 0-0.1	BL C-BH4-0.5-0.8
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S23-JI0029510	S23-JI0029864	S23-JI0029865	S23-JI0029866
Date Sampled			Jun 07, 2023	Jun 07, 2023	Jun 07, 2023	Jun 07, 2023
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
d-HCH	0.05	mg/kg	< 0.05	-	-	-
Dieldrin	0.05	mg/kg	< 0.05	-	-	-
Endosulfan I	0.05	mg/kg	< 0.05	-	-	-
Endosulfan II	0.05	mg/kg	< 0.05	-	-	-
Endosulfan sulphate	0.05	mg/kg	< 0.05	-	-	-
Endrin	0.05	mg/kg	< 0.05	-	-	-
Endrin aldehyde	0.05	mg/kg	< 0.05	-	-	-
Endrin ketone	0.05	mg/kg	< 0.05	-	-	-
g-HCH (Lindane)	0.05	mg/kg	< 0.05	-	-	-
Heptachlor	0.05	mg/kg	< 0.05	-	-	-
Heptachlor epoxide	0.05	mg/kg	< 0.05	-	-	-
Hexachlorobenzene	0.05	mg/kg	< 0.05	-	-	-
Methoxychlor	0.05	mg/kg	< 0.05	-	-	-
Toxaphene	0.5	mg/kg	< 0.5	-	-	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	-	-	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	-	-	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	-	-	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	-	-	-
Dibutylchlorendate (surr.)	1	%	92	-	-	-
Tetrachloro-m-xylene (surr.)	1	%	84	-	-	-
Organophosphorus Pesticides						
Azinphos-methyl	0.2	mg/kg	< 0.2	-	-	-
Bolstar	0.2	mg/kg	< 0.2	-	-	-
Chlorfenvinphos	0.2	mg/kg	< 0.2	-	-	-
Chlorpyrifos	0.2	mg/kg	< 0.2	-	-	-
Chlorpyrifos-methyl	0.2	mg/kg	< 0.2	-	-	-
Coumaphos	2	mg/kg	< 2	-	-	-
Demeton-S	0.2	mg/kg	< 0.2	-	-	-
Demeton-O	0.2	mg/kg	< 0.2	-	-	-
Diazinon	0.2	mg/kg	< 0.2	-	-	-
Dichlorvos	0.2	mg/kg	< 0.2	-	-	-
Dimethoate	0.2	mg/kg	< 0.2	-	-	-
Disulfoton	0.2	mg/kg	< 0.2	-	-	-
EPN	0.2	mg/kg	< 0.2	-	-	-
Ethion	0.2	mg/kg	< 0.2	-	-	-
Ethoprop	0.2	mg/kg	< 0.2	-	-	-
Ethyl parathion	0.2	mg/kg	< 0.2	-	-	-
Fenitrothion	0.2	mg/kg	< 0.2	-	-	-
Fensulfothion	0.2	mg/kg	< 0.2	-	-	-
Fenthion	0.2	mg/kg	< 0.2	-	-	-
Malathion	0.2	mg/kg	< 0.2	-	-	-
Merphos	0.2	mg/kg	< 0.2	-	-	-
Methyl parathion	0.2	mg/kg	< 0.2	-	-	-
Mevinphos	0.2	mg/kg	< 0.2	-	-	-
Monocrotophos	2	mg/kg	< 2	-	-	-
Naled	0.2	mg/kg	< 0.2	-	-	-
Omethoate	2	mg/kg	< 2	-	-	-
Phorate	0.2	mg/kg	< 0.2	-	-	-
Pirimiphos-methyl	0.2	mg/kg	< 0.2	-	-	-

Client Sample ID			EM-EBH2 0.1-0.5	EM-E-BH2 0.5-1	EM-E-BH1 0-0.1	BL C-BH4-0.5-0.8
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**S23-JI0029510**	**S23-JI0029864**	**S23-JI0029865**	**S23-JI0029866**
Date Sampled			**Jun 07, 2023**	**Jun 07, 2023**	**Jun 07, 2023**	**Jun 07, 2023**
Test/Reference	LOR	Unit				
Organophosphorus Pesticides						
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	%	83	-	-	-
Conductivity (1:5 aqueous extract at 25 °C as rec.)	10	uS/cm	34	-	-	-
Total Organic Carbon	0.1	%	1.9	-	-	-
Cation Exchange Capacity						
Cation Exchange Capacity*	0.5	meq/100g	11	-	-	-
Acid Sulfate Soils Field pH Test						
pH-F (Field pH test)*	0.1	pH Units	-	7.4	-	6.0
pH-FOX (Field pH Peroxide test)*	0.1	pH Units	-	5.7	-	5.2
Reaction Ratings*[S05]	0	-	-	2.0	-	2.0

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	Sydney	Jul 17, 2023	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Sydney	Jul 17, 2023	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Sydney	Jul 17, 2023	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Sydney	Jul 17, 2023	14 Days
- Method: LTM-ORG-2010 BTEX and Volatile TRH			
Polycyclic Aromatic Hydrocarbons	Sydney	Jul 17, 2023	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Metals M8	Sydney	Jul 17, 2023	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Heavy Metals	Sydney	Jul 14, 2023	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Total Organic Carbon	Melbourne	Jul 18, 2023	28 Days
- Method: LTM-INO-4060 Total Organic Carbon in water and soil			
Acid Sulfate Soils Field pH Test	Sydney	Jul 17, 2023	7 Days
- Method: LTM-GEN-7060 Determination of field pH (pHF) and field pH peroxide (pHFOX) tests			
% Moisture	Sydney	Jul 17, 2023	14 Days
- Method: LTM-GEN-7080 Moisture			
Organochlorine Pesticides	Sydney	Jul 14, 2023	14 Days
- Method: LTM-ORG-2220 OCP & PCB in Soil and Water			
Organophosphorus Pesticides	Sydney	Jul 14, 2023	14 Days
- Method: LTM-ORG-2200 Organophosphorus Pesticides by GC-MS			
Conductivity (1:5 aqueous extract at 25 °C as rec.)	Sydney	Jul 17, 2023	7 Days
- Method: LTM-INO-4030 Conductivity			
Cation Exchange Capacity	Melbourne	Jul 18, 2023	28 Days
- Method: LTM-MET-3060 Cation Exchange Capacity by bases & Exchangeable Sodium Percentage			

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Due: Jul 14, 2023
Priority: 3 Day
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Eurofins Analytical Services Manager : Asim Khan

Sample Detail						CANCELLED	HOLD	Iron	Total Organic Carbon	Acid Sulfate Soils Field pH Test	Suite B14: OCP/OPP	Moisture Set	Cation Exchange Capacity	Eurofins Suite B7
Melbourne Laboratory - NATA # 1261 Site # 1254									X				X	X
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X		X	X	X	X	X
External Laboratory														
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**									
1	BL CBH1 0-0.1	Jul 07, 2023		Soil	S23-Jl0029490							X		X
2	BL CBH1 0.10.5	Jul 07, 2023		Soil	S23-Jl0029491			X	X		X	X	X	X
3	BL CBH1 0.5-0.8	Jul 07, 2023		Soil	S23-Jl0029492							X		X
4	BL CBH1 ASS	Jul 07, 2023		Soil	S23-Jl0029493					X				
5	DUP6	Jul 07, 2023		Soil	S23-Jl0029494							X		X
6	BL EBH1 0-0.1	Jul 07, 2023		Soil	S23-Jl0029495							X		X
7	BL EBH1 0.1-0.5	Jul 07, 2023		Soil	S23-Jl0029496							X		X
8	BL EBH1 ASS	Jul 07, 2023		Soil	S23-Jl0029497					X				
9	BL EBH2 0.1-0.5	Jul 07, 2023		Soil	S23-Jl0029498			X	X		X	X	X	X

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Company Name: Tetra Tech Coffey Geotechnics Pty Ltd Chatswood
Address: Level 18, Tower B, Citadel Tower 799 Pacific Highway
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NSW 2067

Project Name: NORTHERN RIVERS
Project ID: SYDGE319200

Order No.:
Report #: 1007959
Phone: +61 2 9406 1000
Fax: +61 2 9406 1002

Received: Jul 12, 2023 9:36 AM
Due: Jul 14, 2023
Priority: 3 Day
Contact Name: Edward Wu

Eurofins Analytical Services Manager : Asim Khan

Sample Detail						CANCELLED	HOLD	Iron	Total Organic Carbon	Acid Sulfate Soils Field pH Test	Suite B14: OCP/OPP	Moisture Set	Cation Exchange Capacity	Eurofins Suite B7
Melbourne Laboratory - NATA # 1261 Site # 1254									X				X	X
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X		X	X	X	X	X
10	BL EBH2 0.5-1	Jul 07, 2023		Soil	S23-Jl0029499							X		X
11	BL EBH2 ASS	Jul 07, 2023		Soil	S23-Jl0029500					X				
12	DUP7	Jul 07, 2023		Soil	S23-Jl0029501							X		X
13	BL CBH2 0.1-0.5	Jul 07, 2023		Soil	S23-Jl0029502							X		X
14	EM-EBH1 0.1-0.5	May 07, 2023		Soil	S23-Jl0029503			X	X		X	X	X	X
15	EM-EBH1 0.5-1	May 07, 2023		Soil	S23-Jl0029504							X		X
16	EM-EBH1 ASS	May 07, 2023		Soil	S23-Jl0029505					X				
17	DUP5	May 07, 2023		Soil	S23-Jl0029506							X		X
18	EM-C-BH2 0.1-0.5	Jun 07, 2023		Soil	S23-Jl0029507							X		X
19	EM-C-BH2 0.5-0.8	Jun 07, 2023		Soil	S23-Jl0029508							X		X
20	EM-C-BH2 ASS	Jun 07, 2023		Soil	S23-Jl0029509					X				

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Melbourne Laboratory - NATA # 1261 Site # 1254									X				X	X
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X		X	X	X	X	X
21	EM-EBH2 0.1-0.5	Jun 07, 2023		Soil	S23-Jl0029510			X	X		X	X	X	X
22	RB1	Jun 07, 2023		Water	S23-Jl0029511									X
23	TS	Jun 07, 2023		Water	S23-Jl0029512	X								
24	TB	Jun 07, 2023		Water	S23-Jl0029513	X								
25	BL EBH1 0.5-1	Jul 07, 2023		Soil	S23-Jl0029514		X							
26	BL EBH2 0-0.1	Jul 07, 2023		Soil	S23-Jl0029515		X							
27	BL CBH2 0-0.1	Jul 07, 2023		Soil	S23-Jl0029516		X							
28	EM-C-BH2 0-0.1	Jun 07, 2023		Soil	S23-Jl0029517		X							
29	EM-EBH2 0-0.1	Jun 07, 2023		Soil	S23-Jl0029518		X							
30	EM-EBH2 0.5-1	Jun 07, 2023		Soil	S23-Jl0029519		X							
31	EM-E-BH2 0.5-1	Jun 07, 2023		Soil	S23-Jl0029864					X				

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Melbourne Laboratory - NATA # 1261 Site # 1254									X				X	X
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X		X	X	X	X	X
32	EM-E-BH1 0-0.1	Jun 07, 2023		Soil	S23-Jl0029865							X		X
33	BL C-BH4-0.5-0.8	Jun 07, 2023		Soil	S23-Jl0029866					X		X		X
Test Counts						2	6	4	4	7	4	18	4	19

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Internal Quality Control Review and Glossary

General

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

Holding Times

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

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

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

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

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

Units

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

Terms

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

QC - Acceptance Criteria

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

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

Results <10 times the LOR: No Limit

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

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

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

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

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

QC Data General Comments

1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
3. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time.Analysis will begin as soon as possible after sample receipt.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. Duplicate RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons							
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	
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							
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	
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							
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	
Iron	mg/kg	< 20			20	Pass	
Lead	mg/kg	< 5			5	Pass	
Mercury	mg/kg	< 0.1			0.1	Pass	
Nickel	mg/kg	< 5			5	Pass	
Zinc	mg/kg	< 5			5	Pass	
Method Blank							
Organochlorine Pesticides							

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Chlordanes - Total	mg/kg	< 0.1			0.1	Pass	
4.4'-DDD	mg/kg	< 0.05			0.05	Pass	
4.4'-DDE	mg/kg	< 0.05			0.05	Pass	
4.4'-DDT	mg/kg	< 0.05			0.05	Pass	
a-HCH	mg/kg	< 0.05			0.05	Pass	
Aldrin	mg/kg	< 0.05			0.05	Pass	
b-HCH	mg/kg	< 0.05			0.05	Pass	
d-HCH	mg/kg	< 0.05			0.05	Pass	
Dieldrin	mg/kg	< 0.05			0.05	Pass	
Endosulfan I	mg/kg	< 0.05			0.05	Pass	
Endosulfan II	mg/kg	< 0.05			0.05	Pass	
Endosulfan sulphate	mg/kg	< 0.05			0.05	Pass	
Endrin	mg/kg	< 0.05			0.05	Pass	
Endrin aldehyde	mg/kg	< 0.05			0.05	Pass	
Endrin ketone	mg/kg	< 0.05			0.05	Pass	
g-HCH (Lindane)	mg/kg	< 0.05			0.05	Pass	
Heptachlor	mg/kg	< 0.05			0.05	Pass	
Heptachlor epoxide	mg/kg	< 0.05			0.05	Pass	
Hexachlorobenzene	mg/kg	< 0.05			0.05	Pass	
Methoxychlor	mg/kg	< 0.05			0.05	Pass	
Toxaphene	mg/kg	< 0.5			0.5	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	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
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							
Conductivity (1:5 aqueous extract at 25 °C as rec.)	uS/cm	< 10			10	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C6-C9	%	105			70-130	Pass	
TRH C10-C14	%	75			70-130	Pass	
TRH C6-C10	%	105			70-130	Pass	
TRH >C10-C16	%	74			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	115			70-130	Pass	
Toluene	%	110			70-130	Pass	
Ethylbenzene	%	110			70-130	Pass	
m&p-Xylenes	%	112			70-130	Pass	
o-Xylene	%	88			70-130	Pass	
Xylenes - Total*	%	104			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	108			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	102			70-130	Pass	
Acenaphthylene	%	97			70-130	Pass	
Anthracene	%	105			70-130	Pass	
Benz(a)anthracene	%	97			70-130	Pass	
Benzo(a)pyrene	%	100			70-130	Pass	
Benzo(b&j)fluoranthene	%	100			70-130	Pass	
Benzo(g.h.i)perylene	%	109			70-130	Pass	
Benzo(k)fluoranthene	%	113			70-130	Pass	
Chrysene	%	104			70-130	Pass	
Dibenz(a.h)anthracene	%	104			70-130	Pass	
Fluoranthene	%	109			70-130	Pass	
Fluorene	%	106			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	103			70-130	Pass	
Naphthalene	%	100			70-130	Pass	
Phenanthrene	%	112			70-130	Pass	
Pyrene	%	109			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic	%	96			80-120	Pass	
Cadmium	%	97			80-120	Pass	
Chromium	%	101			80-120	Pass	
Copper	%	100			80-120	Pass	
Iron	%	102			80-120	Pass	
Lead	%	96			80-120	Pass	
Mercury	%	109			80-120	Pass	
Nickel	%	101			80-120	Pass	
Zinc	%	100			80-120	Pass	
LCS - % Recovery							
Organochlorine Pesticides							
Chlordanes - Total	%	91			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
4.4'-DDD	%	104			70-130	Pass	
4.4'-DDE	%	92			70-130	Pass	
4.4'-DDT	%	97			70-130	Pass	
a-HCH	%	108			70-130	Pass	
Aldrin	%	125			70-130	Pass	
b-HCH	%	105			70-130	Pass	
d-HCH	%	101			70-130	Pass	
Dieldrin	%	96			70-130	Pass	
Endosulfan I	%	93			70-130	Pass	
Endosulfan II	%	111			70-130	Pass	
Endosulfan sulphate	%	89			70-130	Pass	
Endrin	%	92			70-130	Pass	
Endrin aldehyde	%	79			70-130	Pass	
Endrin ketone	%	82			70-130	Pass	
g-HCH (Lindane)	%	105			70-130	Pass	
Heptachlor	%	109			70-130	Pass	
Heptachlor epoxide	%	94			70-130	Pass	
Hexachlorobenzene	%	107			70-130	Pass	
Methoxychlor	%	101			70-130	Pass	
LCS - % Recovery							
Organophosphorus Pesticides							
Diazinon	%	106			70-130	Pass	
Dimethoate	%	127			70-130	Pass	
Ethion	%	126			70-130	Pass	
Fenitrothion	%	93			70-130	Pass	
Methyl parathion	%	101			70-130	Pass	
Mevinphos	%	115			70-130	Pass	
LCS - % Recovery							
Conductivity (1:5 aqueous extract at 25 °C as rec.)	%	98			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C10-C14	S23-Jl0017690	NCP	%	76			70-130	Pass	
TRH >C10-C16	S23-Jl0017690	NCP	%	77			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	S23-Jl0015254	NCP	%	80			70-130	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthene	S23-Jl0023523	NCP	%	97			70-130	Pass	
Acenaphthylene	S23-Jl0023523	NCP	%	90			70-130	Pass	
Anthracene	S23-Jl0023523	NCP	%	114			70-130	Pass	
Benz(a)anthracene	S23-Jl0015246	NCP	%	85			70-130	Pass	
Benzo(a)pyrene	S23-Jl0023523	NCP	%	82			70-130	Pass	
Benzo(b&j)fluoranthene	S23-Jl0015246	NCP	%	87			70-130	Pass	
Benzo(g.h.i)perylene	S23-Jl0023523	NCP	%	103			70-130	Pass	
Benzo(k)fluoranthene	S23-Jl0023523	NCP	%	120			70-130	Pass	
Chrysene	S23-Jl0023523	NCP	%	106			70-130	Pass	
Dibenz(a.h)anthracene	S23-Jl0023523	NCP	%	95			70-130	Pass	
Fluoranthene	S23-Jl0023523	NCP	%	84			70-130	Pass	
Fluorene	S23-Jl0023523	NCP	%	91			70-130	Pass	
Indeno(1.2.3-cd)pyrene	S23-Jl0023523	NCP	%	78			70-130	Pass	
Naphthalene	S23-Jl0023523	NCP	%	97			70-130	Pass	
Phenanthrene	S23-Jl0015246	NCP	%	77			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Pyrene	S23-Jl0023523	NCP	%	79			70-130	Pass	
Spike - % Recovery									
Organochlorine Pesticides				Result 1					
Chlordanes - Total	S23-Jl0029491	CP	%	91			70-130	Pass	
4.4'-DDD	S23-Jl0029491	CP	%	101			70-130	Pass	
4.4'-DDE	S23-Jl0029491	CP	%	82			70-130	Pass	
a-HCH	S23-Jl0029491	CP	%	97			70-130	Pass	
Aldrin	S23-Jl0029491	CP	%	119			70-130	Pass	
b-HCH	S23-Jl0029491	CP	%	94			70-130	Pass	
d-HCH	S23-Jl0029491	CP	%	98			70-130	Pass	
Dieldrin	S23-Jl0029491	CP	%	88			70-130	Pass	
Endosulfan I	S23-Jl0029491	CP	%	76			70-130	Pass	
Endosulfan II	S23-Jl0029491	CP	%	109			70-130	Pass	
Endosulfan sulphate	S23-Jl0029491	CP	%	97			70-130	Pass	
Endrin	S23-Jl0029491	CP	%	92			70-130	Pass	
Endrin aldehyde	S23-Jl0029491	CP	%	82			70-130	Pass	
Endrin ketone	S23-Jl0029491	CP	%	82			70-130	Pass	
g-HCH (Lindane)	S23-Jl0029491	CP	%	108			70-130	Pass	
Heptachlor	S23-Jl0029491	CP	%	105			70-130	Pass	
Heptachlor epoxide	S23-Jl0029491	CP	%	90			70-130	Pass	
Hexachlorobenzene	S23-Jl0029491	CP	%	103			70-130	Pass	
Methoxychlor	S23-Jl0029491	CP	%	88			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	S23-Jl0029495	CP	%	84			75-125	Pass	
Cadmium	S23-Jl0029495	CP	%	93			75-125	Pass	
Chromium	S23-Jl0029495	CP	%	96			75-125	Pass	
Copper	S23-Jl0029495	CP	%	95			75-125	Pass	
Lead	S23-Jl0029495	CP	%	94			75-125	Pass	
Mercury	S23-Jl0029495	CP	%	108			75-125	Pass	
Nickel	S23-Jl0029495	CP	%	97			75-125	Pass	
Zinc	S23-Jl0029495	CP	%	107			75-125	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C6-C9	S23-Jl0029496	CP	%	79			70-130	Pass	
TRH C6-C10	S23-Jl0029496	CP	%	80			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	S23-Jl0029496	CP	%	84			70-130	Pass	
Toluene	S23-Jl0029496	CP	%	72			70-130	Pass	
Ethylbenzene	S23-Jl0029496	CP	%	86			70-130	Pass	
m&p-Xylenes	S23-Jl0029496	CP	%	85			70-130	Pass	
o-Xylene	S23-Jl0029496	CP	%	84			70-130	Pass	
Xylenes - Total*	S23-Jl0029496	CP	%	85			70-130	Pass	
Spike - % Recovery									
Organochlorine Pesticides				Result 1					
Chlordanes - Total	S23-Jl0006070	NCP	%	93			70-130	Pass	
4.4'-DDD	S23-Jl0006070	NCP	%	110			70-130	Pass	
4.4'-DDE	S23-Jl0006070	NCP	%	100			70-130	Pass	
4.4'-DDT	S23-Jl0006070	NCP	%	97			70-130	Pass	
a-HCH	S23-Jl0006070	NCP	%	88			70-130	Pass	
Aldrin	S23-Jl0006070	NCP	%	97			70-130	Pass	
b-HCH	S23-Jl0006070	NCP	%	73			70-130	Pass	
d-HCH	S23-Jl0006070	NCP	%	84			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Dieldrin	S23-Jl0006070	NCP	%	99			70-130	Pass	
Endosulfan I	S23-Jl0006070	NCP	%	94			70-130	Pass	
Endosulfan II	S23-Jl0006070	NCP	%	106			70-130	Pass	
Endosulfan sulphate	S23-Jl0006070	NCP	%	107			70-130	Pass	
Endrin	S23-Jl0006070	NCP	%	112			70-130	Pass	
Endrin aldehyde	S23-Jl0006070	NCP	%	105			70-130	Pass	
Endrin ketone	S23-Jl0006070	NCP	%	111			70-130	Pass	
g-HCH (Lindane)	S23-Jl0006070	NCP	%	97			70-130	Pass	
Heptachlor	S23-Jl0006070	NCP	%	88			70-130	Pass	
Heptachlor epoxide	S23-Jl0006070	NCP	%	92			70-130	Pass	
Hexachlorobenzene	S23-Jl0006070	NCP	%	92			70-130	Pass	
Methoxychlor	S23-Jl0006070	NCP	%	101			70-130	Pass	
Spike - % Recovery									
Organophosphorus Pesticides				Result 1					
Diazinon	S23-Jl0015252	NCP	%	121			70-130	Pass	
Dimethoate	S23-Jl0015252	NCP	%	82			70-130	Pass	
Ethion	S23-Jl0015252	NCP	%	112			70-130	Pass	
Fenitrothion	S23-Jl0015252	NCP	%	89			70-130	Pass	
Methyl parathion	S23-Jl0015252	NCP	%	82			70-130	Pass	
Mevinphos	S23-Jl0015252	NCP	%	78			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	S23-Jl0029865	CP	%	91			75-125	Pass	
Cadmium	S23-Jl0029865	CP	%	96			75-125	Pass	
Chromium	S23-Jl0029865	CP	%	97			75-125	Pass	
Copper	S23-Jl0029865	CP	%	98			75-125	Pass	
Lead	S23-Jl0029865	CP	%	99			75-125	Pass	
Mercury	S23-Jl0029865	CP	%	100			75-125	Pass	
Nickel	S23-Jl0029865	CP	%	97			75-125	Pass	
Zinc	S23-Jl0029865	CP	%	98			75-125	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 C10-C14	S23-Jl0030029	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	S23-Jl0030029	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C29-C36	S23-Jl0030029	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C10-C16	S23-Jl0030029	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	S23-Jl0030029	NCP	mg/kg	< 100	< 100	<1	30%	Pass	
TRH >C34-C40	S23-Jl0030029	NCP	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	S23-Jl0029492	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	S23-Jl0029492	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	S23-Jl0029492	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	S23-Jl0029492	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	S23-Jl0029492	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(b&j)fluoranthene	S23-Jl0029492	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g.h.i)perylene	S23-Jl0029492	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(k)fluoranthene	S23-Jl0029492	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	S23-Jl0029492	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a.h)anthracene	S23-Jl0029492	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	S23-Jl0029492	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluorene	S23-Jl0029492	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	S23-Jl0029492	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	

Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Naphthalene	S23-Jl0029492	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	S23-Jl0029492	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	S23-Jl0029492	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	S23-Jl0029494	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Cadmium	S23-Jl0029494	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	S23-Jl0029494	CP	mg/kg	39	33	16	30%	Pass	
Copper	S23-Jl0029494	CP	mg/kg	19	18	4.4	30%	Pass	
Lead	S23-Jl0029494	CP	mg/kg	87	100	15	30%	Pass	
Mercury	S23-Jl0029494	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Nickel	S23-Jl0029494	CP	mg/kg	16	15	9.1	30%	Pass	
Zinc	S23-Jl0029494	CP	mg/kg	200	190	3.1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	S23-Jl0029495	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C6-C10	S23-Jl0029495	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	S23-Jl0029495	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	S23-Jl0029495	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	S23-Jl0029495	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	S23-Jl0029495	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	S23-Jl0029495	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	S23-Jl0029495	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	S23-Jl0029495	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Acid Sulfate Soils Field pH Test				Result 1	Result 2	RPD			
pH-F (Field pH test)*	S23-Jl0029497	CP	pH Units	6.4	6.3	pass	20%	Pass	
pH-FOX (Field pH Peroxide test)*	S23-Jl0029497	CP	pH Units	4.5	4.5	pass	0%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	S23-Jl0029498	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C6-C10	S23-Jl0029498	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	S23-Jl0029498	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	S23-Jl0029498	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	S23-Jl0029498	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	S23-Jl0029498	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	S23-Jl0029498	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	S23-Jl0029498	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	S23-Jl0029498	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	S23-Jl0029499	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	S23-Jl0029499	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	S23-Jl0029499	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	S23-Jl0029499	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	S23-Jl0029499	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	

Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Benzo(b&j)fluoranthene	S23-Jl0029499	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g.h.i)perylene	S23-Jl0029499	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(k)fluoranthene	S23-Jl0029499	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	S23-Jl0029499	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a.h)anthracene	S23-Jl0029499	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	S23-Jl0029499	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluorene	S23-Jl0029499	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	S23-Jl0029499	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	S23-Jl0029499	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	S23-Jl0029499	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	S23-Jl0029499	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Sample Properties				Result 1	Result 2	RPD			
% Moisture	S23-Jl0029499	CP	%	23	24	3.8	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Conductivity (1:5 aqueous extract at 25 °C as rec.)	S23-Jl0029503	CP	uS/cm	33	33	1.2	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	S23-Jl0029508	CP	mg/kg	2.4	2.4	<1	30%	Pass	
Cadmium	S23-Jl0029508	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	S23-Jl0029508	CP	mg/kg	28	25	9.6	30%	Pass	
Copper	S23-Jl0029508	CP	mg/kg	16	15	4.7	30%	Pass	
Lead	S23-Jl0029508	CP	mg/kg	6.6	6.2	6.9	30%	Pass	
Mercury	S23-Jl0029508	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Nickel	S23-Jl0029508	CP	mg/kg	11	9.9	6.1	30%	Pass	
Zinc	S23-Jl0029508	CP	mg/kg	44	42	4.3	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	S23-Jl0029866	CP	mg/kg	2.0	< 2	17	30%	Pass	
Cadmium	S23-Jl0029866	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	S23-Jl0029866	CP	mg/kg	30	33	11	30%	Pass	
Copper	S23-Jl0029866	CP	mg/kg	15	16	11	30%	Pass	
Lead	S23-Jl0029866	CP	mg/kg	6.5	6.8	4.2	30%	Pass	
Mercury	S23-Jl0029866	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Nickel	S23-Jl0029866	CP	mg/kg	14	17	19	30%	Pass	
Zinc	S23-Jl0029866	CP	mg/kg	35	36	4.7	30%	Pass	
Duplicate									
Sample Properties				Result 1	Result 2	RPD			
% Moisture	S23-Jl0029866	CP	%	39	44	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
S05	Field Screen uses the following fizz rating to classify the rate the samples reacted to the peroxide: 1.0; No reaction to slight. 2.0; Moderate reaction. 3.0; Strong reaction with persistent froth. 4.0; Extreme reaction.

Authorised by:

Adam Bateup	Analytical Services Manager
Caitlin Breeze	Senior Analyst-Inorganic
Caitlin Breeze	Senior Analyst-Metal
Emily Rosenberg	Senior Analyst-Metal
Mickael Ros	Senior Analyst-Metal
Roopesh Rangarajan	Senior Analyst-Organic
Roopesh Rangarajan	Senior Analyst-Volatile
Ryan Phillips	Senior Analyst-Inorganic

Glenn Jackson
Managing Director

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

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

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

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Attention: **Edward Wu**

Report **1007959-W**
Project name NORTHERN RIVERS
Project ID SYDGE319200
Received Date Jul 12, 2023

Client Sample ID			**RB1**
Sample Matrix			**Water**
Eurofins Sample No.			**S23-Jl0029511**
Date Sampled			**Jun 07, 2023**
Test/Reference	LOR	Unit	
Total Recoverable Hydrocarbons			
TRH C6-C9	0.02	mg/L	< 0.02
TRH C10-C14	0.05	mg/L	< 0.05
TRH C15-C28	0.1	mg/L	< 0.1
TRH C29-C36	0.1	mg/L	< 0.1
TRH C10-C36 (Total)	0.1	mg/L	< 0.1
TRH C6-C10	0.02	mg/L	< 0.02
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	< 0.02
TRH >C10-C16	0.05	mg/L	< 0.05
TRH >C10-C16 less Naphthalene (F2)[N01]	0.05	mg/L	< 0.05
TRH >C16-C34	0.1	mg/L	< 0.1
TRH >C34-C40	0.1	mg/L	< 0.1
TRH >C10-C40 (total)*	0.1	mg/L	< 0.1
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	%	83
Total Recoverable Hydrocarbons - 2013 NEPM Fractions			
Naphthalene[N02]	0.01	mg/L	< 0.01
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			RB1
Sample Matrix			Water
Eurofins Sample No.			S23-Jl0029511
Date Sampled			Jun 07, 2023
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	%	56
p-Terphenyl-d14 (surr.)	1	%	98
Heavy Metals			
Arsenic	0.001	mg/L	< 0.001
Cadmium	0.0002	mg/L	< 0.0002
Chromium	0.001	mg/L	< 0.001
Copper	0.001	mg/L	< 0.001
Lead	0.001	mg/L	< 0.001
Mercury	0.0001	mg/L	< 0.0001
Nickel	0.001	mg/L	< 0.001
Zinc	0.005	mg/L	< 0.005

Sample History

Where samples are submitted/analysed over several days, the last date of extraction 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	Sydney	Jul 17, 2023	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Sydney	Jul 17, 2023	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Sydney	Jul 17, 2023	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Sydney	Jul 17, 2023	14 Days
- Method: LTM-ORG-2010 BTEX and Volatile TRH			
Polycyclic Aromatic Hydrocarbons	Sydney	Jul 17, 2023	7 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Metals M8	Sydney	Jul 17, 2023	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			

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Company Name: Tetra Tech Coffey Geotechnics Pty Ltd Chatswood
Address: Level 18, Tower B, Citadel Tower 799 Pacific Highway
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NSW 2067

Project Name: NORTHERN RIVERS
Project ID: SYDGE319200

Order No.:
Report #: 1007959
Phone: +61 2 9406 1000
Fax: +61 2 9406 1002

Received: Jul 12, 2023 9:36 AM
Due: Jul 14, 2023
Priority: 3 Day
Contact Name: Edward Wu

Eurofins Analytical Services Manager : Asim Khan

Sample Detail						CANCELLED	HOLD	Iron	Total Organic Carbon	Acid Sulfate Soils Field pH Test	Suite B14: OCP/OPP	Moisture Set	Cation Exchange Capacity	Eurofins Suite B7
Melbourne Laboratory - NATA # 1261 Site # 1254									X				X	X
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X		X	X	X	X	X
External Laboratory														
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**									
1	BL CBH1 0-0.1	Jul 07, 2023		Soil	S23-Jl0029490							X		X
2	BL CBH1 0.10.5	Jul 07, 2023		Soil	S23-Jl0029491			X	X		X	X	X	X
3	BL CBH1 0.5-0.8	Jul 07, 2023		Soil	S23-Jl0029492							X		X
4	BL CBH1 ASS	Jul 07, 2023		Soil	S23-Jl0029493					X				
5	DUP6	Jul 07, 2023		Soil	S23-Jl0029494							X		X
6	BL EBH1 0-0.1	Jul 07, 2023		Soil	S23-Jl0029495							X		X
7	BL EBH1 0.1-0.5	Jul 07, 2023		Soil	S23-Jl0029496							X		X
8	BL EBH1 ASS	Jul 07, 2023		Soil	S23-Jl0029497					X				
9	BL EBH2 0.1-0.5	Jul 07, 2023		Soil	S23-Jl0029498			X	X		X	X	X	X

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Melbourne Laboratory - NATA # 1261 Site # 1254									X				X	X
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X		X	X	X	X	X
10	BL EBH2 0.5-1	Jul 07, 2023		Soil	S23-Jl0029499							X		X
11	BL EBH2 ASS	Jul 07, 2023		Soil	S23-Jl0029500					X				
12	DUP7	Jul 07, 2023		Soil	S23-Jl0029501							X		X
13	BL CBH2 0.1-0.5	Jul 07, 2023		Soil	S23-Jl0029502							X		X
14	EM-EBH1 0.1-0.5	May 07, 2023		Soil	S23-Jl0029503			X	X		X	X	X	X
15	EM-EBH1 0.5-1	May 07, 2023		Soil	S23-Jl0029504							X		X
16	EM-EBH1 ASS	May 07, 2023		Soil	S23-Jl0029505					X				
17	DUP5	May 07, 2023		Soil	S23-Jl0029506							X		X
18	EM-C-BH2 0.1-0.5	Jun 07, 2023		Soil	S23-Jl0029507							X		X
19	EM-C-BH2 0.5-0.8	Jun 07, 2023		Soil	S23-Jl0029508							X		X
20	EM-C-BH2 ASS	Jun 07, 2023		Soil	S23-Jl0029509					X				

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Melbourne Laboratory - NATA # 1261 Site # 1254									X				X	X
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X		X	X	X	X	X
21	EM-EBH2 0.1-0.5	Jun 07, 2023		Soil	S23-Jl0029510			X	X		X	X	X	X
22	RB1	Jun 07, 2023		Water	S23-Jl0029511									X
23	TS	Jun 07, 2023		Water	S23-Jl0029512	X								
24	TB	Jun 07, 2023		Water	S23-Jl0029513	X								
25	BL EBH1 0.5-1	Jul 07, 2023		Soil	S23-Jl0029514		X							
26	BL EBH2 0-0.1	Jul 07, 2023		Soil	S23-Jl0029515		X							
27	BL CBH2 0-0.1	Jul 07, 2023		Soil	S23-Jl0029516		X							
28	EM-C-BH2 0-0.1	Jun 07, 2023		Soil	S23-Jl0029517		X							
29	EM-EBH2 0-0.1	Jun 07, 2023		Soil	S23-Jl0029518		X							
30	EM-EBH2 0.5-1	Jun 07, 2023		Soil	S23-Jl0029519		X							
31	EM-E-BH2 0.5-1	Jun 07, 2023		Soil	S23-Jl0029864					X				

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Melbourne Laboratory - NATA # 1261 Site # 1254									X				X	X
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X		X	X	X	X	X
32	EM-E-BH1 0-0.1	Jun 07, 2023		Soil	S23-Jl0029865							X		X
33	BL C-BH4-0.5-0.8	Jun 07, 2023		Soil	S23-Jl0029866					X		X		X
Test Counts						2	6	4	4	7	4	18	4	19

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Internal Quality Control Review and Glossary

General

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

Holding Times

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

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

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

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

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

Units

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

Terms

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

QC - Acceptance Criteria

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

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

Results <10 times the LOR: No Limit

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

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

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

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

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

QC Data General Comments

1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
3. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time.Analysis will begin as soon as possible after sample receipt.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. Duplicate RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons							
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	
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							
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	
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							
Heavy Metals							
Arsenic	mg/L	< 0.001			0.001	Pass	
Cadmium	mg/L	< 0.0002			0.0002	Pass	
Chromium	mg/L	< 0.001			0.001	Pass	
Copper	mg/L	< 0.001			0.001	Pass	
Lead	mg/L	< 0.001			0.001	Pass	
Mercury	mg/L	< 0.0001			0.0001	Pass	
Nickel	mg/L	< 0.001			0.001	Pass	
Zinc	mg/L	< 0.005			0.005	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C6-C9	%	95			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
TRH C10-C14	%	72			70-130	Pass	
TRH C6-C10	%	95			70-130	Pass	
TRH >C10-C16	%	77			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	103			70-130	Pass	
Toluene	%	98			70-130	Pass	
Ethylbenzene	%	102			70-130	Pass	
m&p-Xylenes	%	104			70-130	Pass	
o-Xylene	%	105			70-130	Pass	
Xylenes - Total*	%	104			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	106			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	92			70-130	Pass	
Acenaphthylene	%	90			70-130	Pass	
Anthracene	%	124			70-130	Pass	
Benz(a)anthracene	%	108			70-130	Pass	
Benzo(a)pyrene	%	109			70-130	Pass	
Benzo(b&j)fluoranthene	%	115			70-130	Pass	
Benzo(g.h.i)perylene	%	105			70-130	Pass	
Benzo(k)fluoranthene	%	117			70-130	Pass	
Chrysene	%	116			70-130	Pass	
Dibenz(a.h)anthracene	%	108			70-130	Pass	
Fluoranthene	%	116			70-130	Pass	
Fluorene	%	100			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	99			70-130	Pass	
Naphthalene	%	86			70-130	Pass	
Phenanthrene	%	107			70-130	Pass	
Pyrene	%	118			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic	%	93			80-120	Pass	
Cadmium	%	88			80-120	Pass	
Chromium	%	91			80-120	Pass	
Copper	%	88			80-120	Pass	
Lead	%	95			80-120	Pass	
Mercury	%	96			80-120	Pass	
Nickel	%	90			80-120	Pass	
Zinc	%	91			80-120	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	S23-Jl0013746	NCP	%	114			75-125	Pass	
Cadmium	S23-Jl0013746	NCP	%	114			75-125	Pass	
Chromium	S23-Jl0013746	NCP	%	114			75-125	Pass	
Copper	S23-Jl0013746	NCP	%	113			75-125	Pass	
Lead	S23-Jl0013746	NCP	%	96			75-125	Pass	
Mercury	S23-Jl0013746	NCP	%	97			75-125	Pass	
Nickel	S23-Jl0013746	NCP	%	112			75-125	Pass	
Zinc	S23-Jl0013746	NCP	%	112			75-125	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 C10-C14	N23-Jl0012358	NCP	mg/L	0.20	0.21	6.3	30%	Pass	
TRH C15-C28	N23-Jl0012358	NCP	mg/L	0.2	0.2	17	30%	Pass	
TRH C29-C36	N23-Jl0012358	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH >C10-C16	N23-Jl0012358	NCP	mg/L	0.18	0.18	<1	30%	Pass	
TRH >C16-C34	N23-Jl0012358	NCP	mg/L	0.2	0.2	29	30%	Pass	
TRH >C34-C40	N23-Jl0012358	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	S23-Jl0014606	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Cadmium	S23-Jl0017177	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Chromium	S23-Jl0014606	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Copper	S23-Jl0014606	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Lead	S23-Jl0014607	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Mercury	S23-Jl0014606	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Nickel	S23-Jl0014606	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Zinc	S23-Jl0014606	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	

Comments

Sample Integrity

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

Qualifier Codes/Comments

Code	Description
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:

Adam Bateup	Analytical Services Manager
Mickael Ros	Senior Analyst-Metal
Roopesh Rangarajan	Senior Analyst-Organic
Roopesh Rangarajan	Senior Analyst-Volatile

Glenn Jackson
Managing Director

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.

1005684 : Site NORTHERN RIVERS (SYDGE319200)

Wood, Elliot <ELLIOT.WOOD@tetratech.com>

Mon 2023-07-17 1:47 PM

To:Asim Khan <AsimKhan@eurofins.com>

Cc:McGillen, Kelsie <KELSIE.MCGILLEN@tetratech.com>;Wu, Edward <Edward.Wu@tetratech.com>;#AU25_Enviro_Sample_NSW <EnviroSampleNSW@eurofins.com>

Hi Eurofins,

Can we please request that additional TCLP sampling for lead be performed on the following three samples:

- BL-SS4
- WA-E BH1 0.1-0.5
- WA-SS2

Three day turnaround time please.

Elliot Wood | Environmental Scientist
Mobile **+61 417 759 835** | elliot.wood@tetratech.com

Tetra Tech Coffey | *Leading with Science*®
L19 Tower B Citadel Towers | 799 Pacific Hwy Chatswood NSW Australia 2067 | tetratech.com | tetratechcoffey.com

I acknowledge the Gamaragal People on whose country I live and work. I pay my respects to their Elders past, present, emerging and future. Tetra Tech Coffey recognises Aboriginal and Torres Strait Islanders as the first peoples of Australia, and we respect their cultural heritage, traditional knowledge and customs associated with their ancestral lands and waters. Through this acknowledgement we commit to ongoing learning and understanding on our journey to reconciliation.
Artist: Chloe Little

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

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NATA# 1261 Site# 25466

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NATA# 1261 Site# 20794

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Mayfield West NSW 2304
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NATA# 1261
Site# 25079 & 25289

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Tel: +64 9 526 4551
IANZ# 1327

Christchurch
43 Detroit Drive
Rolleston,
Christchurch 7675
Tel: +64 3 343 5201
IANZ# 1290

Sample Receipt Advice

Company name:	Tetra Tech Coffey Geotechnics Pty Ltd Chatswood
Contact name:	Elliot Wood
Project name:	ADDITIONAL: NORTHERN RIVERS
Project ID:	ADDITIONAL: SYDGE319200
Turnaround time:	3 Day
Date/Time received	Jul 17, 2023 1:47 PM
Eurofins reference	1008466

Sample Information

✓	A detailed list of analytes logged into our LIMS, is included in the attached summary table.
✓	Sample Temperature of chilled sample on the batch as recorded by Eurofins Sample Receipt : 2.4 degrees Celsius.
✓	All samples have been received as described on the above COC.
✓	COC has been completed correctly.
✓	Attempt to chill was evident.
✓	Appropriately preserved sample containers have been used.
✓	All samples were received in good condition.
✓	Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
✓	Appropriate sample containers have been used.
✓	Sample containers for volatile analysis received with zero headspace.
X	Split sample sent to requested external lab.
X	Some samples have been subcontracted.
N/A	Custody Seals intact (if used).

Notes

Contact

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

Asim Khan on phone : or by email: AsimKhan@eurofins.com

Results will be delivered electronically via email to Elliot Wood - elliot.wood@tetratech.com.

Note: A copy of these results will also be delivered to the general Tetra Tech Coffey Geotechnics Pty Ltd Chatswood email address.

eurofins

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

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

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6 Monterey Road	19/8 Lewalan Street	179 Magowar Road	Unit 1,2 Dacre Street	1/21 Smallwood Place	1/2 Frost Drive
Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West NSW 2304
VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	Tel: +61 2 4968 8448
Tel: +61 3 8564 5000	Tel: +61 3 8564 5000	Tel: +61 2 9900 8400	Tel: +61 2 6113 8091	Tel: +61 7 3902 4600	NATA# 1261
NATA# 1261 Site# 1254	NATA# 1261 Site# 25403	NATA# 1261 Site# 18217	NATA# 1261 Site# 25466	NATA# 1261 Site# 20794	Site# 25079 & 25289

Eurofins ARL Pty Ltd
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NATA# 2377 Site# 2370

Eurofins Environment Testing NZ Ltd
NZBN: 9429046024954

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Penrose,	Rolleston,
Auckland 1061	Christchurch 7675
Tel: +64 9 526 4551	Tel: +64 3 343 5201
IANZ# 1327	IANZ# 1290

Company Name: Tetra Tech Coffey Geotechnics Pty Ltd Chatswood
Address: Level 18, Tower B, Citadel Tower 799 Pacific Highway
Chatswood
NSW 2067

Project Name: ADDITIONAL: NORTHERN RIVERS
Project ID: ADDITIONAL: SYDGE319200

Order No.:
Report #: 1008466
Phone: +61 2 9406 1000
Fax: +61 2 9406 1002

Received: Jul 17, 2023 1:47 PM
Due: Jul 20, 2023
Priority: 3 Day
Contact Name: Elliot Wood

Eurofins Analytical Services Manager : Asim Khan

Sample Detail						Lead	USA Leaching Procedure
Sydney Laboratory - NATA # 1261 Site # 18217						X	X
External Laboratory							
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**		
1	BL-SS4	Jul 04, 2023		US Leachate	S23-Jl0034371	X	X
2	WA-E BH1 0.1-0.5	Jul 04, 2023		US Leachate	S23-Jl0034372	X	X
3	WA-SS2	Jul 04, 2023		US Leachate	S23-Jl0034373	X	X
Test Counts						3	3

Tetra Tech Coffey Geotechnics Pty Ltd Chatswood
Level 18, Tower B, Citadel Tower 799 Pacific Highway
Chatswood
NSW 2067

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, proficiency testing scheme providers and reference materials producers reports and certificates.

Attention: **Elliot Wood**

Report **1008466-L**
Project name ADDITIONAL: NORTHERN RIVERS
Project ID ADDITIONAL: SYDGE319200
Received Date Jul 17, 2023

Client Sample ID			**BL-SS4**	**WA-E BH1 0.1-0.5**	**WA-SS2**
Sample Matrix			**US Leachate**	**US Leachate**	**US Leachate**
Eurofins Sample No.			**S23-JI0034371**	**S23-JI0034372**	**S23-JI0034373**
Date Sampled			**Jul 04, 2023**	**Jul 04, 2023**	**Jul 04, 2023**
Test/Reference	LOR	Unit			
Heavy Metals					
Lead	0.01	mg/L	< 0.01	0.07	0.41
USA Leaching Procedure					
Leachate Fluid[C01]		comment	1.0	1.0	1.0
pH (initial)	0.1	pH Units	7.7	7.1	6.3
pH (off)	0.1	pH Units	5.0	5.0	5.0
pH (USA HCl addition)	0.1	pH Units	1.7	1.6	1.7

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
Heavy Metals	Sydney	Jul 18, 2023	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
USA Leaching Procedure	Sydney	Jul 18, 2023	14 Days
- Method: LTM-GEN-7010 Leaching Procedure for Soils & Solid Wastes			

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Company Name: Tetra Tech Coffey Geotechnics Pty Ltd Chatswood
Address: Level 18, Tower B, Citadel Tower 799 Pacific Highway
Chatswood
NSW 2067

Project Name: ADDITIONAL: NORTHERN RIVERS
Project ID: ADDITIONAL: SYDGE319200

Order No.:
Report #: 1008466
Phone: +61 2 9406 1000
Fax: +61 2 9406 1002

Received: Jul 17, 2023 1:47 PM
Due: Jul 20, 2023
Priority: 3 Day
Contact Name: Elliot Wood

Eurofins Analytical Services Manager : Asim Khan

Sample Detail						Lead	USA Leaching Procedure
Sydney Laboratory - NATA # 1261 Site # 18217						X	X
External Laboratory							
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**		
1	BL-SS4	Jul 04, 2023		US Leachate	S23-Jl0034371	X	X
2	WA-E BH1 0.1-0.5	Jul 04, 2023		US Leachate	S23-Jl0034372	X	X
3	WA-SS2	Jul 04, 2023		US Leachate	S23-Jl0034373	X	X
Test Counts						3	3

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Internal Quality Control Review and Glossary

General

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

Holding Times

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

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

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

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

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

Units

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

Terms

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

QC - Acceptance Criteria

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

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

Results <10 times the LOR: No Limit

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

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

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

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

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

QC Data General Comments

1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
3. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time.Analysis will begin as soon as possible after sample receipt.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. Duplicate RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

Quality Control Results

Test	Lab Sample ID	QA Source	Units	Result 1	Result 2	RPD	Acceptance Limits	Pass Limits	Qualifying Code
Method Blank									
Heavy Metals									
Lead			mg/L	< 0.01			0.01	Pass	
LCS - % Recovery									
Heavy Metals									
Lead			%	85			80-120	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Spike - % Recovery									
Heavy Metals				Result 1					
Lead	S23-Jl0040507	NCP	%	99			75-125	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Lead	S23-Jl0034371	CP	mg/L	< 0.01	< 0.01	<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
C01	Leachate Fluid Key: 1 - pH 5.0; 2 - pH 2.9; 3 - pH 9.2; 4 - Reagent (DI) water; 5 - Client sample, 6 - other

Authorised by:

Adam Bateup	Analytical Services Manager
Fang Yee Tan	Senior Analyst-Metal

Glenn Jackson
Managing Director

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.

APPENDIX E: BOREHOLE LOGS

TETRA TECH COFFEY

DRAFT

Engineering Log - Borehole

client:	***ADCO Construction Pty Ltd***	Borehole ID.	***BLA-C-BH1***
principal:	***NSW Department of Education***	sheet:	1 of 2
project:	***Northern River School Cluster***	project no.	***SYDGE319200***
location:	***Blakebrook Public School***	date started:	***07 Jul 2023***
		date completed:	***07 Jul 2023***
		logged by:	***WS***
		checked by:	

position: E: 522474; N: 6818215 (MGA94) | surface elevation: 15.28 m (AHD) | angle from horizontal: 90°

drill model: GOT2008, Truck mounted | drilling fluid: N/A | hole diameter : 100 mm

drilling information | **material substance**

method & support	penetration 1 2 3	water	samples & field tests	RL (m)	depth (m)	graphic log	soil group symbol	material description (**SOIL NAME**: plasticity or particle characteristics, colour, secondary and minor components)	moisture condition	consistency / relative density	hand penetrometer (kPa) 100 200 300 400	soil origin, structure and additional observations
AD		Not Encountered		15	0.0		CI	**TOPSOIL: CLAY**: medium plasticity, dark brown, trace rootlets, trace wood strips.	<Wp			**TOPSOIL**
								CLAY: medium plasticity, red brown, trace gravels, fine to medium grained, sub-angular.				**ALLUVIUM**
			SPT 2, 4, 5 N=9	14	1.0					St		HP <170 kPa
			SPT 3, 6, 7 N=13	13	2.0		CL-CI	**Silty CLAY**: low to medium plasticity, red brown, pale grey, trace fine to coarse grained sand, trace clayey gravels, fine to coarse grained.				HP <280 kPa
			SPT 3, 5, 6 N=11	12	3.0							HP <140 kPa
			SPT 2, 2, 6 N=8	11	4.0		CL-CI	**Silty CLAY**: low to medium plasticity, pale brown, with white clayey gravels, fine to coarse grained.		F		HP <80 kPa
			SPT 8, 14, 28 N=42	10	5.0							HP <120 kPa
				9	6.0		CL-CI	**CLAY**: low to medium plasticity, dark brown, with clayey gravels, yellow white.		H		**RESIDUAL SOIL**
				8	7.0							

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method
DT diatube
AD auger drilling*
AS auger screwing*
HA hand auger
W washbore
RR rock roller

* bit shown by suffix
e.g. AD/T
B blank bit
T TC bit
V V bit

support
M mud
C casing
N nil

penetration
1 2 3 no resistance ranging to refusal

water
10-Oct-12 water level on date shown
water inflow
water outflow

samples & field tests
B bulk disturbed sample
D disturbed sample
E environmental sample
SS split spoon sample
U## undisturbed sample ##mm diameter
HP hand penetrometer (kPa)
N standard penetration test (SPT)
N* SPT - sample recovered
Nc SPT with solid cone
VS vane shear; peak/remouded (kPa)
R refusal
HB hammer bouncing

soil group symbol & material description
based on AS 1726:2017

moisture condition
D dry
M moist
W wet
Wp plastic limit
Wl liquid limit

consistency / relative density
VS very soft
S soft
F firm
St stiff
VSt very stiff
H hard
Fb friable
VL very loose
L loose
MD medium dense
D dense
VD very dense

TETRA TECH COFFEY

Engineering Log - Borehole

Borehole ID.	**BLA-C-BH1**
sheet:	2 of 2
project no.	**SYDGE319200**
date started:	**07 Jul 2023**
date completed:	**07 Jul 2023**
logged by:	**WS**
checked by:	

client: **ADCO Construction Pty Ltd**

principal: **NSW Department of Education**

project: **Northern River School Cluster**

location: **Blakebrook Public School**

position: E: 522474; N: 6818215 (MGA94) | surface elevation: 15.28 m (AHD) | angle from horizontal: 90°

drill model: GOT2008, Truck mounted | drilling fluid: N/A | hole diameter : 100 mm

drilling information | **material substance**

method & support	penetration 1 2 3	water	samples & field tests	RL (m)	depth (m)	graphic log	soil group symbol	material description (SOIL NAME: plasticity or particle characteristics, colour, secondary and minor components)	moisture condition	consistency / relative density	hand penetrometer (kPa) 100 200 300 400	soil origin, structure and additional observations
AD				7			CL-CI		<Wp	H		**RESIDUAL SOIL**
								Borehole BLA-C-BH1 terminated at 8.30 m Refusal				
				6	9.0							
				5	10.0							
				4	11.0							
				3	12.0							
				2	13.0							
				1	14.0							
				0	15.0							

method
- DT diatube
- AD auger drilling*
- AS auger screwing*
- HA hand auger
- W washbore
- RR rock roller

* bit shown by suffix, e.g. AD/T
- B blank bit
- T TC bit
- V V bit

support
- M mud
- C casing
- N nil

penetration

1 2 3 — no resistance ranging to refusal

water

10-Oct-12 water level on date shown
water inflow
water outflow

samples & field tests
- B bulk disturbed sample
- D disturbed sample
- E environmental sample
- SS split spoon sample
- U## undisturbed sample ##mm diameter
- HP hand penetrometer (kPa)
- N standard penetration test (SPT)
- N* SPT - sample recovered
- Nc SPT with solid cone
- VS vane shear; peak/remouded (kPa)
- R refusal
- HB hammer bouncing

soil group symbol & material description based on AS 1726:2017

moisture condition
- D dry
- M moist
- W wet
- Wp plastic limit
- Wl liquid limit

consistency / relative density

VS	very soft
S	soft
F	firm
St	stiff
VSt	very stiff
H	hard
Fb	friable
VL	very loose
L	loose
MD	medium dense
D	dense
VD	very dense

TETRA TECH COFFEY

DRAFT

Engineering Log - Borehole

client:	***ADCO Construction Pty Ltd***	Borehole ID.	***BLA-C-BH2***
principal:	***NSW Department of Education***	sheet:	1 of 2
project:	***Northern River School Cluster***	project no.	***SYDGE319200***
location:	***Blakebrook Public School***	date started:	***10 Jul 2023***
		date completed:	***10 Jul 2023***
		logged by:	***WS***
		checked by:	

position: E: 522438; N: 6818205 (MGA94) | surface elevation: 15.23 m (AHD) | angle from horizontal: 90°

drill model: GOT2008, Truck mounted | drilling fluid: N/A | hole diameter : 100 mm

drilling information | **material substance**

method & support	penetration (1 2 3)	water	samples & field tests	RL (m)	depth (m)	graphic log	soil group symbol	material description (SOIL NAME: plasticity or particle characteristics, colour, secondary and minor components)	moisture condition	consistency / relative density	hand penetrometer (kPa)	soil origin, structure and additional observations
AD				15			CL	**TOPSOIL: CLAY**: low to medium plasticity, dark brown, trace rootlets, trace gravels, fine to coarse grained.	<Wp			**TOPSOIL**
								CLAY: low plasticity, red brown.				**ALLUVIUM**
			SPT 3, 5, 6 N=11	14	1.0					St		HP <300 kPa
							CL	**CLAY**: low plasticity, red brown, mottled grey and yellow.				
			SPT 3, 5, 7 N=12	13	2.0							HP <320 kPa
				12	3.0							
		10/07/23	SPT 3, 3, 5 N=8	11	4.0			3.8 m: becoming mottled grey		F		HP <250 kPa
							CI	**Silty CLAY**: medium plasticity, dark brown, mottled white yellow, trace clayey gravels, white yellow, fine to coarse grained, sub-angular.				
			SPT 2, 2, 3 N=5	10	5.0							HP <=60 kPa
				9	6.0							
			SPT 2, 2, 2 N=4	8	7.0			6.8 m: trace clayey gravels, white				HP <=50 kPa

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method
- DT diatube
- AD auger drilling*
- AS auger screwing*
- HA hand auger
- W washbore
- RR rock roller

* bit shown by suffix e.g. AD/T
- B blank bit
- T TC bit
- V V bit

support
- M mud
- C casing
- N nil

penetration (1 2 3): no resistance ranging to refusal

water: 10-Oct-12 water level on date shown; water inflow; water outflow

samples & field tests
- B bulk disturbed sample
- D disturbed sample
- E environmental sample
- SS split spoon sample
- U## undisturbed sample ##mm diameter
- HP hand penetrometer (kPa)
- N standard penetration test (SPT)
- N* SPT - sample recovered
- Nc SPT with solid cone
- VS vane shear; peak/remouded (kPa)
- R refusal
- HB hammer bouncing

soil group symbol & material description based on AS 1726:2017

moisture condition
- D dry
- M moist
- W wet
- Wp plastic limit
- Wl liquid limit

consistency / relative density

VS	very soft
S	soft
F	firm
St	stiff
VSt	very stiff
H	hard
Fb	friable
VL	very loose
L	loose
MD	medium dense
D	dense
VD	very dense

TETRA TECH COFFEY

DRAFT

Engineering Log - Borehole

client:	***ADCO Construction Pty Ltd***	Borehole ID.	***BLA-C-BH2***
principal:	***NSW Department of Education***	sheet:	2 of 2
project:	***Northern River School Cluster***	project no.	***SYDGE319200***
location:	***Blakebrook Public School***	date started:	***10 Jul 2023***
		date completed:	***10 Jul 2023***
		logged by:	***WS***
		checked by:	

position: E: 522438; N: 6818205 (MGA94) | surface elevation: 15.23 m (AHD) | angle from horizontal: 90°

drill model: GOT2008, Truck mounted | drilling fluid: N/A | hole diameter : 100 mm

drilling information				material substance						
method & support	penetration 1 2 3	water	samples & field tests	RL (m)	depth (m)	graphic log	soil group symbol	material description **SOIL NAME**: plasticity or particle characteristics, colour, secondary and minor components	moisture condition	consistency / relative density	hand penetrometer (kPa) 100 200 300 400	soil origin, structure and additional observations
AD				7			CI		<Wp	F		**ALLUVIUM**
			SPT 4, 13, 15 N=28				CI	**Silty CLAY**: medium plasticity, grey and pale grey, trace clayey gravels, fine to coarse grained, sub-angular.		VSt	X	**RESIDUAL SOIL** HP <330 kPa
				6	9.0							
				5	10.0			Borehole BLA-C-BH2 terminated at 9.80 m Refusal				
				4	11.0							
				3	12.0							
				2	13.0							
				1	14.0							
				0	15.0							

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method

DT	diatube
AD	auger drilling*
AS	auger screwing*
HA	hand auger
W	washbore
RR	rock roller
*	bit shown by suffix
e.g.	AD/T
B	blank bit
T	TC bit
V	V bit

support

M	mud
C	casing
N	nil

penetration

1 2 3 — no resistance ranging to refusal

water

10-Oct-12 water level on date shown
water inflow
water outflow

samples & field tests

B	bulk disturbed sample
D	disturbed sample
E	environmental sample
SS	split spoon sample
U##	undisturbed sample ##mm diameter
HP	hand penetrometer (kPa)
N	standard penetration test (SPT)
N*	SPT - sample recovered
Nc	SPT with solid cone
VS	vane shear; peak/remouded (kPa)
R	refusal
HB	hammer bouncing

soil group symbol & material description
based on AS 1726:2017

moisture condition

D	dry
M	moist
W	wet
Wp	plastic limit
Wl	liquid limit

consistency / relative density

VS	very soft
S	soft
F	firm
St	stiff
VSt	very stiff
H	hard
Fb	friable
VL	very loose
L	loose
MD	medium dense
D	dense
VD	very dense

TETRA TECH COFFEY

DRAFT

Engineering Log - Borehole

client:	***ADCO Construction Pty Ltd***	Borehole ID.	***BLA-C-BH3***
principal:	***NSW Department of Education***	sheet:	1 of 2
project:	***Northern River School Cluster***	project no.	***SYDGE319200***
location:	***Blakebrook Public School***	date started:	***10 Jul 2023***
		date completed:	***10 Jul 2023***
		logged by:	***WS***
		checked by:	

position: E: 522443; N: 6818181 (MGA94) | surface elevation: 14.85 m (AHD) | angle from horizontal: 90°

drill model: GOT2008, Truck mounted | drilling fluid: N/A | hole diameter : 100 mm

drilling information | **material substance**

method & support	penetration 1 2 3	water	samples & field tests	RL (m)	depth (m)	graphic log	soil group symbol	material description (SOIL NAME: plasticity or particle characteristics, colour, secondary and minor components)	moisture condition	consistency / relative density	hand penetrometer (kPa) 100 200 300 400	soil origin, structure and additional observations
AD		▽		14	1.0			**FILL: CLAY**: low plasticity, dark brown, with rock boulders up to 120mm diameter.	<Wp			**FILL**
				13	2.0		CL-CI	**CLAY**: low to medium plasticity, red brown.		St		**ALLUVIUM**
			SPT 3, 5, 6 N=11	12	3.0						HP <300 kPa	
				11	4.0		CL-CI	**CLAY**: low to medium plasticity, red brown, mottled yellow brown and grey, with clayey gravels, fine to coarse grained, yellow white.		F		
			SPT 2, 3, 3 N=6	10	5.0						HP <150 kPa	
				9	6.0		CL-CI	**Silty CLAY**: low to medium plasticity, red brown, mottled grey, trace coal.				
			SPT 2, 2, 2 N=4	8	7.0						HP <60 kPa	
			SPT 1, 2, 3 N=5	7							HP <50 kPa	

method
- DT diatube
- AD auger drilling*
- AS auger screwing*
- HA hand auger
- W washbore
- RR rock roller

* bit shown by suffix e.g. AD/T
- B blank bit
- T TC bit
- V V bit

support
- M mud
- C casing
- N nil

penetration

1 2 3 — no resistance ranging to refusal

water

10-Oct-12 water level on date shown; water inflow; water outflow

samples & field tests
- B bulk disturbed sample
- D disturbed sample
- E environmental sample
- SS split spoon sample
- U## undisturbed sample ##mm diameter
- HP hand penetrometer (kPa)
- N standard penetration test (SPT)
- N* SPT - sample recovered
- Nc SPT with solid cone
- VS vane shear; peak/remouded (kPa)
- R refusal
- HB hammer bouncing

soil group symbol & material description based on AS 1726:2017

moisture condition
- D dry
- M moist
- W wet
- Wp plastic limit
- Wl liquid limit

consistency / relative density

VS	very soft
S	soft
F	firm
St	stiff
VSt	very stiff
H	hard
Fb	friable
VL	very loose
L	loose
MD	medium dense
D	dense
VD	very dense

TETRA TECH COFFEY

DRAFT

Engineering Log - Borehole

client:	***ADCO Construction Pty Ltd***	Borehole ID.	***BLA-C-BH3***
principal:	***NSW Department of Education***	sheet:	2 of 2
project:	***Northern River School Cluster***	project no.	***SYDGE319200***
location:	***Blakebrook Public School***	date started:	***10 Jul 2023***
		date completed:	***10 Jul 2023***
		logged by:	***WS***
		checked by:	

position: E: 522443; N: 6818181 (MGA94) | surface elevation: 14.85 m (AHD) | angle from horizontal: 90°

drill model: GOT2008, Truck mounted | drilling fluid: N/A | hole diameter : 100 mm

drilling information | **material substance**

method & support	penetration (1 2 3)	water	samples & field tests	RL (m)	depth (m)	graphic log	soil group symbol	material description (SOIL NAME: plasticity or particle characteristics, colour, secondary and minor components)	moisture condition	consistency / relative density	hand penetrometer (kPa)	soil origin, structure and additional observations
AD		10/07/23	SPT 1, 2, 3 N=5	6	9.0		CL-Cl	**Silty CLAY**: low to medium plasticity, red brown, mottled grey, trace coal. *(continued)*	<Wp	F	100 200 300 400	**ALLUVIUM** HP <80 kPa
			SPT 6, 8, 13 N=21	5 4	10.0 11.0		CL-Cl	**CLAY**: low to medium plasticity, red brown, grey mottled, trace extremely weathered rock, trace coal.		VSt		**RESIDUAL SOIL** HP <160 kPa
				3 2 1 0 -1	12.0 13.0 14.0 15.0			Borehole BLA-C-BH3 terminated at 11.0 m Refusal				

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method
DT diatube
AD auger drilling*
AS auger screwing*
HA hand auger
W washbore
RR rock roller

* bit shown by suffix
e.g. AD/T
B blank bit
T TC bit
V V bit

support
M mud
C casing
N nil

penetration
1 2 3 no resistance ranging to refusal

water
10-Oct-12 water level on date shown
water inflow
water outflow

samples & field tests
B bulk disturbed sample
D disturbed sample
E environmental sample
SS split spoon sample
U## undisturbed sample ##mm diameter
HP hand penetrometer (kPa)
N standard penetration test (SPT)
N* SPT - sample recovered
Nc SPT with solid cone
VS vane shear; peak/remouded (kPa)
R refusal
HB hammer bouncing

soil group symbol & material description
based on AS 1726:2017

moisture condition
D dry
M moist
W wet
Wp plastic limit
Wl liquid limit

consistency / relative density
VS very soft
S soft
F firm
St stiff
VSt very stiff
H hard
Fb friable
VL very loose
L loose
MD medium dense
D dense
VD very dense

TETRA TECH COFFEY

DRAFT

Engineering Log - Borehole

client:	***ADCO Construction Pty Ltd***	Borehole ID.	***BLA-C-BH4***
principal:	***NSW Department of Education***	sheet:	1 of 2
project:	***Northern River School Cluster***	project no.	***SYDGE319200***
location:	***Blakebrook Public School***	date started:	***07 Jul 2023***
		date completed:	***07 Jul 2023***
		logged by:	***WS***
		checked by:	

position: E: 522492; N: 6818195 (MGA94) | surface elevation: 14.59 m (AHD) | angle from horizontal: 90°

drill model: GOT2008, Truck mounted | drilling fluid: N/A | hole diameter : 100 mm

drilling information | **material substance**

method & support	penetration 1 2 3	water	samples & field tests	RL (m)	depth (m)	graphic log	soil group symbol	material description (SOIL NAME: plasticity or particle characteristics, colour, secondary and minor components)	moisture condition	consistency / relative density	hand penetrometer (kPa) 100 200 300 400	soil origin, structure and additional observations
AD		07/07/23 ▽	SPT 5, 7, 10 N=17	14	1.0		CI	**TOPSOIL: CLAY**: medium plasticity, dark brown, trace rootlets, trace gravels, fine grained, sub-angular.	<Wp	S		TOPSOIL
								CLAY: medium plasticity, red brown.				ALLUVIUM
				13						St	HP <500 kPa	
			SPT 4, 4, 6 N=10	12	2.0		CI	**CLAY**: medium plasticity, red brown with yellow brown, with white clayey gravels, fine to coarse grained.			HP <230 kPa	
			SPT 2, 2, 3 N=5	11	3.0		CI	**CLAY**: medium plasticity, brown pale grey, trace silt.		F	HP 50 kPa	
			SPT 2, 1, 3 N=4	9	5.0		CL	**CLAY**: low plasticity, red brown, trace coal.			HP 50 kPa	
				8	6.0		CL	**CLAY**: low plasticity, red brown, pale brown.		St		
			SPT 5, 3, 7 N=10	7	7.0						HP <150 kPa	

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method
DT diatube
AD auger drilling*
AS auger screwing*
HA hand auger
W washbore
RR rock roller

* bit shown by suffix
e.g. AD/T
B blank bit
T TC bit
V V bit

support
M mud
C casing
N nil

penetration
1 2 3 no resistance ranging to refusal

water
10-Oct-12 water level on date shown
water inflow
water outflow

samples & field tests
B bulk disturbed sample
D disturbed sample
E environmental sample
SS split spoon sample
U## undisturbed sample ##mm diameter
HP hand penetrometer (kPa)
N standard penetration test (SPT)
N* SPT - sample recovered
Nc SPT with solid cone
VS vane shear; peak/remouded (kPa)
R refusal
HB hammer bouncing

soil group symbol & material description
based on AS 1726:2017

moisture condition
D dry
M moist
W wet
Wp plastic limit
Wl liquid limit

consistency / relative density

VS	very soft
S	soft
F	firm
St	stiff
VSt	very stiff
H	hard
Fb	friable
VL	very loose
L	loose
MD	medium dense
D	dense
VD	very dense

TETRA TECH COFFEY

DRAFT

Engineering Log - Borehole

client:	***ADCO Construction Pty Ltd***	Borehole ID.	***BLA-C-BH4***
principal:	***NSW Department of Education***	sheet:	2 of 2
project:	***Northern River School Cluster***	project no.	***SYDGE319200***
location:	***Blakebrook Public School***	date started:	***07 Jul 2023***
		date completed:	***07 Jul 2023***
		logged by:	***WS***
		checked by:	

position: E: 522492; N: 6818195 (MGA94) | surface elevation: 14.59 m (AHD) | angle from horizontal: 90°

drill model: GOT2008, Truck mounted | drilling fluid: N/A | hole diameter : 100 mm

drilling information						material substance						
method & support	penetration 1 2 3	water	samples & field tests	RL (m)	depth (m)	graphic log	soil group symbol	material description **SOIL NAME**: plasticity or particle characteristics, colour, secondary and minor components	moisture condition	consistency / relative density	hand penetro-meter (kPa) 100 200 300 400	soil origin, structure and additional observations
AD							CL	**CLAY**: low plasticity, red brown, pale brown. *(continued)*	<Wp	St		**ALLUVIUM**
			SPT 28/30mm N=R							VSt		**RESIDUAL SOIL**
				6	9.0			8.45 m: Hit the rock Borehole BLA-C-BH4 terminated at 8.45 m Refusal				
				5	10.0							
				4	11.0							
				3	12.0							
				2	13.0							
				1	14.0							
				0	15.0							
				-1								

method
DT diatube
AD auger drilling*
AS auger screwing*
HA hand auger
W washbore
RR rock roller

* bit shown by suffix
e.g. AD/T
B blank bit
T TC bit
V V bit

support
M mud
C casing
N nil

penetration
1 2 3 no resistance ranging to refusal

water
10-Oct-12 water level on date shown
water inflow
water outflow

samples & field tests
B bulk disturbed sample
D disturbed sample
E environmental sample
SS split spoon sample
U## undisturbed sample ##mm diameter
HP hand penetrometer (kPa)
N standard penetration test (SPT)
N* SPT - sample recovered
Nc SPT with solid cone
VS vane shear; peak/remouded (kPa)
R refusal
HB hammer bouncing

soil group symbol & material description
based on AS 1726:2017

moisture condition
D dry
M moist
W wet
Wp plastic limit
Wl liquid limit

consistency / relative density
VS very soft
S soft
F firm
St stiff
VSt very stiff
H hard
Fb friable
VL very loose
L loose
MD medium dense
D dense
VD very dense

TETRA TECH COFFEY

DRAFT

Engineering Log - Borehole

client:	***ADCO Construction Pty Ltd***	Borehole ID.	***BLA-C-BH5***
principal:	***NSW Department of Education***	sheet:	1 of 1
project:	***Northern River School Cluster***	project no.	***SYDGE319200***
location:	***Blakebrook Public School***	date started:	***07 Jul 2023***
		date completed:	***07 Jul 2023***
		logged by:	***WS***
		checked by:	

position: E: 522536; N: 6818213 (MGA94) | surface elevation: 14.10 m (AHD) | angle from horizontal: 90°

drill model: GOT2008, Truck mounted | drilling fluid: N/A | hole diameter : 100 mm

drilling information | **material substance**

method & support	penetration (1 2 3)	water	samples & field tests	RL (m)	depth (m)	graphic log	soil group symbol	material description (SOIL NAME: plasticity or particle characteristics, colour, secondary and minor components)	moisture condition	consistency / relative density	hand penetrometer (kPa)	soil origin, structure and additional observations
AD		Not Encountered		14			CL	**TOPSOIL: CLAY**: low plasticity, dark brown, trace rootlets.	<Wp	S		**TOPSOIL**
								CLAY: low plasticity, dark brown, trace gravels, fine to coarse grained, sub-angular.				**ALLUVIUM**
							CL-CI	**CLAY**: low to medium plasticity, brown.				
				13	1.0			Borehole BLA-C-BH5 terminated at 1.0 m Target depth				
				12	2.0							
				11	3.0							
				10	4.0							
				9	5.0							
				8	6.0							
				7	7.0							

CDF_0_10_00.4_LIBRARY (1).GLB rev:CDF_0_10_00.4 2021-09-30 Log COF BOREHOLE: NON CORED NRSC_COMB.GPJ <<DrawingFile>> 25/07/2023 14:36

method
- DT diatube
- AD auger drilling*
- AS auger screwing*
- HA hand auger
- W washbore
- RR rock roller

* bit shown by suffix, e.g. AD/T
- B blank bit
- T TC bit
- V V bit

support
- M mud
- C casing
- N nil

penetration (1 2 3) — no resistance ranging to refusal

water
- 10-Oct-12 water level on date shown
- water inflow
- water outflow

samples & field tests
- B bulk disturbed sample
- D disturbed sample
- E environmental sample
- SS split spoon sample
- U## undisturbed sample ##mm diameter
- HP hand penetrometer (kPa)
- N standard penetration test (SPT)
- N* SPT - sample recovered
- Nc SPT with solid cone
- VS vane shear; peak/remouded (kPa)
- R refusal
- HB hammer bouncing

soil group symbol & material description based on AS 1726:2017

moisture condition
- D dry
- M moist
- W wet
- Wp plastic limit
- Wl liquid limit

consistency / relative density

VS	very soft
S	soft
F	firm
St	stiff
VSt	very stiff
H	hard
Fb	friable
VL	very loose
L	loose
MD	medium dense
D	dense
VD	very dense

TETRA TECH COFFEY

Engineering Log - Borehole

DRAFT

Borehole ID.	**BLA-C-BH6**
sheet:	1 of 1
project no.	**SYDGE319200**
date started:	**07 Jul 2023**
date completed:	**07 Jul 2023**
logged by:	**WS**
checked by:	

client: **ADCO Construction Pty Ltd**

principal: **NSW Department of Education**

project: **Northern River School Cluster**

location: **Boardwater Public School**

position: E: 522514; N: 6818205 (MGA94) | surface elevation: 14.21 m (AHD) | angle from horizontal: 90°

drill model: GOT2008, Truck mounted | drilling fluid: N/A | hole diameter : 100 mm

drilling information | **material substance**

method & support	penetration 1 2 3	water	samples & field tests	RL (m)	depth (m)	graphic log	soil group symbol	material description (SOIL NAME: plasticity or particle characteristics, colour, secondary and minor components)	moisture condition	consistency / relative density	hand penetrometer (kPa) 100 200 300 400	soil origin, structure and additional observations
AD		Not Encountered		14			CL	**TOPSOIL: CLAY**: low plasticity, dark brown, trace rootlets.	<Wp	S		**TOP SOIL/FILL**
								CLAY: low plasticity, dark brown.				**ALLUVIUM**
							CL-CI	**CLAY**: low to medium plasticity, red brown.				
				13	1.0			Borehole BLA-C-BH6 terminated at 1.0 m Target depth				
				12	2.0							
				11	3.0							
				10	4.0							
				9	5.0							
				8	6.0							
				7	7.0							

CDF_0_10_00.4_LIBRARY (1).GLB rev:CDF_0_10_00.4 2021-09-30 Log COF BOREHOLE: NON CORED NRSC_COMB.GPJ <<DrawingFile>> 25/07/2023 14:36

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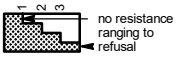
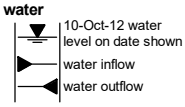
penetration



water



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