Detailed Site Investigation

28-32 Bourke Road, Alexandria, NSW, 2015

Prepared for: Alexandria Property Development Pty Ltd c/- Johnstaff Projects (NSW) Pty Ltd

EP2515.001_v3 | 04 July 2022

APPROVED COMPANY ISO 9001 Quality Management Systems QMS Certification Services

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

APPROVED COMPANY ISO 14001 Environmental Management Systems QMS Certification Services

EP RISK

Detailed Site Investigation

28-32 Bourke Road, Alexandria, NSW, 2015

Alexandria Property Development Pty Ltd c/- Johnstaff Projects (NSW) Pty Ltd
Level 12, 70 Pitt Street
Sydney NSW 2000
Via email: adam.thomas@johnstaff.com.au

4 July 2022

LIMITATIONS

This Detailed Site Investigation was conducted on the behalf of Alexandria Property Development Pty Ltd c/- Johnstaff Projects (NSW) Pty Ltd for the purpose/s stated in Section 1.

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

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

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

All work conducted and reports produced by EP Risk are based on a specific scope and have been prepared for Alexandria Property Development Pty Ltd c/- Johnstaff Projects (NSW) Pty Ltd and therefore cannot be relied upon by any other third parties unless agreed in writing by EP Risk.

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

Loek Munnichs
Principal Environmental Scientist
Certified Environmental Practitioner (1006) – Site Contamination (SC41007)
EP Risk Management Pty Ltd
ABN: 81 147 147 591

QUALITY CONTROL

Version	Author	Date	Reviewer	Date	Quality Review	Date
v1	H. Blake	10.03.2022	L. Munnichs	10.03.2022	O. Godfrey	10.03.2022
v2	H. Blake	15.06.2022	L. Munnichs	15.06.2022	O. Godfrey	15.06.2022
v3	H. Blake	04.07.2022	L. Munnichs	04.07.2022	O. Godfrey	04.07.2022

DOCUMENT CONTROL

Version	Date	Reference	Submitted to
v1	*10.03.2022*	*EP2515.001_Johnstaff_Alexandria_DSI_v1*	*Alexandria Property Development Pty Ltd c/- Johnstaff Projects (NSW) Pty Ltd*
v2	*15.06.2022*	*EP2515.001_Johnstaff_Alexandria_DSI_v2*	*Alexandria Property Development Pty Ltd c/- Johnstaff Projects (NSW) Pty Ltd*
v3	*04.07.2022*	*EP2515.001_Johnstaff_Alexandria_DSI_v3*	*Alexandria Property Development Pty Ltd c/- Johnstaff Projects (NSW) Pty Ltd*

Executive Summary

Alexandria Property Development Pty Ltd c/- Johnstaff Projects (NSW) Pty Ltd (Alexandria Property Development c/- Johnstaff) engaged EP Risk Management Pty Ltd (EP Risk) to undertake a Detailed Site Investigation (DSI) of the proposed development site located at 28-32 Bourke Road, Alexandria, NSW, 2015 (the Site). It is understood that Alexandria Property Development Pty Ltd c/- Johnstaff are proposing to redevelop the Site from its current industrial land use to a commercial building, which may involve the excavation of the soil within the Site for the purposes of a semi-underground car park construction. For the purposes of the planned construction works, the DSI also incorporates an Acid Sulfate Soils (ASS) assessment and a Geotechnical Assessment.

The objective of the DSI was to assess the current contamination status of the Site, and determine the potential risk posed to human health and the environment from contaminants of potential concern (CoPC) for the proposed Commercial/Industrial land use and inform the need for further investigations and management / remediation strategies at the Site. A summary of the relevant findings are as follows:

- Based on the previous Soil Contamination Assessment (SCA) (EP Risk 2021a[1]) and Site history review the Site had previously been occupied by various commercial and industrial proprietors including chemical and metal product manufacturers, zinc and lead merchants, sprayers, adhesives manufacturers and a car tyre fitter's workshop.
- The Site is situated in an area with a long history of industrial development and is surrounded by commercial/industrial properties.
- It is understood that the Site is planned to be redeveloped into a 7-storey commercial building with a partially underground car park extending approximately 1-1.5 meters below ground level (mBGL).

Site Suitability

- Concentrations of Lead in soil are shown to be the most significant CoPC analysed within the Site. The concentrations of Lead in eight (8) of the 43 samples analysed exceeded the National Environment Protection Measures 2013 (ASC NEPM 2013) Health Investigation Levels Health Investigation Level (HIL) D criteria for Commercial/Industrial land use. The highest Lead concentration is over 250% of the HIL value, which confirms that the HIL is said to be 'exceeded' as per ASC NEPM 2013.
- Concentrations of Benzo(a)Pyrene (B(a)P) Toxic Equivalence Quotient (TEQ) were detected at low levels (highest concentration was 6 mg/kg in BH05 – 1.5) and below the ASC NEPM 2013 HIL D criteria for Commercial/Industrial of 40 mg/kg.
- Asbestos in soils concentrations were reported below the laboratory Limit of Reporting (LOR) in all soil samples analysed. Furthermore, asbestos containing material (ACM) were not visually identified in soil during the intrusive investigation. However, ACM was visually observed within the Site during the initial SCA (EP Risk 2021a), and is therefore known to be present within the Site.
- The analytical results of the groundwater monitoring event (GME) reported detectable levels of Arsenic, Chromium and Lead, however these did not exceed the adopted ASC NEPM 2013 criteria for Fresh or Marine water or the Australian and New Zealand Guidelines for Fresh and Marine Water Quality (ANZG) (2018) 95% Toxicant Default Guideline Values (DGVs).

[1] EP Risk, Soil Contamination Assessment, 28-32 Bourke Road, Alexandria, NSW 2305, report ref: EP2460.002, 23 December 2021 (EP Risk 2021a).

- Concentrations of Zinc were detected in excess of the ANZG (2018) 95% Toxicant DGVs for Marine Water and Fresh Water in all samples taken.
- Concentrations of Nickel were detected in excess of the ANZG (2018) 95% Toxicant DGVs for Fresh Water in all samples taken, for Marine Water in two (2) of the four (4) samples taken.
- Groundwater is likely to be an exposure pathway to future construction and/or remediation workers on the Site due to the relatively shallow groundwater and the future plans of the Site to construct a semi below ground car park.
- There is no evidence to suggest there is a current or potential future direct contact exposure pathway for identified Site receptors as the proposed development will act as a seal, effectively eliminating groundwater ingress/access.
- Field and laboratory analysis was undertaken for indicators of Acid Sulfate Soils (ASS). The results of the field analysis proved to be useful for determining areas requiring more in-depth analysis, however comparing the data obtained from this analysis with the National Association of Testing Authorities (NATA) accredited analysis from the laboratory testing showed that the field testing tended to show a significantly higher field-oxidised pH (pH_{FOX}) value. The results of the field testing should therefore not be the only basis for determining the presence of ASS.
- The net acidity in one (1) sample (BH03_3.0) is equal to the adopted criteria from the National ASS Guidelines Table 5.4; Course and Peats sands to loamy sands. As per the guidelines, if the results are equal to or greater than the adopted criteria then an ASS management plan is required.

Waste Classification

- Ten (10) of the 43 samples analysed exceeded the NSW Environment Protection Authority (NSW EPA) Specific Contaminant Concentration (SCC) 2 value for Restricted Solid Waste (RSW), which classifies the soils as Hazardous Waste. This is the most significant contaminant with regards to soil.
- In one location (TP04-0.1 – EP Risk 2021a) some limited scheduled chemical waste (chlordane and heptachlor) has been observed. This needs to be managed in accordance with the relevant Chemical Control Order.
- Other contaminants, including B(a)P and some metals exceed the NSW EPA Contaminant Threshold (CT) 1 criteria.
- Asbestos was not visually observed within the soils nor detected above the laboratory LOR, however the SCA (EP Risk 2021a) detected asbestos in the soil on the eastern side of the Site. The presence of asbestos classifies the soil as Special Waste (Asbestos), however delineation may be possible using the data obtained for the SCA and DSI.

Overall it is concluded:

- On-site soil contaminant concentrations are a significant health risk to Site personnel during planned remediation and construction works, in particular the works involving the excavation of soil in areas containing significantly high concentrations of Lead.
- There exists the need for further groundwater monitoring well installation for the purposes of groundwater assessment in the areas of high Lead in soil concentrations.
- Additional soil investigation data is recommended in the area where the Lead contamination has been found. To obtain a better understanding of volumes, we suggest installation of 2m deep boreholes in a 5m grid in this area and analyse samples for Lead and Toxicity Characteristic Leaching Procedure (TCLP).

- Notification of the Site under Section 60 of the CLM Act shall be considered in accordance with NSW EPA (2015) after the additional has been collected and interpreted.
- An ASS Management Plan must be prepared for the Site as per the requirements of the National ASS Guidelines, and further testing is required for the analysis of ASS, including a test for Chromium-Reducible Sulphur, to gain further understanding of the potential for ASS on the Site.
- A remediation action plan is required to be developed in accordance with NSW Office of Environment and Heritage (OEH) (2020) Guidelines for Consultants Reporting on Contaminated Site detailing the off-site removal or on-site remediation and validation of fill and natural soil contaminated with significantly high levels of Lead, as well as levels of B(a)P exceeding the adopted HILs.
- Based on the findings of the DSI and provided the outcomes of the Site validation assessment following completion of recommended remedial works are favourable, there is no evidence to suggest the Site cannot be made suitable for the proposed commercial / industrial development.

Table of Contents

1 Introduction 1
1.1 Background 1
1.1.1 Non-Destructive HAZMAT Assessment 1
1.1.2 Soil Contamination Assessment 2
1.2 Objectives 3
1.3 Site Identification 4
1.4 Scope of Work 4
2 Site History Review 6
2.1 Sources of Information 6
2.2 Council and Regulatory Records 6
2.3 Review of Historical Aerial Photos 9
2.4 Historical Title Search 10
2.5 Section 10.7 Planning Certificates 11
2.6 Site History Summary 11
2.7 Hazardous Materials 12
2.8 Soil 12
3 Site Condition and Surrounding Environment 14
3.1 Site and Surrounding Inspection 14
3.2 Surrounding Land Use 14
3.3 Topography and Drainage 15
3.4 Sensitive Receptors 15
4 Preliminary Conceptual Site Model 16
4.1 Known and Potential Contamination Sources 16
4.2 Potential Affected Media 16
4.3 Potential Transport Pathways 17
4.4 Potential Human and Ecological Receptors 17
4.5 Potential and Complete Exposure Pathways 17
4.6 CSM Summary 17
5 Sampling and Analysis Plan 19
5.1 Data Quality Objectives 19
5.2 State the Problem 19
5.3 Identify the Decision 19
5.4 Identify the Inputs to the Decision 20
5.5 Define the Boundaries of the Study 20
5.6 Develop a Decision Rule 21
5.7 Specify Acceptable Limits of Decision Errors 23
5.8 Optimise the Design for Obtaining Data 25
5.9 Sampling and Analysis Methodology 26
6 Assessment Criteria 31
7 Quality Assurance and Quality Control 37
7.1 Data Quality Indicators 37
7.2 Quality Assurance 37
7.3 Quality Control 37
7.4 QA/QC Summary 38
8 Results 39
8.1 Field Observations 39
8.2 Soil Analytical Results 40
8.3 Groundwater Investigation Observations 42
8.4 Groundwater Analytical Results 43
8.4.1 Heavy Metals 43
8.4.2 Phenols 43
8.4.3 VOC and SVOC 43
8.4.4 PFAS 43
8.4.5 Hydrocarbons and Aromatics 44
8.5 Acid Sulfate Soils Observations and Field Testing 44
8.6 Acid Sulfate Soils Analytical Results 45

8.7 Field and Laboratory Results Comparison 46
9 Summary of Findings 47
9.1 Site Suitability 47
9.2 Preliminary Waste Classification 48
10 Discussion 50
11 Refined Conceptual Site Model 52
11.1 Potential and Complete Exposure Pathways 53
12 Conclusion 55
12.1 Recommendations 56

List of Tables in Body of Report

Table 1 – Site identification 4
Table 2 – Council and Regulatory Records Search 6
Table 3 – Historical Aerial Photograph Review 9
Table 4 – Hazardous building materials identified at the time of Assessment 12
Table 5 – CoPC exceedances within the SCA 13
Table 6 – Known and Potential Contamination Sources 16
Table 7 – Potential Exposure Pathways 18
Table 8 – Summary of Decision Rules 21
Table 9 – DQO Requirements and Indicators 24
Table 10 – Scope of Work Summary 26
Table 11 – Soil Sampling Rationale 28
Table 12 – Soil Analytical Schedule 29
Table 13 – Appropriate Investigation Levels – Heavy Metals 35
Table 14 – Appropriate Investigation Levels Health – TRH, BTEXN and PAH 36
Table 15 – Maximum Heavy Metal Concentrations 41
Table 16 – ASS Field test results 45
Table 17 – ASS Field Analysis vs Laboratory Analysis Summary 46
Table 18 – Known and Potential Contamination Sources 52
Table 19 – Potential Exposure Pathways 54

List of Attached Figures

Figure 1 Site Layout and Boundary
Figure 2 ASC NEPM 2013 Exceedances
Figure 3 Groundwater Monitoring Wells
Figure 4 ACM Extent
Figure 5 Waste Classification
Figure 6 Lead HIL Exceedances

List of Attached Tables

Table T1A Soil Analytical Results (Asbestos)
Table T1B Soil Analytical Results (TRH, BTEX, PAH, Metals)
Table T1C Soil Analytical Results (OPP, OCP, PCB, Phenols)
Table T1D Soil Analytical Results (VOCs / SVOCs)
Table T1E Soil Analytical Results (PFAS)
Table T2 Groundwater Analytical Results
Table T3 Acid Sulfate Soils Analytical Results
Table T4A QA/QC (Soil Field Duplicates)
Table T4B QA/QC (Groundwater Field Duplicates)
Table T3C QA/QC (Field Blanks, Rinsates)

List of Appendices

Appendix A Photolog
Appendix B Borehole Logs
Appendix C Geotechnical Investigation Report
Appendix D Site Concept Plans
Appendix E Calibration Certificates
Appendix F Laboratory Analytical Results

1 Introduction

Alexandria Property Development Pty Ltd c/- Johnstaff Projects (NSW) Pty Ltd (Alexandria Property Development Pty Ltd c/- Johnstaff) engaged EP Risk Management Pty Ltd (EP Risk) to undertake a Detailed Site Investigation (DSI) of the proposed development site located at 28-32 Bourke Road, Alexandria, NSW, 2015 (the Site). The location and boundary of the Site is shown in **Figure 1.** The Site is approximately 3000 m² in area and currently consists of a disused factory / warehouse. The Site comprises three (3) lots, defined as Lots 1-3 in Deposited Plan (DP) 324707. The Site is currently zoned as B7 – Business Park, under the Sydney Local Environmental Plan (LEP) (2012).

It is understood that Alexandria Property Development Pty Ltd c/- Johnstaff are planning to redevelop the Site from its current industrial land use to a commercial building, which may involve the excavation of the soil within the Site for the purposes of the construction of a semi-underground car park.

The objective of this DSI was to assess the current contamination status of the Site and determine the potential risk posed to human health and the environment from contaminants of potential concern (CoPC) with respect to the proposed commercial land use as well as to inform the need for further investigations and management strategies at the Site.

1.1 Background

At the request of Alexandria Property Development Pty Ltd c/- Johnstaff, two environmental investigations were previously undertaken at the Site by EP Risk in December 2021. These consisted of:

- A Non-Destructive Hazardous Materials (HAZMAT) Assessment; and
- A Soil Contamination Assessment (SCA).

These assessments are summarised below.

1.1.1 Non-Destructive HAZMAT Assessment

Alexandria Property Development Pty Ltd c/- Johnstaff engaged EP Risk to conduct a Non-Destructive HAZMAT Assessment (EP Risk 2021[2]) for due-diligence purposes prior to the potential acquisition of the Site by Alexandria Property Development Pty Ltd c/- Johnstaff. The aim of the Assessment was to determine the presence, location, extent, accessibility and type of all HAZMAT present at the Site, as far as reasonably practicable. For the purposes of the Assessment, HAZMAT is restricted to Asbestos-Containing Material (ACM), Synthetic Mineral Fibre (SMF), Polychlorinated Biphenyl (PCB), Lead-Containing Paint (LCP), Lead-Containing Dust (LCD) and Ozone-Depleting Substances (ODS).

The Assessment confirmed the presence of ACM, LCP and LCD and presumed the presence of SMF and ODS. Additionally, some mould was visually observed.

The report lists several recommendations for the management of HAZMAT within the Site. These management options should be adhered to in the event of future works on the Site.

[2] EP Risk, *Non-Destructive Hazardous Materials (HAZMAT) Assessment, 28-32 Bourke Road, Alexandria, NSW, 2015*, report ref: EP2460.001, 22 December 2021 (EP Risk 2021).

1.1.2 Soil Contamination Assessment

Alexandria Property Development Pty Ltd c/- Johnstaff engaged EP Risk to undertake a Preliminary Site Investigation (PSI) and SCA (EP Risk 2021a[3]) to identify potential CoPC proposed acquisition of the property. The objectives of the Assessment were to:

- Identify past and present potentially contaminating activities based on Site history;
- Assess the nature and extent of potential soil contamination at the Site; and
- Determine Site suitability and whether contamination presents a risk to human health and the environment.

A desktop study was undertaken of the Site to determine:

- Site history based on publicly available records.
- Historical aerial photographs.
- Contaminated land and acid sulfate soils (ASS) risk areas.
- Geological and hydrological information.

Additionally, the SCA involved the progression of nine (9) boreholes within the Site for the testing of subsurface soils for a range of CoPC.

The findings of the desktop study of the SCA included the following:

- There is a low to moderate (6% - 70%) probability that the Site is affected by ASS (NSW Department of Planning and Industry eSPADE NSW Soil and Land Information).
- Several historical Mining and Exploration Titles were identified on-site.
- Two Sites within 1 km of the Site are listed on the NSW Environment Protection Authority (NSW EPA) Record for Contaminated Sites as being deemed significant to warrant regulation under the Contaminated Land Management (CLM) Act 1997, and 15 sites within 1 km of the Site are listed as not requiring regulation under the CLM Act 1997. There is considered the potential for contamination from off-site sources.
- A list of historical business directories lists a large number of potentially contaminating industries occupying the Site, including metal products manufacturers, chemical manufacturers, zinc and lead merchants and sprayers.
- There is one (1) record of per-fluro alkyl substances (PFAS) investigation and management programs listed within 1 km of the Site, being a Fire and Rescue Station located 77 meters north-east of the Site, hydraulically inferred downgradient of the Site.
- At the time of the preparation of the SCA, the Site was used as a tyre fitting workshop and dent repair business.

As part of the PSI for the assessment, a Site inspection was undertaken prior to the intrusive sampling works. The purpose of the Site inspection was to observe any potentially contaminating activities or the presence of products or services on-site that may lead to contamination that could not be determined from the desktop study alone. The findings of the Site inspection include:

[3] EP Risk, Soil Contamination Assessment, 28-32 Bourke Road, Alexandria, NSW 2305, report ref: EP2460.002, 23 December 2021 (EP Risk 2021a).

- The Site was divided into several adjoining warehouses, and several office spaces.
- There was an inaccessible office space at the time of inspection within the south-eastern portion of the Site.
- All areas were paved with concrete. The concrete slab appeared to be of varying depths, and in some sections a second slab was present beneath the original slab.
- A proportional triple interceptor trap (TIT) was observed within the south-western portion of the Site.
- Chemicals such as all-purpose thinner and grease remover were observed on-site within un-bunded areas.
- A vehicle spray booth was observed on-site.
- Visible black surface staining was observed throughout the Site, and there was evidence of disturbance in the concrete flooring.

Following the Site inspection, sample collection was undertaken within the Site, the purpose of which was to identify potential contamination in shallow soils within the Site. Nine (9) locations were targeted for sample collection, and the samples were collected using a hand auger. The samples were analysed for a broad suite[4] of CoPC, and suite of PFAS compounds.

The methodology of the sampling involved the manual excavation of nine (9) boreholes to a maximum depth of 1.5 meters below ground level (mBGL), and the sampling of the soils from 0.1 to 0.5 mBGL. The soils at depths lower than 0.5 mBGL were excavated for visual inspection purposes only. Soils were logged in accordance with the Unified Soil Classification System (USCS) and were observed for signs of contamination. In addition to the nine (9) soil samples analysed, two (2) material samples of suspected bonded (non-friable) ACM in the form of grey fibre cement fragments were identified from 0.1 mBGL and one (1) was analysed for the presence of asbestos.

The results of the analytical schedule for the SCA showed levels of Benzo(a)Pyrene (B(a)P), Heptachlor and Chlordane in exceedance of the adopted Health Screening Levels (HSLs) for Commercial/Industrial land use. The results also confirmed the presence of asbestos within the sample analysed.

Proposed Development

Based on existing plans and information provided to EP Risk by Alexandria Property Development Pty Ltd c/- Johnstaff, it is understood that the proposed development for the Site will involve:

- Demolition of the existing Site buildings and removal of waste material.
- Excavation of the soil to an approximate depth of 1 mBGL for the installation of a (partially) underground basement car park, which will cover most of the Site footprint.
- Construction of a seven (7) storey commercial building covering the entire Site footprint.

1.2 Objectives

The objective of the DSI was to assess the current contamination status of the Site, and determine the potential risk posed to human health and the environment from contaminants of potential concern (CoPC) for the

[4] Broad suites typically consist of: Total Recoverable Hydrocarbons (TRH), Benzene, Toluene, Ethylbenzene and Xylene (BTEX), Polycyclic Aromatic Hydrocarbons (PAH), eight (8) metals (Arsenic (Ar), Cadmium (Cd), Chromium (Cr), Copper (Cu), Lead (Pb), Nickel (Ni) Mercury (Hg) and Zinc (Zn)), Polychlorinated Biphenyls (PCB), Organochlorine Pesticides (OCP), Organophosphate Pesticides (OPP) and Asbestos (0.1 g/kg).

proposed commercial / industrial land use and inform the need for further investigations and/or management / remediation strategies at the Site.

Additionally, Alexandria Property Development Pty Ltd c/- Johnstaff required a Geotechnical Assessment of the Site for construction purposes, which would be added as an Appendix to the DSI report (refer to **Appendix C**).

1.3 Site Identification

Table 1 – Site identification

Item	Description
Site Address	28-32 Bourke Road, Alexandria, NSW, 2015 (as shown in **Figure 1**)
Legal Description	Lots 1, 2 and 3 in DP 324707
Approximate Site Area	3,000 m²
Municipality	Council of the City of Sydney (Council)
Zoning	B7 – Business Park under Sydney Local Environmental Plan 2012 (currency 18/02/2022)
Proposed Land Use	Hospital and Medical Care Uses
Proposed Land Classification*	Commercial / Industrial
Current Land Use	Vehicle and tyre storage and workshop
Current Land Classification*	Commercial / Industrial

* Land classification as defined in the National Environment Protection Council (NEPC) National Environment Protection (Assessment of Site Contamination) Measure 1999 (2013 amendment).

1.4 Scope of Work

The scope of work completed was performed in general accordance with the EP Risk's fee proposal EP15106_v2, dated 17 January 2022 (EP Risk 2022[5]), which comprised the following scope of works:

Preliminaries

- Application for Dial Before You Dig (DBYD) plans;
- Preparation of a health and safety plan (HASP) and revision of the safe work method statement (SWMS) for the works;
- Engagement of a Geotechnical Engineer to undertake the Geotechnical Assessment of the Site
- Undertake underground service location using a Telstra accredited service locator.

Field Work

[5] EP Risk (2021c), *Proposal for a Detailed Site Investigation, 28-32 Bourke Road, Alexandria, NSW, 2015*, reference: EP15106_v2, dated 17 January 2022 (EP Risk, 2022).

- Progression of twelve (12) shallow boreholes using a truck-mounted mechanical drill to a maximum depth of 2 meters below ground level (mBGL) for delineation of previously identified contamination hotspots and waste classification.
- Progression of three (3) deeper boreholes using a truck-mounted mechanical drill to a depth of 10 mBGL and two (2) deeper boreholes using a truck-mounted mechanical drill to a depth of 20 mBGL.
- Standard Penetration Testing (SPT) in three (3) of the 20 m and 10 m boreholes for the purposes of the geotechnical assessment.
- Conversion of four (4) of the 20m and 10m boreholes to groundwater monitoring wells and sampling of groundwater in each well for a broad suite of contaminants, including PFAS.
- Toxicity Characteristic Leaching Procedure (TCLP) testing as required.
- Acid Sulfate Soil (ASS) field sampling including field ASS screenings in four (4) boreholes, 1 per borehole for sample collection and ever half meter to 3 mBGL for field pH (pH_F) and field-oxidised pH (pH_{FOX}) readings in accordance with the ASS Laboratory Methods Guidelines, Version 2.1 Section H.

Reporting

- Preparation of a DSI report, including supplementary geotechnical assessment and ASS Assessment.
- Preparation, under a separate cover of a Preliminary In-situ Waste Classification report pertaining to the four (4) contamination hotspots.
- Preparation, under a separate cover of a Preliminary In-situ Waste Classification report pertaining to the remainder of the Site.

2 Site History Review

The information provided in the following sections was predominantly obtained from the Lotsearch Environmental Risk and Planning Report (2021)[6] provided within EP Risk (2021a) and publicly available Council and NSW EPA records.

2.1 Sources of Information

The site history sources utilised during the review include:

- Historical aerial photography from the years 1930, 1943, 1951, 1961, 1965, 1970, 1978, 1982, 1986, 1991, 1994, 2000, 2005, 2011, 2016 and 2021.
- Historical certificates of Title.
- Publicly available Council and NSW EPA records.

2.2 Council and Regulatory Records

A summary of the information accessible through publicly available records is summarised below.

Table 2 – Council and Regulatory Records Search

Record	Findings
Topography and Elevation	The Site has an approximate elevation of 8-12 m Australian Height Datum (m AHD) and slopes gradually from the southern to northern portion of the Site.
Geology	According to the NSW Department of Industry, Resources & Energy, 1:100,000 scale map, the Site is underlain by Quaternary medium to fine-grained marine sand with podosols.
Soil Landscapes	According to the NSW Department of Planning, Industry & Environment Soil Landscapes of the Penrith 1:100,000 Sheet[7], the Site is dominated by medium to very coarse-grained quartz sandstone, minor laminated mudstone and siltstone lenses of alluvial floodplain origin.
Hydrogeology	According to the Geoscience Australia Hydrogeology Map of Australia, Aquifers on-site are anticipated to be porous, extensive with high productivity. Several groundwater wells were identified within 2 km of the Site, with the closest located approximately 94 m to the northeast of the Site. Within the 2 km boundary of the Site, standing water levels (SWL) ranged from 0.79 m below ground level (mBGL) (409 m west) to 90.0 mBGL (960 m, south). The borehole closest to the Site with available SWL data (227 m southeast) recorded a standing water level of 5.10 mBGL.
Acid Sulfate Soils	The Commonwealth Scientific and Industrial Research Organisation (CSIRO) Atlas of Australian Acid Sulfate Soils (2013) indicates the Site is located in an

[6] Lotsearch (2021) *Environmental Risk and Planning Report*, 28-32 Bourke Road, Alexandria NSW (ref: LS027294_EP, 6 Dec 2021).
[7] NSW Department of Planning, Industry & Environment, Soil Landscapes of the Penrith 1:100,000 Sheet map 9030, Department of Environment, Climate Change and Water, accessed on 13 December 2021.

Table 2 – Council and Regulatory Records Search	
Record	**Findings**
	area of ASS Class 3. Under a Class 3, works more than 1 m below the natural ground surface and works that may lower the water table by 1 m below natural ground surface presents an environmental risk. According to the CSIRO Atlas of ASS, there is a low to moderate (6%-70%) probability that the Site is affected by ASS.
Mining Subsidence	No Mining Subsidence Districts were identified within 1 km of the Site. However, a number of historical Mining & Exploration Titles were identified onsite, held by several entities for petroleum and mineral resources during the years 1967 to 2015.
Coastal Protection Act 1979	The land was not subject to the operation of State Environmental Planning Policy (SEPP) 14 or SEPP 71 of the Coastal Protection Act 1979.
Contaminated Land	As of 7 December 2021, the Site was not listed on the NSW Environment Protection Authority (NSW EPA) Record for Contaminated Sites notified to the NSW EPA in accordance with the CLM Act 1997. Two (2) sites were identified within 1 km of the Site where contamination has been deemed as significant to warrant regulation under the CLM Act. These included Alexandra Canal Sediments and Sydney Park which are located 720 m southwest and 903 m west from the Site (respectively). In addition, 15 sites, listed as not requiring regulation under the CLM Act were identified within 114 m to 932 m of the site. Due to the shallow groundwater there is potential for contamination. Furthermore, one (1) site was found to be formerly regulated under the CLM Act, one (1) under current assessment and one (1) where contamination was addressed via the planning process (EP&A Act). These three sites are situated more than 600 m away from the Site.
State Environmental Planning Policy (SEPP) State Significant Precincts	There were no records of SEPP State Significant Precincts identified within 1 km of the Site and therefore this is unlikely to have impacted the Site.
Waste Management Facilities	There were two (2) record of waste management facilities identified within 1 km of the Site.
Historical Business Directories	• Wilson & Gilkes Pty Ltd – Manufacturing and Metal Workers • Paul Roberts and Parsons Pty Ltd – Dairy Machinery Manufacturers, Nut and Bolt Manufacturers • Corona Chemical Co. Pty Ltd – Chemical Manufacturers • Austral Bronze Crane Copper Pty Ltd – Metal Manufacturers • Advance Machinery Pty Ltd – Machinery Manufacturers • Booth, Frederick, H & Son Pty Ltd – Zinc and Lead Merchants • Union Mouldings Pty Ltd – Plastic Manufacturers • By-Products & Chemical Pty Ltd – Chemical Manufacturers • McEnally Spray Painters Pty Ltd – Sprayers Industrial • Wiggins Teape Australia Pty Ltd – Adhesives Manufacturer

Table 2 – Council and Regulatory Records Search

Record	Findings
Licensed Activities Under POEO Act 1997	Nine (9) records of licensed activities under the Protection of the Environment Operations (POEO) Act 1997 were identified within 1 km of the Site. To the northwest of the Site, approximately 173 m away, licensed activities included Railway systems activities and infrastructure construction. Railway systems activities, metal waste generation and metal coating activities were noted further south of the site at (approximately 625 m). Towards the southwestern end of the Site, approximately 972 m to 993 m away, licensed activities included waste, waste storage, non-thermal treatment of waste, and the recovery of general waste.
Delicensed Activities still Regulated by NSW EPA	There were six (6) records of delicensed activities still regulated by the NSW EPA identified within 1 km of the Site. Of these six (6), four (4) sites were involved with Hazardous, Industrial or Group A Waste Generation or Storage activities: • Australian Metal Co Pty Ltd, located 20 m north of the Site; • Daimler Chrysler Australia/Pacific Pty Ltd, Mercedes Benz of Sydney, located 584 m east of the Site; • Ausgrid, Energy Australia, located 691 m east of the Site; and • Alexandria Plating Pty Ltd, located 804 m south of the Site. The remaining two (2) sites were involved with Concrete work activities: • Concrite Pty Ltd, located 156 m north of the Site; and • Metromix Pty Ltd, Able Alexandria, located 593 m north of the Site.
Acid Sulfate Soils	The Site is in an area classified as 'Disturbed Terrain' with regard to ASS, which indicates "*areas which have been mined or filled or have been subjected to other significant soil disturbance activities*" – Department of Land, Water and Conservation, *Guidelines for the Use of Acid Sulfate Soils Risk Maps, Second Edition*, March 1998 (DWI 1998).
Heritage	There were no records of Commonwealth Heritage and National Heritage items identified within 1 km of the Site. Three State Heritage items were identified within 1 km of the Site and include: • Yiu Ming Temple, located 385 m north of the Site; • Pressure Tunnel and Shafts, located 776 m north of the Site; and • Alexandra Canal, located 814 m southwest of the Site. Several Environmental Planning Instrument Heritage Items were identified within 1 km of the Site.
Bushfire Prone Area	There were no records of vegetation categorised as bushfire prone on Site.
Dryland Salinity	According to the National Land and Water Resources Audit, no salinity data is available for the Site.
Coastal Wetland	The Site does not fall within the proximity area for coastal wetlands.

Table 2 – Council and Regulatory Records Search	
Record	**Findings**
PFAS Investigation & Management Programs	There is one (1) record of PFAS Investigation & Management Programs listed within 1km of the site: • Alexandria Fire and Rescue NSW located 77 m northeast of the site.

2.3 Review of Historical Aerial Photos

Aerial photographs of the property from 1930 to 2021 were reviewed, and a summary is provided in **Table 3**. Historical aerial photographs are included as **Appendix A**.

Table 3 – Historical Aerial Photograph Review	
Year	**Description**
1930	**Property:** The Site appeared to be partially constructed, with buildings occupying the northern section of the Site only. **Surrounds:** The areas immediately to the north, south and west of the Site appeared to be undeveloped land. To the east of the site, construction appears to be occurring.
1943	**Property:** A large warehouse building covered the majority of the Site with the exception of the south eastern corner. **Surrounds:** Significant industrial development had occurred to the north, west and east of the Site. The area south of the Site remained undeveloped.
1951	**Property:** The building was extended to the extent of the southern boundary. **Surrounds:** Additional dwellings / structures had been constructed in the surrounding areas.
1955, 1956	**Property:** No significant change had occurred **Surrounds:** Additional industrial buildings had been constructed in the surrounding areas. In particular, a building has been constructed on the area south of the Site.
1961	**Property:** No significant change had occurred. **Surrounds:** Additional industrial buildings had been constructed in the surrounding areas.
1965	**Property:** No significant change had occurred. **Surrounds:** Additional industrial buildings had been constructed in the surrounding areas. In particular, additional buildings have been constructed on the area south of the Site.
1970	**Property:** The northeast building has been extended to the lot boundary. **Surrounds:** Additional industrial buildings had been constructed in the surrounding areas. In particular, additional buildings have been constructed on the area north of the Site.
1978	**Property:** No significant change had occurred. **Surrounds:** No significant change had occurred, minor construction in surrounding areas.
1982	**Property:** No significant change had occurred. **Surrounds:** No significant change had occurred, minor construction in surrounding areas.
1986	**Property:** No significant change had occurred. **Surrounds:** No significant change had occurred, minor construction in surrounding areas.
1991	**Property:** An extension of the building in the southeast of the Site (Lot 3). **Surrounds:** Demolition of buildings to the south and west of the Site has occurred. To the northwest, existing buildings have demolished, and a new warehouse has been constructed.
1994	**Property:** No significant change had occurred. **Surrounds:** New buildings have been constructed to the west of the Site. To the south of the Site, the area is being used as an outdoor carpark.

Table 3 – Historical Aerial Photograph Review	
Year	**Description**
2000	**Property:** Replacement of potential asbestos-containing roof sheeting. **Surrounds:** Neighbouring building to the west had been constructed. Further development to the south of the Site had occurred.
2005	**Property:** Roof covering of the Site has been extended from the centre-eastern side. **Surrounds:** Additional industrial buildings had been constructed in the surrounding areas.
2011	**Property:** No significant change had occurred. **Surrounds:** Additional industrial buildings had been constructed in the surrounding areas.
2016	**Property:** No significant change had occurred. **Surrounds:** Additional industrial buildings had been constructed in the surrounding areas.
2021	**Property:** No significant change had occurred **Surrounds:** Additional industrial buildings had been constructed in the surrounding areas. The area southwest of the Site had been cleared of the storage units.

2.4 Historical Title Search

Lot 1 DP 324707:

- Norman Rigg Smith (1928 – 1929)
- Katie Louise Lhuede (1929 – 1938)
- Paull Roberts and Parsons Pty Ltd (1938 – 1969)
- Gilkon Pty Ltd (1969 – 1986)
- Mooney Properties Pty Ltd (1986 – Date)

Lot 2 DP 324707:

- Norman Rigg Smith (1928 – 1929)
- Katie Louise Lhuede (1929 – 1929)
- Ernest William Paull, Harold Frederick Roberts and Norman William Parsons (1929 – 1935)
- Paull Roberts and Parsons Pty Ltd (1935 – 1969)
- Gilkon Pty Ltd (1969 – 1986)
- Mooney Pty Ltd (1986 – Date)

Lot 3 DP 324707:

- Norman Rigg Smith (1928 – 1929)
- Katie Louise Lhuede (1929 – 1932)
- James Booth (1932 – 1937)
- Fred. H. Booth & Son Pty Ltd (1937 – 1984)
- Wilson and Gilkes Pty Ltd (1984 – 1986)
- Mooney Properties Pty Ltd (1986 – Date)

2.5 Section 10.7 Planning Certificates

The Sydney LEP 2012 identifies the Site as B7 – Business Park. A copy of the Section 10.7 planning certificates for Lots 1, 2 and 3 in DP 324707 is provided as an Appendix of the SCA (EP Risk 2021a). Review of Section 10.7 certificates indicated:

- *The land is not located within a conservation area;*
- *The property may be identified as being of state heritage significance, and entered on the State Heritage Register;*
- *The land in not identified as comprising critical habitat;*
- *The subject land is not proclaimed as a mine subsidence district;*
- *The subject land is not affected by any road widening or road realignment;*
- *The land is not identified as bushfire prone land;*
- *Council is not aware of the subject land being subject to an order issued under the Trees (Disputes Between Neighbours) Act 2006;*
- *Council has no record of the subject land being identified on the NSW Fair Trading's Loose-Fill Asbestos Insulation Register 7as containing a residential building containing loose-fill asbestos insulation, (sometimes called Mr Fluffy" insulation);*
- *Council is not aware of any Affected Building Notice, Building Product Rectification Order or Intention to make a Building Product Rectification Order made under the Building Products (Safety) Act 2017 applying to the subject land; and*
- *The land has been identified as within a Flood planning area and subject to flood related development controls.*

The following matters are prescribed by Section 59 (2) of the CLM Act (1997) and indicated that:

- The land is not subject to a management order or approved voluntary management proposal.
- *The land is not declared to be significantly contaminated land.*
- *The land is not the subject of an ongoing maintenance order.*
- *The land is not the subject of a site audit statement.*

2.6 Site History Summary

The Site is located on Bourke Street, Alexandria on an area sloping from the south at an elevation of 12 mAHD to the north at 8 mAHD . The site is adjacent to Bowden Street to the west, Wyndham Street to the east and O'Riordan Street to the south.

Based on a review of available historical aerial photographs, the northern portion of the industrial warehouse appears to have been situated at the Site since 1930, but based on historical title records, may have existed as early as 1920. Major developments to the Site include the construction of the southern section of the Site between 1930 – 1943, extensions to the building between 1943 – 1951, 1965 – 1970, 1986 – 1991 and the replacement of roof sheeting between 1994 - 2000. A large amount of industrial development was undertaken within the surrounding properties between 1930 - 1943, which generally involved the conversion of the nearby unoccupied land from rural to commercial/industrial.

Ownership of the Site varied between the Lots until 1989, when current owner Mooney Properties Pty Ltd acquired all three sites. Between 1935 – 1938, Lot 1 was leased to James Hardie Trading Company Limited. James Hardie Trading Company Limited was Australia's largest manufacturer of asbestos cement products.

Based on the history of the Site, there is a potential that HAZMAT including ACM may be present in the building and/or sub-surface soil contamination. Based on the age and industrial nature of the Site, other HAZMAT items may also exist on-site, including SMF, PCB and ODS.

The site was not listed on the NSW EPA Record for Contaminated Site notified to the NSW EPA in accordance with the CLM Act. Within the 1 km boundary lies two (2) sites where contamination has been deemed as significant to warrant regulation under the CLM Act. Furthermore, nine (9) records of licensed activities under the POEO Act 1997 were identified within 1 km of the site. Due to the separation distance all sites and activities considered unlikely to have impacted the Site.

2.7 Hazardous Materials

A HAZMAT survey was undertaken on the Site by EP Risk and a Non-destructive HAZMAT Assessment was prepared (EP Risk 2021) detailing the location, type and extent of all visible and accessible HAZMAT within the Site boundary, as shown in **Figure 1**. A review of the assessment conducted identified the following contaminants on Site, as presented in **Table 6** below.

Table 4 – Hazardous building materials identified at the time of Assessment

Property	ACM		SMF	PCB	LCP	LCD	ODS	Mould
	Non-friable	Friable						
Interior western warehouse	Present	Present	Present	Not present	Present	Present	Present	Present
Interior eastern warehouse	Present	Present	Present	Not present	Present	Present	Not present	Not present
Exterior of entire site	Suspected	Not present	Not present	Not present	Present	Not present	Not present	Not present

It should be noted that a full destructive assessment was not undertaken, and the buildings on-site were only subjected to a non-destructive assessment. A full destructive hazardous building materials assessment of the Site is recommended prior to demolition works.

2.8 Soil

Based on the review of the previous investigation reports listed above, the following observations and exceedances regarding soil at the Site were reported:

Extent of soil contamination

- The SCA (EP Risk 2021a) described the extent of contamination within the Site at the near-surface level (0 – 1.8 mBGL) soils.

- CoPC were reported at concentrations exceeding the adopted Health Investigation Levels (HILs) in four (4) of the nine (9) test pits:
    - Lead;
    - Heptachlor; and
    - B(a)P.
- One (1) of the nine (9) test pits were shown to contain asbestos in the form of a non-friable (bonded) asbestos cement fragment.
- The exceedances are summarised in **Table 5** below and are compared against the National Environmental Protection Council (NEPC) (1999) *National Environment Protection (Assessment of Site Contamination) Measure* as amended April 2013 (ASC NEPM 2013) HILs and Ecological Screening Levels (ESLs):

Table 5 – CoPC exceedances within the SCA

Location	Depth	Asbestos (presence/absence)	Lead (mg/kg)	B(a)P (mg/kg)	Heptachlor (mg/kg)
Exceedance Criteria			1,500[1]	1.4[2]	50[1]
TP04	0.1	-	-	-	223
TP05	0.1	-	-	5.3	-
TP06	0.1	Present	12,800	2.4	-
TP09	0.1	-	21,600	3.9	-

[1] ASC NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil

[2] ASC NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Fine Soil

- Vertical or horizontal delineation works were not undertaken as part of the SCA. The full extent of the contamination cannot be determined from the available data within the SCA (EP Risk 2021a).
- The locations of the exceedances in relation to the boreholes undertaken for the DSI are shown in **Figure 2**.

3 Site Condition and Surrounding Environment

3.1 Site and Surrounding Inspection

On 01 December 2021, EP Risk field personnel conducted an inspection of the Site and immediate surroundings prior to intrusive sampling works. The following features were observed:

- The Site is located within a known industrial area, situated on Bourke Road between Bowden Street to the west, Wyndham Street to the east and O'Riordan Street to the south.
- The Site was accessible by vehicle and foot from Bourke Road to the north.
- The Site comprised of one (1) industrial warehouse with internal offices on the ground and mezzanine level. The warehouse itself is divided into two adjoining rooms (western and eastern sections), accessible through an open wall at the centre of the warehouse. The Site is currently occupied by a tyre fitting and dent repair business (Sydney City Tyres).
- There was an inaccessible office space within the south-eastern portion of the Site.
- Several cars were stored on-site, and it was known that the Site previously stored many more cars..
- All areas were paved with concrete throughout. The concrete slab extended to a depth of approximately 0.15 mBGL throughout site. A double concrete slab was encountered at the western end of the Site The slab was observed to be in good condition.
- Building structures on the Site were observed to contain suspected bonded (non-friable) ACM. A HAZMAT inspection undertaken concurrently with the SCA (EP Risk 2021)[1] also identified LCP and LCD on-site.
- Based on discussions with on-site personnel and the site inspection, there was no anecdotal or visual evidence of underground fuel storage infrastructure observed on accessible portions of the Site.
- A proportional TIT was identified in the south-western portion of the Site. No further information was provided at the time of the inspection.
- A drain or potentially another TIT with hoses directing waste into it, was observed in the middle of the site in Lot 2, adjacent to stored chemicals.
- Chemicals such as all-purpose thinner and grease remover were observed on-site in un-bunded chemical storage. No chemical leaks were observed.
- A vehicle spray booth was in the south-east corner of the site.
- Visible black surface staining was observed throughout the site from the workshop, there was also evidence of disturbance in the concrete flooring. Chemicals were observed to be stored and used on-site.
- A sewer/stormwater drain ran underground Lot 2, approximately 0.3 mBGL, potentially the length of the site.
- Site photographs taken during the Site inspection and soil sampling are provided as **Appendix A**.

3.2 Surrounding Land Use

The Site is located within a primarily industrial area. Surrounding land use within a 1 km radius comprised of the following:

To the North

- Bourke Road running south-west to east.
- Australian Metal Co scrapyard.
- Fire Station (Fire and Rescue NSW Alexandria Fire Station) to the north-east.
- Rail Operations Centre (Transport NSW) to the north-east.

To the South

- Taxi Depot to the south.
- O'Riordan Street running south to north-east.
- Head Office of Australian Red Cross.

To the East

- Café Mecca.
- Green Square Train Station.
- Car repair and maintenance.
- Corner of Bourke Road and O'Riordan Street.

To the West

- Industrial Properties.
- Bowden Street running north-west off Bourke Road.

3.3 Topography and Drainage

The topography of the Site was observed to be relatively flat with a downward gradient towards the north of the Site from the south. The Site appeared consistent and level with the surrounding properties. The elevation was between approximately 8 and 12 mAHD.

3.4 Sensitive Receptors

Potential sensitive receptors identified at and near the Site were:

- General public / customers of the business.
- Maintenance / future construction / workers at the Site.
- Residents of surrounding commercial premises.

4 Preliminary Conceptual Site Model

A preliminary conceptual site model (CSM) has been developed based upon observations from the Site inspection during the SCA (EP Risk 2021a) and consideration of the previously conducted environmental and HAZMAT assessments. A refined CSM has been presented in Section 11.

The following CSM identifies potential source-pathway-receptor (SPR) linkages in consideration of the Site history and current and future land uses. A SPR linkage occurs where there is a contamination source, a pathway and a receptor present. The development of a CSM is an essential part of all site assessments and remediation activities.

ASC NEPM 2013 identified the essential elements of a CSM as including:

- Known and potential sources of contamination and contaminants of concern including the mechanism(s) of contamination.
- Potentially affected media (soil, sediment, groundwater, surface water, indoor and ambient air).
- Potential and complete exposure pathways.
- Human and ecological receptors.
- Any potential preferential pathways for vapour migration (if potential for vapours identified).

4.1 Known and Potential Contamination Sources

The known and potential sources of contamination at the Site and in the vicinity of the Site are summarised in **Table 6.**

Table 6 – Known and Potential Contamination Sources

Location	Source	CoPCs	Potentially Affected Media
On-site	Hazardous building materials	Friable asbestos, Non-Friable Asbestos, SMF, LCD, LCP	Airborne dust, building materials
	Various former industrial works	Lead, B(a)P, Heptachlor, Asbestos	Soil, groundwater
Off-site	Historical use of the surrounding area for various industrial works	Heavy Metals, Hydrocarbons, BTEX, PAH, PCB, OCP, OPP	Soil, soil gas, groundwater
	Fire Station located north-east of Site	PFAS	Soil, groundwater

4.2 Potential Affected Media

The current potential affected media at the Site is considered to comprise airborne dust, building materials, soil, groundwater and soil vapour. No areas of vegetation and open soil were observed within the Site, with the Site entirely covered in hardstand material (concrete).

Additionally, the area of the Site is classified as X4: *Disturbed Terrain* with regards to ASS, indicating the possibility of ASS.

4.3 Potential Transport Pathways

The following potential exposure pathways for the CoPCs have been identified to exist for potential contamination sources based on a review the Site history:

- Leaching of contaminants from soils to underlying groundwater.
- Release of vapours from subsurface soils and groundwater.
- Migration on-Site and off-Site of contaminated groundwater.
- Inhalation of fugitive dust during construction, remediation or demolition works on-site.
- Direct contact and ingestion of soils on Site involving disturbance of the soil due to construction, remediation or demolition works on-site.
- Direct and indirect contact of contaminated soil and water to nearby ecological communities.

4.4 Potential Human and Ecological Receptors

Potential human and ecological receptors at and near the Site are:

- On-site receptors:
    - Current and future intrusive construction and maintenance workers.
    - Current and temporary workers, users, and visitors of the Site.
    - Future commercial workers at the Site.
- Off-site receptors:
    - Current and future intrusive construction and maintenance workers at surrounding commercial / industrial facilities.
    - Current and future users and visitors of surrounding commercial / industrial facilities.

4.5 Potential and Complete Exposure Pathways

The following potential and complete exposure pathways have been identified and deemed significant:

- Excavation of on-site soils during intrusive maintenance works, remediation, and/or future development will create a potentially complete exposure pathway for direct contact and ingestion of soils and groundwater, and inhalation of fugitive dusts by future construction workers, maintenance workers, site visitors and pedestrians.

4.6 CSM Summary

Based on the components of the above preliminary CSM, the potential risk to human health and/or the environment is considered moderate to high, prior to further investigation.

A CSM summary table is provided in **Table 7** below:

Table 7 – Potential Exposure Pathways

Location	Primary Sources	Secondary Sources / Affected Media	Release Mechanism	Pathway	On-Site				Off-Site		
					Current and future intrusive construction/ maintenance workers		Current temporary and future users and visitors of the Site, including future residents / commercial workers	Limited on-Site ecological receptors (terrestrial flora and fauna) in the landscaped areas at the Site	Current and future intrusive construction and maintenance workers at surrounding properties	Current and future employees, occupants and visitors of surrounding properties	Aquatic fauna and flora at Botany Bay and Associated Tributaries
On-site	Potentially imported fill materials of unknown origin and quality	Soil, Groundwater	Direct Contact	Dermal Contact	High	Moderate	N/A	N/A	Low	N/A	N/A
	Demolition of former buildings and structures			Ingestion	Moderate to High		N/A	N/A	N/A	N/A	N/A
	Use of the Site for mechanics and auto workshop purposes			Fugitive Dust (Ingestion)	High		Low	N/A	High	High	N/A
				Uptake by flora and fauna	N/A		N/A	N/A	N/A	N/A	Low
Off-site	Adjacent commercial / industrial properties	Off-site Groundwater	Migration of contaminated groundwater	Dermal Contact	Low		Low	Low			
				Ingestion	Low		Low	N/A			
				Uptake by flora and fauna	N/A		N/A	Low			

Potential Exposure Pathway Key:

Soil

Groundwater

5 Sampling and Analysis Plan

5.1 Data Quality Objectives

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

- Recommended in ASC NEPM 2013;
- Required within the NSW Department of Environment and Conservation 2017, *Guidelines for the NSW Site Auditors Scheme* (3rd Edition) (NSW EPA, 2017);
- Required within AS 4482.1 2005, *Guide to the investigation and sampling of sites with potentially contaminated soil – Part 1: Non-volatile and semi-volatile compounds.*

5.2 State the Problem

The Site has a history of industrial use, including car mechanics and heavy metals storage/trading. Previous investigations have identified contaminated soil and groundwater at the Site, and the potential for ASS. The Site is proposed to be redeveloped for a commercial land development which includes the bulk excavation of the entire surface of the Site to an approximate depth of 1 mBGL for basement car parking.

Based on a review of site history, in particular the SCA (EP Risk 2021a) and inspection of the site conditions, a number of potentially complete exposure pathways have been identified which pose a potential on-site risk to human health and the environment as well as an off-site risk to surrounding residents and workers, and the environment, particularly in the event of Site demolition and construction works. Therefore, additional assessment is required to examine potential human health and ecological risks in accordance with ASC NEPM 2013, EPA guidelines and relevant state and national legislation and industry best practice to design and inform remedial / treatment / disposal / management options for contaminated soil and groundwater on-site.

5.3 Identify the Decision

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

1. Has soil been assessed against relevant HILs and HSLs, and has potential for migration of contamination from soils to groundwater been considered?
2. Has groundwater (where relevant) been assessed against relevant ecological and health-based investigation and screening levels?
3. Are there any issues relating to local area background soil concentrations that exceed relevant investigation levels have been adequately addressed in the Site assessment?
4. Are there any impacts of chemical mixtures?
5. Are there any potential human health and/or ecological risks to the identified Site receptors?
6. Is there any evidence of, or potential for, migration of contaminants off-site? And is there a requirement to notify the Site under the current/future land use scenario?
7. Is there sufficient information to characterise the nature and extent of site contamination?
8. Is a site management strategy including post-remediation environmental plans (Remediation Action Plan (RAP), Asbestos Management Plan (AMP) and/or Long Term Environmental Management Plan (LTEMP)) required?

5.4 Identify the Inputs to the Decision

The inputs required to make the decision include the following:

- Site history information;
- Environmental data (soil, soil leachate (where required), groundwater) as collected by sampling and analysis of soil and site observations made during the investigation, as well as previously conducted Site assessments;
- Assessment criteria to be achieved on the Site are based on the intended land use and project objectives, as defined by assessment criteria nominated in **Section 6**; and
- Confirmation data generated by sampling and analysis are of an acceptable quality to allow reliable comparison to assessment criteria as undertaken by assessment of quality assurance / quality control (QA/QC) as per the data quality indicators (DQIs) established in **Section 7.1**

5.5 Define the Boundaries of the Study

The study boundary is limited to the Assessment Area boundaries as described in **Section 1.3** and as shown in **Figure 1**.

The investigation was undertaken between **08 and 21 February, 2022.**

The vertical extent of the investigation will be:

- Approximately 7.0 – 8.5 mBGL for five (5) 'deep' boreholes for soil sampling – the depth of the boreholes was limited to the depth of refusal on bedrock. The purposes of the deep borehole drilling were:
    - Waste classification at shallow depths;
    - Acquire depth of fill information;
    - Vertical delineation of known CoPC;
    - Geotechnical assessment by a geotechnical engineer;
    - Analysis of soils for acidity and potential for acid sulfate soils in natural material;
    - Soil classification of entire strata to bedrock;
    - Analysis for CoPC leached from surface or shallow soils;
    - Obtaining of depth to groundwater data; and
    - Installation of groundwater wells in four (4) of five (5) deep boreholes.
- 2.0 mBGL for twelve (12) 'shallow' boreholes for soil sampling. The purposes of the shallow borehole drilling were:
    - Waste classification;
    - Acquire depth of fill information; and
    - Horizontal delineation of known CoPC.
- 4.3 mBGL to 7.0 mBGL of four (4) groundwater monitoring wells for groundwater sampling. The purpose of the groundwater monitoring wells is for groundwater contamination assessment.

The investigation was conducted to assess the contamination status of soil and groundwater on Site. Should significant contamination be identified on-site, further assessment may be required in accordance with the identified contamination pathways.

5.6 Develop a Decision Rule

Laboratory analytical data will be assessed against NSW EPA endorsed criteria as identified in **Section 6**. The decision rules adopted to answer the decision identified in **Section 5.3** are summarised in **Table 8 – Summary of Decision Rules.**

Table 8 – Summary of Decision Rules

Item	Description
1. Has soil been assessed against relevant HILs / HSLs, and has potential for migration of contamination from soils to groundwater been considered?	The nature and extent of soil impacts will be assessed, and soil analytical data will be compared against the adopted health and ecological criteria (refer to **Section 6**). The following statistical criteria was adopted with respect to soils: Either: the reported concentrations are all below the adopted Site criteria; Or: the average site concentration for each analyte must be below the adopted site criterion; no single analyte concentration exceeds 250% of the adopted site criterion; and the standard deviation of the results must be less than 50% of the site criteria. And: the 95% upper confidence limit (UCL_{mean}) of the average concentration for each analyte must be below the adopted site criterion. If the statistical criteria stated above are satisfied, and an assessment of risk indicates no unacceptable risks, the decision is Yes, the soil has been assessed and there is no potential for migration of contamination. Otherwise, the decision is Yes there is potential for migration of contamination and further assessments may be required to determine the risk of groundwater contamination at the Site.
2. Has groundwater (where relevant) been assessed against relevant ecological and health-based investigation and screening levels?	The levels and nature of groundwater contamination will be compared against the adopted health and ecological criteria (refer to **Section 6**). The following statistical criteria was adopted with respect to groundwater. Either: the reported concentrations are all below the adopted Site criteria; And: the 95% UCL_{mean} of the average concentration for each analyte must be below the adopted site criterion. If the statistical criteria stated above are satisfied, and an assessment of risk indicates no unacceptable risks, the decision is Yes, the groundwater has been assessed and there is no potential for migration of contamination. Otherwise, the decision is Yes.
3. Are there any issues relating to local area background soil	If the 95% UCL_{mean} of natural soils, that are considered to not be impacted by potential sources of contamination, exceed adopted health and ecological concentrations, the decision is Yes.

Table 8 – Summary of Decision Rules

Item	Description
concentrations that exceed relevant investigation levels and have they been adequately addressed in the Site assessment?	Otherwise the decision is No.
4. Are there any impacts of chemical mixtures in soil?	Is more than one chemical within a group of contaminants considered to have a similar mode of action present which increase the risk of harm? If there is, a hazard quotient (HQ) and Hazard Index (HI) should be calculated from the analytical results for each sample in accordance with ASC NEPM 2013. If the HI is calculated to be greater than 1, the decision is Yes. Otherwise, the decision is No.
5. Are there any potential human health and/or ecological risks to the identified Site receptors?	Soil impacts will be assessed, and data will be compared to the adopted criteria **(Section 6)**. The decisions will be made based on Decision 1 above. And: If the reported concentrations are all below the adopted site criteria and an assessment of risk indicates no unacceptable risks, the decision is No. Otherwise, the decision is Yes.
6. Is there any evidence of, or potential for, migration of contaminants off-site? Is there a requirement to notify the Site under the current/future land use scenario?	Are chemical contaminants present within natural soil at concentrations exceeding the adopted site criteria? And: is there a potential transport pathway/mechanism If yes, the answer to the decision is Yes. Otherwise, if contaminants are not chemical in nature and are unable to migrate off-site alone, the answer to the decision is No. If the results of the assessment meet the "Notification Triggers" outlined in Section 2.3 of the NSW EPA, Guidelines on the Duty to Report Contamination under the Contaminated Land Management Act 1997 (2015), the decision with regards to requirement to notify the Site is Yes. Otherwise, the decision is No.
7. Is there sufficient information to accurately characterise the site contamination?	If the total number of samples collected is greater than or equal to the recommended number of sample points in accordance with NSW EPA (1995) Sampling Design Guidelines; And: the likelihood of on-site soil contamination impacting groundwater, surface water and off-site receptors is considered unlikely. And: no areas which exceeded the adopted criteria require further characterisation. Then the decision is Yes, there is sufficient information to accurately characterise the Site contamination Otherwise, the decision is No.
8. Is a site management strategy including post-	Is the answer to any of decisions 1 to 8 Yes? If yes, a site management strategy may be required to be developed.

Table 8 – Summary of Decision Rules

Item	Description
remediation environmental plans (Remediation Action Plan (RAP), Asbestos Management Plan (AMP) or Environmental Management Plan (EMP)) required?	If no, a site management strategy is not required.

5.7 Specify Acceptable Limits of Decision Errors

This step is to establish the decision maker's tolerable limits on decision errors, which are used to establish performance goals for limiting uncertainty in the data. Data generated during this project must be appropriate to allow decisions to be made with confidence.

Specific limits for this project have been adopted in accordance with the appropriate guidance from the NSW EPA, ASC NEPM 2013, and appropriate indicators of data quality (DQIs used to assess QA/QC).

The acceptable limits will be as follows:

I. Individual or 95% UCL_{mean} concentrations are below the adopted criteria.

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

III. A comprehensive QA/QC program will be undertaken including representative sampling and sampling at an appropriate density for the purpose of the investigation.

The pre-determined DQIs established for the project are discussed below in relation to precision, accuracy, representativeness, comparability and completeness (PARCC parameters), and are shown in **Table 9**.

Data Representativeness

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

Completeness

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

Comparability

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

Precision

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

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

Where:
Cp = Primary sample
Cd = Duplicate Sample

An acceptance criterion of ±30% had been adopted for inorganic field duplicates and triplicates and ±50% for organic field duplicates and triplicates as specified in **Table 9** below. However, it should be noted that exceedances of these criteria are common for heterogeneous soil or fill or for low analyte concentrations.

Accuracy

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

DQO Requirements and Indicators

If any of the DQIs are not met, further assessment will be necessary to determine whether the non-conformance will significantly affect the usefulness of the data. Corrective actions may include requesting further information from samplers and/or analytical laboratories, downgrading of the quality of the data or alternatively, re-collection of the data.

Table 9 – DQO Requirements and Indicators

DQO	Requirement	DQI
Precision		
Standard operating procedures appropriate and complied with	The sampling methods comply with industry standards and guidelines	Meet requirement
Intra-laboratory duplicates	1 per 20 samples	RPDs < 30 - 50%
Laboratory duplicates	Minimum of 1 per batch per analyte	RPDs < 30 - 50%
Accuracy		
Laboratory matrix spikes	1 per batch per volatile/semi-volatile analyte	Recoveries 50% to 150%
Laboratory surrogate spikes	1 per volatile/semi-volatile analyte sample (as appropriate)	Recoveries 70% to 130%
Laboratory control/method blank samples	At least 1 per batch per analyte tested	Result < laboratory reporting limit
Rinsate blanks	1 per sampling technique or event	Result < laboratory reporting limit
Trip blanks	1 per lab batch for volatile analytes	Result < laboratory reporting limit
Trip spikes	1 per lab batch for volatile analytes	Recoveries 60-100%
Representativeness		

Table 9 – DQO Requirements and Indicators

DQO	Requirement	DQI
Sampling methodology - preservation	Appropriate for the sample type and analytes	Meet requirement
Samples extracted and analysed within holding times	Specific to each analyte	Meet requirement
Field equipment calibration	All field equipment calibrated and calibration records provided	Meet requirement
Comparability		
Sampling approach	Consistent for each sample	Meet requirement
Analysis methodology	Consistent methodology for each sample	Meet requirement
Handling conditions and sampler	Consistent for each sample	Meet requirement
Field observations and analytical	Field observations to support analytical results	Meet requirement
Consistent laboratory reporting limit	Consistent between primary and secondary laboratories	Meet requirement
Completeness		
Sampling staff	Consistent sampling staff used	Meet requirement
Laboratory accreditation	National Association of Testing Authorities (NATA) Accredited laboratory for methods used	Meet requirement
Accredited methods	NATA accredited methods used appropriate for each analyte	Meet requirement
ASC NEPM 2013 lab methods	Lab methods consistent with the ASC NEPM 2013	Meet requirement
Laboratory reporting limit	Laboratory reporting limit consistent and appropriate	Meet requirement
Consistent weather / field conditions	Consistent	Meet requirement
Chain of custody documentation	Appropriately completed	Meet requirement
Field sampling documentation	Appropriately completed	Meet requirement

5.8 Optimise the Design for Obtaining Data

A systematic and targeted sampling program was adopted based on the Site history study and site observations in accordance with NSW EPA (1995) Sampling Design Guidelines. A comprehensive suite of CoPCs was selectively adopted for the assessment of the Site to provide characterisation of the status of soil contamination if present.

Table 10 below provides the summarised scope of works undertaken as part of the investigation within the Site and the rationale for their inclusion. Respective locations of soil sampling and monitoring wells are provided in **Figure 2.**

Table 10 – Scope of Work Summary

Media	Scope of Works	Rationale
Soil	• Drilling using a solid flight auger to a depth of 2 mBGL for twelve (12) 'shallow' boreholes and sampling at each new layer of soil; and • Drilling using a combination of solid flight augers and hollow flight augers to bedrock for five (5) 'deep' boreholes and sampling at each change in soil strata.	• Obtain the minimum sampling density requirements for a DSI as per the NSW EPA Sampling Design Guidelines. • Horizontal delineation of known CoPC for waste classification / remediation purposes. • Vertical delineation of known CoPC for waste classification / remediation purposes in deep boreholes.
Groundwater	• Installation of four (4) groundwater monitoring wells with filters from 0.5 m above the groundwater level, extending 2.5 m below groundwater level. • Groundwater Monitoring Event (GME) of all newly installed wells, the locations of which are presented in **Figure 3.**	• Obtain groundwater flow direction and chemical analysis for DSI.
ASS	• Field analysis for ASS using deionised water and a Hydrogen Peroxide solution. • Field sampling and NATA accredited laboratory analysis an ASS analytical suite.	• Analysis of the presence and/or potential for ASS within the Site in the event of excavation of soil and/or lowering of the groundwater table.
Geotechnical	• Engagement of a geotechnical engineer for the geotechnical assessment of the Site.	• Identify subsurface conditions and provide Site classification. • Provide guidelines for design and construction for future development.

5.9 Sampling and Analysis Methodology

The fieldwork was undertaken between **08 and 21 February 2022** by experienced EP Risk Environmental Scientists. The sampling program was designed to identify potential contamination in soil and groundwater at the Site. In general accordance with NSW EPA (1995) *Sampling Design Guidelines,* the program consisted of the following:

Preliminaries

- Preliminaries including client liaison and preparation of safety documentation in accordance with site-specific requirements.
- Mobilisation and site inspection.
- Undertake provisions for protection of underground services including application for DBYD Plans and underground service location by a Telstra accredited contractor of the proposed investigation locations.
- Mark up and set out of borehole locations.

Soil

- Progression of seventeen (17) soil bores (targeted and site-wide) using a drill rig utilising hollow flight auger and SPT sampler to a maximum depth of approximately 20 mBGL, target depth, bedrock or prior refusal.
- Collection of soil samples from each new identified soil strata until target depth or refusal.
- All samples were screened with a calibrated photoionisation detector (PID) to identify the presence of Volatile Organic Compounds (VOC), which might indicate contamination. The calibration certificates are included as **Appendix E**.
- Laboratory analysis at a National Association of Testing Authorities (NATA) Accredited laboratory of selected soil samples for the CoPC, as described within **Table 12**.
- Soil bores were backfilled and sealed with grout immediately following sample collection, except for boreholes due for conversion to Groundwater Monitoring Wells.

A figure showing the approximate locations of the boreholes is provided as **Figure 2** attached. The rationale for the soil sampling locations is summarised in **Table 11** below.

Table 11 – Soil Sampling Rationale

Boreholes	Locations	Rationale
BH01 – BH05	Spread throughout the Site	Soil logging and sampling of material to bedrock for the purposes of: • Geotechnical assessment; • FILL material sampling; • Natural material sampling; • ASS investigation; and • GMW installation
BH09, BH16,	Within the vicinities of the SCA (EP Risk 2021) boreholes where exceedances of the NEPM criteria were detected.	Delineation of known contamination hotspots from the SCA (EP Risk 2021).
BH06, BH07, BH08, BH10, BH11, BH12, BH13, BH14, BH15, BH17	Spread throughout the Site	Shallow soil sampling to a maximum depth of 2.0 mBGL.

Groundwater Monitoring Well Installation and Monitoring

- Conversion of four (4) soil boreholes into groundwater monitoring wells on-site, to be installed with 3m filters from ranging 0.5 m above the estimated groundwater levels to 2.5 m below the estimated groundwater levels.
- Groundwater monitoring wells were constructed within the bore using slotted PVC screens at the aforementioned depths and blank PVC riser to the surface.
- Development of the newly installed monitoring wells on the day of installation was completed using a compressor driven pump with at least 3 well volumes or where the well was purged dry, whichever occurred first. Development is required to maximise the hydraulic connection between the groundwater monitoring well and the surrounding formation.
- Once monitoring wells were developed and allowed to equilibrate, groundwater was sampled using a QED MP15 Micropurge (ten (10) days following development).
- Field water quality parameters (including electrical conductivity, dissolved oxygen, redox potential, pH and temperature) were recorded from the monitoring wells. Samples collected for analysis for heavy metals were filtered using a 0.45 µm filter.
- Groundwater samples were collected in laboratory prepared and appropriately preserved glass and plastic bottles, specific to each analyte, with the sample details added to the label on the bottle. Samples were preserved with ice and was transported to the laboratory under chain of custody conditions.
- QA/QC sampling was undertaken in accordance with the project DQIs.

- Analytical testing of groundwater samples collected from the monitoring wells for the CoPCs was conducted by a NATA accredited laboratory, described within **Appendix F**.

Acid Sulfate Soils

- Collection of samples for field analysis in accordance with the Acid Sulfate Soils Laboratory Methods Guidelines, Version 2.1 Section H was undertaken from each new natural strata encountered within the 'deep' boreholes as per the NSW Acid Sulfate Soils Management Advisory Committee (1998), Acid Sulfate Soils Assessment Guidelines.
- Collection of samples and analysis for an ASS suite of chemical testing by a NATA accredited laboratory within natural strata where signs if potential ASS are observed, including:
    - Significant reactivity shown in the field analysis
    - Sulphurous odours
    - Greyish colouration
    - Inclusion of shells
- Sample collection was undertaken using specialised ASS sample bags supplied by the laboratory. Samples were preserved with ice and delivered to the laboratory within 24 hours of sampling under chain of custody conditions.

Analytical Testing

Samples were analysed for CoPCs by ALS Environmental (Primary) and Eurofins MGT Pty Ltd (Secondary), each respective NATA accredited laboratories for the analysis undertaken.

The sampling density and laboratory analytical schedule is provided in **Table 12**

Table 12 – Soil Analytical Schedule

Area of Concern	Sample Locations	Analytical Schedule (excluding QA/QC)
Soil		
Soil (20m and 10m drilling) - Geotechnical	5	TRH / BTEX / PAH / OCP / OPP/ PCBs / Heavy Metals – 10 PFAS (full suite standard LOR) – 5 VOC / SVOC – 5 Asbestos in Soils[8] – 5
Soil (delineation / waste classification)	12	TRH / BTEX / PAH / OCP / OPP/ PCBs / Heavy Metals – 25 PFAS (full suite standard LOR) – 5 VOC / SVOC – 5 (where the highest PID readings are located) Asbestos in Soils[8] – 5
Groundwater	4	TRH / BTEX / PAH / OCP / OPP/ PCBs / Heavy Metals – 3 PFAS (full suite standard LOR) – 3 VOC / SVOC – 3

[8] AS 4964 – 2004 Method for the Qualitative Identification of Asbestos in Bulk Samples

Table 12 – Soil Analytical Schedule

Area of Concern	Sample Locations	Analytical Schedule (excluding QA/QC)
Soil (Acid Sulfate Soils)	5	Chromium-reducible sulphur / SPOCAS – 5 pH_F, pH_{FOX} (Field analysis) – 18 pHF, pHFOX (Lab analysis) – 9

Quality Assurance and Quality Control

Where required, sampling tools were decontaminated with DI water between each location, and dedicated nitrile gloves were used at each sample location, to prevent cross contamination.

Field soil and groundwater duplicate and triplicate samples were obtained during the field works. The collected samples were divided laterally into three samples with minimal disturbance to reduce the potential for loss of volatiles and placed in three sets of the appropriate sampling containers. Each sample was then labelled with a primary, duplicate or triplicate sample identification before being placed in the same chilled esky for laboratory transport. A rinsate blank was collected from the decontaminated sampling tool for each sampling event and a laboratory prepared trip blank and trip spike sample was placed in an esky during transport to the laboratory analysis for each batch of samples.

6 Assessment Criteria

Key current environmental legislation, standards and guidance / technical notes related to the management of contaminated land comprise:

- Australian and New Zealand Guidelines for Fresh and Marine Water Quality. Australian and New Zealand Governments and Australian state and territory governments, Canberra ACT, Australia. Available at www.waterquality.gov.au/anz-guielines (ANZG 2018).
    - ANZG 2018 is the current revision of the Australian and New Zealand Environment and Conservation Council (ANZECC) and Agriculture and Resource Management Council of Australia and New Zealand (ARMCANZ) guidelines, presented as an online platform
- Australian Standard (AS) 4482.1 (2005) Guide to Investigation and Sampling of Sites with Potentially Contaminated Soil, Part 1: Non-volatile and Semi-Volatile Compounds.
- AS 4482.2 (1999) Guide to the Sampling and Investigation of Potentially Contaminated Soil, Part 2: Volatile Substances.
- Department of Environment and Conservation (DEC) NSW (2007) Guidelines for the Assessment and Management of Groundwater Contamination.
- enHealth (2001) *Exposure Scenarios and Exposure Settings*, enHealth Council Australia.
- enHealth (2012) Australian Exposure Factor Guide. Department of Health and Ageing and enHealth Council Australia.
- enHealth (2012) Environmental Health Risk Assessment: Guidelines for Assessing Human Health Risk from Environmental Hazards. Department of Health and Ageing and enHealth Council Australia.
- Friebel, E & Nadebaum, P (2011) *Health Screening Levels for Petroleum Hydrocarbons in soil and Groundwater. Part 1: Technical development document*, CRC CARE Technical Report no. 10, CRC for Contamination Assessment and Remediation of the Environment, Adelaide, Australia.
- TIT.
- National Health and Medical Research Council and National Resource Management Ministerial Council (NHMRC/NRMMC) (2011), *Australian Drinking Water Guidelines 6* (ADWG), version 3.4, updated October 2017 (Drinking Water Guidelines).
- NHMRC Guidelines for Managing Risk in Recreational Waters, 2008 (GMRRW 2008).
- NSW Acid Sulfate Soils Management Advisory Committee (1998), Acid Sulfate Soils Assessment Guidelines.
- NSW Environment Protection Authority (NSW EPA) (1995) *Sampling Design Guidelines*.
- NSW EPA (2020) Assessment and Management of Hazardous Ground Gases.
- NSW EPA (2014) *Waste Classification Guidelines: Part 1 – Classifying Waste* (NSW Waste Classification Guidelines 2014).
- NSW EPA (2015) Guidelines on the Duty to Report Contamination under the Contaminated Land Management Act 1997.
- NSW EPA (2017) Guidelines for the NSW Auditor Scheme (3rd Edition) (NSW Auditor Guidelines).
- NSW OEH (2020) Contaminated Sites Guidelines for Consultants Reporting on Contaminated Sites.

- NSW State Environmental Planning Policy 55 – Remediation of Land (SEPP 55), 1998.
- Water Quality Australia (2018) National Acid Sulfate Soils Guidance: National acid sulfate soils sampling and identification methods manual.
- Western Australian (WA) Department of Health (DOH) (2021) Guidelines for the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia.

It is noted, during the DGI, where no Australian guideline sources are available for the CoPC international guidance from World Health Organisation (WHO), US EPA or other countries was considered. Alternatively, the laboratory limit of reporting was used as an indicator for further evaluation.

Soil

The adopted Investigation Levels for the Site are provided in **Table 13** and **Table 14** below.

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

- NSW EPA (2017) Guidelines for the NSW Site Auditor Scheme (Third Edition);
- ASC NEPM 2013; and
- NSW EPA Waste Framework under NSW EPA Waste Classification Guidelines (2014).

Soil concentrations will be compared against the following soil investigation levels (SILs):

- **Health-based Criteria for the current and proposed land use**: ASC NEPM 2013 Health Investigation levels (HILs) for commercial / industrial land use (HIL D). In accordance with the proposed development (commercial at ground level) and the ASC NEPM 2013 (Section 2.4.8), HSL D – Sand is applicable.
- **Management Limits**: ASC NEPM 2013 Management Limits for commercial / industrial land use (Management Limits).
- **Ecological Criteria for the proposed land use**: site-specific data will be collected in general accordance with ASC NEPM 2013 to calculate Ecological Investigation Levels (EILs) for a commercial / industrial land use. The default Ecological Screening Levels (ESLs) from ASC NEPM 2013 will also be applied where applicable and are only applicable for the first 2mBGL.

Soil material surplus to requirements of the proposed development will be compared to the NSW waste regulations under NSW EPA Waste Classification Guidelines (2014).

As per ASC NEPM 2013, a HIL is said not to be 'exceeded' when any one of the following conditions are met:

1. The 95% upper confidence limit (UCL) of the arithmetic mean concentration of the contaminant is less than the relevant HIL value.
2. No individual sample concentration exceeds 250% of the HIL value.
3. The standard deviation of the sample concentrations does not exceed 50% of the HIL value.
4. Enough samples have been collected using a spatially representative sampling design (Schedule B2 provides advice on sampling requirements).

Groundwater

The adopted Investigation Levels for the Site are provided in **Table 13** and **Table 14** below.

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

- NSW EPA (2017) Guidelines for the NSW Site Auditor Scheme (Third Edition);
- ASC NEPM 2013; and
- NSW EPA Waste Framework under NSW EPA Waste Classification Guidelines (2014).

Soil concentrations will be compared against the following soil investigation levels (SILs):

- **Health-based Criteria for the current and proposed land use**: ASC NEPM 2013 Health Investigation levels (HILs) for commercial / industrial land use (HIL D). In accordance with the proposed development (commercial at ground level) and the ASC NEPM 2013 (Section 2.4.8), HSL D – Sand is applicable.
- **Management Limits**: ASC NEPM 2013 Management Limits for commercial / industrial land use (Management Limits).
- **Ecological Criteria for the proposed land use**: site-specific data will be collected in general accordance with ASC NEPM 2013 to calculate Ecological Investigation Levels (EILs) for a commercial / industrial land use. The default Ecological Screening Levels (ESLs) from ASC NEPM 2013 will also be applied where applicable and are only applicable for the first 2mBGL.

Soil material surplus to requirements of the proposed development will be compared to the NSW waste regulations under NSW EPA Waste Classification Guidelines (2014) to inform off-site disposal.

In accordance with DEC 2007 all relevant environmental values, including those associated with current and realistic future beneficial uses of the groundwater, need to be accounted for. 'Community values' are defined in ANZG 2018 as:

'particular values or uses of the environment that are important for a healthy ecosystem or for public benefit, welfare, safety or health which require protection from the effects of pollution, waste discharges and deposits'.

In order to develop applicable environmental values for the Site the following matters were considered.

Protection of aquatic ecosystems

The Site is within the Greater Sydney Region Cooks River basin[9]. No groundwater dependent ecosystems have been identified at or near the Site.

Determining whether groundwater is a potential drinking water supply

In order to determine whether drinking water is a relevant environmental value the three steps provided by DEC (2007) were evaluated:

- checking DNR's list of major aquifers of drinking water quality;
- identifying actual groundwater users in the site vicinity; and
- referring to total dissolved solids (TDS) as an indicator parameter.

The site is located in the Greater Sydney Region Cooks River Basin, which consists of porous rock aquifers, with the presence of claystone and shale aquitards, and has not been identified by the Department of Natural Resources (DNR) as an actual or potential drinking water supply.

[9] Office of Environment & Heritage (OEH)- https://www.environment.nsw.gov.au/ieo/CooksRiver/report-01.htm, accessed 20 January 2022.

On the basis of the evaluation undertaken, drinking water is not considered to be a relevant current or future community value at the Site. However, as noted within **Section 4.5** to enable examination of the inhalation pathway of exposure, drinking water guidelines will be included as relevant criteria in this DSI.

Determining the relevance of other community values

The OEH has prepared water quality objectives (WQOs) and river flow objectives (RFOs) for the Cooks River catchment which need to be considered when developing plans and actions affecting water quality and river health. With reference to the WQO map for the Cooks River, the Site is located within an area classified as '*water ways affected by urban development*'. The category of '*waterways affected by urban development*' is considered appropriate for the Site and clean-up to protect the relevant community values of groundwater, and human and ecological health associated with this category should include protection of the following:

- Aquatic ecosystems;
- Visual amenity; and
- Secondary contact recreation.

Adopted screening criteria

Based on the information provided, the screening criteria for groundwater at the Site for the Tier 1 assessment is as follows:

- Recreational;
- Aquatic ecosystems.

Given the location of the Site relative to the Cooks River Catchment, groundwater from the Site is considered likely to be received by a fresh-water ecosystem. The adopted screening criteria for marine ecosystem, 95% species protection was adopted to assess direct toxicity as the receiving water bodies are considered to be a slightly to moderately disturbed system located within an urban environment.

The groundwater investigation levels have been developed based upon the current or realistic future use at the point of extraction or point of use.

Table 13 – Appropriate Investigation Levels – Heavy Metals

Media		Assessment Criteria								
		Heavy Metals								
		As	Cd	Cu	Cr III	Cr VI	Hg	Pb	Ni	Zn
Soil (mg/kg)	Human Health[10]	3,000	800	250,000	-	3,000	4,000	1,500	4,000	400,000
Groundwater (µg/L)	Fresh Water[11]	-	0.2	1.4	-	-	0.06	3.4	11	8
	Marine Water[11]	-	0.7	1.3	-	-	0.1 (Inorganic)	4.4	7	15

[10] Table 1A(1) – Health investigation levels for soil contaminants
[11] Table 1A(4) HSLs groundwater

Table 14 – Appropriate Investigation Levels Health – TRH, BTEXN and PAH

Media		Assessment Criteria											
		TRH (HSL-D)				BTEXN (HSL-D)					PAH (HIL-D)		
		TRH (C_6-C_{10})	TRH (>C_{10}-C_{16})	TRH (>C_{16}-C_{34})	TRH (>C_{34}-C_{40})	Benzene	Toluene	Ethyl-benzene	Xylenes	Naphthalene	Benzo (a) pyrene	Benzo(a) pyrene TEQ	Total PAH
Soil (mg/kg)	Ecological (95% Species Protection)[12]	260	120	300	2,800	75	135	165	180	370	0.7	-	-
	Human Health	-	-	-	-	-	-	-	-	-	-	40	4000
	Vapour Intrusion[13] HSL D[12]	260	-	-	-	3	-	-	230	-	-	-	-
	Commercial/Industrial HSL D - Direct Contact	26000	20000	27000	38000	430	99000	27000	81000	11000	40	-	-
	Management Limits[14]	700	1,000	3,500	10,000	-	-	-	-	-	-	-	-
Groundwater (µg/L)	Vapour Intrusion[15]	6,000	NL	-	-	5,000	NL	NL	NL	NL	-	-	-
	Fresh Water[15]	-	-	-	-	950	-	-	550	16	-	-	-
	Marine Water[15]	-	-	-	-	500	-	-	-	50	-	-	-

NL - The solubility limit is the groundwater concentration at which the water cannot dissolve any more of an individual chemical based on a petroleum mixture and, as consequence, the soil vapour which is in equilibrium with the groundwater will be at its maximum. If the derived groundwater HSL exceeds the solubility limit, this indicates that to reach the maximum allowed breathable air concentrations, a soil-vapour source concentration would be required that is greater than that possible for a petroleum mixture. For these scenarios no HSL is presented for these chemicals.
ID – Insufficient data to derive an investigation level.

[12] Table 1A(3) HSLs soil
[13] Sand, 0 m to <1 m
[14] Table 1B(6) – Management Limits for TPH fractions F1-F4
[15] Table 1A(4) HSLs groundwater

7 Quality Assurance and Quality Control

7.1 Data Quality Indicators

The data quality objectives, requirements and indicators for the assessment are summarised in **Table 9**, analytical laboratory reports are provided in **Appendix F** and field QA/QC summary tables are provided in **Analytical Summary Tables T3** (attached).

7.2 Quality Assurance

QA measures included:

- Using experienced and consistent field personnel throughout the investigation program.
- Using licenced and experienced subcontractors.
- Using calibrated field equipment.
- Following internal Standard Operating Procedures to ensure consistent sample handling and preservation techniques.
- Using analytical laboratories accredited for the analysis undertaken and ensuring that the laboratory internal quality checks indicated consistent, nonbiased results.
- Adhering to applicable guidelines, standards and best practice assessment and sampling methods.

7.3 Quality Control

The following QC sampling was completed:

- Three (3) intra-laboratory blind duplicate soil samples (DUP01, DUP07 and DUP09) were collected as an internal laboratory check against primary samples BH03_0.2, BH15_0.4 and BH06_0.9 respectively for TRH / BTEX / PAH / OCP / OPP/ PCBs / Heavy Metals
- Five (5) intra-laboratory blind duplicate soil samples (DUP02, DUP03, DUP04, DUP06 and DUP08) were collected as an internal laboratory check against primary samples BH03_0.5, BH11_0.2, BH14_0.2, BH07_0.5 and BH06_0.4 respectively for PFAS (full suite standard LOR).
- One (1) intra-laboratory blind duplicate sample (GW_DUP01) was collected as an internal laboratory check against primary sample GW01.
- Two (2) rinsate blank sample (RB01 and RB02) were collected using deionised water used for decontamination of the field equipment used for soil and water sampling.
- One (1) trip blank soil sample (TB01) and one (1) trip spike (TS01) soil sample were prepared by the primary laboratory ALS prior to commencement of fieldwork and transported with the samples to check for potential cross-contamination.
- Quality assurance sampling was conducted based on sampling events, respective to the soil sampling of boreholes and groundwater sampling events. The adopted number of samples was considered sufficient to satisfy quality assurance measures for sampling of soil and groundwater throughout the duration of sampling events.

Laboratory Internal Quality Control

The internal quality controls used by the laboratories indicated appropriate procedures and results, and reliable data.

7.4 QA/QC Summary

Results of the QA/QC assessment showed elevated RPD values above 50% between parent samples and respective field and inter-laboratory duplicate soil samples. Primary differences occurred in the measured concentrations of heavy metals (As, Cd, Cr (III + VI), Cu, Pb, Ni, Zn) and PAHs in the samples tested for TRH / BTEX / PAH / OCP / OPP/ PCBs / Heavy Metals. There were also minor discrepancies in the sums of PFAS, PFOS and PFHS in the samples tested for PFAS (full suite standard LOR).

The groundwater field duplicate sample identified RPD values above 50% in arsenic, zinc and in sums of PFAS, PFOS and PFHS.

Variable concentrations of metals in the quality assurance samples may be attributed to the heterogenous nature of the soil strata, and as such are not considered to materially affect the results. With respect to the field observations, the soil samples obtained were observed to have anthropogenic material such as gravel inclusions and bricks which may have contributed to the relative differences in analyte concentration. Similarly, the nature of the Site has currently and historically comprised a commercial / industrial land use, with the potential for contamination of soils with various metals and hydrocarbons. Due to the nature and behaviour of these contaminants and the lithology of the Site, it is considered likely that the soil would be differentially impacted by the measured COPCs.

The behaviour and transport potential of PFAAs are known to be affected by organic carbon fractions in suspended particulates in both groundwater and soils (Borthakur et al., 2021)[16]. The presence of these particulates throughout the site could attribute to the variable concentrations of PFAS, PFOS and PFHS in the quality assurance samples. Therefore, it was considered unlikely that the minor discrepancies between the quality assurance and parent samples indicated faulty laboratory quality assurance procedures.

Based on the results of the QA/QC assessment with respect to the field observations, the data was therefore considered appropriate for the objectives of the assessment. Given the level of field and laboratory QA measures adhered to, the level of QC analysis conducted was considered appropriate and as such the DQIs outlined in **Table 9** are considered to have been met and that the data is therefore reliable.

[16] Borthakur A, Wang M, He M, Ascencio K, Blotevogel J, Adamson D, Mahendra S, Mohanty S. 2021. Perfluoroalkyl acids on suspended particles: Significant transport pathways in surface runoff, surface waters and subsurface soils. *Journal of Hazardous Materials Volume 417*

8 Results

The soil and groundwater investigation results are compared to the relevant investigation levels, as detailed in the following sections. Detailed results are provided in the '*Tables*' section of this report and the NATA certified analytical results are provided in **Appendix E**. Photographs of the investigation are provided as **Appendix A**.

8.1 Field Observations

Site Description Conditions

The following observations were made during the initial Site inspection:

- The Site comprises three (3) disused warehouses, and is located on the southern side of Bourke Road, facing north.
- The Site was almost completely enclosed, except for one section on the eastern side which is partially uncovered.
- The surface of entirety of the Site is cement, with a stormwater drain located in the eastern outdoors area.
- A vehicle spray booth is located in the south eastern section of the warehouse.
- Solid waste and disused construction and vehicle maintenance parts are present throughout the Site, including:
    - Vehicle tyres
    - Vehicle wheels and hub caps
    - Timber
    - Waste drums
    - Small iron weights
    - General household waste
- Several vehicles were present on-site for the duration of the Works, understood to belong to the previous tenants of the Site.

Site Geology

Based on the site inspections and drilling works the following geology was noted across the Site:

- The entirety of the Site was covered in cement, which upon commencement of drilling works was observed to be between 0.1 – 0.2m thick. In many places the cement was observed to be underlain by a second slab of cement.
- Below the cement slabs, the Site was observed to be underlain by FILL material, generally sand or silty sand, to depths ranging from 0.6 to 1.9 mBGL. Anthropogenic material was observed throughout the FILL, including brick, cement and gravel. Metal shavings were observed within the FILL material during the SCA investigation (EP Risk 2021a).
- Natural soils were encountered in all boreholes below the FILL material, with three (3) exceptions:

  - BH04 - A second concrete slab was observed at a depth of 0.4 mBGL below the FILL material, through which the drill was able to penetrate for further soil removal.
  - BH12 – Drilling revealed concrete to depths of 1.5 mBGL, where refusal was met. It is presumed that the borehole was undertaken in a footing of the building. No soil was encountered and no samples were taken.
  - BH14 – A second concrete slab was observed at a depth of 1.0 mBGL below the FILL material which was unable to be drilled through.
- Natural soils were observed to consist mostly of SAND, silty SAND, or gravelly silty SAND, and was generally very moist with a medium grain size. The sand was generally grey or beige in colour.

Refer to **Appendix B – Borehole Logs** for details on the Site geology.

Visual and Olfactory Observations

Visual and olfactory signs of contamination observed during the intrusive investigation include the following:

- BH05 – Mild hydrocarbon odour in FILL material at approximately 0.2 mBGL.
- BH16 – Strong Sulphur smell in natural soils at approximately 1.1 mBGL.
- MW03 – Strong sulphur smell in groundwater during GME.

A PID was used to screen for VOCs from the head space of each soil sample collected. The results indicated the presence of volatile contaminants in the natural material at relatively shallow depths (refer to **Appendix B – Borehole Logs** for full PID readings), with several significantly high readings:

- BH01 – 35 ppm in shallow natural material.
- BH02 – 393.2 ppm in shallow natural material, however no olfactory observations were made during sampling.

Anthropogenic material was observed throughout the FILL material, which included cement, brick and gravels.

There was no visual evidence of acid sulfate soils.

8.2 Soil Analytical Results

The soil analytical summary tables are provided in **Table T1A** to **T1E** within the **Tables** section of this report. Figures showing the sampling locations are provided in **Figure 2** within the ***Figures*** section of this report.

Heavy Metals

Lead was shown to be the most significant contaminant within the soil samples analysed. Concentrations of Lead were shown to be in excess of 125,000 mg/kg, with one result showing a concentration of 207,000 mg/kg. This greatly exceeds all adopted investigation levels for Lead, and also exceeds the NSW EPA Criteria for Restricted Solid Waste SCC2, which thereby classifies the soil as Hazardous Waste should it be removed off-site.

Significantly elevated levels of Lead were mainly observed in the south eastern section of the Site (refer to **Figure 6**).

Table 15 (below) shows the maximum concentrations of all heavy metals analysed within the soil samples undertaken.

Table 15 – Maximum Heavy Metal Concentrations

Analyte	Sample Number	Maximum Concentration (mg/kg)	ASC NEPM 2013 HILs Comm/Ind D Soil
Arsenic	BH14_0.9	148	3,000
Cadmium	BH16_0.4	31	800
Chromium (III + VI)	BH03_0.2	79	-
Copper	BH17_0.4	24,800	250,000
Lead	BH14_0.9	**207,000**	1,500
Mercury	BH08_1.5	1.9	4,000
Nickel	BH03_0.2	139	4,000
Zinc	BH03_0.2	13,900	400,000

Total Recoverable Hydrocarbons (TRH)

TRH concentrations within analysed soil samples were reported below the adopted health-based criteria and environmental health-based criteria for all soil samples analysed. Detectable levels of TRH >C16-C34 Fraction were detected in ten (10) of the forty-nine (49) soil samples analysed, albeit at levels below the adopted criteria.

Polycyclic Aromatic Hydrocarbons (PAH)

PAH concentrations and B(a)P TEQ within analysed soil samples were reported below the adopted health-based criteria with exception of B(a)P in ten (10) samples in excess of the ASC NEPM 2013 ESLs for Commercial/Industrial land use, coarse soil. Additionally, eleven (11) samples exceed the minimum concentration for General Solid Waste without TCLP analysis, with one (1) exceeding the minimum value for Restricted Solid Waste without TCLP analysis.

Results of the TCLP analysis reported leachable concentrations of B(a)P below the laboratory LOR for the TCLP method and below the criteria for GSW.

Benzene Toluene Ethylbenzene and Xylene (BTEX)

BTEX concentrations were reported below the adopted health and ecological-based criteria in all soil samples analysed.

Organochlorine Pesticides (OCP)

OCP concentrations were reported below laboratory LOR, health and ecological-based criteria in all soil samples analysed. It should be noted that at one location (TP04-0.1m) Heptachlor was identified above adopted criteria during the previous investigation (EP Risk 2021a).

Organophosphorous Pesticides (OPP)

OPP concentrations were reported below laboratory LOR, health and ecological-based criteria in all soil samples analysed.

Polycyclic Chlorinated Biphenyls (PCB)

PCB concentrations were reported below laboratory LOR and health-based criteria in selected soil samples analysed.

Phenols

Phenol concentrations were reported below laboratory LOR and health-based criteria in selected soil samples analysed.

Volatile Organic Compounds (VOC) and Semi-Volatile Organic Compounds (SVOC)

VOC and SVOC concentrations were reported below the adopted health-based criteria in all soil samples analysed, including VOCs from the Monocyclic Aromatic Hydrocarbon (MAH) group.

Asbestos

Asbestos in soils concentrations were reported below the laboratory LOR in all soil samples analysed. Furthermore, ACM were not visually identified in soil during the intrusive investigation.

Asbestos was, however, observed during previous investigations of the Site (EP Risk 2021a) in the form of bonded (non-friable) asbestos containing fibre cement sheeting within the soil at 0.1 mBGL. The results of the DSI investigation can be used to delineate the extent of the Asbestos in Soil (ASBINS) for waste classification purposes. All soil within the delineated area should be classified as **Special Waste (Asbestos)**.

Per-Fluro Alkyl Substances (PFAS)

PFAS concentrations were reported below the laboratory LOR in all soil samples analysed.

8.3 Groundwater Investigation Observations

Installation of Groundwater Monitoring Wells

EP Risk installed a total of four (4) groundwater MWs across the Site. The MWs were installed by Stratacore Drilling Pty Ltd (a licensed driller) between 8 and 10 February, 2022 using a truck-mounted drill rig utilising hollow flight augers. The MWs were constructed in general accordance with the Minimum Construction Requirements for Water Bores in Australia Edition 3 (2012) using a slotted PVC screen across the targeted aquifer and a blank PVC riser to the surface. Bentonite was installed around the screen. The target depth for the PVC slotted screen was 0.5 above the measured water levels to 2.5m below the measured water levels.

The soil borehole logs containing the MW diagrams are provided in **Appendix B**. The MWs were developed immediately after installation to remove fine sediment and to maximise the hydraulic connection between the bore and the aquifer formation. Development was undertaken using mechanical pump until the MWs were purged 'dry' or a total of three (3) well volumes of groundwater was removed. The MWs were then left for a minimum period of seven (7) days to hydraulically and chemically stabilise prior to sampling.

Groundwater Sampling and Field Quality Parameters

Groundwater sampling was undertaken using a low-flow micropurge sampling kit and conducted in accordance with the methodology outlined in **Section 5.9** and current best practice. Groundwater samples were collected in appropriate sampling containers provided by the primary laboratory (ALS) and analysed for CoPC presented in **Appendix F**.

Depth to groundwater is estimated to be between 1.7 mBGL and 3.4 mBGL, however it is noted that groundwater was not observed in some boreholes extending up to 6 mBGL. It is likely that the groundwater was unable to be observed due to the loose sand which was drained of water before it would be moved to the surface through drilling. Groundwater was generally light grey to brown/red in colour and light to moderately turbid. A strong sulphur odour was identified in MW03. A review of the stabilised groundwater field quality parameters prior to sampling indicated the following ranges:

- Temperature = 21.6°C to 23.3°C.
- Oxidation-reduction reaction (Redox) = _-154.1 to -45.5 mv.
- Electrical conductivity (EC) = 12.6 mS/cm to 74.8 mS/cm.
- Dissolved oxygen (DO) = 6.55mg/L to 10.55 mg/L.
- pH = 6.22 to 6.8.

The groundwater parameters indicate the groundwater across the Site was fresh to saline. pH was reported to be neutral throughout the Site. Dissolved Oxygen is considered to be high.

8.4 Groundwater Analytical Results

The groundwater analytical summary tables are provided in **Table T2** with in the ***Tables*** section of this report. Figures showing the locations and exceedances are provided in **Figure 3** within the ***Figures*** section of this report.

8.4.1 Heavy Metals

Concentrations of Cadmium, Copper and Mercury within all groundwater samples did not exceed the laboratory LOR.

There were detectable concentrations of Arsenic, Chromium and Lead in the samples, however none of these concentrations exceeded the ASC NEPM 2013 GIL for drinking water.

Concentrations of Nickel exceeded the ASC NEPM 2013 GIL for fresh water and marine water in all four (4) groundwater samples analysed, with a maximum concentration of 86 µg/L.

Concentrations of Zinc exceeded the ASC NEPM 2013 GIL for fresh water and marine water in all four (4) samples analysed, with a maximum concentration of 68 µg/L.

8.4.2 Phenols

Phenol concentrations were reported below the laboratory LOR in groundwater samples analysed.

8.4.3 VOC and SVOC

VOC and SVOC concentrations were reported below laboratory LOR in all groundwater samples analysed.

8.4.4 PFAS

PFAS concentrations were reported below the adopted health, interim marine and fresh water criteria in all four groundwater monitoring wells at the Site.

8.4.5 Hydrocarbons and Aromatics

Concentrations of BTEX, PAH, MAH and TRH were reported below the laboratory LOR in all groundwater samples analysed.

8.5 Acid Sulfate Soils Observations and Field Testing

The ASS field testing was used to guide the required sampling for the NATA accredited laboratory analysis.

The field observations made with respect to ASS are summarised below:

- Greyish SAND was observed at approximately 7 mBGL in BH02, BH04 at approximately 4.5 mBGL, BH09 at 1.0 mBGL.
- A Sulphur odour was observed within BH16 within dark grey soils at approximately 1.1 mBGL.
- A sulphur odour was observed within the groundwater in MW03 during the groundwater monitoring event.

A regime of ASS field screening was undertaken during the Site works in the deep boreholes. The soil was tested within every observed new strata, or every SPT test where different strata could not be identified.

The results of the field testing are shown in **Table 16** below:

Table 16 – ASS Field test results

Location	Depth (mBGL)	pH_F	pH_{FOX}	Reactivity (1-5)	pH_{fox}-pH_f
BH01	1.5	4.51	5.86	1-2	1.35
	2	6.07	5.72	1	-0.35
	4	6.84	6.17	1	-0.67
	5.5	6.71	5.8	1	-0.91
	7	5.78	4.4	3	-1.38
	8.5	5.92	5.89	2-3	-0.03
BH02	1	5.75	4.81	1-3	-0.94
	2.7	7.11	6.25	1	-0.86
	4	6.35	5.3	1-2	-1.05
	5.5	7.02	6.24	1-2	-0.78
	7.2	5.55	3.8	1-2	-1.75
	8.2	4.97	4.09	1-2	-0.88
BH03	3	7.14	4.98	1	-2.16
	4.5	5.1	4.09	1	-1.01
	6	5.69	2.72	3-4	-2.97
BH04	1.5	5.92	5.9	1	-0.02
	4.5	6.3	5.92	1	-0.38
BH05	2	7.22	4.73	1-3	-2.49

The results of the field testing shown in **Table 16** show one (1) soil sample with significant reactivity (BH03_6.0), indicating the possible presence of ASS. The field testing showed a visible reaction in the hydrogen peroxide test as compared to the DI Water test, with the pH_{FOX} reading of 2.62 compared to the pH_F reading of 5.46. Additionally, it was noted that there was a significant temperature increase in the hydrogen peroxide test.

8.6 Acid Sulfate Soils Analytical Results

The laboratory analysis for acid sulfate soils involved a Suspension Peroxide Oxidation Combined Acidity and Sulphur (SPOCAS) suite of analytes, which was undertaken on five (5) samples, and analysis for laboratory pH_F and pH_{FOX} was undertaken on a total of nine (9) samples. The most significant result showed a pH_F value of 7.3 along with a pH_{FOX} value of 3.2. The National ASS guidance material states that potential ASS is considered when the pH_F value is greater than 4 while the pH_{FOX} value is less than 3 (for a Site where >1000 tonnes of material is to be disturbed). The results may be considered close to these guidelines, however the results do not indicate

the presence of potential or actual ASS. However, the net acidity in one (1) sample (BH03_3.0) is equal to the adopted criteria from the National ASS Guidelines Table 5.4; Course and Peats sands to loamy sands. As per the guidelines, if the results are equal to or greater than the adopted criteria then an ASS management plan is required.

It is noteworthy that BH05, which became the location of MW03, showed the most significant values for ASS, both in the field test and laboratory analysis and a strong sulphur odour was detected within this monitoring well during the groundwater monitoring event.

8.7 Field and Laboratory Results Comparison

While the values of the pH_F showed little variation between the field tests and the NATA accredited laboratory tests, the difference of pH_{FOX} values between laboratory and field analysis between samples of the same location and depth was in many cases significant. This is summarised in **Table 17** below

Table 17 – ASS Field Analysis vs Laboratory Analysis Summary

Sample	Field test			Lab test			Reactivity (1-5)	
	pHf	Lab	▲	Field	Lab	▲	Field	Lab
BH01_4.0	6.84	6.17	0.67	7.2	4.2	3	1	2
BH01_5.5	6.71	5.8	0.91	7.6	4.6	3	1	2
BH02_1.0	5.75	4.81	0.94	7.0	4.4	2.6	1	2
BH02_4.0	6.35	5.3	1.05	6.4	4.6	1.8	1	2
BH03_3.0	7.14	4.98	2.16	7.6	4.2	3.4	1	2
BH05_2.0	7.22	4.73	2.49	7.3	3.4	3.9	3	3

Table 17 indicates that while the pH_F values between the field and laboratory analysis did not vary greatly, there was significant inconsistency in the pH_{FOX} values between field and laboratory. This may indicate the need for further refinement of the field-testing procedure. The field values, however, did prove to be useful for determining the need for laboratory testing of ASS in certain samples.

9 Summary of Findings

The findings of the soil, groundwater and ASS assessment can be summarised as follows:

9.1 Site Suitability

Soil

- Concentrations of Lead in soil are shown to be the most significant CoPC analysed within the Site. The concentrations of Lead in eight (8) of the 43 samples analysed exceeded the ASC NEPM 2013 HIL D criteria for Commercial/Industrial land use. This is the most significant contaminant with regards to soil. Lead is considered highly likely to be a direct contact risk for future users of the Site without remediation and/or management of the affected soil and an ongoing risk to ecological receptors.
- The highest Lead concentration is over 250% of the HIL value, which confirms that the HIL is said to be 'exceeded' as per ASC NEPM 2013. Additionally, the 95% UCL of the arithmetic mean is calculated to be greater than the relevant HIL value, at 31,196 mg/kg, compared to the HIL value of 1,500 mg/kg.
- Concentrations of B(a)P TEQ were detected at low levels (highest concentration was 6 mg/kg in BH05 – 1.5) and below the ASC NEPM 2013 HIL D criteria for Commercial/Industrial of 40 mg/kg.
- No exceedances of the adopted criteria were detected within the remaining contaminant groups for soil.
- Asbestos in soils concentrations were reported below the laboratory LOR in all soil samples analysed. Furthermore, ACM were not visually identified in soil during the intrusive investigation. However, ACM was visually observed within the Site during the initial Soil Contamination Assessment (EP Risk 2021a), and is therefore known to be present within the Site.

Groundwater

- A strong sulphur odour was identified in monitoring well MW03.
- While there were detectible levels of Arsenic, Chromium and Lead in the samples analysed, these did not exceed the adopted criteria for Fresh or Marine water or the ANZG (2018) 95% Toxicant DGVs.
- It should be noted that the greatest levels of Lead in the soil were found in the south-eastern portion of the Site, and there was no groundwater monitoring undertaken in this area.
- Concentrations of Zinc were detected in excess of the ANZG (2018) 95% Toxicant DGVs for Marine Water and Fresh Water in all samples taken.
- Concentrations of Nickel were detected in excess of the ANZG (2018) 95% Toxicant DGVs for Fresh Water in all samples taken, for Marine Water in two (2) of the four (4) samples taken.
- Exceedances above the adopted drinking water criteria for Zinc and Nickel are considered not to a pose risk to future users of the Site given the location of the Site and surrounding area within a highly urban setting where potable water supply is readily available. The exceedance of the ecological criteria for Zinc and Nickel does not trigger the requirement for a Tier-2 risk assessment or indicate the Site poses an unacceptable level of risk to on- and off-site receptors based on:

  - There is no evidence to suggest there is a current or potential future direct contact exposure pathway for identified Site receptors as the proposed development will act as a seal, effectively eliminating groundwater ingress/access.

- There are detectable concentrations of several PFAS chemicals in all four (4) samples analysed, however these were not shown to exceed the adopted ASC NEPM 2013 95% criteria for Fresh or Marine Water.
- No other CoPC were detected within the groundwater samples analysed above the laboratory LOR.

Acid Sulfate Soils

- The pre-classification of the area as having the potential to contain ASS was shown to be accurate, as the criteria for potential ASS was close to being exceeded within BH05.
- A strong sulphurous odour was detected within the groundwater at MW03/BH05. This, along within a greyish soil is an indicator for ASS.
- The results of the field analysis proved to be useful for determining areas requiring more in-depth analysis, however comparing the data obtained from this analysis with the NATA accredited analysis from the laboratory testing showed that the field testing tended to show a significantly higher pH_{FOX} value. The results of the field testing should therefore not be the only basis for determining the presence of ASS.
- A strong sulphur odour was also detected within BH16, however ASS analysis was not undertaken within this borehole. Further analysis may be required.

9.2 Preliminary Waste Classification

- Ten (10) of the 43 samples analysed exceeded the NSW EPA SCC2 criteria for Restricted Solid Waste, which classifies the soils as Hazardous Waste. This is the most significant contaminant with regards to soil.
- Concentrations of other heavy metals – Arsenic, Cadmium and Nickel – were reported above the NSW EPA CT1 criteria for General Solid Waste. TCLP analysis of the samples in which the concentrations of heavy metals exceeded the CT1 for General Solid Waste were below the minimum TCLP1 leachable concentration, reducing the classification of these samples to 'General Solid Waste' except in cases where the concentrations of Lead made TCLP analysis redundant due to the exceedance of the SCC1 or SCC2 values for General Solid Waste or Restricted Solid Waste respectively.
- B(a)P concentrations were in exceedance of the CT1 criteria for General Solid Waste in nine (9) samples, and in exceedance of the CT2 criteria for Restricted Solid Waste in one (1) sample. TCLP analysis of these samples showed all concentrations analysed to be below the laboratory LOR, however three (3) of the exceedances were not analysed for TCLP due to the exceedance of the SCC2 values of Lead for these samples, classifying these samples as Hazardous Waste without TCLP.
- In one location (TP04-0.1 – EP Risk 2021a) some limited scheduled chemical waste (chlordane and heptachlor) has been observed. This needs to be managed in accordance with the relevant Chemical Control Order.
- No exceedances of the adopted criteria were detected within the remaining contaminant groups for soil.

- Vertical and horizontal delineation of the asbestos containing soil identified within the SCA (EP Risk 2021a) can be achieved using the data collected for the DSI, and it can be concluded that the asbestos containing soil is restricted to a single area of the Site (refer to **Figure 4**). This area should be classified as Special Waste (Asbestos) in addition to the chemical waste classification.

10 Discussion

Based on the decision-making process for assessing urban redevelopment sites detailed in the NSW EPA 2017, modified to meet the specific project objectives, a number of decisions, as presented in **Section 5.3**, are to be considered, each of which is discussed below.

Has soil been assessed against relevant HILs / HSLs, and has potential for migration of contamination from soils to groundwater been considered?

As discussed in **Section 6,** soil sample results have been compared to the relevant ecological and health-based criteria. The extremely high concentrations of Lead in the soil, particularly in the south-eastern section of the Site, indicates a possibility of Lead moving off-site in groundwater. The Lead is shown to be present in high concentrations in both the Fill material and natural soil in the south-eastern corner warehouse, indicating high degree of leachability. While groundwater samples have been taken and shown low levels of Lead, the groundwater in the south-eastern section of the Site has not been analysed, nor has the direction of the groundwater flow. This data may be needed for the purposes of future investigations or prior to remediation plans.

Has groundwater (where relevant) been assessed against relevant ecological and health-based investigation and screening levels?

There is no indication that the groundwater in the area is used for drinking water. There are no drinking water wells and the area is a highly developed area with potable water supply. The Marine and Freshwater Groundwater Investigation Levels (GILs) have been adopted to address the presence of Shea's Creek to the north-west and Botany Bay to the south of the Site. Direct exposure to groundwater by current or future users of the Site is considered unlikely given the intended use of the Site as a commercial building, however excavation for the installation of the planned partially underground car park may expose construction workers to groundwater, given the relatively shallow depth to groundwater.

Are there any issues relating to local area background soil concentrations that exceed relevant investigation levels and have they been adequately addressed in the Site assessment?

Given the historical use of the site and surrounding land as an industrial area it is likely that the area will contain elevated levels of contaminants. This is shown in both EP Risk (2021a) and in the DSI.

Are there any impacts of chemical mixtures in soil?

While there are a variety of CoPC present within the Soil, there is no indication that these chemicals could form a potentially hazardous mixture.

Are there any potential human health and/or ecological risks to the identified Site receptors?

As discussed in **Section 9,** there is a significant risk to human health with regards to Lead in the Soil. Lead is present at extremely high concentrations. In it's current state, the soil is not considered to present a significant risk to the current users of the Site due to the lack of access to the soil by Site personnel, as the entire ground surface of the Site is sealed with concrete hardstand, however the contaminated soil must be addressed prior to the planned development works, as this will involve the exposure and excavation of the contaminated soil for the installation of a semi-underground car park and/or buildings slabs.

Is there any evidence of, or potential for, migration of contaminants off-site? And is there a requirement to

Exceedances of Lead were present both in Fill material and in natural SAND, indicating Lead is able to be leached through the soil and possibly off-site. This must be addressed during future assessment/remediation works.

Is there sufficient information to characterise the nature and extent of site contamination?

The results of the DSI when combine with the results of the SCA (EP Risk 2021a) indicate concentrations of Lead within the Site are above the adopted HILs and exceed the SCC2 concentration of Restricted Solid Waste. There is sufficient data to characterise the soil as such. The areas of high concentrations of CoPC could be delineated to the extent of the nearest borehole (either from the DSI or SCA (EP Risk 2021a)) where the classification can be lowered.

The HIL can be said to have been 'exceeded' as per ASC NEPM 2013 due to the concentration of Lead being over 250% of the HIL value in at least ten (10) samples and the 95% UCL of the arithmetic mean being over the relevant HIL (31,196 mg/kg, compared to the HIL value of 1,500 mg/kg).

Is a site management strategy including post-remediation environmental plans (RAP, AMP or EMP) required?

As there is a semi-underground car park (due to 1 in 100-year flood levels being 2m above current ground level) proposed for the Site and soil will need to be removed, a RAP will be required pertaining to the Site prior to the construction of the proposed development.

The concentrations of Lead were not uniform across the Site, which indicates the possibility of delineation of the affected areas. Waste classifications can be issued using the existing data from the DSI and SCA (EP Risk 2021a) which can delineate and separately classify the General Solid Waste (GSW) and Hazardous Waste. A separate waste classification will also need to be prepared for the asbestos containing soil as Special Waste (Asbestos).

The exceedance of the ecological criteria for Nickel and Zinc in groundwater does not trigger the requirement for a Tier-2 risk assessment or indicate the Site poses an unacceptable level of risk to off-site ecological receptors. The concentration is the same order of magnitude as the criteria and the Site is located in a highly urban environment with mains water supply and limited domestic groundwater use.

The results indicate an acid sulfate soils management plan is likely not required for the Site due to the low likelihood of the presence or potential of ASS.

A Remediation Action Plan should be prepared discussing the various remediation and/or management options for the Site such as excavation and offsite disposal, excavation - immobilisation and disposal or immobilisation – onsite re-use and management.

11 Refined Conceptual Site Model

Discussed below is the refined CSM, based on all currently known information in relation to the Site and off-site sources.

Known and Potential Sources of Contamination

The current known and potential sources of contamination at the Site and in the vicinity of the Site are presented in **Table 18**.

Table 18 – Known and Potential Contamination Sources

Location	Source	CoPCs	Affected Media
On-site	Hazardous building materials	Friable asbestos, Non-Friable Asbestos, SMF, LCD, LCP	Airborne dust, building materials
	Various former industrial works resulting in Lead in soil	Lead, B(a)P, Heptachlor, Asbestos	Soil, groundwater
Off-site	Historical use of the surrounding area for various industrial works	Potentially Heavy Metals, Hydrocarbons, BTEX, PAH, PCB, OCP, OPP	Potentially Soil, groundwater, soil vapour
	Fire Station located north-east of Site	PFAS	Potentially Soil, groundwater

Type and Extent of Contamination

A summary of the analytical results from the previous investigation reports are discussed in **Section 3** and the current investigation in **Section 9** with the areas of exceedances shown in **Figure 2 and Figure 5.**

Affected Media

The current affected media at the Site is soil and potentially groundwater (additional groundwater assessment is required), including the possibility of ASS. Groundwater contamination is shown to be limited, however given the high level of Lead in the soil it is possible that the groundwater within the vicinity of these soils is contaminated and could move these contaminants off-site.

Human and Ecological Receptors

Potential human and ecological receptors at and near the Site are considered to be:

- On-site receptors:
  - Current and future intrusive workers/construction workers.
  - Future Site users.
- Off-site receptors:
  - Current and future intrusive construction and maintenance workers at surrounding commercial/industrial properties.

11.1 Potential and Complete Exposure Pathways

The following potential and complete exposure pathways for the CoPC have been identified to exist for known contamination sources based on review of historical investigations and the results of this investigation:

- Potentially leaching of contaminants from soils to underlying groundwater.
- Fugitive dust during future construction and/or remediation works on-site.
- Dermal contact with and/or ingestion of contaminated Lead soils.

An analysis of the potential and complete source-pathway-receptor linkages between the CoPC are presented in **Table 19** below.

Table 19 – Potential Exposure Pathways

Location	Primary Sources	Secondary Sources / Affected Media	Release Mechanism	Pathway	On-Site				Off-Site		
					Current and future intrusive construction/ maintenance workers		Current temporary and future users and visitors of the Site, including future residents / commercial workers	Limited on-Site ecological receptors (terrestrial flora and fauna) in the landscaped areas at the Site	Current and future intrusive construction and maintenance workers at surrounding properties	Current and future employees, occupants and visitors of surrounding properties	Aquatic fauna and flora at Botany Bay and Associated Tributaries
On-site	Potentially imported fill materials of unknown origin and quality.	Soil Groundwater	Direct Contact	Dermal Contact	High	Moderate	N/A	N/A	Low	N/A	N/A
	Demolition of former buildings and structures			Ingestion	Moderate to High		N/A	N/A	N/A	N/A	N/A
	Use of the Site for mechanics and auto workshop purposes and previous Site usage as Lead merchants resulting in high levels of Lead in soil			Dermal Contact	High	Moderate	Moderate to High	N/A	N/A	N/A	N/A
				Ingestion	Moderate to High		Moderate to High	N/A	N/A	N/A	N/A
				Fugitive Dust (Ingestion)	High		Low	N/A	High	High	N/A
				Uptake by flora and fauna	N/A		N/A	N/A	N/A	N/A	Low
Off-site	Adjacent commercial / industrial properties	Off-site Groundwater	Migration of contaminated groundwater	Dermal Contact	Low		Low	Low			
				Ingestion	Low		Low	N/A			
				Uptake by flora and fauna	N/A		N/A	Low			

Potential Exposure Pathway Key:

Soil

Groundwater

12 Conclusion

The DSI was undertaken to assess the current contamination status of the Site, and determine the potential risk posed to human health and the environmental from CoPCs with respect to the proposed commercial / industrial redevelopment as well as to inform the requirement for further investigations, notification, remediation and/or management strategies at the Site.

The findings of the investigation are presented below:

- Based on the previous SCA investigation and Site history review the Site had previously been used by various commercial and industrial proprietors including chemical and metal product manufacturers, zinc and lead merchants, sprayers, adhesives manufacturers and a car tyre fitters workshop.
- The Site is located in an area with a long history of industrial development, and is surrounded on all sides by commercial/industrial properties going back to the early 1900's.
- It is understood that the Site is planned to be redeveloped into a 7 storey commercial building with a partially underground car park extending approximately 1 mBGL.

Site Suitability

- The most significant contaminant present on-site is Lead, which is present in concentrations of up to 207,000 mg/kg. This exceeds all adopted ASC NEPM 2013 HILs. The contaminated soils were mostly present in the south-eastern part of the Site (Lot 3 of DP 324707).
- No other CoPC were detected within soil in concentrations exceeding the adopted criteria.
- Four (4) groundwater monitoring wells were installed for the purposes of the DSI and a groundwater monitoring event was undertaken on **21 February 2022**.
- During the GME a strong sulphurous odour was observed within MW03.
- The analytical results of the GME show detectable levels of Arsenic, Chromium and Lead, however these were below the adopted ASC NEPM 2013 GILs for Fresh and Marine Water.
- The concentrations of Nickel and Zinc exceeded the GIL for fresh water and marine water, however this was considered not to pose a risk to the future users of the Site and the surrounding area due to the limited possibility of exposure to groundwater.
- Groundwater is likely to be an exposure pathway to future construction and/or remediation workers on the Site due to the relatively shallow groundwater and the future plans of the Site to construct a semi below ground basement car park.
- No other CoPC were detected within groundwater samples exceeding the adopted criteria.

Preliminary Waste Classification

- The presence of Lead at concentrations up to 207,000 mg/kg exceeds the NSW EPA SCC2 value for Restricted Solid Waste, classifying (partially) the Site soil as Hazardous Waste. Leachability tests shown that the Lead is highly leachable.
- Other heavy metals present on-site in concentrations exceeding the NSW EPA CT1 criteria for General Solid Waste are Arsenic, Cadmium and Nickel. Additional TCLP analysis is required.

- B(a)P is present within the soil at concentrations exceeding the NSW EPA CT1 criteria. Leachability tests showed that B(a)P was non leachable.
- Asbestos was not visually observed within the soils nor detected above the laboratory LOR, however the SCA (EP Risk 2021a) detected asbestos in the soil on the eastern side of the Site. The presence of asbestos classifies the soil as Special Waste (asbestos) in this location.
- No other CoPC were detected within soil in concentrations exceeding the waste classification criteria.
- It is recommended that waste classification reports should be prepared in accordance with NSW EPA Waste Classification Guidelines (2014).

Acid Sulfate Soil

- The likelihood of the presence of ASS is considered to be low, however there were some indications of ASS observed on-site including grey soils and a sulphur odour in two boreholes. Further chemical analysis for chromium reduceable sulfur should be undertaken to obtain additional data to provide commentary on ASS. These tests are currently being undertaken and will be reported on in an addendum letter.
- The chemical analysis for the ASS analytical suite indicate that the Site s did not contain ASS as defined by Water Quality Australia (2018) National Acid Sulfate Soils Guidance: National acid sulfate soils sampling and identification methods manual, however a pH_{FOX} value of 3.2 in BH05_4.0 is considered relatively low and likely to be an indication of ASS but additional analysis are being undertaken.

Overall it is concluded:

- On-site soil contaminant concentrations are a significant health risk to Site personnel during planned remediation and construction works, in particular the works involving the excavation of soil in areas containing significantly high concentrations of Lead.
- The contaminants are likely to be able to move off-site through leaching into groundwater. Though the concentrations of Lead in groundwater are relatively low, there exists a data gap in the south-eastern section of the Site where the high lead concentrations were detected, and no groundwater data has been obtained.
- There exists the possibility of the presence of actual or potential acid sulfate soils within the Site, however no ASS was detected within the results of the DSI.
- Based on our current understanding of the contamination issues of the Site, the Site is not suitable for ongoing commercial/industrial landuse due to the significant Lead contamination.

12.1 Recommendations

Additional assessment is required as the following data gaps exist:

- Installation of two additional groundwater wells in the south-eastern corner where the Lead contamination has been found. From the TCLP results it appears that this Lead is highly leachable. A permanent building has only been constructed over this part of the Site around 1986. From historical maps, the historical business directory and title searches (EP Risk 2021a), it appears that the eastern part of the Site has historically (1932 - 1984) been occupied by Booth & Co (Lead and Zinc merchants).
- Obtain AHD levels of the installed groundwater wells to confirm direction of groundwater flow.

- Under the "*minimum requirements for building site groundwater investigations and planning – DPIE January 2021)"* daily groundwater levels should be measured over a minimum three-month period and hydraulic conductivity tests (slug tests) should be undertaken.
- Additional soil investigation data is recommended in the area where the Lead contamination has been found. To obtain a better understanding of volumes, we suggest installation of 2m deep boreholes in a 5m grid in this area and analyse samples for Lead and TCLP.
- Collect sampling material (3 grab samples of 20kg each) to undertake immobilisation treatment trials using different reagents. These should include MEP leachability analysis.
- Notification of the Site under Section 60 of the CLM Act shall be considered in accordance with NSW EPA (2015) after the additional has been collected and interpreted.
- A Remediation Action Plan (RAP) is required to be developed in accordance with NSW OEH (2020) Guidelines for Consultants Reporting on Contaminated Site detailing the off-site removal or on-site remediation and validation of fill and natural soil contaminated with significantly high levels of Lead exceeding the adopted HILs.

Further testing is required for the analysis of ASS, including a test for Chromium-Reducible Sulphur, to gain further understanding of the potential for ASS on the Site.

Based on the findings of the DSI and provided the outcomes of the Site validation assessment following completion of recommended remedial works are favourable, there is no evidence to suggest the Site cannot be made suitable for the proposed commercial / industrial development.

The data collected for this DSI and for the SCA (EP Risk 2021a) can be used for vertical and horizontal delineation purposes for separate waste classifications. These should be prepared before removal of any soil material off-site.

Figures

EP RISK

www.eprisk.com.au

Detailed Site Investigation
28-32 Bourke Road, Alexandria, NSW, 2015

Figure 1 - Site Location and Points of Interest

Job No: EP2515
Date: 08/03/2022
Drawing Ref: EP2515.001 Fig. 1
Version No: v1

N

0 10 20 30 40 m

Approximate Scale Only

Coordinate System: WGS 84
Drawn by: HB Checked by: ER
Scale of regional map not shown
Source: Nearmap / OpenStreetMap

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

EP RISK

www.eprisk.com.au

Detailed Site Investigation
28-32 Bourke Road, Alexandria

Figure 2 - NEPM Exceedances

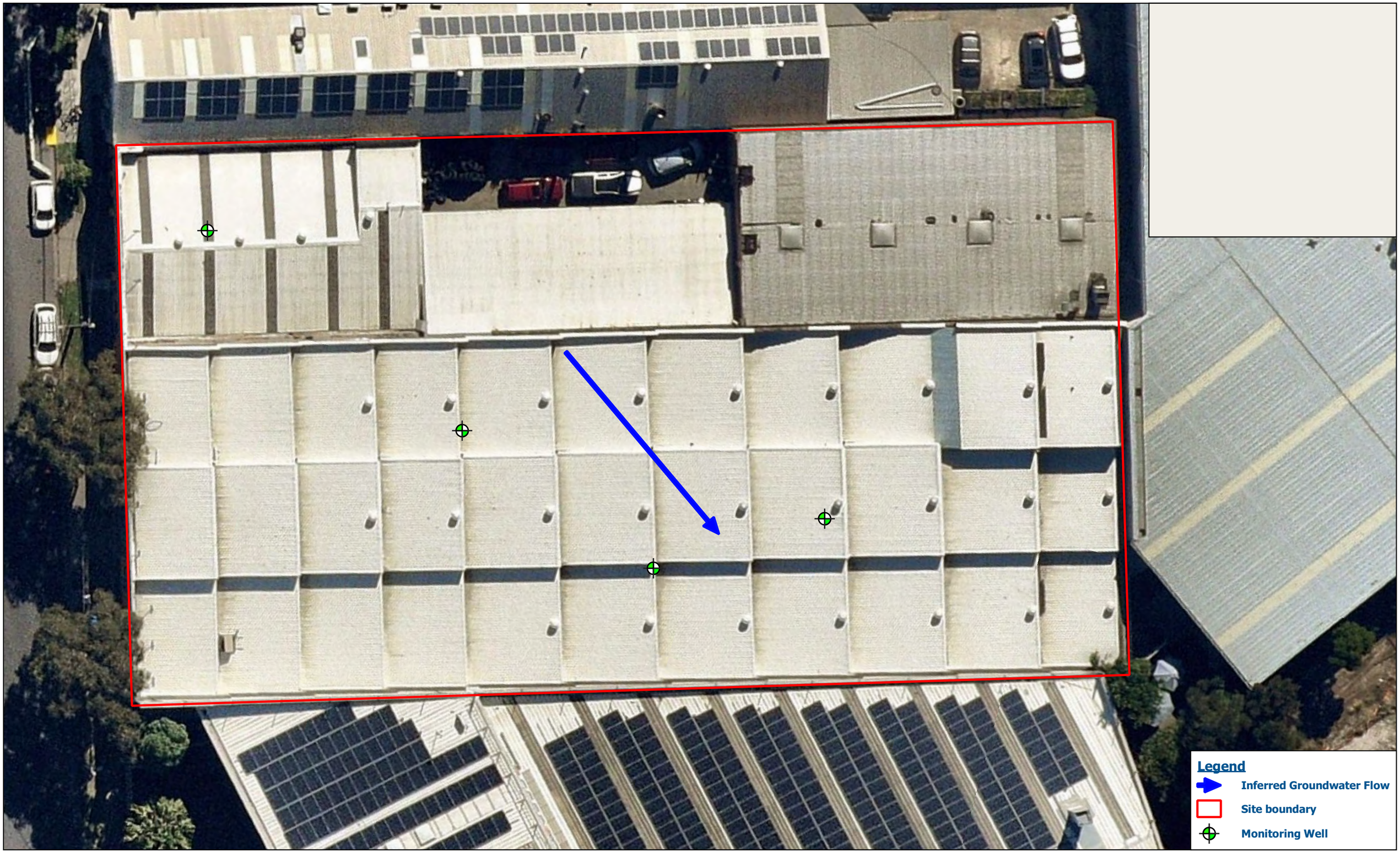
Job No: EP2515.001
Date: 07/03/2022
Drawing Ref: EP2515.001 Fig 2
Version No: v1

N

0 5 10 15 20 m

Approximate Scale Only

Coordinate System: WGS 84
Drawn by: TD Checked by: HB
Scale of regional map not shown
Source: Nearmap



EP RISK

www.eprisk.com.au

Detailed Site Investigation
28-32 Bourke Road, Alexandria

Figure 3 - Groundwater Monitoring Well Locations

Job No: EP2515.001
Date: 07/03/2022
Drawing Ref: EP2515.001 Fig 1
Version No: v1

N

0 5 10 15 20 m

Approximate Scale Only

Coordinate System: WGS 84
Drawn by: TD Checked by: HB
Scale of regional map not shown
Source: Nearmap

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

EP RISK

www.eprisk.com.au

Detailed Site Investigation
28-32 Bourke Road, Alexandria

Figure 4 - ACM Extent

Job No: EP2515.001
Date: 07/03/2022
Drawing Ref: EP2515.001 Fig 4
Version No: v1

N

0 5 10 15 20 m

Approximate Scale Only

Coordinate System: WGS 84
Drawn by: TD Checked by: HB
Scale of regional map not shown
Source: Nearma

EP RISK

www.eprisk.com.au

Detailed Site Investigation
28-32 Bourke Road, Alexandria

Figure 5 - Waste Classification

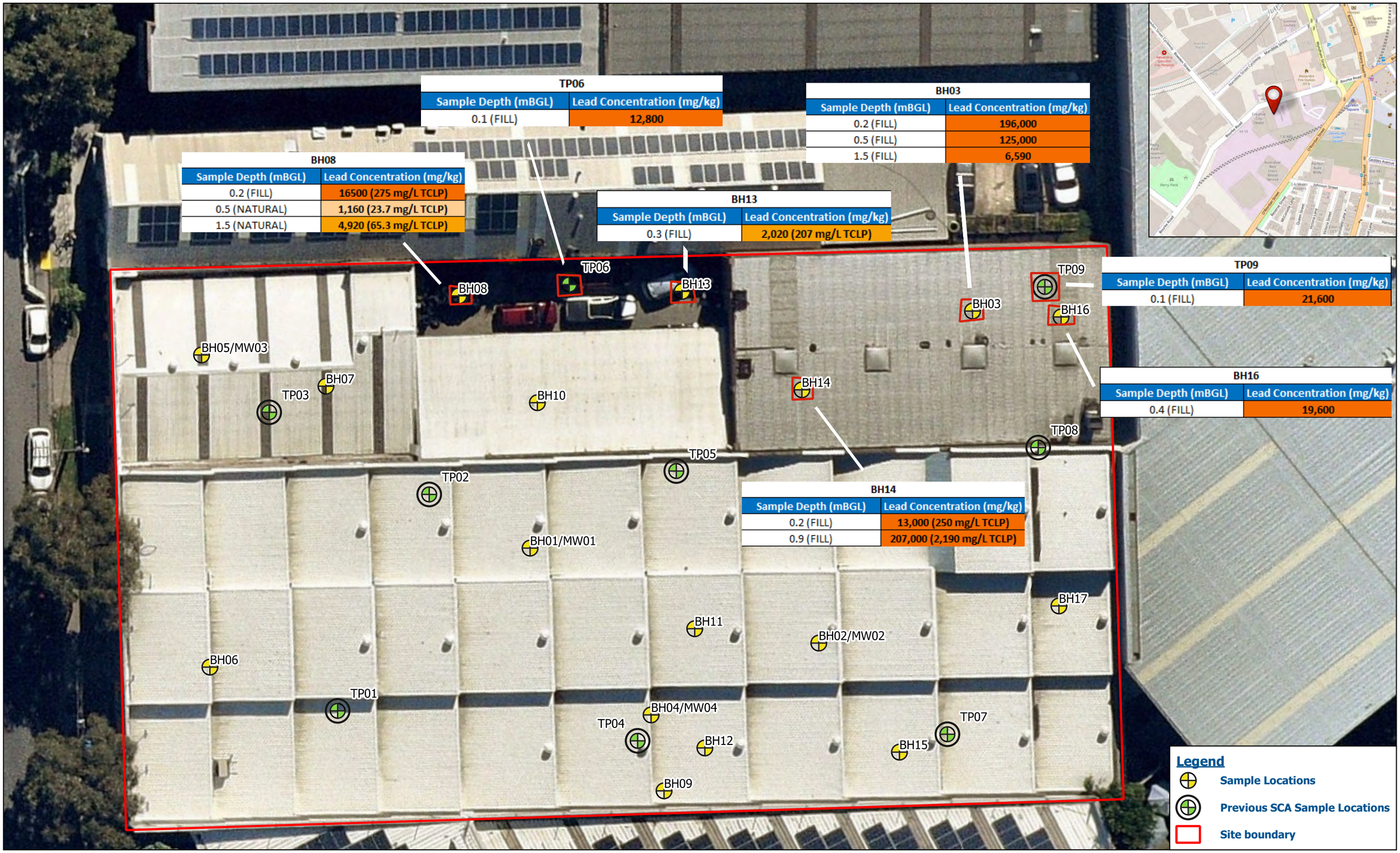
Job No: EP2515.001
Date: 07/03/2022
Drawing Ref: EP2515.001 Fig 5
Version No: v1

N

0 5 10 15 20 m

Approximate Scale Only

Coordinate System: WGS 84
Drawn by: TD Checked by: HB
Scale of regional map not shown
Source: Nearmap



EP RISK

www.eprisk.com.au

Detailed Site Investigation
28-32 Bourke Road, Alexandria

Figure 6 - Lead HIL Exceedances

Job No: EP2515.001
Date: 07/03/2022
Drawing Ref: EP2515.001 Fig 6
Version No: v1

N

0 5 10 15 20 m

Approximate Scale Only

Coordinate System: WGS 84
Drawn by: TD Checked by: HB
Scale of regional map not shown
Source: Nearmap

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

Analytical Tables

		Asbestos		
		Asbestos Identification	Bonded Asbestos from ACM (>7 mm) in Soil AS4964*	Trace Asbestos in Soil*
		Presence / Absence	%w/w	%w/w
EQL			0.01	0.01
NEPM 2013 Table 7 - HSL for Asbestos Contamination in Soil - Comm/Ind		ND	0.04	ND
Field ID	**Date**			
BH01_0.2	**8/02/2022**	ND	<0.01	ND
BH02_0.1	**9/02/2022**	ND	<0.01	ND
BH03_0.2	**9/02/2022**	ND	<0.01	ND
BH03_0.5	**9/02/2022**	ND	<0.01	ND
BH03_1.5	**9/02/2022**	ND	<0.01	ND
BH04_0.2	**10/02/2022**	ND	<0.01	ND
BH04_1.0	**10/02/2022**	ND	<0.01	ND
BH05_0.2	**10/02/2022**	ND	<0.01	ND
BH05_1.5	**10/02/2022**	ND	<0.01	ND
BH06_0.4	**14/02/2022**	ND	<0.01	ND
BH07_0.5	**11/02/2022**	ND	<0.01	ND
BH08_0.5	**11/02/2022**	ND	<0.01	ND
BH09_0.3	**14/02/2022**	ND	<0.01	ND
BH10_0.3	**11/02/2022**	ND	<0.01	ND
BH11_0.2	**11/02/2022**	ND	<0.01	ND
BH13_0.3	**11/02/2022**	ND	<0.01	ND
BH14_0.2	**11/02/2022**	ND	<0.01	ND
BH14_0.9	**11/02/2022**	ND	<0.01	ND
BH15_0.4	**14/02/2022**	ND	<0.01	ND
BH16_0.4	**14/02/2022**	ND	<0.01	ND
BH17_0.4	**14/02/2022**	ND	<0.01	ND

*ND - No Detect

EP RISK

				Leaching Preparation			BTEX							TRH							Amino Aliphatics				Amino Aromatics		Anilines					
				pH (Final)	pH (Initial)	TCLP Fluid	Benzene	Toluene	Ethylbenzene	Xylene (m & p)	Xylene (o)	Xylene Total	Total BTEX	C6-C10 Fraction (F1)	C6-C10 (F1 minus BTEX)	>C10-C16 Fraction (F2)	>C10-C16 Fraction (F2 minus Naphthalene)	>C16-C34 Fraction (F3)	>C34-C40 Fraction (F4)	>C10-C40 Fraction (Sum)	N-nitrosodiethylamine	N-nitrosodi-n-butylamine	N-nitrosodi-n-propylamine	N-Nitrosomethylethylamine	1-naphthylamine	N-Nitrosodiphenyl & Diphenylamine	2-nitroaniline	3-nitroaniline	4-chloroaniline	4-nitroaniline	2-methyl-5-nitroaniline	Aniline
				-	-	-	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL				0.1	0.1	1	0.2	0.5	0.5	0.5	0.5	0.5	0.2	10	10	50	50	100	100	50	0.5	0.5	0.5	0.5	0.5	1	1	1	0.5	0.5	0.5	0.5
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil																																
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand							3 | 3 | 3 | 3					230			260 | 370 | 630																	
NEPM 2013 Table 1B(5) Generic EIL - Comm/Ind																																
NEPM 2013 Table 1B(6) ESLs for Urban Res, Coarse Soil							50	85	70			105			180	120	120	300	2,800													
NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Coarse Soil														700		1,000		3,500	10,000													
NSW 2014 General Solid Waste CT1 (No Leaching)							10	288	600			1,000																				
NSW 2014 Restricted Solid Waste CT2 (No Leaching)							40	1,152	2,400			4,000																				
NSW 2014 General Solid Waste SCC1 (with leached)							18	518	1,080			1,800																				
NSW 2014 Restricted Solid Waste SCC2 (with leached)							72	2,073	4,320			7,200																				
NSW 2014 General Solid Waste TCLP1 (leached)																																
NSW 2014 Restricted Solid Waste TCLP2 (leached)																																
Field ID	**Matrix Type**	**Depth**	**Date**																													
BH01_0.2	**Soil**	**0.2**	**8/02/2022**	5.2	9.2	1	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<10	<10	<50	<50	<100	<100	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5
BH01_1.0	**Soil**	**1**	**8/02/2022**				<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<10	<10	<50	<50	<100	<100	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5
BH01_5.5	**Soil**	**5.5**	**8/02/2022**				<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<10	<10	<50	<50	<100	<100	<50												
BH02_0.1	**Soil**	**0.1**	**9/02/2022**	4.60	10.00	2	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<10	<10	<50	<50	180	<100	180	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5
BH02_1.0	**Soil**	**1**	**9/02/2022**	5.60	8.00	1	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<10	<10	<50	<50	140	<100	140	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5
BH02_2.0	**Soil**	**2**	**9/02/2022**				<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<10	<10	<50	<50	<100	<100	<50												
BH03_0.2	**Soil**	**0.2**	**9/02/2022**				<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<10	<10	<50	<50	<100	<100	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5
BH03_0.5	**Soil**	**0.5**	**9/02/2022**				<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<10	<10	<50	<50	250	<100	250												
BH03_1.5	**Soil**	**1.5**	**9/02/2022**				<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<10	<10	<50	<50	190	<100	190												
BH03_3.0	**Soil**	**3**	**9/02/2022**				<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<10	<10	<50	<50	<100	<100	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5
BH04_0.2	**Soil**	**0.2**	**10/02/2022**				<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<10	<10	<50	<50	<100	<100	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5
BH04_1.0	**Soil**	**1**	**10/02/2022**				<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<10	<10	<50	<50	<100	<100	<50												
BH04_2.0	**Soil**	**2**	**10/02/2022**				<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<10	<10	<50	<50	<100	<100	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5
BH05_0.2	**Soil**	**0.2**	**10/02/2022**				<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<10	<10	<50	<50	<100	<100	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5
BH05_1.5	**Soil**	**1.5**	**10/02/2022**				<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<10	<10	<50	<50	<100	<100	<50												
BH05_2.0	**Soil**	**2**	**10/02/2022**				<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<10	<10	<50	<50	<100	<100	<50												
BH06_0.4	**Soil**	**0.4**	**14/02/2022**				<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<10	<10	<50	<50	<100	<100	<50												
BH06_1.8	**Soil**	**1.8**	**14/02/2022**				<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<10	<10	<50	<50	<100	<100	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5
BH07_0.5	**Soil**	**0.5**	**11/02/2022**	5.1	7.1	1	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<10	<10	<50	<50	<100	<100	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5
BH07_1.3	**Soil**	**1.3**	**11/02/2022**	5.0	6.8	1	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<10	<10	<50	<50	<100	<100	<50												
BH08_0.2	**Soil**	**0.2**	**11/02/2022**	5.5	9.2	1	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<10	<10	<50	<50	130	<100	130	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5
BH08_0.5	**Soil**	**0.5**	**11/02/2022**	5.1	8.6	1	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<10	<10	<50	<50	<100	<100	<50												
BH08_1.5	**Soil**	**1.5**	**11/02/2022**	5.30	9.20	1	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<10	<10	<50	<50	210	<100	210												
BH09_0.3	**Soil**	**0.3**	**14/02/2022**				<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<10	<10	<50	<50	770	150	920	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5
BH09_1.0	**Soil**	**1**	**14/02/2022**				<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<10	<10	<50	<50	<100	<100	<50												
BH10_0.3	**Soil**	**0.3**	**11/02/2022**	5.1	9.2	1	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<10	<10	<50	<50	<100	<100	<50												
BH10_2.0	**Soil**	**2**	**11/02/2022**				<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<10	<10	<50	<50	<100	<100	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5
BH11_0.2	**Soil**	**0.2**	**11/02/2022**	4.8	9.2	2	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<10	<10	<50	<50	150	<100	150	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5
BH11_1.5	**Soil**	**1.5**	**11/02/2022**	5.2	7.6	1	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<10	<10	<50	<50	<100	<100	<50												
BH13_0.3	**Soil**	**0.3**	**11/02/2022**	5.1	5.7	1	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<10	<10	<50	<50	<100	<100	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5
BH13_1.5	**Soil**	**1.5**	**11/02/2022**	5.1	7.5	1	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<10	<10	<50	<50	160	<100	160												
BH14_0.2	**Soil**	**0.2**	**11/02/2022**	5.2	9.0	1	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<10	<10	<50	<50	<100	<100	<50												
BH14_0.9	**Soil**	**0.9**	**11/02/2022**	5.7	8.9	1	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<10	<10	<50	<50	<100	<100	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5
BH15_0.4	**Soil**	**0.4**	**14/02/2022**	5.00	7.00	1	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<10	<10	<50	<50	<100	<100	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5
BH15_1.5	**Soil**	**1.5**	**14/02/2022**				<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<10	<10	<50	<50	<100	<100	<50												
BH16_0.4	**Soil**	**0.4**	**14/02/2022**				<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<10	<10	<50	<50	<100	<100	<50												
BH16_1.8	**Soil**	**1.8**	**14/02/2022**				<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<10	<10	<50	<50	<100	<100	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5
BH17_0.4	**Soil**	**0.4**	**14/02/2022**	5.70	8.10	1	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<10	<10	<50	<50	460	<100	460												
BH17_1.5	**Soil**	**1.5**	**14/02/2022**				<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<10	<10	<50	<50	<100	<100	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5

Statistics

Number of Results				**18**	**18**	**18**	**43**	**43**	**43**	**43**	**43**	**43**	**43**	**43**	**43**	**43**	**43**	**43**	**43**	**20**	**20**	**20**	**20**	**20**	**20**	**20**	**20**	**20**	**20**	**20**	**20**	**20**
Number of Detects				**18**	**18**	**18**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**10**	**1**	**10**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Minimum Concentration				**4.6**	**5.7**	**1**	**<0.2**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.2**	**<10**	**<10**	**<50**	**<50**	**<100**	**<100**	**<50**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<1**	**<1**	**<1**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**
Minimum Detect				**4.6**	**5.7**	**1**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**130**	**150**	**130**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
Maximum Concentration				**5.7**	**10**	**2**	**<0.2**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.2**	**<10**	**<10**	**<50**	**<50**	**770**	**150**	**920**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<1**	**<1**	**<1**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**
Maximum Detect				**5.7**	**10**	**2**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**770**	**150**	**920**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
Average Concentration *				**5.2**	**8.3**	**1.1**	**0.1**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.1**	**5**	**5**	**25**	**25**	**100**	**52**	**84**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.5**	**0.5**	**0.5**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**
Median Concentration *				**5.15**	**8.75**	**1**	**0.1**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.1**	**5**	**5**	**25**	**25**	**50**	**50**	**25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.5**	**0.5**	**0.5**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**
Standard Deviation *				**0.29**	**1.1**	**0.32**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**131**	**15**	**157**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
95% UCL (Student's-t) *				**5.325**	**8.758**	**1.244**	**0.1**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.1**	**5**	**5**	**25**	**25**	**133.3**	**56.24**	**124.3**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.5**	**0.5**	**0.5**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**
% of Detects				**100**	**100**	**100**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**23**	**2**	**23**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
% of Non-Detects				**0**	**0**	**0**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**77**	**98**	**77**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**

* A Non Detect Multiplier of 0.5 has been applied.

Nationa

2013, NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil
2013, NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand
2013, NEPM 2013 Table 1B(6) ESLs for Urban Res, Coarse Soil
NEPM, NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Coarse Soil
NSW EPA, November 2014, NSW 2014 General Solid Waste CT1 (No Leaching)
NSW EPA, November 2014, NSW 2014 Restricted Solid Waste CT2 (No Leaching)
NSW EPA, November 2014, NSW 2014 General Solid Waste SCC1 (with leached)
NSW EPA, November 2014, NSW 2014 Restricted Solid Waste SCC2 (with leached)
NSW EPA, November 2014, NSW 2014 General Solid Waste TCLP1 (leached)
NSW EPA, November 2014, NSW 2014 Restricted Solid Waste TCLP2 (leached)

				Chlorinated Hydrocarbons																														
				1,1,1,2-tetrachloroethane	1,1,1-trichloroethane	1,1,2,2-tetrachloroethane	1,1,2-trichloroethane	1,1-dichloroethane	1,1-dichloroethene	1,1-dichloropropene	1,2,3-trichloropropane	1,2-dibromo-3-chloropropane	1,2-dichloroethane	1,2-dichloropropane	1,3-dichloropropane	2,2-dichloropropane	Bromodichloromethane	Bromoform	Carbon tetrachloride	Chlorodibromomethane	Chloroethane	Chloroform	Chloromethane	cis-1,2-dichloroethene	cis-1,3-dichloropropene	Dibromomethane	Hexachlorobutadiene	Hexachlorocyclopentadiene	Hexachloroethane	Trichloroethene	Tetrachloroethene	trans-1,2-dichloroethene	trans-1,3-dichloropropene	Vinyl chloride
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL				0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	5	0.5	5	0.5	0.5	0.5	0.5	2.5	0.5	0.5	0.5	0.5	0.5	5
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil																																		
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand																																		
NEPM 2013 Table 1B(5) Generic EIL - Comm/Ind																																		
NEPM 2013 Table 1B(6) ESLs for Urban Res, Coarse Soil																																		
NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Coarse Soil																																		
NSW 2014 General Solid Waste CT1 (No Leaching)				200	600	26	24		14				10						10			120								10	14			4
NSW 2014 Restricted Solid Waste CT2 (No Leaching)				800	2,400	104	96		56				40						40			480								40	56			16
NSW 2014 General Solid Waste SCC1 (with leached)				360	1,080	46.8	43.2		25				18						18			126								18	25.2			7.2
NSW 2014 Restricted Solid Waste SCC2 (with leached)				1,440	4,320	187.2	172.8		100				72						72			864								72	100.8			28.8
NSW 2014 General Solid Waste TCLP1 (leached)																																		
NSW 2014 Restricted Solid Waste TCLP2 (leached)																																		
Field ID	**Matrix Type**	**Depth**	**Date**																															
BH01_0.2	**Soil**	**0.2**	**8/02/2022**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5
BH01_1.0	**Soil**	**1**	**8/02/2022**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5
BH01_5.5	**Soil**	**5.5**	**8/02/2022**																															
BH02_0.1	**Soil**	**0.1**	**9/02/2022**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5
BH02_1.0	**Soil**	**1**	**9/02/2022**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5
BH02_2.0	**Soil**	**2**	**9/02/2022**																															
BH03_0.2	**Soil**	**0.2**	**9/02/2022**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5
BH03_0.5	**Soil**	**0.5**	**9/02/2022**																															
BH03_1.5	**Soil**	**1.5**	**9/02/2022**																															
BH03_3.0	**Soil**	**3**	**9/02/2022**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5
BH04_0.2	**Soil**	**0.2**	**10/02/2022**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5
BH04_1.0	**Soil**	**1**	**10/02/2022**																															
BH04_2.0	**Soil**	**2**	**10/02/2022**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5
BH05_0.2	**Soil**	**0.2**	**10/02/2022**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5
BH05_1.5	**Soil**	**1.5**	**10/02/2022**																															
BH05_2.0	**Soil**	**2**	**10/02/2022**																															
BH06_0.4	**Soil**	**0.4**	**14/02/2022**																															
BH06_1.8	**Soil**	**1.8**	**14/02/2022**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5
BH07_0.5	**Soil**	**0.5**	**11/02/2022**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5
BH07_1.3	**Soil**	**1.3**	**11/02/2022**																															
BH08_0.2	**Soil**	**0.2**	**11/02/2022**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5
BH08_0.5	**Soil**	**0.5**	**11/02/2022**																															
BH08_1.5	**Soil**	**1.5**	**11/02/2022**																															
BH09_0.3	**Soil**	**0.3**	**14/02/2022**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5
BH09_1.0	**Soil**	**1**	**14/02/2022**																															
BH10_0.3	**Soil**	**0.3**	**11/02/2022**																															
BH10_2.0	**Soil**	**2**	**11/02/2022**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5
BH11_0.2	**Soil**	**0.2**	**11/02/2022**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5
BH11_1.5	**Soil**	**1.5**	**11/02/2022**																															
BH13_0.3	**Soil**	**0.3**	**11/02/2022**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5
BH13_1.5	**Soil**	**1.5**	**11/02/2022**																															
BH14_0.2	**Soil**	**0.2**	**11/02/2022**																															
BH14_0.9	**Soil**	**0.9**	**11/02/2022**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5
BH15_0.4	**Soil**	**0.4**	**14/02/2022**	<0.5	<0.5	<0.5	1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5
BH15_1.5	**Soil**	**1.5**	**14/02/2022**																															
BH16_0.4	**Soil**	**0.4**	**14/02/2022**																															
BH16_1.8	**Soil**	**1.8**	**14/02/2022**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5
BH17_0.4	**Soil**	**0.4**	**14/02/2022**																															
BH17_1.5	**Soil**	**1.5**	**14/02/2022**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5

Statistics

Number of Results				**20**	**20**	**20**	**20**	**20**	**20**	**20**	**20**	**20**	**20**	**20**	**20**	**20**	**20**	**20**	**20**	**20**	**20**	**20**	**20**	**20**	**20**	**20**	**20**	**20**	**20**	**20**	**20**	**20**	**20**	**20**
Number of Detects				**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Minimum Concentration				**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<5**	**<0.5**	**<5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<2.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<5**
Minimum Detect				**ND**	**ND**	**ND**	**1**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
Maximum Concentration				**<0.5**	**<0.5**	**<0.5**	**1**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<5**	**<0.5**	**<5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<2.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<5**
Maximum Detect				**ND**	**ND**	**ND**	**1**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
Average Concentration *				**0.25**	**0.25**	**0.25**	**0.29**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**2.5**	**0.25**	**2.5**	**0.25**	**0.25**	**0.25**	**0.25**	**1.2**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**2.5**
Median Concentration *				**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**2.5**	**0.25**	**2.5**	**0.25**	**0.25**	**0.25**	**0.25**	**1.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**2.5**
Standard Deviation *				**0**	**0**	**0**	**0.17**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
95% UCL (Student's-t) *				**0.25**	**0.25**	**0.25**	**0.352**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**2.5**	**0.25**	**2.5**	**0.25**	**0.25**	**0.25**	**0.25**	**1.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**2.5**
% of Detects				**0**	**0**	**0**	**5**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
% of Non-Detects				**100**	**100**	**100**	**95**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**

* A Non Detect Multiplier of 0.5 has been applied.

Nationa

2013, NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil
2013, NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand
2013, NEPM 2013 Table 1B(6) ESLs for Urban Res, Coarse Soil
NEPM, NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Coarse Soil
NSW EPA, November 2014, NSW 2014 General Solid Waste CT1 (No Leaching)
NSW EPA, November 2014, NSW 2014 Restricted Solid Waste CT2 (No Leaching)
NSW EPA, November 2014, NSW 2014 General Solid Waste SCC1 (with leached)
NSW EPA, November 2014, NSW 2014 Restricted Solid Waste SCC2 (with leached)
NSW EPA, November 2014, NSW 2014 General Solid Waste TCLP1 (leached)
NSW EPA, November 2014, NSW 2014 Restricted Solid Waste TCLP2 (leached)

				Explosives				MAH										Metals										
				1,3,5-Trinitrobenzene	2,4-Dinitrotoluene	2,6-dinitrotoluene	Nitrobenzene	1,2,4-trimethylbenzene	1,3,5-trimethylbenzene	Isopropylbenzene	n-butylbenzene	n-propylbenzene	p-isopropyltoluene	sec-butylbenzene	Styrene	tert-butylbenzene	tert-butylbenzene	Arsenic	Arsenic (filtered)	Cadmium	Chromium (III+VI)	Copper	Lead	Lead (filtered)	Mercury	Nickel	Nickel (filtered)	Zinc
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	µg/L	mg/kg	mg/L	mg/kg	mg/kg	mg/kg	mg/kg	mg/L	mg/kg	mg/kg	mg/L	mg/kg
EQL				0.5	1	1	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	5	5	0.001	1	2	5	5	0.001	0.1	2	0.001	5
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil																		3,000		900		240,000	1,500		730	6,000		400,000
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand																												
NEPM 2013 Table 1B(5) Generic EIL - Comm/Ind																		160										
NEPM 2013 Table 1B(6) ESLs for Urban Res, Coarse Soil																												
NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Coarse Soil																												
NSW 2014 General Solid Waste CT1 (No Leaching)					2.6		40								60			100		20			100		4	40		
NSW 2014 Restricted Solid Waste CT2 (No Leaching)					10.4		160								240			400		80			400		16	160		
NSW 2014 General Solid Waste SCC1 (with leached)					4.68		72								108			500		100			1,500		50	1,050		
NSW 2014 Restricted Solid Waste SCC2 (with leached)					18.7		288								432			2,000		400			6,000		200	4,200		
NSW 2014 General Solid Waste TCLP1 (leached)																			5					5			2	
NSW 2014 Restricted Solid Waste TCLP2 (leached)																			20					20			8	
Field ID	**Matrix Type**	**Depth**	**Date**																									
BH01_0.2	**Soil**	**0.2**	**8/02/2022**	<0.5	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		17		<1	15	293	772	0.6	0.3	37		242
BH01_1.0	**Soil**	**1**	**8/02/2022**	<0.5	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		<5		<1	3	18	36		<0.1	3		46
BH01_5.5	**Soil**	**5.5**	**8/02/2022**															<5		<1	14	12	5		<0.1	8		34
BH02_0.1	**Soil**	**0.1**	**9/02/2022**	<0.5	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		7		<1	15	717	819	1.0	0.2	85	0.5	1,330
BH02_1.0	**Soil**	**1**	**9/02/2022**	<0.5	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		9		<1	7	106	245	0.1	0.2	19		320
BH02_2.0	**Soil**	**2**	**9/02/2022**															<5		<1	3	18	27		<0.1	3		84
BH03_0.2	**Soil**	**0.2**	**9/02/2022**	<0.5	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		85		28	79	3,510	196,000		<0.1	139		13,900
BH03_0.5	**Soil**	**0.5**	**9/02/2022**															29		9	48	493	125,000		<0.1	58		6,280
BH03_1.5	**Soil**	**1.5**	**9/02/2022**															41		12	37	382	6,590		0.2	71		1,640
BH03_3.0	**Soil**	**3**	**9/02/2022**	<0.5	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		<5		<1	<2	<5	39		<0.1	<2		11
BH04_0.2	**Soil**	**0.2**	**10/02/2022**	<0.5	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		<5		<1	<2	19	52		<0.1	<2		44
BH04_1.0	**Soil**	**1**	**10/02/2022**															<5		<1	<2	6	10		<0.1	<2		10
BH04_2.0	**Soil**	**2**	**10/02/2022**	<0.5	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		<5		<1	<2	<5	<5		<0.1	<2		23
BH05_0.2	**Soil**	**0.2**	**10/02/2022**	<0.5	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		18		1	36	120	85		0.2	27		103
BH05_1.5	**Soil**	**1.5**	**10/02/2022**															<5		<1	3	12	26		<0.1	2		31
BH05_2.0	**Soil**	**2**	**10/02/2022**															<5		<1	<2	<5	<5		<0.1	<2		<5
BH06_0.4	**Soil**	**0.4**	**14/02/2022**															<5		<1	4	101	58		<0.1	5		77
BH06_1.8	**Soil**	**1.8**	**14/02/2022**	<0.5	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		<5		<1	<2	<5	<5		<0.1	<2		25
BH07_0.5	**Soil**	**0.5**	**11/02/2022**	<0.5	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		<5		<1	4	32	145	0.1	0.3	2		98
BH07_1.3	**Soil**	**1.3**	**11/02/2022**															<5		<1	<2	7	216	0.2	<0.1	<2		61
BH08_0.2	**Soil**	**0.2**	**11/02/2022**	<0.5	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		10		11	28	130	16,500	275	0.5	15		1,650
BH08_0.5	**Soil**	**0.5**	**11/02/2022**															<5		9	4	22	1,160	23.7	0.2	2		429
BH08_1.5	**Soil**	**1.5**	**11/02/2022**															10		10	27	177	4,920	65.3	1.9	8		1,690
BH09_0.3	**Soil**	**0.3**	**14/02/2022**	<0.5	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		12		2	33	670	694		0.3	38		1,720
BH09_1.0	**Soil**	**1**	**14/02/2022**															<5		<1	2	16	20		<0.1	<2		44
BH10_0.3	**Soil**	**0.3**	**11/02/2022**															5		<1	21	29	444	1.6	0.8	5		121
BH10_2.0	**Soil**	**2**	**11/02/2022**	<0.5	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		<5		<1	3	6	25		<0.1	<2		45
BH11_0.2	**Soil**	**0.2**	**11/02/2022**	<0.5	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		16		3	38	318	1,200	0.6	0.4	24		2,580
BH11_1.5	**Soil**	**1.5**	**11/02/2022**															<5		<1	9	57	197	0.2	0.2	6		445
BH13_0.3	**Soil**	**0.3**	**11/02/2022**	<0.5	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		<5		3	11	123	2,020	207	0.2	9		1,020
BH13_1.5	**Soil**	**1.5**	**11/02/2022**															6		3	9	127	268	0.2	0.7	12		1,450
BH14_0.2	**Soil**	**0.2**	**11/02/2022**															10		12	10	99	13,000	250	0.6	16		1,260
BH14_0.9	**Soil**	**0.9**	**11/02/2022**	<0.5	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		148	0.4	9	8	281	207,000	2,190	0.6	10		1,300
BH15_0.4	**Soil**	**0.4**	**14/02/2022**	<0.5	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		<5		<1	3	194	153	0.5	0.3	6		235
BH15_1.5	**Soil**	**1.5**	**14/02/2022**															<5		<1	3	<5	6		<0.1	<2		60
BH16_0.4	**Soil**	**0.4**	**14/02/2022**															10		31	7	59	19,600		0.2	7		1,330
BH16_1.8	**Soil**	**1.8**	**14/02/2022**	<0.5	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		<5		<1	<2	<5	495		<0.1	<2		23
BH17_0.4	**Soil**	**0.4**	**14/02/2022**															45		8	65	24,800	1,380	0.2	1.1	89	0.4	13,000
BH17_1.5	**Soil**	**1.5**	**14/02/2022**	<0.5	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		<5		2	<2	112	19		<0.1	9		395

Statistics

Number of Results	**20**	**20**	**20**	**20**	**20**	**20**	**20**	**20**	**20**	**20**	**20**	**20**	**20**	**5**	**43**	**8**	**43**	**43**	**43**	**43**	**24**	**43**	**43**	**9**	**43**
Number of Detects	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**19**	**7**	**17**	**32**	**36**	**39**	**18**	**21**	**30**	**8**	**42**
Minimum Concentration	**<0.5**	**<1**	**<1**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<5**	**5**	**0.001**	**1**	**2**	**<5**	**5**	**0.001**	**<0.1**	**2**	**<0.001**	**<5**
Minimum Detect	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**5**	**0.001**	**1**	**2**	**6**	**5**	**0.001**	**0.2**	**2**	**0.055**	**7**
Maximum Concentration	**<0.5**	**<1**	**<1**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<5**	**148**	**0.4**	**31**	**79**	**24,800**	**207,000**	**2,190**	**1.9**	**139**	**0.5**	**13,900**
Maximum Detect	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**148**	**0.4**	**31**	**79**	**24,800**	**207,000**	**2,190**	**1.9**	**139**	**0.5**	**13,900**
Average Concentration *	**0.25**	**0.5**	**0.5**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**2.5**	**13**	**0.053**	**4.1**	**14**	**786**	**17,896**	**126**	**0.25**	**18**	**0.14**	**1,411**
Median Concentration *	**0.25**	**0.5**	**0.5**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**2.5**	**2.5**	**0.003**	**0.5**	**5**	**59**	**216**	**0.2**	**0.05**	**6**	**0.067**	**235**
Standard Deviation *	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**26**	**0.14**	**6.9**	**19**	**3,789**	**51,852**	**447**	**0.35**	**30**	**0.18**	**3,069**
95% UCL (Student's-t) *	**0.25**	**0.5**	**0.5**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**2.5**	**20.09**	**0.147**	**5.827**	**18.84**	**1,757**	**31,196**	**282.2**	**0.341**	**25.85**	**0.254**	**2,199**
% of Detects	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**44**	**88**	**40**	**74**	**84**	**91**	**75**	**49**	**70**	**89**	**98**
% of Non-Detects	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**56**	**12**	**60**	**26**	**16**	**9**	**25**	**51**	**30**	**11**	**2**

* A Non Detect Multiplier of 0.5 has been applied.

Nationa

2013, NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil
2013, NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand
2013, NEPM 2013 Table 1B(6) ESLs for Urban Res, Coarse Soil
NEPM, NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Coarse Soil
NSW EPA, November 2014, NSW 2014 General Solid Waste CT1 (No Leaching)
NSW EPA, November 2014, NSW 2014 Restricted Solid Waste CT2 (No Leaching)
NSW EPA, November 2014, NSW 2014 General Solid Waste SCC1 (with leached)
NSW EPA, November 2014, NSW 2014 Restricted Solid Waste SCC2 (with leached)
NSW EPA, November 2014, NSW 2014 General Solid Waste TCLP1 (leached)
NSW EPA, November 2014, NSW 2014 Restricted Solid Waste TCLP2 (leached)

				Nitroaromatics			PAH																									
				2-Picoline	4-aminobiphenyl	Pentachloronitrobenzene	Benzo(b+j+k)fluoranthene	2-chloronaphthalene	2-methylnaphthalene	3-methylcholanthrene	7,12-dimethylbenz(a)anthracene	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a) pyrene	Benzo(a) pyrene	Benzo(a)Pyrene TEQ (zero)	Benzo(a)Pyrene TEQ (Half LOR)	Benzo(a)Pyrene TEQ (LOR)	Benzo(b+j)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Naphthalene	Phenanthrene	Pyrene	PAHs (Sum of total)
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	µg/L	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL				0.5	0.5	0.5	1	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil																																4,000
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand																																
NEPM 2013 Table 1B(5) Generic EIL - Comm/Ind																													370			
NEPM 2013 Table 1B(6) ESLs for Urban Res, Coarse Soil																0.7		40	40	40												
NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Coarse Soil																																
NSW 2014 General Solid Waste CT1 (No Leaching)																0.8																200
NSW 2014 Restricted Solid Waste CT2 (No Leaching)																3.2																800
NSW 2014 General Solid Waste SCC1 (with leached)																10																200
NSW 2014 Restricted Solid Waste SCC2 (with leached)																23																800
NSW 2014 General Solid Waste TCLP1 (leached)																	40															
NSW 2014 Restricted Solid Waste TCLP2 (leached)																	160															
Field ID	**Matrix Type**	**Depth**	**Date**																													
BH01_0.2	**Soil**	**0.2**	**8/02/2022**	<0.5	<0.5	<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.4	1.5	<0.5	2.0	2.3	2.5	2.0	0.9	0.8	1.2	<0.5	1.9	<0.5	1.0	<0.5	0.9	2.0	13.6
BH01_1.0	**Soil**	**1**	**8/02/2022**	<0.5	<0.5	<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	<0.5	<0.5	<0.5	<0.5	0.5	1.1
BH01_5.5	**Soil**	**5.5**	**8/02/2022**									<0.5	<0.5	<0.5	<0.5	<0.5		<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH02_0.1	**Soil**	**0.1**	**9/02/2022**	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH02_1.0	**Soil**	**1**	**9/02/2022**	<0.5	<0.5	<0.5	1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	0.7		0.8	1.2	1.5	0.9	<0.5	0.6	<0.5	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	5.4
BH02_2.0	**Soil**	**2**	**9/02/2022**									<0.5	<0.5	<0.5	<0.5	<0.5		<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH03_0.2	**Soil**	**0.2**	**9/02/2022**	<0.5	<0.5	<0.5	3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.7	1.6	1.9		2.5	2.7	3.0	1.4	1.3	<0.5	1.4	<0.5	3.2	<0.5	1.1	<0.5	2.1	3.2	19.5
BH03_0.5	**Soil**	**0.5**	**9/02/2022**									<0.5	<0.5	0.5	1.0	1.0					1.2	0.8	<0.5	0.9	<0.5	2.0	<0.5	0.6	<0.5	1.4	2.0	11.4
BH03_1.5	**Soil**	**1.5**	**9/02/2022**									<0.5	<0.5	<0.5	1.1	1.3					1.5	0.9	0.6	1.0	<0.5	1.9	<0.5	0.7	<0.5	1.0	1.9	11.9
BH03_3.0	**Soil**	**3**	**9/02/2022**	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH04_0.2	**Soil**	**0.2**	**10/02/2022**	<0.5	<0.5	<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH04_1.0	**Soil**	**1**	**10/02/2022**									<0.5	<0.5	<0.5	<0.5	<0.5		<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH04_2.0	**Soil**	**2**	**10/02/2022**	<0.5	<0.5	<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH05_0.2	**Soil**	**0.2**	**10/02/2022**	<0.5	<0.5	<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH05_1.5	**Soil**	**1.5**	**10/02/2022**									<0.5	<0.5	<0.5	<0.5	<0.5		<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH05_2.0	**Soil**	**2**	**10/02/2022**									<0.5	<0.5	<0.5	<0.5	<0.5		<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH06_0.4	**Soil**	**0.4**	**14/02/2022**									<0.5	<0.5	<0.5	<0.5	<0.5		<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH06_1.8	**Soil**	**1.8**	**14/02/2022**	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH07_0.5	**Soil**	**0.5**	**11/02/2022**	<0.5	<0.5	<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	0.7		0.8	1.1	1.4	0.8	<0.5	<0.5	<0.5	<0.5	1.0	<0.5	<0.5	<0.5	<0.5	1.0	4.1
BH07_1.3	**Soil**	**1.3**	**11/02/2022**									<0.5	<0.5	<0.5	<0.5	<0.5		<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH08_0.2	**Soil**	**0.2**	**11/02/2022**	<0.5	<0.5	<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.6	1.8	<0.5	2.4	2.6	2.9	2.1	1.2	0.9	1.3	<0.5	2.8	<0.5	1.1	<0.5	1.3	2.7	16.8
BH08_0.5	**Soil**	**0.5**	**11/02/2022**									<0.5	<0.5	<0.5	<0.5	0.5	<0.5	0.6	0.9	1.2	0.5	<0.5	<0.5	<0.5	<0.5	1.0	<0.5	<0.5	<0.5	0.6	1.0	3.6
BH08_1.5	**Soil**	**1.5**	**11/02/2022**									<0.5	0.7	0.8	3.6	4.1	<0.5	6.0	6.0	6.0	4.6	2.5	1.9	3.0	0.6	6.2	<0.5	2.3	<0.5	2.1	6.1	38.5
BH09_0.3	**Soil**	**0.3**	**14/02/2022**	<0.5	<0.5	<0.5	2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.5	1.2		1.6	1.9	2.1	1.6	0.6	0.5	1.4	<0.5	3.8	<0.5	0.5	<0.5	3.3	3.7	18.7
BH09_1.0	**Soil**	**1**	**14/02/2022**									<0.5	<0.5	<0.5	<0.5	<0.5		<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH10_0.3	**Soil**	**0.3**	**11/02/2022**									<0.5	<0.5	<0.5	0.5	0.7		0.9	1.2	1.5	1.0	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	<0.5	<0.5	0.5	3.9
BH10_2.0	**Soil**	**2**	**11/02/2022**	<0.5	<0.5	<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH11_0.2	**Soil**	**0.2**	**11/02/2022**	<0.5	<0.5	<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.1	1.4	<0.5	1.8	2.1	2.4	1.7	0.9	0.6	0.9	<0.5	2.1	<0.5	1.0	<0.5	0.6	2.0	12.3
BH11_1.5	**Soil**	**1.5**	**11/02/2022**									<0.5	<0.5	<0.5	<0.5	<0.5		<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH13_0.3	**Soil**	**0.3**	**11/02/2022**	<0.5	<0.5	<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	0.7		0.8	1.1	1.4	0.8	0.5	<0.5	<0.5	<0.5	1.1	<0.5	<0.5	<0.5	0.8	1.0	5.5
BH13_1.5	**Soil**	**1.5**	**11/02/2022**									<0.5	0.6	0.8	2.3	2.2	<0.5	2.9	3.2	3.4	2.6	1.2	0.9	1.8	<0.5	4.1	<0.5	1.1	<0.5	2.5	4.0	24.1
BH14_0.2	**Soil**	**0.2**	**11/02/2022**									<0.5	<0.5	<0.5	1.1	1.2	<0.5	1.6	1.8	2.1	1.5	0.8	<0.5	0.9	<0.5	2.1	<0.5	0.8	<0.5	1.2	2.0	11.6
BH14_0.9	**Soil**	**0.9**	**11/02/2022**	<0.5	<0.5	<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	0.7	<0.5	<0.5	<0.5	<0.5	0.6	1.3
BH15_0.4	**Soil**	**0.4**	**14/02/2022**	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH15_1.5	**Soil**	**1.5**	**14/02/2022**									<0.5	<0.5	<0.5	<0.5	<0.5		<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH16_0.4	**Soil**	**0.4**	**14/02/2022**									<0.5	<0.5	<0.5	<0.5	0.5					0.8	0.9	<0.5	<0.5	<0.5	0.5	<0.5	0.7	<0.5	<0.5	0.6	4.0
BH16_1.8	**Soil**	**1.8**	**14/02/2022**	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH17_0.4	**Soil**	**0.4**	**14/02/2022**									<0.5	<0.5	<0.5	<0.5	<0.5		<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH17_1.5	**Soil**	**1.5**	**14/02/2022**	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5

Statistics

Number of Results	**20**	**20**	**20**	**9**	**20**	**20**	**20**	**20**	**43**	**43**	**45**	**46**	**46**	**15**				**43**	**45**	**43**	**46**	**43**	**46**	**43**	**45**	**43**	**45**	**46**	**46**
Number of Detects	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**2**	**7**	**18**	**20**	**0**				**17**	**16**	**7**	**15**	**1**	**22**	**0**	**14**	**0**	**14**	**23**	**23**
Minimum Concentration	**<0.5**	**<0.5**	**<0.5**	**1**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**0.5**	**0.5**	**0.5**	**<0.5**				**0.5**	**0.5**	**0.5**	**<0.5**	**<0.5**	**0.5**	**<0.5**	**0.5**	**<0.5**	**<0.5**	**0.5**	**<0.5**
Minimum Detect	**ND**	**ND**	**ND**	**1**	**ND**	**ND**	**ND**	**ND**	**ND**	**0.6**	**0.5**	**0.5**	**0.5**	**ND**				**0.5**	**0.5**	**0.5**	**0.6**	**0.6**	**0.5**	**ND**	**0.5**	**ND**	**0.6**	**0.5**	**1.1**
Maximum Concentration	**<0.5**	**<0.5**	**<0.5**	**3**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**0.7**	**0.8**	**3.6**	**4.1**	**<0.5**				**4.6**	**2.5**	**1.9**	**3**	**0.6**	**6.2**	**<0.5**	**2.3**	**<0.5**	**3.3**	**6.1**	**38.5**
Maximum Detect	**ND**	**ND**	**ND**	**3**	**ND**	**ND**	**ND**	**ND**	**ND**	**0.7**	**0.8**	**3.6**	**4.1**	**ND**				**4.6**	**2.5**	**1.9**	**3**	**0.6**	**6.2**	**ND**	**2.3**	**ND**	**3.3**	**6.1**	**38.5**
Average Concentration *	**0.25**	**0.25**	**0.25**	**1**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.27**	**0.31**	**0.64**	**0.69**	**0.25**				**0.75**	**0.5**	**0.35**	**0.56**	**0.26**	**1.1**	**0.25**	**0.46**	**0.25**	**0.67**	**1.1**	**5.6**
Median Concentration *	**0.25**	**0.25**	**0.25**	**0.5**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**				**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.375**	**0.675**
Standard Deviation *	**0**	**0**	**0**	**0.9**	**0**	**0**	**0**	**0**	**0**	**0.086**	**0.16**	**0.68**	**0.75**	**0**				**0.87**	**0.44**	**0.3**	**0.56**	**0.053**	**1.3**	**0**	**0.4**	**0**	**0.71**	**1.3**	**8.4**
95% UCL (Student's-t) *	**0.25**	**0.25**	**0.25**	**1.559**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.291**	**0.353**	**0.812**	**0.871**	**0.25**				**0.976**	**0.608**	**0.43**	**0.699**	**0.272**	**1.449**	**0.25**	**0.556**	**0.25**	**0.874**	**1.439**	**7.649**
% of Detects	**0**	**0**	**0**	**33**	**0**	**0**	**0**	**0**	**0**	**5**	**16**	**39**	**43**	**0**				**40**	**36**	**16**	**33**	**2**	**48**	**0**	**31**	**0**	**31**	**50**	**50**
% of Non-Detects	**100**	**100**	**100**	**67**	**100**	**100**	**100**	**100**	**100**	**95**	**84**	**61**	**57**	**100**				**60**	**64**	**84**	**67**	**98**	**52**	**100**	**69**	**100**	**69**	**50**	**50**

* A Non Detect Multiplier of 0.5 has been applied.

Nationa

2013, NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil
2013, NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand
2013, NEPM 2013 Table 1B(6) ESLs for Urban Res, Coarse Soil
NEPM, NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Coarse Soil
NSW EPA, November 2014, NSW 2014 General Solid Waste CT1 (No Leaching)
NSW EPA, November 2014, NSW 2014 Restricted Solid Waste CT2 (No Leaching)
NSW EPA, November 2014, NSW 2014 General Solid Waste SCC1 (with leached)
NSW EPA, November 2014, NSW 2014 Restricted Solid Waste SCC2 (with leached)
NSW EPA, November 2014, NSW 2014 General Solid Waste TCLP1 (leached)
NSW EPA, November 2014, NSW 2014 Restricted Solid Waste TCLP2 (leached)

				SVOCs		TPH				
				2-(acetylamino) fluorene	3,3-Dichlorobenzidine	C6-C9 Fraction	C10-C14 Fraction	C15-C28 Fraction	C29-C36 Fraction	C10-C36 Fraction (Sum)
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL				0.5	0.5	10	50	100	100	50
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil										
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand										
NEPM 2013 Table 1B(5) Generic EIL - Comm/Ind										
NEPM 2013 Table 1B(6) ESLs for Urban Res, Coarse Soil										
NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Coarse Soil										
NSW 2014 General Solid Waste CT1 (No Leaching)						650				10,000
NSW 2014 Restricted Solid Waste CT2 (No Leaching)						2,600				40,000
NSW 2014 General Solid Waste SCC1 (with leached)						650				10,000
NSW 2014 Restricted Solid Waste SCC2 (with leached)						2,600				40,000
NSW 2014 General Solid Waste TCLP1 (leached)										
NSW 2014 Restricted Solid Waste TCLP2 (leached)										
Field ID	**Matrix Type**	**Depth**	**Date**							
BH01_0.2	**Soil**	**0.2**	**8/02/2022**	<0.5	<0.5	<10	<50	<100	<100	<50
BH01_1.0	**Soil**	**1**	**8/02/2022**	<0.5	<0.5	<10	<50	<100	<100	<50
BH01_5.5	**Soil**	**5.5**	**8/02/2022**			<10	<50	<100	<100	<50
BH02_0.1	**Soil**	**0.1**	**9/02/2022**	<0.5	<0.5	<10	<50	130	<100	130
BH02_1.0	**Soil**	**1**	**9/02/2022**	<0.5	<0.5	<10	<50	<100	<100	<50
BH02_2.0	**Soil**	**2**	**9/02/2022**			<10	<50	<100	<100	<50
BH03_0.2	**Soil**	**0.2**	**9/02/2022**	<0.5	<0.5	<10	<50	<100	<100	<50
BH03_0.5	**Soil**	**0.5**	**9/02/2022**			<10	<50	160	130	290
BH03_1.5	**Soil**	**1.5**	**9/02/2022**			<10	<50	120	110	230
BH03_3.0	**Soil**	**3**	**9/02/2022**	<0.5	<0.5	<10	<50	<100	<100	<50
BH04_0.2	**Soil**	**0.2**	**10/02/2022**	<0.5	<0.5	<10	<50	<100	<100	<50
BH04_1.0	**Soil**	**1**	**10/02/2022**			<10	<50	<100	<100	<50
BH04_2.0	**Soil**	**2**	**10/02/2022**	<0.5	<0.5	<10	<50	<100	<100	<50
BH05_0.2	**Soil**	**0.2**	**10/02/2022**	<0.5	<0.5	<10	<50	<100	<100	<50
BH05_1.5	**Soil**	**1.5**	**10/02/2022**			<10	<50	<100	<100	<50
BH05_2.0	**Soil**	**2**	**10/02/2022**			<10	<50	<100	<100	<50
BH06_0.4	**Soil**	**0.4**	**14/02/2022**			<10	<50	<100	<100	<50
BH06_1.8	**Soil**	**1.8**	**14/02/2022**	<0.5	<0.5	<10	<50	<100	<100	<50
BH07_0.5	**Soil**	**0.5**	**11/02/2022**	<0.5	<0.5	<10	<50	<100	<100	<50
BH07_1.3	**Soil**	**1.3**	**11/02/2022**			<10	<50	<100	<100	<50
BH08_0.2	**Soil**	**0.2**	**11/02/2022**	<0.5	<0.5	<10	<50	<100	<100	<50
BH08_0.5	**Soil**	**0.5**	**11/02/2022**			<10	<50	<100	<100	<50
BH08_1.5	**Soil**	**1.5**	**11/02/2022**			<10	<50	140	130	270
BH09_0.3	**Soil**	**0.3**	**14/02/2022**	<0.5	<0.5	<10	<50	490	360	850
BH09_1.0	**Soil**	**1**	**14/02/2022**			<10	<50	<100	<100	<50
BH10_0.3	**Soil**	**0.3**	**11/02/2022**			<10	<50	<100	<100	<50
BH10_2.0	**Soil**	**2**	**11/02/2022**	<0.5	<0.5	<10	<50	<100	<100	<50
BH11_0.2	**Soil**	**0.2**	**11/02/2022**	<0.5	<0.5	<10	<50	<100	<100	<50
BH11_1.5	**Soil**	**1.5**	**11/02/2022**			<10	<50	<100	<100	<50
BH13_0.3	**Soil**	**0.3**	**11/02/2022**	<0.5	<0.5	<10	<50	<100	<100	<50
BH13_1.5	**Soil**	**1.5**	**11/02/2022**			<10	<50	100	<100	100
BH14_0.2	**Soil**	**0.2**	**11/02/2022**			<10	<50	<100	<100	<50
BH14_0.9	**Soil**	**0.9**	**11/02/2022**	<0.5	<0.5	<10	<50	<100	<100	<50
BH15_0.4	**Soil**	**0.4**	**14/02/2022**	<0.5	<0.5	<10	<50	<100	<100	<50
BH15_1.5	**Soil**	**1.5**	**14/02/2022**			<10	<50	<100	<100	<50
BH16_0.4	**Soil**	**0.4**	**14/02/2022**			<10	<50	<100	<100	<50
BH16_1.8	**Soil**	**1.8**	**14/02/2022**	<0.5	<0.5	<10	<50	<100	<100	<50
BH17_0.4	**Soil**	**0.4**	**14/02/2022**			<10	<50	350	140	490
BH17_1.5	**Soil**	**1.5**	**14/02/2022**	<0.5	<0.5	<10	<50	<100	<100	<50

Statistics

Number of Results	**20**	**20**	**43**	**43**	**43**	**43**	**43**
Number of Detects	**0**	**0**	**0**	**0**	**7**	**5**	**7**
Minimum Concentration	**<0.5**	**<0.5**	**<10**	**<50**	**100**	**<100**	**<50**
Minimum Detect	**ND**	**ND**	**ND**	**ND**	**100**	**110**	**100**
Maximum Concentration	**<0.5**	**<0.5**	**<10**	**<50**	**490**	**360**	**850**
Maximum Detect	**ND**	**ND**	**ND**	**ND**	**490**	**360**	**850**
Average Concentration *	**0.25**	**0.25**	**5**	**25**	**77**	**64**	**76**
Median Concentration *	**0.25**	**0.25**	**5**	**25**	**50**	**50**	**25**
Standard Deviation *	**0**	**0**	**0**	**0**	**83**	**52**	**152**
95% UCL (Student's-t) *	**0.25**	**0.25**	**5**	**25**	**97.73**	**77.64**	**114.9**
% of Detects	**0**	**0**	**0**	**0**	**16**	**12**	**16**
% of Non-Detects	**100**	**100**	**100**	**100**	**84**	**88**	**84**

* A Non Detect Multiplier of 0.5 has been applied.

Nationa

2013, NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil
2013, NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand
2013, NEPM 2013 Table 1B(6) ESLs for Urban Res, Coarse Soil
NEPM, NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Coarse Soil
NSW EPA, November 2014, NSW 2014 General Solid Waste CT1 (No Leaching)
NSW EPA, November 2014, NSW 2014 Restricted Solid Waste CT2 (No Leaching)
NSW EPA, November 2014, NSW 2014 General Solid Waste SCC1 (with leached)
NSW EPA, November 2014, NSW 2014 Restricted Solid Waste SCC2 (with leached)
NSW EPA, November 2014, NSW 2014 General Solid Waste TCLP1 (leached)
NSW EPA, November 2014, NSW 2014 Restricted Solid Waste TCLP2 (leached)

EP RISK

				Phenols												Herbicides
				3&4-Methylphenol (m&p-cresol)	2,4,5-Trichlorophenol	2,4,6-Trichlorophenol	2,4-Dichlorophenol	2,4-Dimethylphenol	2,6-Dichlorophenol	2-Chlorophenol	2-Methylphenol	2-Nitrophenol	4-chloro-3-methylphenol	Pentachlorophenol	Phenol	Pronamide
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL				0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	1	0.5	0.5
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil														660	240,000	
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand																
NEPM 2013 Table 1B(5) Generic EIL - Comm/Ind																
NEPM 2013 Table 1B(6) ESLs for Urban Res, Coarse Soil																
NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Coarse Soil																
NSW 2014 General Solid Waste CT1 (No Leaching)					8,000	40					4,000					
NSW 2014 Restricted Solid Waste CT2 (No Leaching)					32,000	160					16,000					
NSW 2014 General Solid Waste SCC1 (with leached)					14,400	72					7,200				518	
NSW 2014 Restricted Solid Waste SCC2 (with leached)					57,600	288					28,800				2,073	
NSW 2014 General Solid Waste TCLP1 (leached)																
NSW 2014 Restricted Solid Waste TCLP2 (leached)																
Field ID	**Matrix Type**	**Depth**	**Date**													
BH01_0.2	**Soil**	**0.2**	**8/02/2022**	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.5	<0.5
BH01_1.0	**Soil**	**1**	**8/02/2022**	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.5	<0.5
BH01_5.5	**Soil**	**5.5**	**8/02/2022**	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.5	
BH02_0.1	**Soil**	**0.1**	**9/02/2022**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5
BH02_1.0	**Soil**	**1**	**9/02/2022**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5
BH02_2.0	**Soil**	**2**	**9/02/2022**	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.5	
BH03_0.2	**Soil**	**0.2**	**9/02/2022**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5
BH03_0.5	**Soil**	**0.5**	**9/02/2022**	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.5	
BH03_1.5	**Soil**	**1.5**	**9/02/2022**	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.5	
BH03_3.0	**Soil**	**3**	**9/02/2022**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5
BH04_0.2	**Soil**	**0.2**	**10/02/2022**	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.5	<0.5
BH04_1.0	**Soil**	**1**	**10/02/2022**	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.5	
BH04_2.0	**Soil**	**2**	**10/02/2022**	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.5	<0.5
BH05_0.2	**Soil**	**0.2**	**10/02/2022**	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.5	<0.5
BH05_1.5	**Soil**	**1.5**	**10/02/2022**	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.5	
BH05_2.0	**Soil**	**2**	**10/02/2022**	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.5	
BH06_0.4	**Soil**	**0.4**	**14/02/2022**	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.5	
BH06_1.8	**Soil**	**1.8**	**14/02/2022**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5
BH07_0.5	**Soil**	**0.5**	**11/02/2022**	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.5	<0.5
BH07_1.3	**Soil**	**1.3**	**11/02/2022**	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.5	
BH08_0.2	**Soil**	**0.2**	**11/02/2022**	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.5	<0.5
BH08_0.5	**Soil**	**0.5**	**11/02/2022**	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.5	
BH08_1.5	**Soil**	**1.5**	**11/02/2022**	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.5	
BH09_0.3	**Soil**	**0.3**	**14/02/2022**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5
BH09_1.0	**Soil**	**1**	**14/02/2022**	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.5	
BH10_0.3	**Soil**	**0.3**	**11/02/2022**	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.5	
BH10_2.0	**Soil**	**2**	**11/02/2022**	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.5	<0.5
BH11_0.2	**Soil**	**0.2**	**11/02/2022**	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.5	<0.5
BH11_1.5	**Soil**	**1.5**	**11/02/2022**	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.5	
BH13_0.3	**Soil**	**0.3**	**11/02/2022**	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.5	<0.5
BH13_1.5	**Soil**	**1.5**	**11/02/2022**	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.5	
BH14_0.2	**Soil**	**0.2**	**11/02/2022**	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.5	
BH14_0.9	**Soil**	**0.9**	**11/02/2022**	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.5	<0.5
BH15_0.4	**Soil**	**0.4**	**14/02/2022**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5
BH15_1.5	**Soil**	**1.5**	**14/02/2022**	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.5	
BH16_0.4	**Soil**	**0.4**	**14/02/2022**	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.5	
BH16_1.8	**Soil**	**1.8**	**14/02/2022**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5
BH17_0.4	**Soil**	**0.4**	**14/02/2022**	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.5	
BH17_1.5	**Soil**	**1.5**	**14/02/2022**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5

Statistics

Number of Results	**43**	**43**	**43**	**43**	**43**	**43**	**43**	**43**	**43**	**43**	**43**	**43**	**20**
Number of Detects	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Minimum Concentration	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<1**	**<0.5**	**<0.5**
Minimum Detect	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
Maximum Concentration	**<1**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<2**	**<0.5**	**<0.5**
Maximum Detect	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
Average Concentration *	**0.45**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.9**	**0.25**	**0.25**
Median Concentration *	**0.5**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**1**	**0.25**	**0.25**
Standard Deviation *	**0.1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0.21**	**0**	**0**
95% UCL (Student's-t) *	**0.474**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.948**	**0.25**	**0.25**
% of Detects	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
% of Non-Detects	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**

* A Non Detect Multiplier of 0.5 has been applied.

Environmental Standards

2013, NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil
2013, NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand
2013, NEPM 2013 Table 1B(6) ESLs for Urban Res, Coarse Soil
NEPM, NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Coarse Soil
NSW EPA, November 2014, NSW 2014 General Solid Waste CT1 (No Leaching)
NSW EPA, November 2014, NSW 2014 Restricted Solid Waste CT2 (No Leaching)
NSW EPA, November 2014, NSW 2014 General Solid Waste SCC1 (with leached)
NSW EPA, November 2014, NSW 2014 Restricted Solid Waste SCC2 (with leached)
NSW EPA, November 2014, NSW 2014 General Solid Waste TCLP1 (leached)
NSW EPA, November 2014, NSW 2014 Restricted Solid Waste TCLP2 (leached)

				Organochlorine Pesticides																							
				4,4-DDE	a-BHC	Aldrin	Aldrin + Dieldrin	b-BHC	Chlordane	Chlordane (cis)	Chlordane (trans)	d-BHC	DDD	DDT	DDT+DDE+DDD	Dieldrin	Endosulfan	Endosulfan I	Endosulfan II	Endosulfan sulphate	Endrin	Endrin aldehyde	Endrin ketone	g-BHC (Lindane)	Heptachlor	Heptachlor epoxide	Methoxychlor
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL				0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.2	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.2
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil							45		530						3,600		2,000				100				50		2,500
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand																											
NEPM 2013 Table 1B(5) Generic EIL - Comm/Ind														640													
NEPM 2013 Table 1B(6) ESLs for Urban Res, Coarse Soil																											
NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Coarse Soil																											
NSW 2014 General Solid Waste CT1 (No Leaching)																	60										
NSW 2014 Restricted Solid Waste CT2 (No Leaching)																	240										
NSW 2014 General Solid Waste SCC1 (with leached)																	108										
NSW 2014 Restricted Solid Waste SCC2 (with leached)																	432										
NSW 2014 General Solid Waste TCLP1 (leached)																											
NSW 2014 Restricted Solid Waste TCLP2 (leached)																											
Field ID	**Matrix Type**	**Depth**	**Date**																								
BH01_0.2	**Soil**	**0.2**	**8/02/2022**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2
BH01_1.0	**Soil**	**1**	**8/02/2022**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2
BH01_5.5	**Soil**	**5.5**	**8/02/2022**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2
BH02_0.1	**Soil**	**0.1**	**9/02/2022**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2
BH02_1.0	**Soil**	**1**	**9/02/2022**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2
BH02_2.0	**Soil**	**2**	**9/02/2022**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2
BH03_0.2	**Soil**	**0.2**	**9/02/2022**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2
BH03_0.5	**Soil**	**0.5**	**9/02/2022**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2
BH03_1.5	**Soil**	**1.5**	**9/02/2022**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2
BH03_3.0	**Soil**	**3**	**9/02/2022**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2
BH04_0.2	**Soil**	**0.2**	**10/02/2022**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2
BH04_1.0	**Soil**	**1**	**10/02/2022**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2
BH04_2.0	**Soil**	**2**	**10/02/2022**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2
BH05_0.2	**Soil**	**0.2**	**10/02/2022**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2
BH05_1.5	**Soil**	**1.5**	**10/02/2022**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2
BH05_2.0	**Soil**	**2**	**10/02/2022**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2
BH06_0.4	**Soil**	**0.4**	**14/02/2022**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2
BH06_1.8	**Soil**	**1.8**	**14/02/2022**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2
BH07_0.5	**Soil**	**0.5**	**11/02/2022**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2
BH07_1.3	**Soil**	**1.3**	**11/02/2022**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2
BH08_0.2	**Soil**	**0.2**	**11/02/2022**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2
BH08_0.5	**Soil**	**0.5**	**11/02/2022**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2
BH08_1.5	**Soil**	**1.5**	**11/02/2022**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2
BH09_0.3	**Soil**	**0.3**	**14/02/2022**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2
BH09_1.0	**Soil**	**1**	**14/02/2022**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2
BH10_0.3	**Soil**	**0.3**	**11/02/2022**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2
BH10_2.0	**Soil**	**2**	**11/02/2022**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2
BH11_0.2	**Soil**	**0.2**	**11/02/2022**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2
BH11_1.5	**Soil**	**1.5**	**11/02/2022**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2
BH13_0.3	**Soil**	**0.3**	**11/02/2022**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2
BH13_1.5	**Soil**	**1.5**	**11/02/2022**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2
BH14_0.2	**Soil**	**0.2**	**11/02/2022**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2
BH14_0.9	**Soil**	**0.9**	**11/02/2022**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2
BH15_0.4	**Soil**	**0.4**	**14/02/2022**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2
BH15_1.5	**Soil**	**1.5**	**14/02/2022**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2
BH16_0.4	**Soil**	**0.4**	**14/02/2022**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2
BH16_1.8	**Soil**	**1.8**	**14/02/2022**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2
BH17_0.4	**Soil**	**0.4**	**14/02/2022**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2
BH17_1.5	**Soil**	**1.5**	**14/02/2022**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2

Statistics

Number of Results	**43**	**43**	**43**	**43**	**43**	**43**	**43**	**43**	**43**	**43**	**43**	**43**	**43**	**43**	**43**	**43**	**43**	**43**	**43**	**43**	**43**	**43**	**43**	**43**	**43**	**43**
Number of Detects	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Minimum Concentration	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.2**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.2**
Minimum Detect	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
Maximum Concentration	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.2**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.2**
Maximum Detect	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
Average Concentration *	**0.025**	**0.025**	**0.025**	**0.025**	**0.025**	**0.025**	**0.025**	**0.025**	**0.025**	**0.025**	**0.1**	**0.025**	**0.025**	**0.025**	**0.025**	**0.025**	**0.025**	**0.025**	**0.025**	**0.025**	**0.025**	**0.025**	**0.025**	**0.025**	**0.025**	**0.1**
Median Concentration *	**0.025**	**0.025**	**0.025**	**0.025**	**0.025**	**0.025**	**0.025**	**0.025**	**0.025**	**0.025**	**0.1**	**0.025**	**0.025**	**0.025**	**0.025**	**0.025**	**0.025**	**0.025**	**0.025**	**0.025**	**0.025**	**0.025**	**0.025**	**0.025**	**0.025**	**0.1**
Standard Deviation *	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
95% UCL (Student's-t) *	**0.025**	**0.025**	**0.025**	**0.025**	**0.025**	**0.025**	**0.025**	**0.025**	**0.025**	**0.025**	**0.1**	**0.025**	**0.025**	**0.025**	**0.025**	**0.025**	**0.025**	**0.025**	**0.025**	**0.025**	**0.025**	**0.025**	**0.025**	**0.025**	**0.025**	**0.1**
% of Detects	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
% of Non-Detects	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**

* A Non Detect Multiplier of 0.5 has been applied.

Environmental Standards

2013, NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil
2013, NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand
2013, NEPM 2013 Table 1B(6) ESLs for Urban Res, Coarse Soil
NEPM, NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Coarse Soil
NSW EPA, November 2014, NSW 2014 General Solid Waste CT1 (No Leaching)
NSW EPA, November 2014, NSW 2014 Restricted Solid Waste CT2 (No Leaching)
NSW EPA, November 2014, NSW 2014 General Solid Waste SCC1 (with leached)
NSW EPA, November 2014, NSW 2014 Restricted Solid Waste SCC2 (with leached)
NSW EPA, November 2014, NSW 2014 General Solid Waste TCLP1 (leached)
NSW EPA, November 2014, NSW 2014 Restricted Solid Waste TCLP2 (leached)

EP RISK

				Organophosphorous Pesticides															
				Azinophos methyl	Bromophos-ethyl	Carbophenothion	Chlorfenvinphos	Chlorpyrifos	Chlorpyrifos-methyl	Diazinon	Dichlorvos	Dimethoate	Ethion	Fenthion	Malathion	Methyl parathion	Monocrotophos	Prothiofos
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL				0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.2	0.2	0.05
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil								2,000										
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand																		
NEPM 2013 Table 1B(5) Generic EIL - Comm/Ind																		
NEPM 2013 Table 1B(6) ESLs for Urban Res, Coarse Soil																		
NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Coarse Soil																		
NSW 2014 General Solid Waste CT1 (No Leaching)								4										
NSW 2014 Restricted Solid Waste CT2 (No Leaching)								16										
NSW 2014 General Solid Waste SCC1 (with leached)								7.5										
NSW 2014 Restricted Solid Waste SCC2 (with leached)								30										
NSW 2014 General Solid Waste TCLP1 (leached)																		
NSW 2014 Restricted Solid Waste TCLP2 (leached)																		
Field ID	**Matrix Type**	**Depth**	**Date**															
BH01_0.2	**Soil**	**0.2**	**8/02/2022**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.05
BH01_1.0	**Soil**	**1**	**8/02/2022**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.05
BH01_5.5	**Soil**	**5.5**	**8/02/2022**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.05
BH02_0.1	**Soil**	**0.1**	**9/02/2022**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.05
BH02_1.0	**Soil**	**1**	**9/02/2022**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.05
BH02_2.0	**Soil**	**2**	**9/02/2022**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.05
BH03_0.2	**Soil**	**0.2**	**9/02/2022**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.05
BH03_0.5	**Soil**	**0.5**	**9/02/2022**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.05
BH03_1.5	**Soil**	**1.5**	**9/02/2022**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.05
BH03_3.0	**Soil**	**3**	**9/02/2022**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.05
BH04_0.2	**Soil**	**0.2**	**10/02/2022**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.05
BH04_1.0	**Soil**	**1**	**10/02/2022**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.05
BH04_2.0	**Soil**	**2**	**10/02/2022**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.05
BH05_0.2	**Soil**	**0.2**	**10/02/2022**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.05
BH05_1.5	**Soil**	**1.5**	**10/02/2022**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.05
BH05_2.0	**Soil**	**2**	**10/02/2022**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.05
BH06_0.4	**Soil**	**0.4**	**14/02/2022**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.05
BH06_1.8	**Soil**	**1.8**	**14/02/2022**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.05
BH07_0.5	**Soil**	**0.5**	**11/02/2022**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.05
BH07_1.3	**Soil**	**1.3**	**11/02/2022**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.05
BH08_0.2	**Soil**	**0.2**	**11/02/2022**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.05
BH08_0.5	**Soil**	**0.5**	**11/02/2022**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.05
BH08_1.5	**Soil**	**1.5**	**11/02/2022**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.05
BH09_0.3	**Soil**	**0.3**	**14/02/2022**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.05
BH09_1.0	**Soil**	**1**	**14/02/2022**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.05
BH10_0.3	**Soil**	**0.3**	**11/02/2022**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.05
BH10_2.0	**Soil**	**2**	**11/02/2022**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.05
BH11_0.2	**Soil**	**0.2**	**11/02/2022**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.05
BH11_1.5	**Soil**	**1.5**	**11/02/2022**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.05
BH13_0.3	**Soil**	**0.3**	**11/02/2022**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.05
BH13_1.5	**Soil**	**1.5**	**11/02/2022**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.05
BH14_0.2	**Soil**	**0.2**	**11/02/2022**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.05
BH14_0.9	**Soil**	**0.9**	**11/02/2022**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.05
BH15_0.4	**Soil**	**0.4**	**14/02/2022**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.05
BH15_1.5	**Soil**	**1.5**	**14/02/2022**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.05
BH16_0.4	**Soil**	**0.4**	**14/02/2022**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.05
BH16_1.8	**Soil**	**1.8**	**14/02/2022**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.05
BH17_0.4	**Soil**	**0.4**	**14/02/2022**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.05
BH17_1.5	**Soil**	**1.5**	**14/02/2022**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.05

Statistics

Number of Results	**43**	**43**	**43**	**43**	**43**	**43**	**43**	**43**	**43**	**43**	**43**	**43**	**43**	**43**	**43**
Number of Detects	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Minimum Concentration	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.2**	**<0.2**	**<0.05**
Minimum Detect	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
Maximum Concentration	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.2**	**<0.2**	**<0.05**
Maximum Detect	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
Average Concentration *	**0.025**	**0.025**	**0.025**	**0.025**	**0.025**	**0.025**	**0.025**	**0.025**	**0.025**	**0.025**	**0.025**	**0.025**	**0.1**	**0.1**	**0.025**
Median Concentration *	**0.025**	**0.025**	**0.025**	**0.025**	**0.025**	**0.025**	**0.025**	**0.025**	**0.025**	**0.025**	**0.025**	**0.025**	**0.1**	**0.1**	**0.025**
Standard Deviation *	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
95% UCL (Student's-t) *	**0.025**	**0.025**	**0.025**	**0.025**	**0.025**	**0.025**	**0.025**	**0.025**	**0.025**	**0.025**	**0.025**	**0.025**	**0.1**	**0.1**	**0.025**
% of Detects	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
% of Non-Detects	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**

* A Non Detect Multiplier of 0.5 has been applied.

Environmental Standards

2013, NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil
2013, NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand
2013, NEPM 2013 Table 1B(6) ESLs for Urban Res, Coarse Soil
NEPM, NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Coarse Soil
NSW EPA, November 2014, NSW 2014 General Solid Waste CT1 (No Leaching)
NSW EPA, November 2014, NSW 2014 Restricted Solid Waste CT2 (No Leaching)
NSW EPA, November 2014, NSW 2014 General Solid Waste SCC1 (with leached)
NSW EPA, November 2014, NSW 2014 Restricted Solid Waste SCC2 (with leached)
NSW EPA, November 2014, NSW 2014 General Solid Waste TCLP1 (leached)
NSW EPA, November 2014, NSW 2014 Restricted Solid Waste TCLP2 (leached)

				Other	PCBs	Pesticides						Phthalates					
				Acetophenone	PCBs (Sum of total)	Chlorobenzilate	Carbazole	Demeton-S-methyl	Fenamiphos	Parathion	Pirimphos-ethyl	Bis(2-ethylhexyl) phthalate	Butyl benzyl phthalate	Diethylphthalate	Dimethyl phthalate	Di-n-butyl phthalate	Di-n-octyl phthalate
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL				0.5	0.1	0.5	0.5	0.05	0.05	0.2	0.05	5	0.5	0.5	0.5	0.5	0.5
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil					7												
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand																	
NEPM 2013 Table 1B(5) Generic EIL - Comm/Ind																	
NEPM 2013 Table 1B(6) ESLs for Urban Res, Coarse Soil																	
NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Coarse Soil																	
NSW 2014 General Solid Waste CT1 (No Leaching)					50												
NSW 2014 Restricted Solid Waste CT2 (No Leaching)					50												
NSW 2014 General Solid Waste SCC1 (with leached)					50												
NSW 2014 Restricted Solid Waste SCC2 (with leached)					50												
NSW 2014 General Solid Waste TCLP1 (leached)																	
NSW 2014 Restricted Solid Waste TCLP2 (leached)																	
Field ID	**Matrix Type**	**Depth**	**Date**														
BH01_0.2	**Soil**	**0.2**	**8/02/2022**	<0.5	<0.1	<0.5	<0.5	<0.05	<0.05	<0.2	<0.05	<5.0	<0.5	<0.5	<0.5	1.0	<0.5
BH01_1.0	**Soil**	**1**	**8/02/2022**	<0.5	<0.1	<0.5	<0.5	<0.05	<0.05	<0.2	<0.05	<5.0	<0.5	<0.5	<0.5	<0.5	<0.5
BH01_5.5	**Soil**	**5.5**	**8/02/2022**		<0.1			<0.05	<0.05	<0.2	<0.05						
BH02_0.1	**Soil**	**0.1**	**9/02/2022**	<0.5	<0.1	<0.5	<0.5	<0.05	<0.05	<0.2	<0.05	<5.0	<0.5	<0.5	<0.5	<0.5	<0.5
BH02_1.0	**Soil**	**1**	**9/02/2022**	<0.5	<0.1	<0.5	<0.5	<0.05	<0.05	<0.2	<0.05	<5.0	<0.5	<0.5	<0.5	<0.5	<0.5
BH02_2.0	**Soil**	**2**	**9/02/2022**		<0.1			<0.05	<0.05	<0.2	<0.05						
BH03_0.2	**Soil**	**0.2**	**9/02/2022**	<0.5	<0.1	<0.5	<0.5	<0.05	<0.05	<0.2	<0.05	<5.0	<0.5	<0.5	<0.5	<0.5	<0.5
BH03_0.5	**Soil**	**0.5**	**9/02/2022**		<0.1			<0.05	<0.05	<0.2	<0.05						
BH03_1.5	**Soil**	**1.5**	**9/02/2022**		<0.1			<0.05	<0.05	<0.2	<0.05						
BH03_3.0	**Soil**	**3**	**9/02/2022**	<0.5	<0.1	<0.5	<0.5	<0.05	<0.05	<0.2	<0.05	<5.0	<0.5	<0.5	<0.5	<0.5	<0.5
BH04_0.2	**Soil**	**0.2**	**10/02/2022**	<0.5	<0.1	<0.5	<0.5	<0.05	<0.05	<0.2	<0.05	<5.0	<0.5	<0.5	<0.5	<0.5	<0.5
BH04_1.0	**Soil**	**1**	**10/02/2022**		<0.1			<0.05	<0.05	<0.2	<0.05						
BH04_2.0	**Soil**	**2**	**10/02/2022**	<0.5	<0.1	<0.5	<0.5	<0.05	<0.05	<0.2	<0.05	<5.0	<0.5	<0.5	<0.5	<0.5	<0.5
BH05_0.2	**Soil**	**0.2**	**10/02/2022**	<0.5	<0.1	<0.5	<0.5	<0.05	<0.05	<0.2	<0.05	<5.0	<0.5	<0.5	<0.5	<0.5	<0.5
BH05_1.5	**Soil**	**1.5**	**10/02/2022**		<0.1			<0.05	<0.05	<0.2	<0.05						
BH05_2.0	**Soil**	**2**	**10/02/2022**		<0.1			<0.05	<0.05	<0.2	<0.05						
BH06_0.4	**Soil**	**0.4**	**14/02/2022**		<0.1			<0.05	<0.05	<0.2	<0.05						
BH06_1.8	**Soil**	**1.8**	**14/02/2022**	<0.5	<0.1	<0.5	<0.5	<0.05	<0.05	<0.2	<0.05	<5.0	<0.5	<0.5	<0.5	<0.5	<0.5
BH07_0.5	**Soil**	**0.5**	**11/02/2022**	<0.5	<0.1	<0.5	<0.5	<0.05	<0.05	<0.2	<0.05	<5.0	<0.5	<0.5	<0.5	<0.5	<0.5
BH07_1.3	**Soil**	**1.3**	**11/02/2022**		<0.1			<0.05	<0.05	<0.2	<0.05						
BH08_0.2	**Soil**	**0.2**	**11/02/2022**	<0.5	<0.1	<0.5	<0.5	<0.05	<0.05	<0.2	<0.05	<5.0	<0.5	<0.5	<0.5	<0.5	<0.5
BH08_0.5	**Soil**	**0.5**	**11/02/2022**		<0.1			<0.05	<0.05	<0.2	<0.05						
BH08_1.5	**Soil**	**1.5**	**11/02/2022**		<0.1			<0.05	<0.05	<0.2	<0.05						
BH09_0.3	**Soil**	**0.3**	**14/02/2022**	<0.5	<0.1	<0.5	<0.5	<0.05	<0.05	<0.2	<0.05	<5.0	<0.5	<0.5	<0.5	<0.5	<0.5
BH09_1.0	**Soil**	**1**	**14/02/2022**		<0.1			<0.05	<0.05	<0.2	<0.05						
BH10_0.3	**Soil**	**0.3**	**11/02/2022**		<0.1			<0.05	<0.05	<0.2	<0.05						
BH10_2.0	**Soil**	**2**	**11/02/2022**	<0.5	<0.1	<0.5	<0.5	<0.05	<0.05	<0.2	<0.05	<5.0	<0.5	<0.5	<0.5	<0.5	<0.5
BH11_0.2	**Soil**	**0.2**	**11/02/2022**	<0.5	<0.1	<0.5	<0.5	<0.05	<0.05	<0.2	<0.05	<5.0	<0.5	<0.5	<0.5	<0.5	<0.5
BH11_1.5	**Soil**	**1.5**	**11/02/2022**		<0.1			<0.05	<0.05	<0.2	<0.05						
BH13_0.3	**Soil**	**0.3**	**11/02/2022**	<0.5	<0.1	<0.5	<0.5	<0.05	<0.05	<0.2	<0.05	<5.0	<0.5	<0.5	<0.5	<0.5	<0.5
BH13_1.5	**Soil**	**1.5**	**11/02/2022**		<0.1			<0.05	<0.05	<0.2	<0.05						
BH14_0.2	**Soil**	**0.2**	**11/02/2022**		<0.1			<0.05	<0.05	<0.2	<0.05						
BH14_0.9	**Soil**	**0.9**	**11/02/2022**	<0.5	<0.1	<0.5	<0.5	<0.05	<0.05	<0.2	<0.05	<5.0	<0.5	<0.5	<0.5	<0.5	<0.5
BH15_0.4	**Soil**	**0.4**	**14/02/2022**	<0.5	<0.1	<0.5	<0.5	<0.05	<0.05	<0.2	<0.05	<5.0	<0.5	<0.5	<0.5	<0.5	<0.5
BH15_1.5	**Soil**	**1.5**	**14/02/2022**		<0.1			<0.05	<0.05	<0.2	<0.05						
BH16_0.4	**Soil**	**0.4**	**14/02/2022**		<0.1			<0.05	<0.05	<0.2	<0.05						
BH16_1.8	**Soil**	**1.8**	**14/02/2022**	<0.5	<0.1	<0.5	<0.5	<0.05	<0.05	<0.2	<0.05	<5.0	<0.5	<0.5	<0.5	<0.5	<0.5
BH17_0.4	**Soil**	**0.4**	**14/02/2022**		<0.1			<0.05	<0.05	<0.2	<0.05						
BH17_1.5	**Soil**	**1.5**	**14/02/2022**	<0.5	<0.1	<0.5	<0.5	<0.05	<0.05	<0.2	<0.05	<5.0	<0.5	<0.5	<0.5	<0.5	<0.5

Statistics

Number of Results	**20**	**43**	**20**	**20**	**43**	**43**	**43**	**43**	**20**	**20**	**20**	**20**	**20**	**20**
Number of Detects	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**
Minimum Concentration	**<0.5**	**<0.1**	**<0.5**	**<0.5**	**<0.05**	**<0.05**	**<0.2**	**<0.05**	**<5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**
Minimum Detect	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**1**	**ND**
Maximum Concentration	**<0.5**	**<0.1**	**<0.5**	**<0.5**	**<0.05**	**<0.05**	**<0.2**	**<0.05**	**<5**	**<0.5**	**<0.5**	**<0.5**	**1**	**<0.5**
Maximum Detect	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**1**	**ND**
Average Concentration *	**0.25**	**0.05**	**0.25**	**0.25**	**0.025**	**0.025**	**0.1**	**0.025**	**2.5**	**0.25**	**0.25**	**0.25**	**0.29**	**0.25**
Median Concentration *	**0.25**	**0.05**	**0.25**	**0.25**	**0.025**	**0.025**	**0.1**	**0.025**	**2.5**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**
Standard Deviation *	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0.17**	**0**
95% UCL (Student's-t) *	**0.25**	**0.05**	**0.25**	**0.25**	**0.025**	**0.025**	**0.1**	**0.025**	**2.5**	**0.25**	**0.25**	**0.25**	**0.352**	**0.25**
% of Detects	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	**0**
% of Non-Detects	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**95**	**100**

* A Non Detect Multiplier of 0.5 has been applied.

Environmental Standards

2013, NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil
2013, NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand
2013, NEPM 2013 Table 1B(6) ESLs for Urban Res, Coarse Soil
NEPM, NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Coarse Soil
NSW EPA, November 2014, NSW 2014 General Solid Waste CT1 (No Leaching)
NSW EPA, November 2014, NSW 2014 Restricted Solid Waste CT2 (No Leaching)
NSW EPA, November 2014, NSW 2014 General Solid Waste SCC1 (with leached)
NSW EPA, November 2014, NSW 2014 Restricted Solid Waste SCC2 (with leached)
NSW EPA, November 2014, NSW 2014 General Solid Waste TCLP1 (leached)
NSW EPA, November 2014, NSW 2014 Restricted Solid Waste TCLP2 (leached)

				Halogenated Benzenes										
				1,2,3-trichlorobenzene	1,2,4-trichlorobenzene	1,2-dichlorobenzene	1,3-dichlorobenzene	1,4-dichlorobenzene	2-chlorotoluene	4-chlorotoluene	Bromobenzene	Chlorobenzene	Hexachlorobenzene	Pentachlorobenzene
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL				0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.05	0.5
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil													80	
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand														
NEPM 2013 Table 1B(5) Generic EIL - Comm/Ind														
NEPM 2013 Table 1B(6) ESLs for Urban Res, Coarse Soil														
NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Coarse Soil														
NSW 2014 General Solid Waste CT1 (No Leaching)						86		150				2,000		
NSW 2014 Restricted Solid Waste CT2 (No Leaching)						344		600				8,000		
NSW 2014 General Solid Waste SCC1 (with leached)						155		270				3,600		
NSW 2014 Restricted Solid Waste SCC2 (with leached)						620		1,080				14,400		
NSW 2014 General Solid Waste TCLP1 (leached)														
NSW 2014 Restricted Solid Waste TCLP2 (leached)														
Field ID	**Matrix Type**	**Depth**	**Date**											
BH01_0.2	**Soil**	**0.2**	**8/02/2022**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.5
BH01_1.0	**Soil**	**1**	**8/02/2022**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.5
BH01_5.5	**Soil**	**5.5**	**8/02/2022**										<0.05	
BH02_0.1	**Soil**	**0.1**	**9/02/2022**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.5
BH02_1.0	**Soil**	**1**	**9/02/2022**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.5
BH02_2.0	**Soil**	**2**	**9/02/2022**										<0.05	
BH03_0.2	**Soil**	**0.2**	**9/02/2022**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.5
BH03_0.5	**Soil**	**0.5**	**9/02/2022**										<0.05	
BH03_1.5	**Soil**	**1.5**	**9/02/2022**										<0.05	
BH03_3.0	**Soil**	**3**	**9/02/2022**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.5
BH04_0.2	**Soil**	**0.2**	**10/02/2022**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.5
BH04_1.0	**Soil**	**1**	**10/02/2022**										<0.05	
BH04_2.0	**Soil**	**2**	**10/02/2022**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.5
BH05_0.2	**Soil**	**0.2**	**10/02/2022**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.5
BH05_1.5	**Soil**	**1.5**	**10/02/2022**										<0.05	
BH05_2.0	**Soil**	**2**	**10/02/2022**										<0.05	
BH06_0.4	**Soil**	**0.4**	**14/02/2022**										<0.05	
BH06_1.8	**Soil**	**1.8**	**14/02/2022**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.5
BH07_0.5	**Soil**	**0.5**	**11/02/2022**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.5
BH07_1.3	**Soil**	**1.3**	**11/02/2022**										<0.05	
BH08_0.2	**Soil**	**0.2**	**11/02/2022**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.5
BH08_0.5	**Soil**	**0.5**	**11/02/2022**										<0.05	
BH08_1.5	**Soil**	**1.5**	**11/02/2022**										<0.05	
BH09_0.3	**Soil**	**0.3**	**14/02/2022**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.5
BH09_1.0	**Soil**	**1**	**14/02/2022**										<0.05	
BH10_0.3	**Soil**	**0.3**	**11/02/2022**										<0.05	
BH10_2.0	**Soil**	**2**	**11/02/2022**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.5
BH11_0.2	**Soil**	**0.2**	**11/02/2022**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.5
BH11_1.5	**Soil**	**1.5**	**11/02/2022**										<0.05	
BH13_0.3	**Soil**	**0.3**	**11/02/2022**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.5
BH13_1.5	**Soil**	**1.5**	**11/02/2022**										<0.05	
BH14_0.2	**Soil**	**0.2**	**11/02/2022**										<0.05	
BH14_0.9	**Soil**	**0.9**	**11/02/2022**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.5
BH15_0.4	**Soil**	**0.4**	**14/02/2022**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.5
BH15_1.5	**Soil**	**1.5**	**14/02/2022**										<0.05	
BH16_0.4	**Soil**	**0.4**	**14/02/2022**										<0.05	
BH16_1.8	**Soil**	**1.8**	**14/02/2022**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.5
BH17_0.4	**Soil**	**0.4**	**14/02/2022**										<0.05	
BH17_1.5	**Soil**	**1.5**	**14/02/2022**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.5

Statistics

Number of Results	**20**	**20**	**20**	**20**	**20**	**20**	**20**	**20**	**20**	**43**	**20**
Number of Detects	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Minimum Concentration	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.05**	**<0.5**
Minimum Detect	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
Maximum Concentration	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.05**	**<0.5**
Maximum Detect	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
Average Concentration *	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.025**	**0.25**
Median Concentration *	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.025**	**0.25**
Standard Deviation *	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
95% UCL (Student's-t) *	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.025**	**0.25**
% of Detects	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
% of Non-Detects	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**

* A Non Detect Multiplier of 0.5 has been applied.

Environmental Standards

2013, NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil
2013, NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand
2013, NEPM 2013 Table 1B(6) ESLs for Urban Res, Coarse Soil
NEPM, NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Coarse Soil
NSW EPA, November 2014, NSW 2014 General Solid Waste CT1 (No Leaching)
NSW EPA, November 2014, NSW 2014 Restricted Solid Waste CT2 (No Leaching)
NSW EPA, November 2014, NSW 2014 General Solid Waste SCC1 (with leached)
NSW EPA, November 2014, NSW 2014 Restricted Solid Waste SCC2 (with leached)
NSW EPA, November 2014, NSW 2014 General Solid Waste TCLP1 (leached)
NSW EPA, November 2014, NSW 2014 Restricted Solid Waste TCLP2 (leached)

EP RISK

				Halogenated Hydrocarbons					Other	Solvents					
				1,2-dibromoethane	Bromomethane	Dichlorodifluoromethane	Iodomethane	Trichlorofluoromethane	Acetophenone	Methyl Ethyl Ketone	2-hexanone (MBK)	4-Methyl-2-pentanone	Carbon disulfide	Isophorone	Vinyl acetate
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL				0.5	5	5	0.5	5	0.5	5	5	5	0.5	0.5	5
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil															
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand															
NEPM 2013 Table 1B(5) Generic EIL - Comm/Ind															
NEPM 2013 Table 1B(6) ESLs for Urban Res, Coarse Soil															
NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Coarse Soil															
NSW 2014 General Solid Waste CT1 (No Leaching)										4,000					
NSW 2014 Restricted Solid Waste CT2 (No Leaching)										16,000					
NSW 2014 General Solid Waste SCC1 (with leached)										7,200					
NSW 2014 Restricted Solid Waste SCC2 (with leached)										28,800					
NSW 2014 General Solid Waste TCLP1 (leached)															
NSW 2014 Restricted Solid Waste TCLP2 (leached)															
Field ID	**Matrix Type**	**Depth**	**Date**												
BH01_0.2	**Soil**	**0.2**	**8/02/2022**	<0.5	<5	<5	<0.5	<5	<0.5	<5	<5	<5	<0.5	<0.5	<5
BH01_1.0	**Soil**	**1**	**8/02/2022**	<0.5	<5	<5	<0.5	<5	<0.5	<5	<5	<5	<0.5	<0.5	<5
BH01_5.5	**Soil**	**5.5**	**8/02/2022**												
BH02_0.1	**Soil**	**0.1**	**9/02/2022**	<0.5	<5	<5	<0.5	<5	<0.5	<5	<5	<5	<0.5	<0.5	<5
BH02_1.0	**Soil**	**1**	**9/02/2022**	<0.5	<5	<5	<0.5	<5	<0.5	<5	<5	<5	<0.5	<0.5	<5
BH02_2.0	**Soil**	**2**	**9/02/2022**												
BH03_0.2	**Soil**	**0.2**	**9/02/2022**	<0.5	<5	<5	<0.5	<5	<0.5	<5	<5	<5	<0.5	<0.5	<5
BH03_0.5	**Soil**	**0.5**	**9/02/2022**												
BH03_1.5	**Soil**	**1.5**	**9/02/2022**												
BH03_3.0	**Soil**	**3**	**9/02/2022**	<0.5	<5	<5	<0.5	<5	<0.5	<5	<5	<5	<0.5	<0.5	<5
BH04_0.2	**Soil**	**0.2**	**10/02/2022**	<0.5	<5	<5	<0.5	<5	<0.5	<5	<5	<5	<0.5	<0.5	<5
BH04_1.0	**Soil**	**1**	**10/02/2022**												
BH04_2.0	**Soil**	**2**	**10/02/2022**	<0.5	<5	<5	<0.5	<5	<0.5	<5	<5	<5	<0.5	<0.5	<5
BH05_0.2	**Soil**	**0.2**	**10/02/2022**	<0.5	<5	<5	<0.5	<5	<0.5	<5	<5	<5	<0.5	<0.5	<5
BH05_1.5	**Soil**	**1.5**	**10/02/2022**												
BH05_2.0	**Soil**	**2**	**10/02/2022**												
BH06_0.4	**Soil**	**0.4**	**14/02/2022**												
BH06_1.8	**Soil**	**1.8**	**14/02/2022**	<0.5	<5	<5	<0.5	<5	<0.5	<5	<5	<5	<0.5	<0.5	<5
BH07_0.5	**Soil**	**0.5**	**11/02/2022**	<0.5	<5	<5	<0.5	<5	<0.5	<5	<5	<5	<0.5	<0.5	<5
BH07_1.3	**Soil**	**1.3**	**11/02/2022**												
BH08_0.2	**Soil**	**0.2**	**11/02/2022**	<0.5	<5	<5	<0.5	<5	<0.5	<5	<5	<5	<0.5	<0.5	<5
BH08_0.5	**Soil**	**0.5**	**11/02/2022**												
BH08_1.5	**Soil**	**1.5**	**11/02/2022**												
BH09_0.3	**Soil**	**0.3**	**14/02/2022**	<0.5	<5	<5	<0.5	<5	<0.5	<5	<5	<5	<0.5	<0.5	<5
BH09_1.0	**Soil**	**1**	**14/02/2022**												
BH10_0.3	**Soil**	**0.3**	**11/02/2022**												
BH10_2.0	**Soil**	**2**	**11/02/2022**	<0.5	<5	<5	<0.5	<5	<0.5	<5	<5	<5	<0.5	<0.5	<5
BH11_0.2	**Soil**	**0.2**	**11/02/2022**	<0.5	<5	<5	<0.5	<5	<0.5	<5	<5	<5	<0.5	<0.5	<5
BH11_1.5	**Soil**	**1.5**	**11/02/2022**												
BH13_0.3	**Soil**	**0.3**	**11/02/2022**	<0.5	<5	<5	<0.5	<5	<0.5	<5	<5	<5	<0.5	<0.5	<5
BH13_1.5	**Soil**	**1.5**	**11/02/2022**												
BH14_0.2	**Soil**	**0.2**	**11/02/2022**												
BH14_0.9	**Soil**	**0.9**	**11/02/2022**	<0.5	<5	<5	<0.5	<5	<0.5	<5	<5	<5	<0.5	<0.5	<5
BH15_0.4	**Soil**	**0.4**	**14/02/2022**	<0.5	<5	<5	<0.5	<5	<0.5	<5	<5	<5	<0.5	<0.5	<5
BH15_1.5	**Soil**	**1.5**	**14/02/2022**												
BH16_0.4	**Soil**	**0.4**	**14/02/2022**												
BH16_1.8	**Soil**	**1.8**	**14/02/2022**	<0.5	<5	<5	<0.5	<5	<0.5	<5	<5	<5	<0.5	<0.5	<5
BH17_0.4	**Soil**	**0.4**	**14/02/2022**												
BH17_1.5	**Soil**	**1.5**	**14/02/2022**	<0.5	<5	<5	<0.5	<5	<0.5	<5	<5	<5	<0.5	<0.5	<5

Statistics

Number of Results	**20**	**20**	**20**	**20**	**20**	**20**	**20**	**20**	**20**	**20**	**20**	**20**
Number of Detects	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Minimum Concentration	**<0.5**	**<5**	**<5**	**<0.5**	**<5**	**<0.5**	**<5**	**<5**	**<5**	**<0.5**	**<0.5**	**<5**
Minimum Detect	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
Maximum Concentration	**<0.5**	**<5**	**<5**	**<0.5**	**<5**	**<0.5**	**<5**	**<5**	**<5**	**<0.5**	**<0.5**	**<5**
Maximum Detect	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
Average Concentration *	**0.25**	**2.5**	**2.5**	**0.25**	**2.5**	**0.25**	**2.5**	**2.5**	**2.5**	**0.25**	**0.25**	**2.5**
Median Concentration *	**0.25**	**2.5**	**2.5**	**0.25**	**2.5**	**0.25**	**2.5**	**2.5**	**2.5**	**0.25**	**0.25**	**2.5**
Standard Deviation *	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
95% UCL (Student's-t) *	**0.25**	**2.5**	**2.5**	**0.25**	**2.5**	**0.25**	**2.5**	**2.5**	**2.5**	**0.25**	**0.25**	**2.5**
% of Detects	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
% of Non-Detects	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**

* A Non Detect Multiplier of 0.5 has been applied.

Environmental Standards

2013, NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil
2013, NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand
2013, NEPM 2013 Table 1B(6) ESLs for Urban Res, Coarse Soil
NEPM, NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Coarse Soil
NSW EPA, November 2014, NSW 2014 General Solid Waste CT1 (No Leaching)
NSW EPA, November 2014, NSW 2014 Restricted Solid Waste CT2 (No Leaching)
NSW EPA, November 2014, NSW 2014 General Solid Waste SCC1 (with leached)
NSW EPA, November 2014, NSW 2014 Restricted Solid Waste SCC2 (with leached)
NSW EPA, November 2014, NSW 2014 General Solid Waste TCLP1 (leached)
NSW EPA, November 2014, NSW 2014 Restricted Solid Waste TCLP2 (leached)

				SVOCs																	VOCs		
				2-(acetylamino) fluorene	3,3-Dichlorobenzidine	4-(dimethylamino) azobenzene	4-bromophenyl phenyl ether	4-chlorophenyl phenyl ether	4-Nitroquinoline-N-oxide	Azobenzene	Bis(2-chloroethoxy) methane	Bis(2-chloroethyl)ether	Dibenzofuran	Hexachloropropene	Methapyrilene	N-nitrosomorpholine	N-nitrosopiperidine	N-nitrosopyrrolidine	Phenacetin	cis-1,4-Dichloro-2-butene	trans-1,4-Dichloro-2-butene	Pentachloroethane
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL				0.5	0.5	0.5	0.5	0.5	0.5	1	0.5	0.5	0.5	0.5	0.5	0.5	0.5	1	0.5	0.5	0.5	0.5
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil																							
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand																							
NEPM 2013 Table 1B(5) Generic EIL - Comm/Ind																							
NEPM 2013 Table 1B(6) ESLs for Urban Res, Coarse Soil																							
NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Coarse Soil																							
NSW 2014 General Solid Waste CT1 (No Leaching)																							
NSW 2014 Restricted Solid Waste CT2 (No Leaching)																							
NSW 2014 General Solid Waste SCC1 (with leached)																							
NSW 2014 Restricted Solid Waste SCC2 (with leached)																							
NSW 2014 General Solid Waste TCLP1 (leached)																							
NSW 2014 Restricted Solid Waste TCLP2 (leached)																							
Field ID	**Matrix Type**	**Depth**	**Date**																				
BH01_0.2	**Soil**	**0.2**	**8/02/2022**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5
BH01_1.0	**Soil**	**1**	**8/02/2022**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5
BH01_5.5	**Soil**	**5.5**	**8/02/2022**																				
BH02_0.1	**Soil**	**0.1**	**9/02/2022**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5
BH02_1.0	**Soil**	**1**	**9/02/2022**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5
BH02_2.0	**Soil**	**2**	**9/02/2022**																				
BH03_0.2	**Soil**	**0.2**	**9/02/2022**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5
BH03_0.5	**Soil**	**0.5**	**9/02/2022**																				
BH03_1.5	**Soil**	**1.5**	**9/02/2022**																				
BH03_3.0	**Soil**	**3**	**9/02/2022**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5
BH04_0.2	**Soil**	**0.2**	**10/02/2022**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5
BH04_1.0	**Soil**	**1**	**10/02/2022**																				
BH04_2.0	**Soil**	**2**	**10/02/2022**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5
BH05_0.2	**Soil**	**0.2**	**10/02/2022**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5
BH05_1.5	**Soil**	**1.5**	**10/02/2022**																				
BH05_2.0	**Soil**	**2**	**10/02/2022**																				
BH06_0.4	**Soil**	**0.4**	**14/02/2022**																				
BH06_1.8	**Soil**	**1.8**	**14/02/2022**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5
BH07_0.5	**Soil**	**0.5**	**11/02/2022**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5
BH07_1.3	**Soil**	**1.3**	**11/02/2022**																				
BH08_0.2	**Soil**	**0.2**	**11/02/2022**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5
BH08_0.5	**Soil**	**0.5**	**11/02/2022**																				
BH08_1.5	**Soil**	**1.5**	**11/02/2022**																				
BH09_0.3	**Soil**	**0.3**	**14/02/2022**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5
BH09_1.0	**Soil**	**1**	**14/02/2022**																				
BH10_0.3	**Soil**	**0.3**	**11/02/2022**																				
BH10_2.0	**Soil**	**2**	**11/02/2022**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5
BH11_0.2	**Soil**	**0.2**	**11/02/2022**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5
BH11_1.5	**Soil**	**1.5**	**11/02/2022**																				
BH13_0.3	**Soil**	**0.3**	**11/02/2022**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5
BH13_1.5	**Soil**	**1.5**	**11/02/2022**																				
BH14_0.2	**Soil**	**0.2**	**11/02/2022**																				
BH14_0.9	**Soil**	**0.9**	**11/02/2022**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5
BH15_0.4	**Soil**	**0.4**	**14/02/2022**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5
BH15_1.5	**Soil**	**1.5**	**14/02/2022**																				
BH16_0.4	**Soil**	**0.4**	**14/02/2022**																				
BH16_1.8	**Soil**	**1.8**	**14/02/2022**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5
BH17_0.4	**Soil**	**0.4**	**14/02/2022**																				
BH17_1.5	**Soil**	**1.5**	**14/02/2022**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5

Statistics

Number of Results	**20**	**20**	**20**	**20**	**20**	**20**	**20**	**20**	**20**	**20**	**20**	**20**	**20**	**20**	**20**	**20**	**20**	**20**	**20**	**20**
Number of Detects	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Minimum Concentration	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<1**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<1**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**
Minimum Detect	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
Maximum Concentration	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<1**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<1**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**
Maximum Detect	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
Average Concentration *	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.5**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.5**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**
Median Concentration *	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.5**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.5**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**
Standard Deviation *	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
95% UCL (Student's-t) *	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.5**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.5**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**
% of Detects	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
% of Non-Detects	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**

* A Non Detect Multiplier of 0.5 has been applied.

Environmental Standards

2013, NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil
2013, NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand
2013, NEPM 2013 Table 1B(6) ESLs for Urban Res, Coarse Soil
NEPM, NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Coarse Soil
NSW EPA, November 2014, NSW 2014 General Solid Waste CT1 (No Leaching)
NSW EPA, November 2014, NSW 2014 Restricted Solid Waste CT2 (No Leaching)
NSW EPA, November 2014, NSW 2014 General Solid Waste SCC1 (with leached)
NSW EPA, November 2014, NSW 2014 Restricted Solid Waste SCC2 (with leached)
NSW EPA, November 2014, NSW 2014 General Solid Waste TCLP1 (leached)
NSW EPA, November 2014, NSW 2014 Restricted Solid Waste TCLP2 (leached)

				Perfluoroalkane Carboxylic Acids					(n:2) Fluorotelomer Sulfonic Acids				Perfluoroalkane Sulfonic Acids			PFAS	
				Perfluorobutanoic acid (PFBA)	Perfluorohexanoic acid (PFHxA)	Perfluoropentanoic acid (PFPeA)	Perfluoroheptanoic acid (PFHpA)	Perfluorooctanoic acid (PFOA)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	Perfluorobutane sulfonic acid (PFBS)	Perfluorohexane sulfonic acid (PFHxS)	Perfluorooctane sulfonic acid (PFOS)	Sum of PFHxS and PFOS	Sum of PFAS (WA DER List)
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL				0.001	0.0002	0.0002	0.0002	0.0002	0.0005	0.0005	0.0005	0.0005	0.0002	0.0002	0.0002	0.0002	0.0002
NSW 2014 General Solid Waste SCC1 (with leached)								18								1.8	
NSW 2014 Restricted Solid Waste SCC2 (with leached)								72								7.2	
PFAS NEMP 2020 Industrial/ commercial (HIL D)								50								20	
Field ID	**Matrix Type**	**Depth**	**Date**														
BH01_0.2	**Soil**	**0.2**	**8/02/2022**	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
BH01_2.0	**Soil**	**2**	**8/02/2022**	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
BH01_5.5	**Soil**	**5.5**	**8/02/2022**	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
BH02_0.1	**Soil**	**0.1**	**9/02/2022**	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
BH02_5.5	**Soil**	**5.5**	**9/02/2022**	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
BH03_0.2	**Soil**	**0.2**	**9/02/2022**	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
BH03_0.5	**Soil**	**0.5**	**9/02/2022**	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
BH04_1.0	**Soil**	**1**	**10/02/2022**	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
BH05_0.2	**Soil**	**0.2**	**10/02/2022**	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
BH06_0.4	**Soil**	**0.4**	**14/02/2022**	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
BH07_0.5	**Soil**	**0.5**	**11/02/2022**	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
BH09_0.3	**Soil**	**0.3**	**14/02/2022**	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
BH10_0.3	**Soil**	**0.3**	**11/02/2022**	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
BH11_0.2	**Soil**	**0.2**	**11/02/2022**	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
BH13_0.3	**Soil**	**0.3**	**11/02/2022**	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
BH14_0.2	**Soil**	**0.2**	**11/02/2022**	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0002	0.0003	0.0003	0.0003
BH15_0.4	**Soil**	**0.4**	**14/02/2022**	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
BH16_0.4	**Soil**	**0.4**	**14/02/2022**	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0002	0.0004	0.0004	0.0004
BH17_0.4	**Soil**	**0.4**	**14/02/2022**	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002

Statistics

Number of Results	**26**	**26**	**26**	**26**	**26**	**26**	**26**	**26**	**26**	**26**	**26**	**26**	**26**	**26**
Number of Detects	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	**4**	**4**
Minimum Concentration	**<0.001**	**<0.0002**	**<0.0002**	**<0.0002**	**<0.0002**	**<0.0005**	**<0.0005**	**<0.0005**	**<0.0005**	**<0.0002**	**<0.0002**	**<0.0002**	**<0.0002**	**<0.0002**
Minimum Detect	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**0.0003**	**0.0003**	**0.0003**
Maximum Concentration	**<0.002**	**<0.0005**	**<0.0005**	**<0.0005**	**<0.0005**	**<0.0005**	**<0.0005**	**<0.0005**	**<0.0005**	**<0.0005**	**<0.0005**	**<0.0005**	**<0.0005**	**<0.0005**
Maximum Detect	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**0.0004**	**0.0004**	**0.0004**
Average Concentration *	**0.00052**	**0.00011**	**0.00011**	**0.00011**	**0.00011**	**0.00025**	**0.00025**	**0.00025**	**0.00025**	**0.00011**	**0.00011**	**0.00015**	**0.00015**	**0.00015**
Median Concentration *	**0.0005**	**0.0001**	**0.0001**	**0.0001**	**0.0001**	**0.00025**	**0.00025**	**0.00025**	**0.00025**	**0.0001**	**0.0001**	**0.0001**	**0.0001**	**0.0001**
Standard Deviation *	**0.000098**	**0.000029**	**0.000029**	**0.000029**	**0.000029**	**0**	**0**	**0**	**0**	**0.000029**	**0.000029**	**0.0001**	**0.0001**	**0.0001**
95% UCL (Student's-t) *	**0.00055208**	**0.00011562**	**0.00011562**	**0.00011562**	**0.00011562**	**0.00025**	**0.00025**	**0.00025**	**0.00025**	**0.00011562**	**0.00011562**	**0.00018305**	**0.00018305**	**0.00018305**
% of Detects	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**15**	**15**	**15**
% of Non-Detects	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**85**	**85**	**85**

* A Non Detect Multiplier of 0.5 has been applied.

Environmental Standards

NSW EPA, November 2014, NSW 2014 General Solid Waste SCC1 (with leached)
NSW EPA, November 2014, NSW 2014 Restricted Solid Waste SCC2 (with leached)
HEPA, January 2020, PFAS NEMP 2020 Industrial/ commercial (HIL D)

			BTEX							TRH						
			Benzene	Toluene	Ethylbenzene	Xylene (m & p)	Xylene (o)	Xylene Total	Total BTEX	C6-C10 Fraction (F1)	C6-C10 (F1 minus BTEX)	>C10-C16 Fraction (F2)	>C10-C16 Fraction (F2 minus Naphthalene)	>C16-C34 Fraction (F3)	>C34-C40 Fraction (F4)	>C10-C40 Fraction (Sum)
			µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL			1	2	2	2	2	2	1	20	20	100	100	100	100	100
NEPM 2013 Table 1A(4) Comm/Ind HSL D GW for Vapour Intrusion, Silt			30,000 | 30,000 | 30,000													
NEPM 2013 Table 1C GILs, Fresh Waters			950				350	550								
NEPM 2013 Table 1C GILs, Marine Waters			500													
PFAS NEMP 2020 Freshwater 95%																
PFAS NEMP 2020 Interim Marine 95%																
ANZG (2018) Freshwater 95% LOSP Toxicant DGVs			950	180	80		350									
ANZG (2018) Marine Water 95% LOSP Toxicant DGVs			700	180	80											
Field ID	**Matrix Type**	**Date**														
MW01	**Water**	**21/02/2022**	<1	<2	<2	<2	<2	<2	<1	<20	<20	<100	<100	<100	<100	<100
MW02	**Water**	**21/02/2022**	<1	<2	<2	<2	<2	<2	<1	<20	<20	<100	<100	<100	<100	<100
MW03	**Water**	**21/02/2022**	<1	<2	<2	<2	<2	<2	<1	<20	<20	<100	<100	<100	<100	<100
MW04	**Water**	**21/02/2022**	<1	<2	<2	<2	<2	<2	<1	<20	<20	<100	<100	<100	<100	<100

Statistics

Number of Results	**9**	**9**	**9**	**9**	**9**	**9**	**9**	**9**	**9**	**8**	**8**	**8**	**8**	**8**
Number of Detects	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Minimum Concentration	**<1**	**<2**	**<2**	**<2**	**<2**	**<2**	**<1**	**<20**	**<20**	**<100**	**<100**	**<100**	**<100**	**<100**
Minimum Detect	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
Maximum Concentration	**<1**	**<2**	**<2**	**<2**	**<2**	**<2**	**<1**	**<20**	**<20**	**<100**	**<100**	**<100**	**<100**	**<100**
Maximum Detect	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
Average Concentration *	**0.5**	**1**	**1**	**1**	**1**	**1**	**0.5**	**10**	**10**	**50**	**50**	**50**	**50**	**50**
Median Concentration *	**0.5**	**1**	**1**	**1**	**1**	**1**	**0.5**	**10**	**10**	**50**	**50**	**50**	**50**	**50**
Standard Deviation *	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
95% UCL (Student's-t) *	**0.5**	**1**	**1**	**1**	**1**	**1**	**0.5**	**10**	**10**	**50**	**50**	**50**	**50**	**50**
% of Detects	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
% of Non-Detects	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**

* A Non Detect Multiplier of 0.5 has been applied.

Environmental Standards

2013, NEPM 2013 Table 1A(4) Comm/Ind HSL D GW for Vapour Intrusion, Silt
2013, NEPM 2013 Table 1C GILs, Fresh Waters
2013, NEPM 2013 Table 1C GILs, Marine Waters
ANZG, March 2021, ANZG (2018) Freshwater 95% LOSP Toxicant DGVs
ANZG, March 2021, ANZG (2018) Marine Water 95% LOSP Toxicant DGVs

			Phenols											
			3&4-Methylphenol (m&p-cresol)	2,4,5-Trichlorophenol	2,4,6-Trichlorophenol	2,4-Dichlorophenol	2,4-Dimethylphenol	2,6-Dichlorophenol	2-Chlorophenol	2-Methylphenol	2-Nitrophenol	4-chloro-3-methylphenol	Pentachlorophenol	Phenol
			µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL			2	1	1	1	1	1	1	1	1	1	2	1
NEPM 2013 Table 1A(4) Comm/Ind HSL D GW for Vapour Intrusion, Silt		30												
NEPM 2013 Table 1C GILs, Fresh Waters					3	120			340				3.6	320
NEPM 2013 Table 1C GILs, Marine Waters													11	400
PFAS NEMP 2020 Freshwater 95%														
PFAS NEMP 2020 Interim Marine 95%														
ANZG (2018) Freshwater 95% LOSP Toxicant DGVs					20	160			490				10	320
ANZG (2018) Marine Water 95% LOSP Toxicant DGVs													22	400
Field ID	**Matrix Type**	**Date**												
MW01	**Water**	**21/02/2022**	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0
MW02	**Water**	**21/02/2022**	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0
MW03	**Water**	**21/02/2022**	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0
MW04	**Water**	**21/02/2022**	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0

Statistics

Number of Results	**8**	**8**	**8**	**8**	**8**	**8**	**8**	**8**	**8**	**8**	**8**	**8**
Number of Detects	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Minimum Concentration	**<2**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<2**	**<1**
Minimum Detect	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
Maximum Concentration	**<2**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<2**	**<1**
Maximum Detect	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
Average Concentration *	**1**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**1**	**0.5**
Median Concentration *	**1**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**1**	**0.5**
Standard Deviation *	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
95% UCL (Student's-t) *	**1**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**1**	**0.5**
% of Detects	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
% of Non-Detects	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**

* A Non Detect Multiplier of 0.5 has been applied.

Environmental Standards

2013, NEPM 2013 Table 1A(4) Comm/Ind HSL D GW for Vapour Intrusion, Silt
2013, NEPM 2013 Table 1C GILs, Fresh Waters
2013, NEPM 2013 Table 1C GILs, Marine Waters
ANZG, March 2021, ANZG (2018) Freshwater 95% LOSP Toxicant DGVs
ANZG, March 2021, ANZG (2018) Marine Water 95% LOSP Toxicant DGVs

			Amino Aliphatics				Amino Aromatics		Anilines					
			N-nitrosodiethylamine	N-nitrosodi-n-butylamine	N-nitrosodi-n-propylamine	N-Nitrosomethylethylamine	1-naphthylamine	N-Nitrosodiphenyl & Diphenylamine	2-nitroaniline	3-nitroaniline	4-chloroaniline	4-nitroaniline	2-methyl-5-nitroaniline	Aniline
			µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL			2	2	2	2	2	4	4	4	2	2	2	2
NEPM 2013 Table 1A(4) Comm/Ind HSL D GW for Vapour Intrusion, Silt		30												
NEPM 2013 Table 1C GILs, Fresh Waters														8
NEPM 2013 Table 1C GILs, Marine Waters														
PFAS NEMP 2020 Freshwater 95%														
PFAS NEMP 2020 Interim Marine 95%														
ANZG (2018) Freshwater 95% LOSP Toxicant DGVs														250
ANZG (2018) Marine Water 95% LOSP Toxicant DGVs														
Field ID	**Matrix Type**	**Date**												
MW01	**Water**	**21/02/2022**	<2	<2	<2	<2	<2	<4	<4	<4	<2	<2	<2	<2
MW02	**Water**	**21/02/2022**	<2	<2	<2	<2	<2	<4	<4	<4	<2	<2	<2	<2
MW03	**Water**	**21/02/2022**	<2	<2	<2	<2	<2	<4	<4	<4	<2	<2	<2	<2
MW04	**Water**	**21/02/2022**	<2	<2	<2	<2	<2	<4	<4	<4	<2	<2	<2	<2

Statistics

Number of Results	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**
Number of Detects	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Minimum Concentration	**<2**	**<2**	**<2**	**<2**	**<2**	**<4**	**<4**	**<4**	**<2**	**<2**	**<2**	**<2**
Minimum Detect	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
Maximum Concentration	**<2**	**<2**	**<2**	**<2**	**<2**	**<4**	**<4**	**<4**	**<2**	**<2**	**<2**	**<2**
Maximum Detect	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
Average Concentration *	**1**	**1**	**1**	**1**	**1**	**2**	**2**	**2**	**1**	**1**	**1**	**1**
Median Concentration *	**1**	**1**	**1**	**1**	**1**	**2**	**2**	**2**	**1**	**1**	**1**	**1**
Standard Deviation *	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
95% UCL (Student's-t) *	**1**	**1**	**1**	**1**	**1**	**2**	**2**	**2**	**1**	**1**	**1**	**1**
% of Detects	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
% of Non-Detects	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**

* A Non Detect Multiplier of 0.5 has been applied.

Environmental Standards

2013, NEPM 2013 Table 1A(4) Comm/Ind HSL D GW for Vapour Intrusion, Silt
2013, NEPM 2013 Table 1C GILs, Fresh Waters
2013, NEPM 2013 Table 1C GILs, Marine Waters
ANZG, March 2021, ANZG (2018) Freshwater 95% LOSP Toxicant DGVs
ANZG, March 2021, ANZG (2018) Marine Water 95% LOSP Toxicant DGVs

			Chlorinated Hydrocarbons																														
			1,1,1,2-tetrachloroethane	1,1,1-trichloroethane	1,1,2,2-tetrachloroethane	1,1,2-trichloroethane	1,1-dichloroethane	1,1-dichloroethene	1,1-dichloropropene	1,2,3-trichloropropane	1,2-dibromo-3-chloropropane	1,2-dichloroethane	1,2-dichloropropane	1,3-dichloropropane	2,2-dichloropropane	Bromodichloromethane	Bromoform	Carbon tetrachloride	Chlorodibromomethane	Chloroethane	Chloroform	Chloromethane	cis-1,2-dichloroethene	cis-1,3-dichloropropene	Dibromomethane	Hexachlorobutadiene	Hexachlorocyclopentadiene	Hexachloroethane	Trichloroethene	Tetrachloroethene	trans-1,2-dichloroethene	trans-1,3-dichloropropene	Vinyl chloride
			µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL			5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	50	5	50	5	5	5	2	10	2	5	5	5	5	50
NEPM 2013 Table 1A(4) Comm/Ind HSL D GW for Vapour Intrusion, Silt		30																															
NEPM 2013 Table 1C GILs, Fresh Waters						6,500																						290					
NEPM 2013 Table 1C GILs, Marine Waters						1,900																											
PFAS NEMP 2020 Freshwater 95%																																	
PFAS NEMP 2020 Interim Marine 95%																																	
ANZG (2018) Freshwater 95% LOSP Toxicant DGVs				270	400	6,500		700				1,900	900	1,100				240			770							360	330	70			100
ANZG (2018) Marine Water 95% LOSP Toxicant DGVs				270	400	1,900		700				1,900	900	1,100				240			770								330	70			100
Field ID	**Matrix Type**	**Date**																															
MW01	**Water**	**21/02/2022**	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<50	<5	<50	<5	<5	<5	<2	<10	<2	<5	<5	<5	<5	<50
MW02	**Water**	**21/02/2022**	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<50	<5	<50	<5	<5	<5	<2	<10	<2	<5	<5	<5	<5	<50
MW03	**Water**	**21/02/2022**	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<50	<5	<50	<5	<5	<5	<2	<10	<2	<5	<5	<5	<5	<50
MW04	**Water**	**21/02/2022**	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<50	<5	<50	<5	<5	<5	<2	<10	<2	<5	<5	<5	<5	<50

Statistics

Number of Results	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Number of Detects	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Minimum Concentration	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<50	<5	<50	<5	<5	<5	<2	<10	<2	<5	<5	<5	<5	<50
Minimum Detect	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Maximum Concentration	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<50	<5	<50	<5	<5	<5	<2	<10	<2	<5	<5	<5	<5	<50
Maximum Detect	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Average Concentration *	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	25	2.5	25	2.5	2.5	2.5	1	5	1	2.5	2.5	2.5	2.5	25
Median Concentration *	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	25	2.5	25	2.5	2.5	2.5	1	5	1	2.5	2.5	2.5	2.5	25
Standard Deviation *	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
95% UCL (Student's-t) *	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	25	2.5	25	2.5	2.5	2.5	1	5	1	2.5	2.5	2.5	2.5	25
% of Detects	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% of Non-Detects	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100

* A Non Detect Multiplier of 0.5 has been applied.

Environmental Standards

2013, NEPM 2013 Table 1A(4) Comm/Ind HSL D GW for Vapour Intrusion, Silt
2013, NEPM 2013 Table 1C GILs, Fresh Waters
2013, NEPM 2013 Table 1C GILs, Marine Waters
ANZG, March 2021, ANZG (2018) Freshwater 95% LOSP Toxicant DGVs
ANZG, March 2021, ANZG (2018) Marine Water 95% LOSP Toxicant DGVs

			Halogenated Benzenes											Halogenated Hydrocarbons					Herbicides
			1,2,3-trichlorobenzene	1,2,4-trichlorobenzene	1,2-dichlorobenzene	1,3-dichlorobenzene	1,4-dichlorobenzene	2-chlorotoluene	4-chlorotoluene	Bromobenzene	Chlorobenzene	Hexachlorobenzene	Pentachlorobenzene	1,2-dibromoethane	Bromomethane	Dichlorodifluoromethane	Iodomethane	Trichlorofluoromethane	Pronamide
			µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL			5	2	2	2	2	5	5	5	5	0.5	2	5	50	50	5	50	2
NEPM 2013 Table 1A(4) Comm/Ind HSL D GW for Vapour Intrusion, Silt		30																	
NEPM 2013 Table 1C GILs, Fresh Waters			3	85	160	260	60												
NEPM 2013 Table 1C GILs, Marine Waters				20															
PFAS NEMP 2020 Freshwater 95%																			
PFAS NEMP 2020 Interim Marine 95%																			
ANZG (2018) Freshwater 95% LOSP Toxicant DGVs			10	170	160	260	60				55	0.1	2						
ANZG (2018) Marine Water 95% LOSP Toxicant DGVs				80							55	0.1	2						
Field ID	**Matrix Type**	**Date**																	
MW01	**Water**	**21/02/2022**	<5	<2	<2	<2	<2	<5	<5	<5	<5	<0.5	<2	<5	<50	<50	<5	<50	<2
MW02	**Water**	**21/02/2022**	<5	<2	<2	<2	<2	<5	<5	<5	<5	<0.5	<2	<5	<50	<50	<5	<50	<2
MW03	**Water**	**21/02/2022**	<5	<2	<2	<2	<2	<5	<5	<5	<5	<0.5	<2	<5	<50	<50	<5	<50	<2
MW04	**Water**	**21/02/2022**	<5	<2	<2	<2	<2	<5	<5	<5	<5	<0.5	<2	<5	<50	<50	<5	<50	<2

Statistics

Number of Results	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**8**	**5**	**5**	**5**	**5**	**5**	**5**	**5**
Number of Detects	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Minimum Concentration	**<5**	**<2**	**<2**	**<2**	**<2**	**<5**	**<5**	**<5**	**<5**	**<0.5**	**<2**	**<5**	**<50**	**<50**	**<5**	**<50**	**<2**
Minimum Detect	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
Maximum Concentration	**<5**	**<2**	**<2**	**<2**	**<2**	**<5**	**<5**	**<5**	**<5**	**<0.5**	**<2**	**<5**	**<50**	**<50**	**<5**	**<50**	**<2**
Maximum Detect	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
Average Concentration *	**2.5**	**1**	**1**	**1**	**1**	**2.5**	**2.5**	**2.5**	**2.5**	**0.25**	**1**	**2.5**	**25**	**25**	**2.5**	**25**	**1**
Median Concentration *	**2.5**	**1**	**1**	**1**	**1**	**2.5**	**2.5**	**2.5**	**2.5**	**0.25**	**1**	**2.5**	**25**	**25**	**2.5**	**25**	**1**
Standard Deviation *	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
95% UCL (Student's-t) *	**2.5**	**1**	**1**	**1**	**1**	**2.5**	**2.5**	**2.5**	**2.5**	**0.25**	**1**	**2.5**	**25**	**25**	**2.5**	**25**	**1**
% of Detects	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
% of Non-Detects	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**

* A Non Detect Multiplier of 0.5 has been applied.

Environmental Standards

2013, NEPM 2013 Table 1A(4) Comm/Ind HSL D GW for Vapour Intrusion, Silt
2013, NEPM 2013 Table 1C GILs, Fresh Waters
2013, NEPM 2013 Table 1C GILs, Marine Waters
ANZG, March 2021, ANZG (2018) Freshwater 95% LOSP Toxicant DGVs
ANZG, March 2021, ANZG (2018) Marine Water 95% LOSP Toxicant DGVs

			Perfluoroalkane Carboxylic Acids											(n:2) Fluorotelomer Sulfonic Acids			
			Perfluorobutanoic acid (PFBA)	Perfluorohexanoic acid (PFHxA)	Perfluoropentanoic acid (PFPeA)	Perfluoroheptanoic acid (PFHpA)	Perfluorooctanoic acid (PFOA)	Perfluorodecanoic acid (PFDA)	Perfluorododecanoic acid (PFDoDA)	Perfluorononanoic acid (PFNA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluoroundecanoic acid (PFUnDA)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)
			µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL			0.1	0.02	0.02	0.02	0.01	0.02	0.02	0.02	0.05	0.02	0.02	0.05	0.05	0.05	0.05
NEPM 2013 Table 1A(4) Comm/Ind HSL D GW for Vapour Intrusion, Silt		30															
NEPM 2013 Table 1C GILs, Fresh Waters																	
NEPM 2013 Table 1C GILs, Marine Waters																	
PFAS NEMP 2020 Freshwater 95%							220										
PFAS NEMP 2020 Interim Marine 95%							220										
ANZG (2018) Freshwater 95% LOSP Toxicant DGVs																	
ANZG (2018) Marine Water 95% LOSP Toxicant DGVs																	
Field ID	**Matrix Type**	**Date**															
MW01	**Water**	**21/02/2022**	<0.1	0.04	0.05	<0.02	0.01	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05
MW02	**Water**	**21/02/2022**	<0.1	0.04	0.04	<0.02	0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05
MW03	**Water**	**21/02/2022**	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.05	0.08	<0.05	<0.05
MW04	**Water**	**21/02/2022**	<0.1	0.03	0.04	<0.02	0.02	<0.02	<0.02	0.03	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05

Statistics

Number of Results	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**
Number of Detects	**0**	**3**	**3**	**0**	**3**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	**0**	**0**
Minimum Concentration	**<0.1**	**<0.02**	**<0.02**	**<0.02**	**0.01**	**<0.02**	**<0.02**	**<0.02**	**<0.05**	**<0.02**	**<0.02**	**<0.05**	**<0.05**	**<0.05**	**<0.05**
Minimum Detect	**ND**	**0.03**	**0.04**	**ND**	**0.01**	**ND**	**ND**	**0.03**	**ND**	**ND**	**ND**	**ND**	**0.08**	**ND**	**ND**
Maximum Concentration	**<0.1**	**0.04**	**0.05**	**<0.02**	**0.02**	**<0.02**	**<0.02**	**0.03**	**<0.05**	**<0.02**	**<0.02**	**<0.05**	**0.08**	**<0.05**	**<0.05**
Maximum Detect	**ND**	**0.04**	**0.05**	**ND**	**0.02**	**ND**	**ND**	**0.03**	**ND**	**ND**	**ND**	**ND**	**0.08**	**ND**	**ND**
Average Concentration *	**0.05**	**0.021**	**0.024**	**0.01**	**0.01**	**0.01**	**0.01**	**0.013**	**0.025**	**0.01**	**0.01**	**0.025**	**0.033**	**0.025**	**0.025**
Median Concentration *	**0.05**	**0.01**	**0.01**	**0.01**	**0.005**	**0.01**	**0.01**	**0.01**	**0.025**	**0.01**	**0.01**	**0.025**	**0.025**	**0.025**	**0.025**
Standard Deviation *	**0**	**0.015**	**0.018**	**0**	**0.0071**	**0**	**0**	**0.0076**	**0**	**0**	**0**	**0**	**0.021**	**0**	**0**
95% UCL (Student's-t) *	**0.05**	**0.0322**	**0.0376**	**0.01**	**0.0152**	**0.01**	**0.01**	**0.0184**	**0.025**	**0.01**	**0.01**	**0.025**	**0.0481**	**0.025**	**0.025**
% of Detects	**0**	**43**	**43**	**0**	**43**	**0**	**0**	**14**	**0**	**0**	**0**	**0**	**14**	**0**	**0**
% of Non-Detects	**100**	**57**	**57**	**100**	**57**	**100**	**100**	**86**	**100**	**100**	**100**	**100**	**86**	**100**	**100**

* A Non Detect Multiplier of 0.5 has been applied.

Environmental Standards

2013, NEPM 2013 Table 1A(4) Comm/Ind HSL D GW for Vapour Intrusion, Silt
2013, NEPM 2013 Table 1C GILs, Fresh Waters
2013, NEPM 2013 Table 1C GILs, Marine Waters
ANZG, March 2021, ANZG (2018) Freshwater 95% LOSP Toxicant DGVs
ANZG, March 2021, ANZG (2018) Marine Water 95% LOSP Toxicant DGVs

			Perfluoroalkane Sulfonic Acids						Perfluoroalkyl Sulfonamides							PFAS		
			Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluorohexane sulfonic acid (PFHxS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorooctane sulfonic acid (PFOS)	Perfluorodecane sulfonic acid (PFDS)	Perfluorooctane sulfonamide (FOSA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	N-methyl perfluorooctane sulfonamidoethanol (MeFOSE)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	Sum of PFHxS and PFOS	Sum of PFAS	Sum of PFAS (WA DER List)
			µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL			0.02	0.02	0.01	0.02	0.01	0.02	0.02	0.05	0.02	0.05	0.05	0.02	0.05	0.01	0.01	0.01
NEPM 2013 Table 1A(4) Comm/Ind HSL D GW for Vapour Intrusion, Silt		30																
NEPM 2013 Table 1C GILs, Fresh Waters																		
NEPM 2013 Table 1C GILs, Marine Waters																		
PFAS NEMP 2020 Freshwater 95%							0.13											
PFAS NEMP 2020 Interim Marine 95%							0.13											
ANZG (2018) Freshwater 95% LOSP Toxicant DGVs																		
ANZG (2018) Marine Water 95% LOSP Toxicant DGVs																		
Field ID	**Matrix Type**	**Date**																
MW01	**Water**	**21/02/2022**	<0.02	<0.02	0.02	<0.02	<0.01	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.02	0.12	0.12
MW02	**Water**	**21/02/2022**	0.04	<0.02	0.04	<0.02	0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.06	0.20	0.20
MW03	**Water**	**21/02/2022**	<0.02	<0.02	<0.01	<0.02	0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.02	0.10	0.10
MW04	**Water**	**21/02/2022**	0.03	<0.02	0.03	<0.02	<0.01	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.03	0.18	0.15

Statistics

Number of Results	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**
Number of Detects	**2**	**0**	**4**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**6**	**6**	**6**
Minimum Concentration	**<0.02**	**<0.02**	**0.01**	**<0.02**	**0.01**	**<0.02**	**<0.02**	**<0.05**	**<0.02**	**<0.05**	**<0.05**	**<0.02**	**<0.05**	**0.01**	**0.01**	**0.01**
Minimum Detect	**0.03**	**ND**	**0.01**	**ND**	**0.01**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**0.01**	**0.01**	**0.01**
Maximum Concentration	**0.04**	**<0.02**	**0.04**	**<0.02**	**0.02**	**<0.02**	**<0.02**	**<0.05**	**<0.02**	**<0.05**	**<0.05**	**<0.02**	**<0.05**	**0.06**	**0.2**	**0.2**
Maximum Detect	**0.04**	**ND**	**0.04**	**ND**	**0.02**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**0.06**	**0.2**	**0.2**
Average Concentration *	**0.017**	**0.01**	**0.016**	**0.01**	**0.012**	**0.01**	**0.01**	**0.025**	**0.01**	**0.025**	**0.025**	**0.01**	**0.025**	**0.025**	**0.092**	**0.088**
Median Concentration *	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.025**	**0.01**	**0.025**	**0.025**	**0.01**	**0.025**	**0.02**	**0.1**	**0.1**
Standard Deviation *	**0.013**	**0**	**0.014**	**0**	**0.0076**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0.018**	**0.08**	**0.075**
95% UCL (Student's-t) *	**0.0263**	**0.01**	**0.0268**	**0.01**	**0.0177**	**0.01**	**0.01**	**0.025**	**0.01**	**0.025**	**0.025**	**0.01**	**0.025**	**0.0382**	**0.151**	**0.143**
% of Detects	**29**	**0**	**57**	**0**	**57**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**86**	**86**	**86**
% of Non-Detects	**71**	**100**	**43**	**100**	**43**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**14**	**14**	**14**

* A Non Detect Multiplier of 0.5 has been applied.

Environmental Standards

2013, NEPM 2013 Table 1A(4) Comm/Ind HSL D GW for Vapour Intrusion, Silt
2013, NEPM 2013 Table 1C GILs, Fresh Waters
2013, NEPM 2013 Table 1C GILs, Marine Waters
ANZG, March 2021, ANZG (2018) Freshwater 95% LOSP Toxicant DGVs
ANZG, March 2021, ANZG (2018) Marine Water 95% LOSP Toxicant DGVs

			MAH																	Nitroaromatics		
			1,2,4-trimethylbenzene	1,3,5-trimethylbenzene	Isopropylbenzene	n-butylbenzene	n-propylbenzene	p-isopropyltoluene	sec-butylbenzene	Styrene	tert-butylbenzene	Arsenic (filtered)	Cadmium (filtered)	Chromium (III+VI) (filtered)	Copper (filtered)	Lead (filtered)	Mercury (filtered)	Nickel (filtered)	Zinc (filtered)	2-Picoline	4-aminobiphenyl	Pentachloronitrobenzene
			µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	µg/L	µg/L
EQL			5	5	5	5	5	5	5	5	5	0.001	0.0001	0.001	0.001	0.001	0.0001	0.001	0.005	2	2	2
NEPM 2013 Table 1A(4) Comm/Ind HSL D GW for Vapour Intrusion, Silt		30																				
NEPM 2013 Table 1C GILs, Fresh Waters													0.0002		0.0014	0.0034	0.00006	0.011	0.008			
NEPM 2013 Table 1C GILs, Marine Waters													0.0007		0.0013	0.0044	0.0001	0.007	0.015			
PFAS NEMP 2020 Freshwater 95%																						
PFAS NEMP 2020 Interim Marine 95%																						
ANZG (2018) Freshwater 95% LOSP Toxicant DGVs					30								0.0002		0.0014	0.0034	0.0006	0.011	0.008			
ANZG (2018) Marine Water 95% LOSP Toxicant DGVs					30								0.0055		0.0013	0.0044	0.0004	0.07	0.015			
Field ID	**Matrix Type**	**Date**																				
MW01	**Water**	**21/02/2022**	<5	<5	<5	<5	<5	<5	<5	<5	<5	0.006	<0.0001	0.001	<0.001	<0.001	<0.0001	0.067	0.068	<2	<2	<2
MW02	**Water**	**21/02/2022**	<5	<5	<5	<5	<5	<5	<5	<5	<5	0.008	<0.0001	<0.001	<0.001	0.001	<0.0001	0.073	0.035	<2	<2	<2
MW03	**Water**	**21/02/2022**	<5	<5	<5	<5	<5	<5	<5	<5	<5	0.001	<0.0001	<0.001	<0.001	<0.001	<0.0001	0.055	0.022	<2	<2	<2
MW04	**Water**	**21/02/2022**	<5	<5	<5	<5	<5	<5	<5	<5	<5	0.005	<0.0001	<0.001	<0.001	<0.001	<0.0001	0.086	0.054	<2	<2	<2

Statistics

Number of Results	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**8**	**7**	**7**	**7**	**24**	**7**	**9**	**7**	**5**	**5**	**5**
Number of Detects	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**7**	**0**	**1**	**0**	**18**	**0**	**8**	**6**	**0**	**0**	**0**
Minimum Concentration	**<5**	**<5**	**<5**	**<5**	**<5**	**<5**	**<5**	**<5**	**<5**	**0.001**	**<0.0001**	**0.001**	**<0.001**	**0.001**	**<0.0001**	**<0.001**	**<0.005**	**<2**	**<2**	**<2**
Minimum Detect	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**0.001**	**ND**	**0.001**	**ND**	**0.001**	**ND**	**0.055**	**0.022**	**ND**	**ND**	**ND**
Maximum Concentration	**<5**	**<5**	**<5**	**<5**	**<5**	**<5**	**<5**	**<5**	**<5**	**0.4**	**<0.0001**	**0.001**	**<0.001**	**2,190**	**<0.0001**	**0.5**	**0.068**	**<2**	**<2**	**<2**
Maximum Detect	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**0.4**	**ND**	**0.001**	**ND**	**2,190**	**ND**	**0.5**	**0.068**	**ND**	**ND**	**ND**
Average Concentration *	**2.5**	**2.5**	**2.5**	**2.5**	**2.5**	**2.5**	**2.5**	**2.5**	**2.5**	**0.053**	**0.00005**	**0.00057**	**0.0005**	**126**	**0.00005**	**0.14**	**0.032**	**1**	**1**	**1**
Median Concentration *	**2.5**	**2.5**	**2.5**	**2.5**	**2.5**	**2.5**	**2.5**	**2.5**	**2.5**	**0.003**	**0.00005**	**0.0005**	**0.0005**	**0.2**	**0.00005**	**0.067**	**0.022**	**1**	**1**	**1**
Standard Deviation *	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0.14**	**0**	**0.00019**	**0**	**447**	**0**	**0.18**	**0.022**	**0**	**0**	**0**
95% UCL (Student's-t) *	**2.5**	**2.5**	**2.5**	**2.5**	**2.5**	**2.5**	**2.5**	**2.5**	**2.5**	**0.147**	**0.00005**	**0.00071023**	**0.0005**	**282.2**	**0.00005**	**0.254**	**0.0485**	**1**	**1**	**1**
% of Detects	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**88**	**0**	**14**	**0**	**75**	**0**	**89**	**86**	**0**	**0**	**0**
% of Non-Detects	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**12**	**100**	**86**	**100**	**25**	**100**	**11**	**14**	**100**	**100**	**100**

* A Non Detect Multiplier of 0.5 has been applied.

Environmental Standards

2013, NEPM 2013 Table 1A(4) Comm/Ind HSL D GW for Vapour Intrusion, Silt
2013, NEPM 2013 Table 1C GILs, Fresh Waters
2013, NEPM 2013 Table 1C GILs, Marine Waters
ANZG, March 2021, ANZG (2018) Freshwater 95% LOSP Toxicant DGVs
ANZG, March 2021, ANZG (2018) Marine Water 95% LOSP Toxicant DGVs

			Organochlorine Pesticides																						
			4,4-DDE	a-BHC	Aldrin	Aldrin + Dieldrin	b-BHC	Chlordane	Chlordane (cis)	Chlordane (trans)	d-BHC	DDD	DDT	DDT+DDE+DDD	Dieldrin	Endosulfan I	Endosulfan II	Endosulfan sulphate	Endrin	Endrin aldehyde	Endrin ketone	g-BHC (Lindane)	Heptachlor	Heptachlor epoxide	Methoxychlor
			µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL			0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	2	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	2
NEPM 2013 Table 1A(4) Comm/Ind HSL D GW for Vapour Intrusion, Silt		30																							
NEPM 2013 Table 1C GILs, Fresh Waters								0.03					0.006						0.01			0.2	0.01		
NEPM 2013 Table 1C GILs, Marine Waters																			0.004						
PFAS NEMP 2020 Freshwater 95%																									
PFAS NEMP 2020 Interim Marine 95%																									
ANZG (2018) Freshwater 95% LOSP Toxicant DGVs								0.08					0.01						0.02			0.2	0.09		
ANZG (2018) Marine Water 95% LOSP Toxicant DGVs																			0.008						
Field ID	**Matrix Type**	**Date**																							
MW01	**Water**	**21/02/2022**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0
MW02	**Water**	**21/02/2022**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0
MW03	**Water**	**21/02/2022**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0
MW04	**Water**	**21/02/2022**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0

Statistics

Number of Results	**8**	**8**	**8**	**8**	**8**	**8**	**8**	**8**	**8**	**8**	**8**	**8**	**8**	**8**	**8**	**8**	**8**	**8**	**8**	**8**	**8**	**8**	**8**	**8**
Number of Detects	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Minimum Concentration	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<2**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<2**
Minimum Detect	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
Maximum Concentration	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<2**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<2**
Maximum Detect	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
Average Concentration *	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**1**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**1**
Median Concentration *	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**1**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**1**
Standard Deviation *	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
95% UCL (Student's-t) *	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**1**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**1**
% of Detects	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
% of Non-Detects	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**

* A Non Detect Multiplier of 0.5 has been applied.

Environmental Standards

2013, NEPM 2013 Table 1A(4) Comm/Ind HSL D GW for Vapour Intrusion, Silt
2013, NEPM 2013 Table 1C GILs, Fresh Waters
2013, NEPM 2013 Table 1C GILs, Marine Waters
ANZG, March 2021, ANZG (2018) Freshwater 95% LOSP Toxicant DGVs
ANZG, March 2021, ANZG (2018) Marine Water 95% LOSP Toxicant DGVs

			Organophosphorous Pesticides														Other
			Azinophos methyl	Bromophos-ethyl	Carbophenothion	Chlorfenvinphos	Chlorpyrifos	Diazinon	Dichlorvos	Dimethoate	Ethion	Fenthion	Malathion	Methyl parathion	Monocrotophos	Prothiofos	Acetophenone
			µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL			0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	2	2	0.5	2
NEPM 2013 Table 1A(4) Comm/Ind HSL D GW for Vapour Intrusion, Silt		30															
NEPM 2013 Table 1C GILs, Fresh Waters							0.01	0.01		0.15			0.05				
NEPM 2013 Table 1C GILs, Marine Waters							0.009										
PFAS NEMP 2020 Freshwater 95%																	
PFAS NEMP 2020 Interim Marine 95%																	
ANZG (2018) Freshwater 95% LOSP Toxicant DGVs			0.02				0.01	0.01		0.15			0.05				
ANZG (2018) Marine Water 95% LOSP Toxicant DGVs							0.009										
Field ID	**Matrix Type**	**Date**															
MW01	**Water**	**21/02/2022**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<2.0	<0.5	<2
MW02	**Water**	**21/02/2022**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<2.0	<0.5	<2
MW03	**Water**	**21/02/2022**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<2.0	<0.5	<2
MW04	**Water**	**21/02/2022**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<2.0	<0.5	<2

Statistics

Number of Results	**8**	**8**	**8**	**8**	**8**	**8**	**8**	**8**	**8**	**8**	**8**	**8**	**8**	**8**	**5**
Number of Detects	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Minimum Concentration	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<2**	**<2**	**<0.5**	**<2**
Minimum Detect	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
Maximum Concentration	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<2**	**<2**	**<0.5**	**<2**
Maximum Detect	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
Average Concentration *	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**1**	**1**	**0.25**	**1**
Median Concentration *	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**1**	**1**	**0.25**	**1**
Standard Deviation *	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
95% UCL (Student's-t) *	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**1**	**1**	**0.25**	**1**
% of Detects	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
% of Non-Detects	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**

* A Non Detect Multiplier of 0.5 has been applied.

Environmental Standards

2013, NEPM 2013 Table 1A(4) Comm/Ind HSL D GW for Vapour Intrusion, Silt
2013, NEPM 2013 Table 1C GILs, Fresh Waters
2013, NEPM 2013 Table 1C GILs, Marine Waters
ANZG, March 2021, ANZG (2018) Freshwater 95% LOSP Toxicant DGVs
ANZG, March 2021, ANZG (2018) Marine Water 95% LOSP Toxicant DGVs

			PAH																					
				2-chloronaphthalene	2-methylnaphthalene	3-methylcholanthrene	7,12-dimethylbenz(a)anthracene	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a) pyrene	Benzo(b+j)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Naphthalene	Phenanthrene	Pyrene	PAHs (Sum of total)
			mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL			0.004	2	2	2	2	1	1	1	1	0.5	0.001	1	1	1	1	1	1	1	1	1	1	0.5
NEPM 2013 Table 1A(4) Comm/Ind HSL D GW for Vapour Intrusion, Silt		30																						
NEPM 2013 Table 1C GILs, Fresh Waters																					16			
NEPM 2013 Table 1C GILs, Marine Waters																					50			
PFAS NEMP 2020 Freshwater 95%																								
PFAS NEMP 2020 Interim Marine 95%																								
ANZG (2018) Freshwater 95% LOSP Toxicant DGVs										0.4		0.2						1.4			16	2		
ANZG (2018) Marine Water 95% LOSP Toxicant DGVs										0.4		0.2						1.4			70	2		
Field ID	**Matrix Type**	**Date**																						
MW01	**Water**	**21/02/2022**	<0.004	<2	<2	<2	<2	<1.0	<1.0	<1.0	<1.0	<0.5	<0.0010	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.5
MW02	**Water**	**21/02/2022**	<0.004	<2	<2	<2	<2	<1.0	<1.0	<1.0	<1.0	<0.5	<0.0010	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.5
MW03	**Water**	**21/02/2022**	<0.004	<2	<2	<2	<2	<1.0	<1.0	<1.0	<1.0	<0.5	<0.0010	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.5
MW04	**Water**	**21/02/2022**	<0.004	<2	<2	<2	<2	<1.0	<1.0	<1.0	<1.0	<0.5	<0.0010	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.5

Statistics

Number of Results	**5**	**5**	**5**	**5**	**5**	**8**	**8**	**8**	**8**	**15**	**8**	**8**	**8**	**8**	**8**	**8**	**8**	**9**	**8**	**8**	**8**
Number of Detects	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Minimum Concentration	**<0.004**	**<2**	**<2**	**<2**	**<2**	**<1**	**<1**	**<1**	**<1**	**<0.5**	**<0.001**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<0.5**
Minimum Detect	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
Maximum Concentration	**<0.004**	**<2**	**<2**	**<2**	**<2**	**<1**	**<1**	**<1**	**<1**	**<0.5**	**<0.001**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<5**	**<1**	**<1**	**<0.5**
Maximum Detect	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
Average Concentration *	**0.002**	**1**	**1**	**1**	**1**	**0.5**	**0.5**	**0.5**	**0.5**	**0.25**	**0.0005**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.72**	**0.5**	**0.5**	**0.25**
Median Concentration *	**0.002**	**1**	**1**	**1**	**1**	**0.5**	**0.5**	**0.5**	**0.5**	**0.25**	**0.0005**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.25**
Standard Deviation *	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0.67**	**0**	**0**	**0**
95% UCL (Student's-t) *	**0.002**	**1**	**1**	**1**	**1**	**0.5**	**0.5**	**0.5**	**0.5**	**0.25**	**0.0005**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**1.135**	**0.5**	**0.5**	**0.25**
% of Detects	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
% of Non-Detects	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**

* A Non Detect Multiplier of 0.5 has been applied.

Environmental Standards

2013, NEPM 2013 Table 1A(4) Comm/Ind HSL D GW for Vapour Intrusion, Silt
2013, NEPM 2013 Table 1C GILs, Fresh Waters
2013, NEPM 2013 Table 1C GILs, Marine Waters
ANZG, March 2021, ANZG (2018) Freshwater 95% LOSP Toxicant DGVs
ANZG, March 2021, ANZG (2018) Marine Water 95% LOSP Toxicant DGVs

			PCBs	Pesticides						Phthalates						Solvents					
			PCBs (Sum of total)	Chlorobenzilate	Carbazole	Demeton-S-methyl	Fenamiphos	Parathion	Pirimphos-ethyl	Bis(2-ethylhexyl) phthalate	Butyl benzyl phthalate	Diethylphthalate	Dimethyl phthalate	Di-n-butyl phthalate	Di-n-octyl phthalate	Methyl Ethyl Ketone	2-hexanone (MBK)	4-Methyl-2-pentanone	Carbon disulfide	Isophorone	Vinyl acetate
			µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL			1	2	2	0.5	0.5	2	0.5	10	2	2	2	2	2	50	50	50	5	2	50
NEPM 2013 Table 1A(4) Comm/Ind HSL D GW for Vapour Intrusion, Silt		30																			
NEPM 2013 Table 1C GILs, Fresh Waters								0.004				1,000	3,700	10							
NEPM 2013 Table 1C GILs, Marine Waters																					
PFAS NEMP 2020 Freshwater 95%																					
PFAS NEMP 2020 Interim Marine 95%																					
ANZG (2018) Freshwater 95% LOSP Toxicant DGVs								0.004				1,000	3,700	26							
ANZG (2018) Marine Water 95% LOSP Toxicant DGVs																					
Field ID	**Matrix Type**	**Date**																			
MW01	**Water**	**21/02/2022**	<1	<2	<2	<0.5	<0.5	<2.0	<0.5	<10	<2	<2	<2	<2	<2	<50	<50	<50	<5	<2	<50
MW02	**Water**	**21/02/2022**	<1	<2	<2	<0.5	<0.5	<2.0	<0.5	<10	<2	<2	<2	<2	<2	<50	<50	<50	<5	<2	<50
MW03	**Water**	**21/02/2022**	<1	<2	<2	<0.5	<0.5	<2.0	<0.5	<10	<2	<2	<2	<2	<2	<50	<50	<50	<5	<2	<50
MW04	**Water**	**21/02/2022**	<1	<2	<2	<0.5	<0.5	<2.0	<0.5	<10	<2	<2	<2	<2	<2	<50	<50	<50	<5	<2	<50

Statistics

Number of Results	**8**	**5**	**5**	**8**	**8**	**8**	**8**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**
Number of Detects	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**
Minimum Concentration	**<1**	**<2**	**<2**	**<0.5**	**<0.5**	**<2**	**<0.5**	**<10**	**<2**	**<2**	**<2**	**<2**	**<2**	**<50**	**<50**	**<50**	**<5**	**<2**	**<50**
Minimum Detect	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**9**	**ND**	**ND**
Maximum Concentration	**<1**	**<2**	**<2**	**<0.5**	**<0.5**	**<2**	**<0.5**	**<10**	**<2**	**<2**	**<2**	**<2**	**<2**	**<50**	**<50**	**<50**	**9**	**<2**	**<50**
Maximum Detect	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**9**	**ND**	**ND**
Average Concentration *	**0.5**	**1**	**1**	**0.25**	**0.25**	**1**	**0.25**	**5**	**1**	**1**	**1**	**1**	**1**	**25**	**25**	**25**	**3.8**	**1**	**25**
Median Concentration *	**0.5**	**1**	**1**	**0.25**	**0.25**	**1**	**0.25**	**5**	**1**	**1**	**1**	**1**	**1**	**25**	**25**	**25**	**2.5**	**1**	**25**
Standard Deviation *	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2.9**	**0**	**0**
95% UCL (Student's-t) *	**0.5**	**1**	**1**	**0.25**	**0.25**	**1**	**0.25**	**5**	**1**	**1**	**1**	**1**	**1**	**25**	**25**	**25**	**6.571**	**1**	**25**
% of Detects	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**20**	**0**	**0**
% of Non-Detects	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**80**	**100**	**100**

* A Non Detect Multiplier of 0.5 has been applied.

Environmental Standards

2013, NEPM 2013 Table 1A(4) Comm/Ind HSL D GW for Vapour Intrusion, Silt
2013, NEPM 2013 Table 1C GILs, Fresh Waters
2013, NEPM 2013 Table 1C GILs, Marine Waters
ANZG, March 2021, ANZG (2018) Freshwater 95% LOSP Toxicant DGVs
ANZG, March 2021, ANZG (2018) Marine Water 95% LOSP Toxicant DGVs

			SVOCs															
			2-(acetylamino) fluorene	3,3-Dichlorobenzidine	4-(dimethylamino) azobenzene	4-bromophenyl phenyl ether	4-chlorophenyl phenyl ether	4-Nitroquinoline-N-oxide	Azobenzene	Bis(2-chloroethoxy) methane	Bis(2-chloroethyl)ether	Dibenzofuran	Hexachloropropene	Methapyrilene	N-nitrosomorpholine	N-nitrosopiperidine	N-nitrosopyrrolidine	Phenacetin
			µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL			2	2	2	2	2	2	2	2	2	2	2	2	2	2	4	2
NEPM 2013 Table 1A(4) Comm/Ind HSL D GW for Vapour Intrusion, Silt		30																
NEPM 2013 Table 1C GILs, Fresh Waters																		
NEPM 2013 Table 1C GILs, Marine Waters																		
PFAS NEMP 2020 Freshwater 95%																		
PFAS NEMP 2020 Interim Marine 95%																		
ANZG (2018) Freshwater 95% LOSP Toxicant DGVs																		
ANZG (2018) Marine Water 95% LOSP Toxicant DGVs																		
Field ID	**Matrix Type**	**Date**																
MW01	**Water**	**21/02/2022**	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<4	<2
MW02	**Water**	**21/02/2022**	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<4	<2
MW03	**Water**	**21/02/2022**	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<4	<2
MW04	**Water**	**21/02/2022**	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<4	<2

Statistics																
Number of Results	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**
Number of Detects	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Minimum Concentration	**<2**	**<2**	**<2**	**<2**	**<2**	**<2**	**<2**	**<2**	**<2**	**<2**	**<2**	**<2**	**<2**	**<2**	**<4**	**<2**
Minimum Detect	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
Maximum Concentration	**<2**	**<2**	**<2**	**<2**	**<2**	**<2**	**<2**	**<2**	**<2**	**<2**	**<2**	**<2**	**<2**	**<2**	**<4**	**<2**
Maximum Detect	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
Average Concentration *	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**2**	**1**
Median Concentration *	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**2**	**1**
Standard Deviation *	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
95% UCL (Student's-t) *	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**2**	**1**
% of Detects	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
% of Non-Detects	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**

* A Non Detect Multiplier of 0.5 has been applied.

Environmental Standards

2013, NEPM 2013 Table 1A(4) Comm/Ind HSL D GW for Vapour Intrusion, Silt
2013, NEPM 2013 Table 1C GILs, Fresh Waters
2013, NEPM 2013 Table 1C GILs, Marine Waters
ANZG, March 2021, ANZG (2018) Freshwater 95% LOSP Toxicant DGVs
ANZG, March 2021, ANZG (2018) Marine Water 95% LOSP Toxicant DGVs

			TPH					VOCs		
			C6-C9 Fraction	C10-C14 Fraction	C15-C28 Fraction	C29-C36 Fraction	C10-C36 Fraction (Sum)	cis-1,4-Dichloro-2-butene	trans-1,4-Dichloro-2-butene	Pentachloroethane
			µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL			20	50	100	50	50	5	5	5
NEPM 2013 Table 1A(4) Comm/Ind HSL D GW for Vapour Intrusion, Silt		30								
NEPM 2013 Table 1C GILs, Fresh Waters										
NEPM 2013 Table 1C GILs, Marine Waters										
PFAS NEMP 2020 Freshwater 95%										
PFAS NEMP 2020 Interim Marine 95%										
ANZG (2018) Freshwater 95% LOSP Toxicant DGVs										80
ANZG (2018) Marine Water 95% LOSP Toxicant DGVs										80
Field ID	**Matrix Type**	**Date**								
MW01	**Water**	**21/02/2022**	<20	<50	<100	<50	<50	<5	<5	<5
MW02	**Water**	**21/02/2022**	<20	<50	<100	<50	<50	<5	<5	<5
MW03	**Water**	**21/02/2022**	<20	<50	<100	<50	<50	<5	<5	<5
MW04	**Water**	**21/02/2022**	<20	<50	<100	<50	<50	<5	<5	<5

Statistics

Number of Results	**9**	**8**	**8**	**8**	**8**	**5**	**5**	**5**
Number of Detects	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Minimum Concentration	**<20**	**<50**	**<100**	**<50**	**<50**	**<5**	**<5**	**<5**
Minimum Detect	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
Maximum Concentration	**<20**	**<50**	**<100**	**<50**	**<50**	**<5**	**<5**	**<5**
Maximum Detect	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
Average Concentration *	**10**	**25**	**50**	**25**	**25**	**2.5**	**2.5**	**2.5**
Median Concentration *	**10**	**25**	**50**	**25**	**25**	**2.5**	**2.5**	**2.5**
Standard Deviation *	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
95% UCL (Student's-t) *	**10**	**25**	**50**	**25**	**25**	**2.5**	**2.5**	**2.5**
% of Detects	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
% of Non-Detects	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**

* A Non Detect Multiplier of 0.5 has been applied.

Environmental Standards

2013, NEPM 2013 Table 1A(4) Comm/Ind HSL D GW for Vapour Intrusion, Silt
2013, NEPM 2013 Table 1C GILs, Fresh Waters
2013, NEPM 2013 Table 1C GILs, Marine Waters
ANZG, March 2021, ANZG (2018) Freshwater 95% LOSP Toxicant DGVs
ANZG, March 2021, ANZG (2018) Marine Water 95% LOSP Toxicant DGVs

EP RISK

				Acid Sulphate Soils			Acid Sulphate Soils - Acid Base Accounting				Acid Sulphate Soils - Acidity Trail						Acid Sulphate Soils - Calcium Values				
				Reaction Rate	s-Net Acidity without ANCE	pH (KCl)	a-Net Acidity without ANCE	ANC Fineness Factor	Net Acidity (acidity units)	Net Acidity (sulfur units)	Titratable Actual Acidity (sulfur units)	Titratable Peroxide Acidity (sulfur units)	Titratable Sulfidic Acidity (sulfur units)	Titratable Actual Acidity	Titratable Peroxide Acidity	Titratable Sulfidic Acidity	acidity - Acid Reacted Calcium	Acid Reacted Calcium	KCl Extractable Calcium	Calcium in Peroxide	sulfidic - Acid Reacted Calcium
				-	% S	-	moles H+/t	-	mole H+/t	%S	%S	%S	%S	mole H+/t	mole H+/t	mole H+/t	mole H+/t	%	%	%	% S
EQL				1	0.02	0.1	10	0.5	10	0.02	0.02	0.02	0.02	2	2	2	10	0.02	0.02	0.02	
National ASS Guidelines Table 5.1 Potential ASS																					
National ASS Guidelines Table 5.1 Actual ASS																					
National ASS Guidelines Table 5.4 Course and Peats sands to loamy sands									18	0.03											
Field ID	**Matrix Type**	**Depth**	**Date**																		
BH01_4.0	**Soil**	**4**	**8/02/2022**	2	<0.02	6.5	<10	1.5	<10	<0.02	<0.020	<0.020	<0.020	<2	5	5	<10	<0.020	<0.020	<0.020	<0.020
BH01_5.5	**Soil**	**5.5**	**8/02/2022**	2																	
BH02_2.0	**Soil**	**2**	**9/02/2022**	2																	
BH02_4.0	**Soil**	**4**	**9/02/2022**	2	0.02	4.9	12	1.5	12	0.02	0.020	<0.020	<0.020	12	<2	<2	<10	<0.020	<0.020	<0.020	<0.020
BH03_3.0	**Soil**	**3**	**9/02/2022**	2	0.02	7.6	15	1.5	18	0.03	<0.020	0.031	0.031	<2	19	19	<10	<0.020	0.053	0.055	<0.020
BH04_5.0	**Soil**	**5**	**10/02/2022**	2	<0.02	7.1	<10	1.5	<10	<0.02	<0.020	<0.020	<0.020	<2	2	2	<10	<0.020	<0.020	<0.020	<0.020
BH04_7.5	**Soil**	**7.5**	**10/02/2022**	2																	
BH05_2.0	**Soil**	**2**	**10/02/2022**	3																	
BH05_4.0	**Soil**	**4**	**10/02/2022**	3	<0.02	6.4	<10	1.5	<10	<0.02	<0.020	<0.020	<0.020	<2	<2	<2	<10	<0.020	0.032	0.033	<0.020

Statistics

Number of Results	**9**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**
Number of Detects	**9**	**2**	**5**	**2**	**5**	**2**	**2**	**1**	**1**	**1**	**1**	**3**	**3**	**0**	**0**	**2**	**2**	**0**
Minimum Concentration	**2**	**0.02**	**4.9**	**<10**	**1.5**	**<10**	**0.02**	**0.02**	**<0.02**	**<0.02**	**<2**	**2**	**2**	**<10**	**<0.02**	**<0.02**	**<0.02**	**<0.02**
Minimum Detect	**2**	**0.02**	**4.9**	**12**	**1.5**	**12**	**0.02**	**0.02**	**0.031**	**0.031**	**12**	**2**	**2**	**ND**	**ND**	**0.032**	**0.033**	**ND**
Maximum Concentration	**3**	**0.02**	**7.6**	**15**	**1.5**	**18**	**0.03**	**0.02**	**0.031**	**0.031**	**12**	**19**	**19**	**<10**	**<0.02**	**0.053**	**0.055**	**<0.02**
Maximum Detect	**3**	**0.02**	**7.6**	**15**	**1.5**	**18**	**0.03**	**0.02**	**0.031**	**0.031**	**12**	**19**	**19**	**ND**	**ND**	**0.053**	**0.055**	**ND**
Average Concentration *	**2.2**	**0.014**	**6.5**	**8.4**	**1.5**	**9**	**0.016**	**0.012**	**0.014**	**0.014**	**3.2**	**5.6**	**5.6**	**5**	**0.01**	**0.023**	**0.024**	**0.01**
Median Concentration *	**2**	**0.01**	**6.5**	**5**	**1.5**	**5**	**0.01**	**0.01**	**0.01**	**0.01**	**1**	**2**	**2**	**5**	**0.01**	**0.01**	**0.01**	**0.01**
Standard Deviation *	**0.44**	**0.0055**	**1**	**4.8**	**0**	**5.9**	**0.0089**	**0.0045**	**0.0094**	**0.0094**	**4.9**	**7.7**	**7.7**	**0**	**0**	**0.019**	**0.02**	**0**
95% UCL (Student's-t) *	**2.496**	**0.0192**	**7.47**	**12.95**	**1.5**	**14.6**	**0.0245**	**0.0163**	**0.0232**	**0.0232**	**7.89**	**12.91**	**12.91**	**5**	**0.01**	**0.0414**	**0.0428**	**0.01**
% of Detects	**100**	**40**	**100**	**40**	**100**	**40**	**40**	**20**	**20**	**20**	**20**	**60**	**60**	**0**	**0**	**40**	**40**	**0**
% of Non-Detects	**0**	**60**	**0**	**60**	**0**	**60**	**60**	**80**	**80**	**80**	**80**	**40**	**40**	**100**	**100**	**60**	**60**	**100**

* A Non Detect Multiplier of 0.5 has been applied.

Environmental Standards

National Acid Sulfate Soils Guideance, Table 5.1 Potential ASS
National Acid Sulfate Soils Guideance, Table 5.1 Actual ASS
National Acid Sulfate Soils Guideance, Table 5.4

				Acid Sulphate Soils - Field		Acid Sulphate Soils - Liming Rate		Acid Sulphate Soils - Magnesium Values					Acid Sulphate Soils - pH	Acid Sulphate Soils - Sulfur Trail			
				pHF	pHFox	Liming Rate	Liming Rate excluding ANC	Acid Reacted Magnesium (acidity units)	Acid Reacted Magnesium	KCl Extractable Magnesium	Magnesium in Peroxide	Acid Reacted Magnesium (sulfur units)	pH-OX	Peroxide Oxidisable Sulfur (acidity units)	KCl Extractable Sulfur	Peroxide Sulfur	Peroxide Oxidisable Sulfur
				-	-	kg CaCO3/t	kg CaCO3/t	mole H+/t	%	%	%	%S	-	mole H+/t	%	%	%
EQL				0.1	0.1	1	1	10	0.02	0.02	0.02	0.02	0.1	10	0.02	0.02	0.02
National ASS Guidelines Table 5.1 Potential ASS				>4	<3												
National ASS Guidelines Table 5.1 Actual ASS				<4													
National ASS Guidelines Table 5.4 Course and Peats sands to loamy sands																	
Field ID	**Matrix Type**	**Depth**	**Date**														
BH01_4.0	**Soil**	**4**	**8/02/2022**	7.2	4.2	<1	<1	<10	<0.020	<0.020	<0.020	<0.020	5.6	<10	<0.020	<0.020	<0.020
BH01_5.5	**Soil**	**5.5**	**8/02/2022**	7.6	4.6												
BH02_2.0	**Soil**	**2**	**9/02/2022**	7.0	4.4												
BH02_4.0	**Soil**	**4**	**9/02/2022**	6.4	4.6	<1	<1	<10	<0.020	<0.020	<0.020	<0.020	5.1	<10	<0.020	<0.020	<0.020
BH03_3.0	**Soil**	**3**	**9/02/2022**	7.6	4.2	1	1	<10	<0.020	<0.020	<0.020	<0.020	4.9	15	<0.020	0.024	0.024
BH04_5.0	**Soil**	**5**	**10/02/2022**	7.5	4.7	<1	<1	<10	<0.020	<0.020	<0.020	<0.020	5.8	<10	<0.020	<0.020	<0.020
BH04_7.5	**Soil**	**7.5**	**10/02/2022**	7.6	4.7												
BH05_2.0	**Soil**	**2**	**10/02/2022**	7.3	3.4												
BH05_4.0	**Soil**	**4**	**10/02/2022**	7.3	3.2	<1	<1	<10	<0.020	<0.020	<0.020	<0.020	4.9	<10	<0.020	<0.020	<0.020

Statistics

Number of Results	**9**	**9**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**
Number of Detects	**9**	**9**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**5**	**1**	**0**	**1**	**1**
Minimum Concentration	**6.4**	**3.2**	**1**	**1**	**<10**	**<0.02**	**<0.02**	**<0.02**	**<0.02**	**4.9**	**<10**	**<0.02**	**<0.02**	**<0.02**
Minimum Detect	**6.4**	**3.2**	**1**	**1**	**ND**	**ND**	**ND**	**ND**	**ND**	**4.9**	**15**	**ND**	**0.024**	**0.024**
Maximum Concentration	**7.6**	**4.7**	**1**	**1**	**<10**	**<0.02**	**<0.02**	**<0.02**	**<0.02**	**5.8**	**15**	**<0.02**	**0.024**	**0.024**
Maximum Detect	**7.6**	**4.7**	**1**	**1**	**ND**	**ND**	**ND**	**ND**	**ND**	**5.8**	**15**	**ND**	**0.024**	**0.024**
Average Concentration *	**7.3**	**4.2**	**0.6**	**0.6**	**5**	**0.01**	**0.01**	**0.01**	**0.01**	**5.3**	**7**	**0.01**	**0.013**	**0.013**
Median Concentration *	**7.3**	**4.4**	**0.5**	**0.5**	**5**	**0.01**	**0.01**	**0.01**	**0.01**	**5.1**	**5**	**0.01**	**0.01**	**0.01**
Standard Deviation *	**0.39**	**0.56**	**0.22**	**0.22**	**0**	**0**	**0**	**0**	**0**	**0.42**	**4.5**	**0**	**0.0063**	**0.0063**
95% UCL (Student's-t) *	**7.519**	**4.568**	**0.813**	**0.813**	**5**	**0.01**	**0.01**	**0.01**	**0.01**	**5.657**	**11.26**	**0.01**	**0.0188**	**0.0188**
% of Detects	**100**	**100**	**20**	**20**	**0**	**0**	**0**	**0**	**0**	**100**	**20**	**0**	**20**	**20**
% of Non-Detects	**0**	**0**	**80**	**80**	**100**	**100**	**100**	**100**	**100**	**0**	**80**	**100**	**80**	**80**

* A Non Detect Multiplier of 0.5 has been applied.

Environmental Standards

National Acid Sulfate Soils Guideance, Table 5.1 Potential ASS
National Acid Sulfate Soils Guideance, Table 5.1 Actual ASS
National Acid Sulfate Soils Guideance, Table 5.4

Lab Report Number				ES2204462	ES2204462		ES2204462	ES2204462		ES2204462	ES2204462		ES2204812	ES2204812		ES2204812	ES2204812		ES2204812	ES2204812		ES2204958	ES2204958		ES2206979	ES2204958		ES2204958	ES2204958	
Field ID				BH03_0.2	DUP01		BH03_0.2	DUP01		BH03_0.5	DUP02		BH07_0.5	DUP06		BH11_0.2	DUP03		BH14_0.2	DUP04		BH06_0.4	DUP08		BH06_0.9	DUP09		BH15_0.4	DUP07	
Matrix Type				Soil	Soil		Soil	Soil		Soil	Soil		Soil	Soil		Soil	Soil		Soil	Soil		Soil	Soil		Soil	Soil		Soil	Soil	
Date				9/02/2022	9/02/2022	RPD	9/02/2022	9/02/2022	RPD	9/02/2022	9/02/2022	RPD	11/02/2022	11/02/2022	RPD	11/02/2022	11/02/2022	RPD	11/02/2022	11/02/2022	RPD	14/02/2022	14/02/2022	RPD	14/02/2022	14/02/2022	RPD	14/02/2022	14/02/2022	RPD
	Unit	EQL	RPD																															
Asbestos																																		
Asbestos (Trace)	Fibres	5		0						0			0			0			0			0						0		
Synthetic Mineral Fibre	g/kg	0.1		0						0			0			0			0			0						0		
APPROVED IDENTIFIER:	-			1						1			1			1			1			1						1		
Asbestos Type	Detect			1						1			1			1			1			1						1		
Asbestos fibres	g/kg			0						0			0			0			0			0						0		
Biota																														
Biota Description	-			1						1			1			1			1			1						1		
Mass																														
weight of sample	g	0.01		65.2						171			89.7			67.0			87.6			80.3						122		
Particulates																														
Organic Fibre	g/kg	0.1		0						0			0			0			0			0						0		
BTEX																														
Benzene	mg/kg	0.2		<0.2	<0.2	0		<0.2		<0.2			<0.2			<0.2			<0.2			<0.2			<0.2	<0.2	0	<0.2	<0.2	0
Toluene	mg/kg	0.5		<0.5	<0.5	0		<0.5		<0.5			<0.5			<0.5			<0.5			<0.5			<0.5	<0.5	0	<0.5	<0.5	0
Ethylbenzene	mg/kg	0.5		<0.5	<0.5	0		<0.5		<0.5			<0.5			<0.5			<0.5			<0.5			<0.5	<0.5	0	<0.5	<0.5	0
Xylene (m & p)	mg/kg	0.5		<0.5	<0.5	0		<0.5		<0.5			<0.5			<0.5			<0.5			<0.5			<0.5	<0.5	0	<0.5	<0.5	0
Xylene (o)	mg/kg	0.5		<0.5	<0.5	0		<0.5		<0.5			<0.5			<0.5			<0.5			<0.5			<0.5	<0.5	0	<0.5	<0.5	0
Xylene Total	mg/kg	0.5		<0.5	<0.5	0		<0.5		<0.5			<0.5			<0.5			<0.5			<0.5			<0.5	<0.5	0	<0.5	<0.5	0
Total BTEX	mg/kg	0.2		<0.2	<0.2	0		<0.2		<0.2			<0.2			<0.2			<0.2			<0.2			<0.2	<0.2	0	<0.2	<0.2	0
TRH																														
C6-C10 Fraction (F1)	mg/kg	10		<10	<10	0		<10		<10			<10			<10			<10			<10			<10	<10	0	<10	<10	0
C6-C10 (F1 minus BTEX)	mg/kg	10		<10	<10	0		<10		<10			<10			<10			<10			<10			<10	<10	0	<10	<10	0
>C10-C16 Fraction (F2)	mg/kg	50		<50	<50	0		<50		<50			<50			<50			<50			<50			<50	<50	0	<50	<50	0
>C10-C16 Fraction (F2 minus Naphthalene)	mg/kg	50		<50	<50	0		<50		<50			<50			<50			<50			<50			<50	<50	0	<50	<50	0
>C16-C34 Fraction (F3)	mg/kg	100		<100	<100	0		<100		250			<100			150			<100			<100			<100	<100	0	<100	<100	0
>C34-C40 Fraction (F4)	mg/kg	100		<100	<100	0		<100		<100			<100			<100			<100			<100			<100	<100	0	<100	<100	0
>C10-C40 Fraction (Sum)	mg/kg	50		<50	<50	0		<50		250			<50			150			<50			<50			<50	<50	0	<50	<50	0
Phenols																														
3&4-Methylphenol (m&p-cresol)	mg/kg	0.5		<0.5	<1	0		<1		<1			<1			<1			<1			<1			<1	<1	0	<0.5	<1	0
2,4,5-Trichlorophenol	mg/kg	0.5		<0.5	<0.5	0		<0.5		<0.5			<0.5			<0.5			<0.5			<0.5			<0.5	<0.5	0	<0.5	<0.5	0
2,4,6-Trichlorophenol	mg/kg	0.5		<0.5	<0.5	0		<0.5		<0.5			<0.5			<0.5			<0.5			<0.5			<0.5	<0.5	0	<0.5	<0.5	0
2,4-Dichlorophenol	mg/kg	0.5		<0.5	<0.5	0		<0.5		<0.5			<0.5			<0.5			<0.5			<0.5			<0.5	<0.5	0	<0.5	<0.5	0
2,4-Dimethylphenol	mg/kg	0.5		<0.5	<0.5	0		<0.5		<0.5			<0.5			<0.5			<0.5			<0.5			<0.5	<0.5	0	<0.5	<0.5	0
2,6-Dichlorophenol	mg/kg	0.5		<0.5	<0.5	0		<0.5		<0.5			<0.5			<0.5			<0.5			<0.5			<0.5	<0.5	0	<0.5	<0.5	0
2-Chlorophenol	mg/kg	0.5		<0.5	<0.5	0		<0.5		<0.5			<0.5			<0.5			<0.5			<0.5			<0.5	<0.5	0	<0.5	<0.5	0
2-Methylphenol	mg/kg	0.5		<0.5	<0.5	0		<0.5		<0.5			<0.5			<0.5			<0.5			<0.5			<0.5	<0.5	0	<0.5	<0.5	0
2-Nitrophenol	mg/kg	0.5		<0.5	<0.5	0		<0.5		<0.5			<0.5			<0.5			<0.5			<0.5			<0.5	<0.5	0	<0.5	<0.5	0
4-chloro-3-methylphenol	mg/kg	0.5		<0.5	<0.5	0		<0.5		<0.5			<0.5			<0.5			<0.5			<0.5			<0.5	<0.5	0	<0.5	<0.5	0
Pentachlorophenol	mg/kg	1		<1	<2	0		<2		<2			<2			<2			<2			<2			<2	<2	0	<1	<2	0
Phenol	mg/kg	0.5		<0.5	<0.5	0		<0.5		<0.5			<0.5			<0.5			<0.5			<0.5			<0.5	<0.5	0	<0.5	<0.5	0
Amino Aliphatics																														
N-nitrosodiethylamine	mg/kg	0.5		<0.5									<0.5			<0.5												<0.5		
N-nitrosodi-n-butylamine	mg/kg	0.5		<0.5									<0.5			<0.5												<0.5		
N-nitrosodi-n-propylamine	mg/kg	0.5		<0.5									<0.5			<0.5												<0.5		
N-Nitrosomethylethylamine	mg/kg	0.5		<0.5									<0.5			<0.5												<0.5		
Amino Aromatics																														
1-naphthylamine	mg/kg	0.5		<0.5									<0.5			<0.5												<0.5		
N-Nitrosodiphenyl & Diphenylamine	mg/kg	1		<1.0									<1.0			<1.0												<1.0		
Anilines																														
2-nitroaniline	mg/kg	1		<1.0									<1.0			<1.0												<1.0		
3-nitroaniline	mg/kg	1		<1.0									<1.0			<1.0												<1.0		
4-chloroaniline	mg/kg	0.5		<0.5									<0.5			<0.5												<0.5		
4-nitroaniline	mg/kg	0.5		<0.5									<0.5			<0.5												<0.5		
2-methyl,5-nitroaniline	mg/kg	0.5		<0.5									<0.5			<0.5												<0.5		
Aniline	mg/kg	0.5		<0.5									<0.5			<0.5												<0.5		
Chlorinated Hydrocarbons																														
1,1,1,2-tetrachloroethane	mg/kg	0.5		<0.5									<0.5			<0.5												<0.5		
1,1,1-trichloroethane	mg/kg	0.5		<0.5									<0.5			<0.5												<0.5		
1,1,2,2-tetrachloroethane	mg/kg	0.5		<0.5									<0.5			<0.5												<0.5		
1,1,2-trichloroethane	mg/kg	0.5		<0.5									<0.5			<0.5												1.0		
1,1-dichloroethane	mg/kg	0.5		<0.5									<0.5			<0.5												<0.5		
1,1-dichloroethene	mg/kg	0.5		<0.5									<0.5			<0.5												<0.5		
1,1-dichloropropene	mg/kg	0.5		<0.5									<0.5			<0.5												<0.5		
1,2,3-trichloropropane	mg/kg	0.5		<0.5									<0.5			<0.5												<0.5		
1,2-dibromo-3-chloropropane	mg/kg	0.5		<0.5									<0.5			<0.5												<0.5		
1,2-dichloroethane	mg/kg	0.5		<0.5									<0.5			<0.5												<0.5		
1,2-dichloropropane	mg/kg	0.5		<0.5									<0.5			<0.5												<0.5		
1,3-dichloropropane	mg/kg	0.5		<0.5									<0.5			<0.5												<0.5		
2,2-dichloropropane	mg/kg	0.5		<0.5									<0.5			<0.5												<0.5		
Bromodichloromethane	mg/kg	0.5		<0.5									<0.5			<0.5												<0.5		
Bromoform	mg/kg	0.5		<0.5									<0.5			<0.5												<0.5		
Carbon tetrachloride	mg/kg	0.5		<0.5									<0.5			<0.5												<0.5		
Chlorodibromomethane	mg/kg	0.5		<0.5									<0.5			<0.5												<0.5		
Chloroethane	mg/kg	5		<5									<5			<5												<5		
Chloroform	mg/kg	0.5		<0.5									<0.5			<0.5												<0.5		
Chloromethane	mg/kg	5		<5									<5			<5												<5		
cis-1,2-dichloroethene	mg/kg	0.5		<0.5									<0.5			<0.5												<0.5		
cis-1,3-dichloropropene	mg/kg	0.5		<0.5									<0.5			<0.5												<0.5		
Dibromomethane	mg/kg	0.5		<0.5									<0.5			<0.5												<0.5		
Hexachlorobutadiene	mg/kg	0.5		<0.5									<0.5			<0.5												<0.5		
Hexachlorocyclopentadiene	mg/kg	2.5		<2.5									<2.5			<2.5												<2.5		
Hexachloroethane	mg/kg	0.5		<0.5									<0.5			<0.5												<0.5		
Trichloroethene	mg/kg	0.5		<0.5									<0.5			<0.5												<0.5		
Tetrachloroethene	mg/kg	0.5		<0.5									<0.5			<0.5												<0.5		
trans-1,2-dichloroethene	mg/kg	0.5		<0.5									<0.5			<0.5												<0.5		
trans-1,3-dichloropropene	mg/kg	0.5		<0.5									<0.5			<0.5												<0.5		
Vinyl chloride	mg/kg	5		<5									<5			<5												<5		
Explosives																														
1,3,5-Trinitrobenzene	mg/kg	0.5		<0.5									<0.5			<0.5												<0.5		
2,4-Dinitrotoluene	mg/kg	1		<1.0									<1.0			<1.0												<1.0		
2,6-dinitrotoluene	mg/kg	1		<1.0									<1.0			<1.0												<1.0		
Nitrobenzene	mg/kg	0.5		<0.5									<0.5			<0.5												<0.5		
Halogenated Benzenes																														
1,2,3-trichlorobenzene	mg/kg	0.5		<0.5									<0.5			<0.5												<0.5		
1,2,4-trichlorobenzene	mg/kg	0.5		<0.5									<0.5			<0.5												<0.5		
1,2-dichlorobenzene	mg/kg	0.5		<0.5									<0.5			<0.5												<0.5		
1,3-dichlorobenzene	mg/kg	0.5		<0.5									<0.5			<0.5												<0.5		
1,4-dichlorobenzene	mg/kg	0.5		<0.5									<0.5			<0.5												<0.5		
2-chlorotoluene	mg/kg	0.5		<0.5									<0.5			<0.5												<0.5		
4-chlorotoluene	mg/kg	0.5		<0.5									<0.5			<0.5												<0.5		
Bromobenzene	mg/kg	0.5		<0.5									<0.5			<0.5												<0.5		
Chlorobenzene	mg/kg	0.5		<0.5									<0.5			<0.5												<0.5		
Hexachlorobenzene	mg/kg	0.05		<0.05	<0.05	0		<0.05		<0.05			<0.05			<0.05			<0.05			<0.05			<0.05	<0.05	0	<0.05	<0.05	0
Pentachlorobenzene	mg/kg	0.5		<0.5									<0.5			<0.5												<0.5		
Halogenated Hydrocarbons																														
1,2-dibromoethane	mg/kg	0.5		<0.5									<0.5			<0.5												<0.5		
Bromomethane	mg/kg	5		<5									<5			<5												<5		
Dichlorodifluoromethane	mg/kg	5		<5									<5			<5												<5		
Iodomethane	mg/kg	0.5		<0.5									<0.5			<0.5												<0.5		
Trichlorofluoromethane	mg/kg	5		<5									<5			<5												<5		

			Lab Report Number	ES2204462	ES2204462		ES2204462	ES2204462		ES2204463	ES2204462		ES2204812	ES2204812		ES2204812	ES2204812		ES2204812	ES2204812		ES2204958	ES2204958		ES2206979	ES2204958		ES2204958	ES2204958	
			Field ID	BH03_0.2	DUP01		BH03_0.2	DUP01		BH03_0.5	DUP02		BH07_0.5	DUP06		BH11_0.2	DUP03		BH14_0.2	DUP04		BH06_0.4	DUP08		BH06_0.9	DUP09		BH15_0.4	DUP07	
			Matrix Type	Soil	Soil		Soil	Soil		Soil	Soil		Soil	Soil		Soil	Soil		Soil	Soil		Soil	Soil		Soil	Soil		Soil	Soil	
			Date	9/02/2022	9/02/2022	RPD	9/02/2022	9/02/2022	RPD	9/02/2022	9/02/2022	RPD	11/02/2022	11/02/2022	RPD	11/02/2022	11/02/2022	RPD	11/02/2022	11/02/2022	RPD	14/02/2022	14/02/2022	RPD	14/02/2022	14/02/2022	RPD	14/02/2022	14/02/2022	RPD
	Unit	EQL	RPD																											
Herbicides																														
Pronamide	mg/kg	0.5		<0.5									<0.5			<0.5												<0.5		
Perfluoroalkane Carboxylic Acids																														
Perfluorobutanoic acid (PFBA)	mg/kg	0.001		<0.002						<0.001	<0.001	0	<0.001	<0.001	0	<0.001	<0.001	0	<0.001	<0.001	0	<0.001	<0.001	0				<0.001	<0.001	0
Perfluorohexanoic acid (PFHxA)	mg/kg	0.0002		<0.0005						<0.0002	<0.0002	0	<0.0002	<0.0002	0	<0.0002	<0.0002	0	<0.0002	<0.0002	0	<0.0002	<0.0002	0				<0.0002	<0.0002	0
Perfluoropentanoic acid (PFPeA)	mg/kg	0.0002		<0.0005						<0.0002	<0.0002	0	<0.0002	<0.0002	0	<0.0002	<0.0002	0	<0.0002	<0.0002	0	<0.0002	<0.0002	0				<0.0002	<0.0002	0
Perfluoroheptanoic acid (PFHpA)	mg/kg	0.0002		<0.0005						<0.0002	<0.0002	0	<0.0002	<0.0002	0	<0.0002	<0.0002	0	<0.0002	<0.0002	0	<0.0002	<0.0002	0				<0.0002	<0.0002	0
Perfluorooctanoic acid (PFOA)	mg/kg	0.0002		<0.0005						<0.0002	<0.0002	0	<0.0002	<0.0002	0	<0.0002	<0.0002	0	<0.0002	<0.0002	0	<0.0002	<0.0002	0				<0.0002	<0.0002	0
Perfluorodecanoic acid (PFDA)	mg/kg	0.0002									<0.0002																			
Perfluorododecanoic acid (PFDoDA)	mg/kg	0.0002									<0.0002																			
Perfluorononanoic acid (PFNA)	mg/kg	0.0002									<0.0002																			
Perfluorotetradecanoic acid (PFTeDA)	mg/kg	0.0005									<0.0005																			
Perfluorotridecanoic acid (PFTrDA)	mg/kg	0.0002									<0.0002																			
Perfluoroundecanoic acid (PFUnDA)	mg/kg	0.0002									<0.0002																			
(n-2) Fluorotelomer Sulfonic Acids																														
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	mg/kg	0.0005		<0.0005						<0.0005	<0.0005	0	<0.0005	<0.0005	0	<0.0005	<0.0005	0	<0.0005	<0.0005	0	<0.0005	<0.0005	0				<0.0005	<0.0005	0
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	mg/kg	0.0005		<0.0005						<0.0005	<0.0005	0	<0.0005	<0.0005	0	<0.0005	<0.0005	0	<0.0005	<0.0005	0	<0.0005	<0.0005	0				<0.0005	<0.0005	0
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	mg/kg	0.0005		<0.0005						<0.0005	<0.0005	0	<0.0005	<0.0005	0	<0.0005	<0.0005	0	<0.0005	<0.0005	0	<0.0005	<0.0005	0				<0.0005	<0.0005	0
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	mg/kg	0.0005		<0.0005						<0.0005	<0.0005	0	<0.0005	<0.0005	0	<0.0005	<0.0005	0	<0.0005	<0.0005	0	<0.0005	<0.0005	0				<0.0005	<0.0005	0
Perfluoroalkane Sulfonic Acids																														
Perfluorobutane sulfonic acid (PFBS)	mg/kg	0.0002		<0.0005						<0.0002	<0.0002	0	<0.0002	<0.0002	0	<0.0002	<0.0002	0	<0.0002	<0.0002	0	<0.0002	<0.0002	0				<0.0002	<0.0002	0
Perfluoropentane sulfonic acid (PFPeS)	mg/kg	0.0002									<0.0002																			
Perfluorohexane sulfonic acid (PFHxS)	mg/kg	0.0002		<0.0005						<0.0002	<0.0002	0	<0.0002	<0.0002	0	<0.0002	<0.0002	0	<0.0002	<0.0002	0	<0.0002	<0.0002	0				<0.0002	<0.0002	0
Perfluoroheptane sulfonic acid (PFHpS)	mg/kg	0.0002									<0.0002																			
Perfluorooctane sulfonic acid (PFOS)	mg/kg	0.0002		<0.0005						<0.0002	<0.0002	0	<0.0002	<0.0002	0	<0.0002	<0.0002	0	0.0003	0.0004	29	<0.0002	0.0004	67				<0.0002	<0.0002	0
Perfluorodecane sulfonic acid (PFDS)	mg/kg	0.0002									<0.0002																			
Perfluoroalkyl Sulfonamides																														
Perfluorooctane sulfonamide (FOSA)	mg/kg	0.0002									<0.0002																			
N-Methyl perfluorooctane sulfonamide (MeFOSA)	mg/kg	0.0005									<0.0005																			
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	mg/kg	0.0002									<0.0002																			
N-methyl perfluorooctane sulfonamidoethanol (MeFOSE)	mg/kg	0.0005									<0.0005																			
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	mg/kg	0.0005									<0.0005																			
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	mg/kg	0.0002									<0.0002																			
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	mg/kg	0.0005									<0.0005																			
PFAS																														
Sum of PFHxS and PFOS	mg/kg	0.0002		<0.0005						<0.0002	<0.0002	0	<0.0002	<0.0002	0	<0.0002	<0.0002	0	0.0003	0.0004	29	<0.0002	0.0004	67				<0.0002	<0.0002	0
Sum of PFAS	mg/kg	0.0002									<0.0002																			
Sum of PFAS (WA DER List)	mg/kg	0.0002		<0.0005						<0.0002	<0.0002	0	<0.0002	<0.0002	0	<0.0002	<0.0002	0	0.0003	0.0004	29	<0.0002	0.0004	67				<0.0002	<0.0002	0
Inorganics																														
Moisture Content	%	0.1		13.0	12.7	2		12.7		9.6	8.6	11	20.7	20.6	0	26.2	10.4	86	9.0	16.9	61	7.8	7.1	9	2.8	3.2	13	7.6	10.3	30
MAH																														
1,2,4-trimethylbenzene	mg/kg	0.5		<0.5									<0.5			<0.5												<0.5		
1,3,5-trimethylbenzene	mg/kg	0.5		<0.5									<0.5			<0.5												<0.5		
Isopropylbenzene	mg/kg	0.5		<0.5									<0.5			<0.5												<0.5		
n-butylbenzene	mg/kg	0.5		<0.5									<0.5			<0.5												<0.5		
n-propylbenzene	mg/kg	0.5		<0.5									<0.5			<0.5												<0.5		
p-isopropyltoluene	mg/kg	0.5		<0.5									<0.5			<0.5												<0.5		
sec-butylbenzene	mg/kg	0.5		<0.5									<0.5			<0.5												<0.5		
Styrene	mg/kg	0.5		<0.5									<0.5			<0.5												<0.5		
tert-butylbenzene	mg/kg	0.5		<0.5									<0.5			<0.5												<0.5		
Metals																														
Arsenic	mg/kg	5		85	32	91		32		29			<5			16			10			<5			<5	<5	0	<5	5	0
Cadmium	mg/kg	1		28	9	103		9		9			<1			3			12			<1			<1	<1	0	<1	<1	0
Chromium (III+VI)	mg/kg	2		79	41	63		41		48			4			38			10			4			<2	<2	0	3	5	50
Copper	mg/kg	5		3,510	374	163		374		493			32			318			99			101			<5	17	109	194	304	44
Lead	mg/kg	5		196,000	170,000	14		170,000		125,000			145			1,200			13,000			58			<5	12	82	153	268	55
Mercury	mg/kg	0.1		<0.1	<0.1	0		<0.1		<0.1			0.3			0.4			0.6			<0.1			<0.1	<0.1	0	0.3	0.3	0
Nickel	mg/kg	2		139	48	97		48		58			2			24			16			5			<2	<2	0	6	10	50
Zinc	mg/kg	5		13,900	7,130	64		7,130		6,280			98			2,580			1,260			77			<5	18	113	235	377	46
Nitroaromatics																														
2-Picoline	mg/kg	0.5		<0.5									<0.5			<0.5												<0.5		
4-aminobiphenyl	mg/kg	0.5		<0.5									<0.5			<0.5												<0.5		
Pentachlorobenzene	mg/kg	0.5		<0.5									<0.5			<0.5												<0.5		
Organochlorine Pesticides																														
4,4-DDE	mg/kg	0.05		<0.05	<0.05	0		<0.05		<0.05			<0.05			<0.05			<0.05			<0.05			<0.05	<0.05	0	<0.05	<0.05	0
a-BHC	mg/kg	0.05		<0.05	<0.05	0		<0.05		<0.05			<0.05			<0.05			<0.05			<0.05			<0.05	<0.05	0	<0.05	<0.05	0
Aldrin	mg/kg	0.05		<0.05	<0.05	0		<0.05		<0.05			<0.05			<0.05			<0.05			<0.05			<0.05	<0.05	0	<0.05	<0.05	0
Aldrin + Dieldrin	mg/kg	0.05		<0.05	<0.05	0		<0.05		<0.05			<0.05			<0.05			<0.05			<0.05			<0.05	<0.05	0	<0.05	<0.05	0
b-BHC	mg/kg	0.05		<0.05	<0.05	0		<0.05		<0.05			<0.05			<0.05			<0.05			<0.05			<0.05	<0.05	0	<0.05	<0.05	0
Chlordane	mg/kg	0.05		<0.05	<0.05	0		<0.05		<0.05			<0.05			<0.05			<0.05			<0.05			<0.05	<0.05	0	<0.05	<0.05	0
Chlordane (cis)	mg/kg	0.05		<0.05	<0.05	0		<0.05		<0.05			<0.05			<0.05			<0.05			<0.05			<0.05	<0.05	0	<0.05	<0.05	0
Chlordane (trans)	mg/kg	0.05		<0.05	<0.05	0		<0.05		<0.05			<0.05			<0.05			<0.05			<0.05			<0.05	<0.05	0	<0.05	<0.05	0
d-BHC	mg/kg	0.05		<0.05	<0.05	0		<0.05		<0.05			<0.05			<0.05			<0.05			<0.05			<0.05	<0.05	0	<0.05	<0.05	0
DDD	mg/kg	0.05		<0.05	<0.05	0		<0.05		<0.05			<0.05			<0.05			<0.05			<0.05			<0.05	<0.05	0	<0.05	<0.05	0
DDT	mg/kg	0.2		<0.2	<0.2	0		<0.2		<0.2			<0.2			<0.2			<0.2			<0.2			<0.2	<0.2	0	<0.2	<0.2	0
DDT+DDE+DDD	mg/kg	0.05		<0.05	<0.05	0		<0.05		<0.05			<0.05			<0.05			<0.05			<0.05			<0.05	<0.05	0	<0.05	<0.05	0
Dieldrin	mg/kg	0.05		<0.05	<0.05	0		<0.05		<0.05			<0.05			<0.05			<0.05			<0.05			<0.05	<0.05	0	<0.05	<0.05	0
Endosulfan	mg/kg	0.05		<0.05	<0.05	0		<0.05		<0.05			<0.05			<0.05			<0.05			<0.05			<0.05	<0.05	0	<0.05	<0.05	0
Endosulfan I	mg/kg	0.05		<0.05	<0.05	0		<0.05		<0.05			<0.05			<0.05			<0.05			<0.05			<0.05	<0.05	0	<0.05	<0.05	0
Endosulfan II	mg/kg	0.05		<0.05	<0.05	0		<0.05		<0.05			<0.05			<0.05			<0.05			<0.05			<0.05	<0.05	0	<0.05	<0.05	0
Endosulfan sulphate	mg/kg	0.05		<0.05	<0.05	0		<0.05		<0.05			<0.05			<0.05			<0.05			<0.05			<0.05	<0.05	0	<0.05	<0.05	0
Endrin	mg/kg	0.05		<0.05	<0.05	0		<0.05		<0.05			<0.05			<0.05			<0.05			<0.05			<0.05	<0.05	0	<0.05	<0.05	0
Endrin aldehyde	mg/kg	0.05		<0.05	<0.05	0		<0.05		<0.05			<0.05			<0.05			<0.05			<0.05			<0.05	<0.05	0	<0.05	<0.05	0
Endrin ketone	mg/kg	0.05		<0.05	<0.05	0		<0.05		<0.05			<0.05			<0.05			<0.05			<0.05			<0.05	<0.05	0	<0.05	<0.05	0
g-BHC (Lindane)	mg/kg	0.05		<0.05	<0.05	0		<0.05		<0.05			<0.05			<0.05			<0.05			<0.05			<0.05	<0.05	0	<0.05	<0.05	0
Heptachlor	mg/kg	0.05		<0.05	<0.05	0		<0.05		<0.05			<0.05			<0.05			<0.05			<0.05			<0.05	<0.05	0	<0.05	<0.05	0
Heptachlor epoxide	mg/kg	0.05		<0.05	<0.05	0		<0.05		<0.05			<0.05			<0.05			<0.05			<0.05			<0.05	<0.05	0	<0.05	<0.05	0
Methoxychlor	mg/kg	0.2		<0.2	<0.2	0		<0.2		<0.2			<0.2			<0.2			<0.2			<0.2			<0.2	<0.2	0	<0.2	<0.2	0

			Lab Report Number	ES2204462	ES2204462		ES2204462	ES2204462		ES2204462	ES2204462		ES2204812	ES2204812		ES2204812	ES2204812		ES2204812	ES2204812		ES2204958	ES2204958		ES2206979	ES2204958		ES2204958	ES2204958	
			Field ID	BH03_0.2	DUP01		BH03_0.2	DUP01		BH03_0.5	DUP02		BH07_0.5	DUP06		BH11_0.2	DUP03		BH14_0.2	DUP04		BH06_0.4	DUP08		BH06_0.9	DUP09		BH15_0.4	DUP07	
			Matrix Type	Soil	Soil		Soil	Soil		Soil	Soil		Soil	Soil		Soil	Soil		Soil	Soil		Soil	Soil		Soil	Soil		Soil	Soil	
			Date	9/02/2022	9/02/2022	RPD	9/02/2022	9/02/2022	RPD	9/02/2022	9/02/2022	RPD	11/02/2022	11/02/2022	RPD	11/02/2022	11/02/2022	RPD	11/02/2022	11/02/2022	RPD	14/02/2022	14/02/2022	RPD	14/02/2022	14/02/2022	RPD	14/02/2022	14/02/2022	RPD
	Unit	EQL	RPD																											
Organophosphorous Pesticides																														
Azinophos methyl	mg/kg	0.05		<0.05	<0.05	0		<0.05		<0.05			<0.05			<0.05			<0.05			<0.05			<0.05	<0.05	0	<0.05	<0.05	0
Bromophos-ethyl	mg/kg	0.05		<0.05	<0.05	0		<0.05		<0.05			<0.05			<0.05			<0.05			<0.05			<0.05	<0.05	0	<0.05	<0.05	0
Carbophenothion	mg/kg	0.05		<0.05	<0.05	0		<0.05		<0.05			<0.05			<0.05			<0.05			<0.05			<0.05	<0.05	0	<0.05	<0.05	0
Chlorfenvinphos	mg/kg	0.05		<0.05	<0.05	0		<0.05		<0.05			<0.05			<0.05			<0.05			<0.05			<0.05	<0.05	0	<0.05	<0.05	0
Chlorpyrifos	mg/kg	0.05		<0.05	<0.05	0		<0.05		<0.05			<0.05			<0.05			<0.05			<0.05			<0.05	<0.05	0	<0.05	<0.05	0
Chlorpyrifos-methyl	mg/kg	0.05		<0.05	<0.05	0		<0.05		<0.05			<0.05			<0.05			<0.05			<0.05			<0.05	<0.05	0	<0.05	<0.05	0
Diazinon	mg/kg	0.05		<0.05	<0.05	0		<0.05		<0.05			<0.05			<0.05			<0.05			<0.05			<0.05	<0.05	0	<0.05	<0.05	0
Dichlorvos	mg/kg	0.05		<0.05	<0.05	0		<0.05		<0.05			<0.05			<0.05			<0.05			<0.05			<0.05	<0.05	0	<0.05	<0.05	0
Dimethoate	mg/kg	0.05		<0.05	<0.05	0		<0.05		<0.05			<0.05			<0.05			<0.05			<0.05			<0.05	<0.05	0	<0.05	<0.05	0
Ethion	mg/kg	0.05		<0.05	<0.05	0		<0.05		<0.05			<0.05			<0.05			<0.05			<0.05			<0.05	<0.05	0	<0.05	<0.05	0
Fenthion	mg/kg	0.05		<0.05	<0.05	0		<0.05		<0.05			<0.05			<0.05			<0.05			<0.05			<0.05	<0.05	0	<0.05	<0.05	0
Malathion	mg/kg	0.05		<0.05	<0.05	0		<0.05		<0.05			<0.05			<0.05			<0.05			<0.05			<0.05	<0.05	0	<0.05	<0.05	0
Methyl parathion	mg/kg	0.2		<0.2	<0.2	0		<0.2		<0.2			<0.2			<0.2			<0.2			<0.2			<0.2	<0.2	0	<0.2	<0.2	0
Monocrotophos	mg/kg	0.2		<0.2	<0.2	0		<0.2		<0.2			<0.2			<0.2			<0.2			<0.2			<0.2	<0.2	0	<0.2	<0.2	0
Prothiofos	mg/kg	0.05		<0.05	<0.05	0		<0.05		<0.05			<0.05			<0.05			<0.05			<0.05			<0.05	<0.05	0	<0.05	<0.05	0
Other																														
Acetophenone	mg/kg	0.5		<0.5									<0.5			<0.5												<0.5		
PAH																														
Benzo(b+j+k)fluoranthene	mg/kg	1		3																								<1		
2-chloronaphthalene	mg/kg	0.5		<0.5									<0.5			<0.5												<0.5		
2-methylnaphthalene	mg/kg	0.5		<0.5									<0.5			<0.5												<0.5		
3-methylcholanthrene	mg/kg	0.5		<0.5									<0.5			<0.5												<0.5		
7,12-dimethylbenz(a)anthracene	mg/kg	0.5		<0.5									<0.5			<0.5												<0.5		
Acenaphthene	mg/kg	0.5		<0.5	<0.5	0		<0.5		<0.5			<0.5			<0.5			<0.5			<0.5			<0.5	<0.5	0	<0.5	<0.5	0
Acenaphthylene	mg/kg	0.5		<0.5	<0.5	0		<0.5		<0.5			<0.5			<0.5			<0.5			<0.5			<0.5	<0.5	0	<0.5	<0.5	0
Anthracene	mg/kg	0.5		0.5	<0.5	0	0.7	<0.5	33	0.5			<0.5			<0.5			<0.5			<0.5			<0.5	<0.5	0	<0.5	<0.5	0
Benz(a)anthracene	mg/kg	0.5		1.1	<0.5	75	1.6	<0.5	105	1.0			0.6			1.1			1.1			<0.5			<0.5	<0.5	0	<0.5	0.6	18
Benzo(a) pyrene	mg/kg	0.5		1.2	<0.5	82	1.9	<0.5	117	1.0			0.7			1.4			1.2			<0.5			<0.5	<0.5	0	<0.5	0.7	33
Benzo(b+j)fluoranthene	mg/kg	0.5		1.4	<0.5	95		<0.5		1.2			0.8			1.7			1.5			<0.5			<0.5	<0.5	0	<0.5	0.9	57
Benzo(g,h,i)perylene	mg/kg	0.5		0.8	<0.5	46	1.3	<0.5	89	0.8			<0.5			0.9			0.8			<0.5			<0.5	<0.5	0	<0.5	0.6	18
Benzo(k)fluoranthene	mg/kg	0.5		<0.5	<0.5	0		<0.5		<0.5			<0.5			0.6			<0.5			<0.5			<0.5	<0.5	0	<0.5	<0.5	0
Chrysene	mg/kg	0.5		1.0	<0.5	67	1.4	<0.5	95	0.9			<0.5			0.9			0.9			<0.5			<0.5	<0.5	0	<0.5	0.6	18
Dibenz(a,h)anthracene	mg/kg	0.5		<0.5	<0.5	0		<0.5		<0.5			<0.5			<0.5			<0.5			<0.5			<0.5	<0.5	0	<0.5	<0.5	0
Fluoranthene	mg/kg	0.5		2.2	0.6	114	3.2	0.6	137	2.0			1.0			2.1			2.1			<0.5			<0.5	<0.5	0	<0.5	1.0	67
Fluorene	mg/kg	0.5		<0.5	<0.5	0		<0.5		<0.5			<0.5			<0.5			<0.5			<0.5			<0.5	<0.5	0	<0.5	<0.5	0
Indeno(1,2,3-c,d)pyrene	mg/kg	0.5		0.7	<0.5	33	1.1	<0.5	75	0.6			<0.5			1.0			0.8			<0.5			<0.5	<0.5	0	<0.5	<0.5	0
Naphthalene	mg/kg	0.5		<0.5	<0.5	0		<0.5		<0.5			<0.5			<0.5			<0.5			<0.5			<0.5	<0.5	0	<0.5	<0.5	0
Phenanthrene	mg/kg	0.5		1.4	<0.5	95	2.1	<0.5	123	1.4			<0.5			0.6			1.2			<0.5			<0.5	<0.5	0	<0.5	<0.5	0
Pyrene	mg/kg	0.5		2.2	0.6	114	3.2	0.6	137	2.0			1.0			2.0			2.0			<0.5			<0.5	<0.5	0	<0.5	1.1	75
PAHs (Sum of total)	mg/kg	0.5		12.5	1.2	165	19.5	1.2	177	11.4			4.1			12.3			11.6			<0.5			<0.5	<0.5	0	<0.5	5.5	167
PCBs																														
PCBs (Sum of total)	mg/kg	0.1		<0.1	<0.1	0		<0.1		<0.1			<0.1			<0.1			<0.1			<0.1			<0.1	<0.1	0	<0.1	<0.1	0
Pesticides																														
Chlorobenzilate	mg/kg	0.5		<0.5									<0.5			<0.5												<0.5		
Carbazole	mg/kg	0.5		<0.5									<0.5			<0.5												<0.5		
Demeton-S-methyl	mg/kg	0.05		<0.05	<0.05	0		<0.05		<0.05			<0.05			<0.05			<0.05			<0.05			<0.05	<0.05	0	<0.05	<0.05	0
Fenamiphos	mg/kg	0.05		<0.05	<0.05	0		<0.05		<0.05			<0.05			<0.05			<0.05			<0.05			<0.05	<0.05	0	<0.05	<0.05	0
Parathion	mg/kg	0.2		<0.2	<0.2	0		<0.2		<0.2			<0.2			<0.2			<0.2			<0.2			<0.2	<0.2	0	<0.2	<0.2	0
Pirimphos-ethyl	mg/kg	0.05		<0.05	<0.05	0		<0.05		<0.05			<0.05			<0.05			<0.05			<0.05			<0.05	<0.05	0	<0.05	<0.05	0
Phthalates																														
Bis(2-ethylhexyl) phthalate	mg/kg	5		<5.0									<5.0			<5.0												<5.0		
Butyl benzyl phthalate	mg/kg	0.5		<0.5									<0.5			<0.5												<0.5		
Diethylphthalate	mg/kg	0.5		<0.5									<0.5			<0.5												<0.5		
Dimethyl phthalate	mg/kg	0.5		<0.5									<0.5			<0.5												<0.5		
Di-n-butyl phthalate	mg/kg	0.5		<0.5									<0.5			<0.5												<0.5		
Di-n-octyl phthalate	mg/kg	0.5		<0.5									<0.5			<0.5												<0.5		
Solvents																														
Methyl Ethyl Ketone	mg/kg	5		<5									<5			<5												<5		
2-hexanone (MBK)	mg/kg	5		<5									<5			<5												<5		
4-Methyl-2-pentanone	mg/kg	5		<5									<5			<5												<5		
Carbon disulfide	mg/kg	0.5		<0.5									<0.5			<0.5												<0.5		
Isophorone	mg/kg	0.5		<0.5									<0.5			<0.5												<0.5		
Vinyl acetate	mg/kg	5		<5									<5			<5												<5		
SVOCs																														
2-(acetylamino) fluorene	mg/kg	0.5		<0.5									<0.5			<0.5												<0.5		
3,3-Dichlorobenzidine	mg/kg	0.5		<0.5									<0.5			<0.5												<0.5		
4-(dimethylamino) azobenzene	mg/kg	0.5		<0.5									<0.5			<0.5												<0.5		
4-bromophenyl phenyl ether	mg/kg	0.5		<0.5									<0.5			<0.5												<0.5		
4-chlorophenyl phenyl ether	mg/kg	0.5		<0.5									<0.5			<0.5												<0.5		
4-Nitroquinoline-N-oxide	mg/kg	0.5		<0.5									<0.5			<0.5												<0.5		
Azobenzene	mg/kg	1		<1									<1			<1												<1		
Bis(2-chloroethoxy) methane	mg/kg	0.5		<0.5									<0.5			<0.5												<0.5		
Bis(2-chloroethyl)ether	mg/kg	0.5		<0.5									<0.5			<0.5												<0.5		
Dibenzofuran	mg/kg	0.5		<0.5									<0.5			<0.5												<0.5		
Hexachloropropene	mg/kg	0.5		<0.5									<0.5			<0.5												<0.5		
Methapyrilene	mg/kg	0.5		<0.5									<0.5			<0.5												<0.5		
N-nitrosomorpholine	mg/kg	0.5		<0.5									<0.5			<0.5												<0.5		
N-nitrosopiperidine	mg/kg	0.5		<0.5									<0.5			<0.5												<0.5		
N-nitrosopyrrolidine	mg/kg	1		<1.0									<1.0			<1.0												<1.0		
Phenacetin	mg/kg	0.5		<0.5									<0.5			<0.5												<0.5		
TPH																														
C6-C9 Fraction	mg/kg	10		<10	<10	0		<10		<10			<10			<10			<10			<10			<10	<10	0	<10	<10	0
C10-C14 Fraction	mg/kg	50		<50	<50	0		<50		<50			<50			<50			<50			<50			<50	<50	0	<50	<50	0
C15-C28 Fraction	mg/kg	100		<100	<100	0		<100		160			<100			<100			<100			<100			<100	<100	0	<100	<100	0
C29-C36 Fraction	mg/kg	100		<100	<100	0		<100		130			<100			<100			<100			<100			<100	<100	0	<100	<100	0
C10-C36 Fraction (Sum)	mg/kg	50		<50	<50	0		<50		290			<50			<50			<50			<50			<50	<50	0	<50	<50	0
VOCs																														
cis-1,4-Dichloro-2-butene	mg/kg	0.5		<0.5									<0.5			<0.5												<0.5		
trans-1,4-Dichloro-2-butene	mg/kg	0.5		<0.5									<0.5			<0.5												<0.5		
Pentachloroethane	mg/kg	0.5		<0.5									<0.5			<0.5												<0.5		

***RPDs have only been considered where a concentration is greater than 1 times the EQL.**
****Elevated RPDs are highlighted as per QAQC Profile settings (Acceptable RPDs for each EQL multiplier range are: 50 (1 - 10 x EQL); 50 (10 - 30 x EQL); 50 (> 30 x EQL))**
*****Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any methods in the row header relate to those used in the primary laboratory**

EP RISK

Field or Interlab Duplicates

			Lab Report Number	ES2206121	ES2206121	
			Field ID	MW01	DUP	
			Matrix Type	Water	Water	
			Date	21/02/2022	21/02/2022	RPD
	Unit	EQL	RPD			
BTEX						
Benzene	µg/L	1		<1	<1	0
Toluene	µg/L	2		<2	<2	0
Ethylbenzene	µg/L	2		<2	<2	0
Xylene (m & p)	µg/L	2		<2	<2	0
Xylene (o)	µg/L	2		<2	<2	0
Xylene Total	µg/L	2		<2	<2	0
Total BTEX	µg/L	1		<1	<1	0
TRH						
C6-C10 Fraction (F1)	µg/L	20		<20	<20	0
C6-C10 (F1 minus BTEX)	µg/L	20		<20	<20	0
>C10-C16 Fraction (F2)	µg/L	100		<100	<100	0
>C10-C16 Fraction (F2 minus Naphthalene)	µg/L	100		<100	<100	0
>C16-C34 Fraction (F3)	µg/L	100		<100	<100	0
>C34-C40 Fraction (F4)	µg/L	100		<100	<100	0
>C10-C40 Fraction (Sum)	µg/L	100		<100	<100	0
Phenols						
3&4-Methylphenol (m&p-cresol)	µg/L	2		<2.0	<2.0	0
2,4,5-Trichlorophenol	µg/L	1		<1.0	<1.0	0
2,4,6-Trichlorophenol	µg/L	1		<1.0	<1.0	0
2,4-Dichlorophenol	µg/L	1		<1.0	<1.0	0
2,4-Dimethylphenol	µg/L	1		<1.0	<1.0	0
2,6-Dichlorophenol	µg/L	1		<1.0	<1.0	0
2-Chlorophenol	µg/L	1		<1.0	<1.0	0
2-Methylphenol	µg/L	1		<1.0	<1.0	0
2-Nitrophenol	µg/L	1		<1.0	<1.0	0
4-chloro-3-methylphenol	µg/L	1		<1.0	<1.0	0
Pentachlorophenol	µg/L	2		<2.0	<2.0	0
Phenol	µg/L	1		<1.0	<1.0	0
Amino Aliphatics						
N-nitrosodiethylamine	µg/L	2		<2		
N-nitrosodi-n-butylamine	µg/L	2		<2		
N-nitrosodi-n-propylamine	µg/L	2		<2		
N-Nitrosomethylethylamine	µg/L	2		<2		
Amino Aromatics						
1-naphthylamine	µg/L	2		<2		
N-Nitrosodiphenyl & Diphenylamine	µg/L	4		<4		
Anilines						
2-nitroaniline	µg/L	4		<4		
3-nitroaniline	µg/L	4		<4		
4-chloroaniline	µg/L	2		<2		
4-nitroaniline	µg/L	2		<2		
2-methyl-5-nitroaniline	µg/L	2		<2		
Aniline	µg/L	2		<2		
Chlorinated Hydrocarbons						
1,1,1,2-tetrachloroethane	µg/L	5		<5		
1,1,1-trichloroethane	µg/L	5		<5		
1,1,2,2-tetrachloroethane	µg/L	5		<5		
1,1,2-trichloroethane	µg/L	5		<5		
1,1-dichloroethane	µg/L	5		<5		
1,1-dichloroethene	µg/L	5		<5		
1,1-dichloropropene	µg/L	5		<5		
1,2,3-trichloropropane	µg/L	5		<5		
1,2-dibromo-3-chloropropane	µg/L	5		<5		
1,2-dichloroethane	µg/L	5		<5		
1,2-dichloropropane	µg/L	5		<5		
1,3-dichloropropane	µg/L	5		<5		
2,2-dichloropropane	µg/L	5		<5		
Bromodichloromethane	µg/L	5		<5		
Bromoform	µg/L	5		<5		
Carbon tetrachloride	µg/L	5		<5		
Chlorodibromomethane	µg/L	5		<5		
Chloroethane	µg/L	50		<50		
Chloroform	µg/L	5		<5		
Chloromethane	µg/L	50		<50		
cis-1,2-dichloroethene	µg/L	5		<5		
cis-1,3-dichloropropene	µg/L	5		<5		
Dibromomethane	µg/L	5		<5		
Hexachlorobutadiene	µg/L	2		<2		
Hexachlorocyclopentadiene	µg/L	10		<10		
Hexachloroethane	µg/L	2		<2		
Trichloroethene	µg/L	5		<5		
Tetrachloroethene	µg/L	5		<5		
trans-1,2-dichloroethene	µg/L	5		<5		
trans-1,3-dichloropropene	µg/L	5		<5		
Vinyl chloride	µg/L	50		<50		
Explosives						
1,3,5-Trinitrobenzene	mg/L	0.002		<0.002		
2,4-Dinitrotoluene	µg/L	4		<4		
2,6-dinitrotoluene	µg/L	4		<4		
Nitrobenzene	µg/L	2		<2		
Halogenated Benzenes						
1,2,3-trichlorobenzene	µg/L	5		<5		
1,2,4-trichlorobenzene	µg/L	2		<2		
1,2-dichlorobenzene	µg/L	2		<2		
1,3-dichlorobenzene	µg/L	2		<2		
1,4-dichlorobenzene	µg/L	2		<2		
2-chlorotoluene	µg/L	5		<5		
4-chlorotoluene	µg/L	5		<5		
Bromobenzene	µg/L	5		<5		
Chlorobenzene	µg/L	5		<5		
Hexachlorobenzene	µg/L	0.5		<0.5	<0.5	0
Pentachlorobenzene	µg/L	2		<2		
Halogenated Hydrocarbons						
1,2-dibromoethane	µg/L	5		<5		
Bromomethane	µg/L	50		<50		
Dichlorodifluoromethane	µg/L	50		<50		
Iodomethane	µg/L	5		<5		
Trichlorofluoromethane	µg/L	50		<50		

EP RISK

Field or Interlab Duplicates

			Lab Report Number	ES2206121	ES2206121	
			Field ID	MW01	DUP	
			Matrix Type	Water	Water	
			Date	21/02/2022	21/02/2022	RPD
	Unit	EQL	RPD			
Herbicides						
Pronamide	µg/L	2		<2		
Perfluoroalkane Carboxylic Acids						
Perfluorobutanoic acid (PFBA)	µg/L	0.1		<0.1	<0.1	0
Perfluorohexanoic acid (PFHxA)	µg/L	0.02		0.04	<0.02	67
Perfluoropentanoic acid (PFPeA)	µg/L	0.02		0.05	<0.02	86
Perfluoroheptanoic acid (PFHpA)	µg/L	0.02		<0.02	<0.02	0
Perfluorooctanoic acid (PFOA)	µg/L	0.01		0.01	<0.01	0
Perfluorodecanoic acid (PFDA)	µg/L	0.02		<0.02	<0.02	0
Perfluorododecanoic acid (PFDoDA)	µg/L	0.02		<0.02	<0.02	0
Perfluorononanoic acid (PFNA)	µg/L	0.02		<0.02	<0.02	0
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.05		<0.05	<0.05	0
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.02		<0.02	<0.02	0
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.02		<0.02	<0.02	0
(n:2) Fluorotelomer Sulfonic Acids						
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.05		<0.05	<0.05	0
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	µg/L	0.05		<0.05	<0.05	0
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.05		<0.05	<0.05	0
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.05		<0.05	<0.05	0
Perfluoroalkane Sulfonic Acids						
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.02		<0.02	<0.02	0
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.02		<0.02	<0.02	0
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01		0.02	<0.01	67
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.02		<0.02	<0.02	0
Perfluorooctane sulfonic acid (PFOS)	µg/L	0.01		<0.01	0.01	0
Perfluorodecane sulfonic acid (PFDS)	µg/L	0.02		<0.02	<0.02	0
Perfluoroalkyl Sulfonamides						
Perfluorooctane sulfonamide (FOSA)	µg/L	0.02		<0.02	<0.02	0
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05		<0.05	<0.05	0
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	µg/L	0.02		<0.02	<0.02	0
N-methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05		<0.05	<0.05	0
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05		<0.05	<0.05	0
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.02		<0.02	<0.02	0
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05		<0.05	<0.05	0
PFAS						
Sum of PFHxS and PFOS	µg/L	0.01		0.02	0.01	67
Sum of PFAS	µg/L	0.01		0.12	0.01	169
Sum of PFAS (WA DER List)	µg/L	0.01		0.12	0.01	169
MAH						
1,2,4-trimethylbenzene	µg/L	5		<5		
1,3,5-trimethylbenzene	µg/L	5		<5		
Isopropylbenzene	µg/L	5		<5		
n-butylbenzene	µg/L	5		<5		
n-propylbenzene	µg/L	5		<5		
p-isopropyltoluene	µg/L	5		<5		
sec-butylbenzene	µg/L	5		<5		
Styrene	µg/L	5		<5		
tert-butylbenzene	µg/L	5		<5		
Metals						
Arsenic (filtered)	mg/L	0.001		0.006	0.001	143
Cadmium (filtered)	mg/L	0.0001		<0.0001	<0.0001	0
Chromium (III+VI) (filtered)	mg/L	0.001		0.001	<0.001	0
Copper (filtered)	mg/L	0.001		<0.001	<0.001	0
Lead (filtered)	mg/L	0.001		<0.001	<0.001	0
Mercury (filtered)	mg/L	0.0001		<0.0001	<0.0001	0
Nickel (filtered)	mg/L	0.001		0.067	0.056	18
Zinc (filtered)	mg/L	0.005		0.068	0.022	102
Nitroaromatics						
2-Picoline	µg/L	2		<2		
4-aminobiphenyl	µg/L	2		<2		
Pentachloronitrobenzene	µg/L	2		<2		
Organochlorine Pesticides						
4,4-DDE	µg/L	0.5		<0.5	<0.5	0
a-BHC	µg/L	0.5		<0.5	<0.5	0
Aldrin	µg/L	0.5		<0.5	<0.5	0
Aldrin + Dieldrin	µg/L	0.5		<0.5	<0.5	0
b-BHC	µg/L	0.5		<0.5	<0.5	0
Chlordane	µg/L	0.5		<0.5	<0.5	0
Chlordane (cis)	µg/L	0.5		<0.5	<0.5	0
Chlordane (trans)	µg/L	0.5		<0.5	<0.5	0
d-BHC	µg/L	0.5		<0.5	<0.5	0
DDD	µg/L	0.5		<0.5	<0.5	0
DDT	µg/L	2		<2.0	<2.0	0
DDT+DDE+DDD	µg/L	0.5		<0.5	<0.5	0
Dieldrin	µg/L	0.5		<0.5	<0.5	0
Endosulfan I	µg/L	0.5		<0.5	<0.5	0
Endosulfan II	µg/L	0.5		<0.5	<0.5	0
Endosulfan sulphate	µg/L	0.5		<0.5	<0.5	0
Endrin	µg/L	0.5		<0.5	<0.5	0
Endrin aldehyde	µg/L	0.5		<0.5	<0.5	0
Endrin ketone	µg/L	0.5		<0.5	<0.5	0
g-BHC (Lindane)	µg/L	0.5		<0.5	<0.5	0
Heptachlor	µg/L	0.5		<0.5	<0.5	0
Heptachlor epoxide	µg/L	0.5		<0.5	<0.5	0
Methoxychlor	µg/L	2		<2.0	<2.0	0
Organophosphorous Pesticides						
Azinophos methyl	µg/L	0.5		<0.5	<0.5	0
Bromophos-ethyl	µg/L	0.5		<0.5	<0.5	0
Carbophenothion	µg/L	0.5		<0.5	<0.5	0
Chlorfenvinphos	µg/L	0.5		<0.5	<0.5	0
Chlorpyrifos	µg/L	0.5		<0.5	<0.5	0
Chlorpyrifos-methyl	mg/L	0.0005		<0.0005	<0.0005	0
Diazinon	µg/L	0.5		<0.5	<0.5	0
Dichlorvos	µg/L	0.5		<0.5	<0.5	0
Dimethoate	µg/L	0.5		<0.5	<0.5	0
Ethion	µg/L	0.5		<0.5	<0.5	0
Fenthion	µg/L	0.5		<0.5	<0.5	0
Malathion	µg/L	0.5		<0.5	<0.5	0
Methyl parathion	µg/L	2		<2.0	<2.0	0
Monocrotophos	µg/L	2		<2.0	<2.0	0
Prothiofos	µg/L	0.5		<0.5	<0.5	0

EP RISK

Field or Interlab Duplicates

			Lab Report Number	ES2206121	ES2206121	
			Field ID	MW01	DUP	
			Matrix Type	Water	Water	
			Date	21/02/2022	21/02/2022	RPD
	Unit	EQL	RPD			
Other						
Acetophenone	µg/L	2		<2		
PAH						
Benzo(b+j+k)fluoranthene	mg/L	0.004		<0.004		
2-chloronaphthalene	µg/L	2		<2		
2-methylnaphthalene	µg/L	2		<2		
3-methylcholanthrene	µg/L	2		<2		
7,12-dimethylbenz(a)anthracene	µg/L	2		<2		
Acenaphthene	µg/L	1		<1.0	<1.0	0
Acenaphthylene	µg/L	1		<1.0	<1.0	0
Anthracene	µg/L	1		<1.0	<1.0	0
Benz(a)anthracene	µg/L	1		<1.0	<1.0	0
Benzo(a) pyrene	µg/L	0.5		<0.5	<0.5	0
Benzo(b+j)fluoranthene	mg/L	0.001		<0.0010	<0.0010	0
Benzo(g,h,i)perylene	µg/L	1		<1.0	<1.0	0
Benzo(k)fluoranthene	µg/L	1		<1.0	<1.0	0
Chrysene	µg/L	1		<1.0	<1.0	0
Dibenz(a,h)anthracene	µg/L	1		<1.0	<1.0	0
Fluoranthene	µg/L	1		<1.0	<1.0	0
Fluorene	µg/L	1		<1.0	<1.0	0
Indeno(1,2,3-c,d)pyrene	µg/L	1		<1.0	<1.0	0
Naphthalene	µg/L	1		<1.0	<1.0	0
Phenanthrene	µg/L	1		<1.0	<1.0	0
Pyrene	µg/L	1		<1.0	<1.0	0
PAHs (Sum of total)	µg/L	0.5		<0.5	<0.5	0
PCBs						
PCBs (Sum of total)	µg/L	1		<1	<1	0
Pesticides						
Chlorobenzilate	µg/L	2		<2		
Carbazole	µg/L	2		<2		
Demeton-S-methyl	µg/L	0.5		<0.5	<0.5	0
Fenamiphos	µg/L	0.5		<0.5	<0.5	0
Parathion	µg/L	2		<2.0	<2.0	0
Pirimphos-ethyl	µg/L	0.5		<0.5	<0.5	0
Phthalates						
Bis(2-ethylhexyl) phthalate	µg/L	10		<10		
Butyl benzyl phthalate	µg/L	2		<2		
Diethylphthalate	µg/L	2		<2		
Dimethyl phthalate	µg/L	2		<2		
Di-n-butyl phthalate	µg/L	2		<2		
Di-n-octyl phthalate	µg/L	2		<2		
Solvents						
Methyl Ethyl Ketone	µg/L	50		<50		
2-hexanone (MBK)	µg/L	50		<50		
4-Methyl-2-pentanone	µg/L	50		<50		
Carbon disulfide	µg/L	5		<5		
Isophorone	µg/L	2		<2		
Vinyl acetate	µg/L	50		<50		
SVOCs						
2-(acetylamino) fluorene	µg/L	2		<2		
3,3-Dichlorobenzidine	µg/L	2		<2		
4-(dimethylamino) azobenzene	µg/L	2		<2		
4-bromophenyl phenyl ether	µg/L	2		<2		
4-chlorophenyl phenyl ether	µg/L	2		<2		
4-Nitroquinoline-N-oxide	µg/L	2		<2		
Azobenzene	µg/L	2		<2		
Bis(2-chloroethoxy) methane	µg/L	2		<2		
Bis(2-chloroethyl)ether	µg/L	2		<2		
Dibenzofuran	µg/L	2		<2		
Hexachloropropene	µg/L	2		<2		
Methapyrilene	µg/L	2		<2		
N-nitrosomorpholine	µg/L	2		<2		
N-nitrosopiperidine	µg/L	2		<2		
N-nitrosopyrrolidine	µg/L	4		<4		
Phenacetin	µg/L	2		<2		
TPH						
C6-C9 Fraction	µg/L	20		<20	<20	0
C10-C14 Fraction	µg/L	50		<50	<50	0
C15-C28 Fraction	µg/L	100		<100	<100	0
C29-C36 Fraction	µg/L	50		<50	<50	0
C10-C36 Fraction (Sum)	µg/L	50		<50	<50	0
VOCs						
cis-1,4-Dichloro-2-butene	µg/L	5		<5		
trans-1,4-Dichloro-2-butene	µg/L	5		<5		
Pentachloroethane	µg/L	5		<5		

*RPDs have only been considered where a concentration is greater than 1 times the EQL.
**Elevated RPDs are highlighted as per QAQC Profile settings (Acceptable RPDs for each EQL multiplier range are: 50 (1 - 10 x EQL); 50 (10 - 30 x EQL); 50 (> 30 x EQL))
***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any methods in the row header relate to those used in the primary laboratory

EP RISK

Field Blanks

		Lab Report Number	ES2204958	ES2206121	ES2206121
		Matrix Type	Soil	Soil	Water
		Date	14/02/2022	9/02/2022	21/02/2022
	Unit	EQL			
BTEX					
Benzene	µg/L	1	<1	<1	<1
Toluene	µg/L	2	<2	<2	<2
Ethylbenzene	µg/L	2	<2	<2	<2
Xylene (m & p)	µg/L	2	<2	<2	<2
Xylene (o)	µg/L	2	<2	<2	<2
Xylene Total	µg/L	2	<2	<2	<2
Total BTEX	µg/L	1	<1	<1	<1
TRH					
C6-C10 Fraction (F1)	µg/L	20	<20	<20	<20
C6-C10 (F1 minus BTEX)	µg/L	20	<20	<20	<20
>C10-C16 Fraction (F2)	µg/L	100	<100		<100
>C10-C16 Fraction (F2 minus Naphthalene)	µg/L	100	<100		<100
>C16-C34 Fraction (F3)	µg/L	100	<100		<100
>C34-C40 Fraction (F4)	µg/L	100	<100		<100
>C10-C40 Fraction (Sum)	µg/L	100	<100		<100
Phenols					
3&4-Methylphenol (m&p-cresol)	µg/L	2	<2.0		<2.0
2,4,5-Trichlorophenol	µg/L	1	<1.0		<1.0
2,4,6-Trichlorophenol	µg/L	1	<1.0		<1.0
2,4-Dichlorophenol	µg/L	1	<1.0		<1.0
2,4-Dimethylphenol	µg/L	1	<1.0		<1.0
2,6-Dichlorophenol	µg/L	1	<1.0		<1.0
2-Chlorophenol	µg/L	1	<1.0		<1.0
2-Methylphenol	µg/L	1	<1.0		<1.0
2-Nitrophenol	µg/L	1	<1.0		<1.0
4-chloro-3-methylphenol	µg/L	1	<1.0		<1.0
Pentachlorophenol	µg/L	2	<2.0		<2.0
Phenol	µg/L	1	<1.0		<1.0
Amino Aliphatics					
N-nitrosodiethylamine	µg/L	2	<2		
N-nitrosodi-n-butylamine	µg/L	2	<2		
N-nitrosodi-n-propylamine	µg/L	2	<2		
N-Nitrosomethylethylamine	µg/L	2	<2		
Amino Aromatics					
1-naphthylamine	µg/L	2	<2		
N-Nitrosodiphenyl & Diphenylamine	µg/L	4	<4		
Anilines					
2-nitroaniline	µg/L	4	<4		
3-nitroaniline	µg/L	4	<4		
4-chloroaniline	µg/L	2	<2		
4-nitroaniline	µg/L	2	<2		
2-methyl-5-nitroaniline	µg/L	2	<2		
Aniline	µg/L	2	<2		
Chlorinated Hydrocarbons					
1,1,1,2-tetrachloroethane	µg/L	5	<5		
1,1,1-trichloroethane	µg/L	5	<5		
1,1,2,2-tetrachloroethane	µg/L	5	<5		
1,1,2-trichloroethane	µg/L	5	<5		
1,1-dichloroethane	µg/L	5	<5		
1,1-dichloroethene	µg/L	5	<5		
1,1-dichloropropene	µg/L	5	<5		
1,2,3-trichloropropane	µg/L	5	<5		
1,2-dibromo-3-chloropropane	µg/L	5	<5		
1,2-dichloroethane	µg/L	5	<5		
1,2-dichloropropane	µg/L	5	<5		
1,3-dichloropropane	µg/L	5	<5		
2,2-dichloropropane	µg/L	5	<5		
Bromodichloromethane	µg/L	5	<5		
Bromoform	µg/L	5	<5		
Carbon tetrachloride	µg/L	5	<5		
Chlorodibromomethane	µg/L	5	<5		
Chloroethane	µg/L	50	<50		
Chloroform	µg/L	5	<5		
Chloromethane	µg/L	50	<50		
cis-1,2-dichloroethene	µg/L	5	<5		
cis-1,3-dichloropropene	µg/L	5	<5		
Dibromomethane	µg/L	5	<5		
Hexachlorobutadiene	µg/L	2	<2		
Hexachlorocyclopentadiene	µg/L	10	<10		
Hexachloroethane	µg/L	2	<2		
Trichloroethene	µg/L	5	<5		
Tetrachloroethene	µg/L	5	<5		
trans-1,2-dichloroethene	µg/L	5	<5		
trans-1,3-dichloropropene	µg/L	5	<5		
Vinyl chloride	µg/L	50	<50		
Explosives					
1,3,5-Trinitrobenzene	mg/L	0.002	<0.002		
2,4-Dinitrotoluene	µg/L	4	<4		
2,6-dinitrotoluene	µg/L	4	<4		
Nitrobenzene	µg/L	2	<2		
Halogenated Benzenes					
1,2,3-trichlorobenzene	µg/L	5	<5		
1,2,4-trichlorobenzene	µg/L	2	<2		
1,2-dichlorobenzene	µg/L	2	<2		
1,3-dichlorobenzene	µg/L	2	<2		
1,4-dichlorobenzene	µg/L	2	<2		
2-chlorotoluene	µg/L	5	<5		
4-chlorotoluene	µg/L	5	<5		
Bromobenzene	µg/L	5	<5		
Chlorobenzene	µg/L	5	<5		
Hexachlorobenzene	µg/L	0.5	<0.5		<0.5
Pentachlorobenzene	µg/L	2	<2		
Halogenated Hydrocarbons					
1,2-dibromoethane	µg/L	5	<5		
Bromomethane	µg/L	50	<50		
Dichlorodifluoromethane	µg/L	50	<50		
Iodomethane	µg/L	5	<5		
Trichlorofluoromethane	µg/L	50	<50		
Herbicides					
Pronamide	µg/L	2	<2		

EP RISK

Field Blanks

		Lab Report Number	ES2204958	ES2206121	ES2206121
		Matrix Type	Soil	Soil	Water
		Date	14/02/2022	9/02/2022	21/02/2022
	Unit	EQL			
Perfluoroalkane Carboxylic Acids					
Perfluorobutanoic acid (PFBA)	µg/L	0.1			<0.1
Perfluorohexanoic acid (PFHxA)	µg/L	0.02			<0.02
Perfluoropentanoic acid (PFPeA)	µg/L	0.02			<0.02
Perfluoroheptanoic acid (PFHpA)	µg/L	0.02			<0.02
Perfluorooctanoic acid (PFOA)	µg/L	0.01			<0.01
Perfluorodecanoic acid (PFDA)	µg/L	0.02			<0.02
Perfluorododecanoic acid (PFDoDA)	µg/L	0.02			<0.02
Perfluorononanoic acid (PFNA)	µg/L	0.02			<0.02
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.05			<0.05
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.02			<0.02
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.02			<0.02
(n:2) Fluorotelomer Sulfonic Acids					
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.05			<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	µg/L	0.05			<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.05			<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.05			<0.05
Perfluoroalkane Sulfonic Acids					
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.02			<0.02
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.02			<0.02
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01			<0.01
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.02			<0.02
Perfluorooctane sulfonic acid (PFOS)	µg/L	0.01			<0.01
Perfluorodecane sulfonic acid (PFDS)	µg/L	0.02			<0.02
Perfluoroalkyl Sulfonamides					
Perfluorooctane sulfonamide (FOSA)	µg/L	0.02			<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05			<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	µg/L	0.02			<0.02
N-methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05			<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05			<0.05
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.02			<0.02
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05			<0.05
PFAS					
Sum of PFHxS and PFOS	µg/L	0.01			<0.01
Sum of PFAS	µg/L	0.01			<0.01
Sum of PFAS (WA DER List)	µg/L	0.01			<0.01
MAH					
1,2,4-trimethylbenzene	µg/L	5	<5		
1,3,5-trimethylbenzene	µg/L	5	<5		
Isopropylbenzene	µg/L	5	<5		
n-butylbenzene	µg/L	5	<5		
n-propylbenzene	µg/L	5	<5		
p-isopropyltoluene	µg/L	5	<5		
sec-butylbenzene	µg/L	5	<5		
Styrene	µg/L	5	<5		
tert-butylbenzene	µg/L	5	<5		
Metals					
Arsenic	mg/L	0.001	<0.001		
Arsenic (filtered)	mg/L	0.001			<0.001
Cadmium	mg/L	0.0001	<0.0001		
Cadmium (filtered)	mg/L	0.0001			<0.0001
Chromium (III+VI)	mg/L	0.001	<0.001		
Chromium (III+VI) (filtered)	mg/L	0.001			<0.001
Copper	mg/L	0.001	<0.001		
Copper (filtered)	mg/L	0.001			<0.001
Lead	mg/L	0.001	<0.001		
Lead (filtered)	mg/L	0.001			<0.001
Mercury	mg/L	0.0001	<0.0001		
Mercury (filtered)	mg/L	0.0001			<0.0001
Nickel	mg/L	0.001	<0.001		
Nickel (filtered)	mg/L	0.001			<0.001
Zinc	mg/L	0.005	<0.005		
Zinc (filtered)	mg/L	0.005			<0.005
Nitroaromatics					
2-Picoline	µg/L	2	<2		
4-aminobiphenyl	µg/L	2	<2		
Pentachloronitrobenzene	µg/L	2	<2		
Organochlorine Pesticides					
4,4-DDE	µg/L	0.5	<0.5		<0.5
a-BHC	µg/L	0.5	<0.5		<0.5
Aldrin	µg/L	0.5	<0.5		<0.5
Aldrin + Dieldrin	µg/L	0.5	<0.5		<0.5
b-BHC	µg/L	0.5	<0.5		<0.5
Chlordane	µg/L	0.5	<0.5		<0.5
Chlordane (cis)	µg/L	0.5	<0.5		<0.5
Chlordane (trans)	µg/L	0.5	<0.5		<0.5
d-BHC	µg/L	0.5	<0.5		<0.5
DDD	µg/L	0.5	<0.5		<0.5
DDT	µg/L	2	<2.0		<2.0
DDT+DDE+DDD	µg/L	0.5	<0.5		<0.5
Dieldrin	µg/L	0.5	<0.5		<0.5
Endosulfan I	µg/L	0.5	<0.5		<0.5
Endosulfan II	µg/L	0.5	<0.5		<0.5
Endosulfan sulphate	µg/L	0.5	<0.5		<0.5
Endrin	µg/L	0.5	<0.5		<0.5
Endrin aldehyde	µg/L	0.5	<0.5		<0.5
Endrin ketone	µg/L	0.5	<0.5		<0.5
g-BHC (Lindane)	µg/L	0.5	<0.5		<0.5
Heptachlor	µg/L	0.5	<0.5		<0.5
Heptachlor epoxide	µg/L	0.5	<0.5		<0.5
Methoxychlor	µg/L	2	<2.0		<2.0

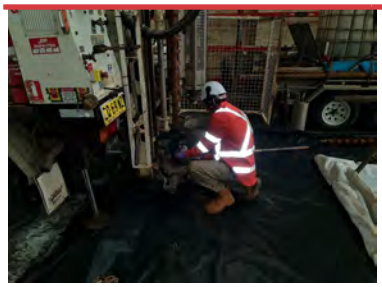
EP RISK

Field Blanks

		Lab Report Number	ES2204958	ES2206121	ES2206121
		Matrix Type	Soil	Soil	Water
		Date	14/02/2022	9/02/2022	21/02/2022
	Unit	EQL			
Organophosphorous Pesticides					
Azinophos methyl	µg/L	0.5	<0.5		<0.5
Bromophos-ethyl	µg/L	0.5	<0.5		<0.5
Carbophenothion	µg/L	0.5	<0.5		<0.5
Chlorfenvinphos	µg/L	0.5	<0.5		<0.5
Chlorpyrifos	µg/L	0.5	<0.5		<0.5
Chlorpyrifos-methyl	mg/L	0.0005	<0.0005		<0.0005
Diazinon	µg/L	0.5	<0.5		<0.5
Dichlorvos	µg/L	0.5	<0.5		<0.5
Dimethoate	µg/L	0.5	<0.5		<0.5
Ethion	µg/L	0.5	<0.5		<0.5
Fenthion	µg/L	0.5	<0.5		<0.5
Malathion	µg/L	0.5	<0.5		<0.5
Methyl parathion	µg/L	2	<2.0		<2.0
Monocrotophos	µg/L	2	<2.0		<2.0
Prothiofos	µg/L	0.5	<0.5		<0.5
Other					
Acetophenone	µg/L	2	<2		
PAH					
Benzo(b+j+k)fluoranthene	mg/L	0.004	<0.004		
2-chloronaphthalene	µg/L	2	<2		
2-methylnaphthalene	µg/L	2	<2		
3-methylcholanthrene	µg/L	2	<2		
7,12-dimethylbenz(a)anthracene	µg/L	2	<2		
Acenaphthene	µg/L	1	<1.0		<1.0
Acenaphthylene	µg/L	1	<1.0		<1.0
Anthracene	µg/L	1	<1.0		<1.0
Benz(a)anthracene	µg/L	1	<1.0		<1.0
Benzo(a) pyrene	µg/L	0.5	<0.5		<0.5
Benzo(b+j)fluoranthene	mg/L	0.001	<0.0010		<0.0010
Benzo(g,h,i)perylene	µg/L	1	<1.0		<1.0
Benzo(k)fluoranthene	µg/L	1	<1.0		<1.0
Chrysene	µg/L	1	<1.0		<1.0
Dibenz(a,h)anthracene	µg/L	1	<1.0		<1.0
Fluoranthene	µg/L	1	<1.0		<1.0
Fluorene	µg/L	1	<1.0		<1.0
Indeno(1,2,3-c,d)pyrene	µg/L	1	<1.0		<1.0
Naphthalene	µg/L	1	<1.0	<5	<1.0
Phenanthrene	µg/L	1	<1.0		<1.0
Pyrene	µg/L	1	<1.0		<1.0
PAHs (Sum of total)	µg/L	0.5	<0.5		<0.5
PCBs					
PCBs (Sum of total)	µg/L	1	<1		<1
Pesticides					
Chlorobenzilate	µg/L	2	<2		
Carbazole	µg/L	2	<2		
Demeton-S-methyl	µg/L	0.5	<0.5		<0.5
Fenamiphos	µg/L	0.5	<0.5		<0.5
Parathion	µg/L	2	<2.0		<2.0
Pirimphos-ethyl	µg/L	0.5	<0.5		<0.5
Phthalates					
Bis(2-ethylhexyl) phthalate	µg/L	10	<10		
Butyl benzyl phthalate	µg/L	2	<2		
Diethylphthalate	µg/L	2	<2		
Dimethyl phthalate	µg/L	2	<2		
Di-n-butyl phthalate	µg/L	2	<2		
Di-n-octyl phthalate	µg/L	2	<2		
Solvents					
Methyl Ethyl Ketone	µg/L	50	<50		
2-hexanone (MBK)	µg/L	50	<50		
4-Methyl-2-pentanone	µg/L	50	<50		
Carbon disulfide	µg/L	5	9		
Isophorone	µg/L	2	<2		
Vinyl acetate	µg/L	50	<50		
SVOCs					
2-(acetylamino) fluorene	µg/L	2	<2		
3,3-Dichlorobenzidine	µg/L	2	<2		
4-(dimethylamino) azobenzene	µg/L	2	<2		
4-bromophenyl phenyl ether	µg/L	2	<2		
4-chlorophenyl phenyl ether	µg/L	2	<2		
4-Nitroquinoline-N-oxide	µg/L	2	<2		
Azobenzene	µg/L	2	<2		
Bis(2-chloroethoxy) methane	µg/L	2	<2		
Bis(2-chloroethyl)ether	µg/L	2	<2		
Dibenzofuran	µg/L	2	<2		
Hexachloropropene	µg/L	2	<2		
Methapyrilene	µg/L	2	<2		
N-nitrosomorpholine	µg/L	2	<2		
N-nitrosopiperidine	µg/L	2	<2		
N-nitrosopyrrolidine	µg/L	4	<4		
Phenacetin	µg/L	2	<2		
TPH					
C6-C9 Fraction	µg/L	20	<20	<20	<20
C10-C14 Fraction	µg/L	50	<50		<50
C15-C28 Fraction	µg/L	100	<100		<100
C29-C36 Fraction	µg/L	50	<50		<50
C10-C36 Fraction (Sum)	µg/L	50	<50		<50
VOCs					
cis-1,4-Dichloro-2-butene	µg/L	5	<5		
trans-1,4-Dichloro-2-butene	µg/L	5	<5		
Pentachloroethane	µg/L	5	<5		

Appendix A

PHOTOLOG



PHOTOGRAPH 1 - DRILL RIG SETUP

Sampling from drill rig during drilling of deep boreholes.

PHOTOGRAPH 2 - SPT TEST

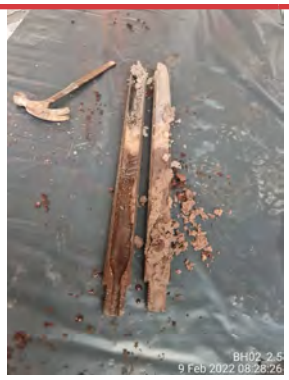
SAND soil sampling from SPT test.

PHOTOGRAPH 3 - DRILL RIG SETUP

Drilling deep boreholes for the purposes of sampling and installation of groundwater monitoring.

PHOTOGRAPH 4 - SPT TEST

Silty SAND soil sampling from SPT test.



PHOTOGRAPH 5 - SPT TEST

SPT test for the purposes of sampling and geotechnical assessment.

PHOTOGRAPH 6 - SPT TEST

SPT test for the purposes of sampling and geotechnical assessment.

PHOTOGRAPH 7 - DRILL RIG SETUP

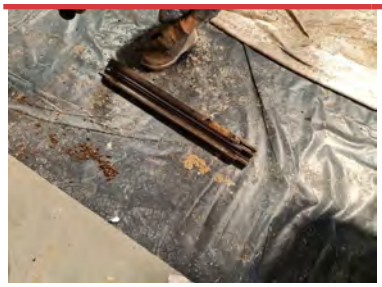
Drilling deep boreholes for the purposes of sampling, geotechnical assessment and installation of groundwater monitoring.

PHOTOGRAPH 8 - PUSH TUBE SAMPLE

Soil sampling from push tube samples.

PHOTOGRAPH 9 - DRILL RIG SETUP

Drilling deep boreholes for the purposes of sampling and geotechnical assessment.



PHOTOGRAPH 10 - SPT TEST

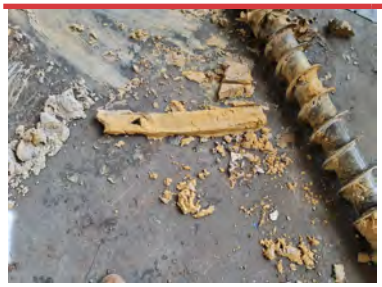
SPT test for the purposes of sampling and geotechnical assessment.

PHOTOGRAPH 11 - SPT TEST

SPT test for the purposes of sampling and geotechnical assessment.

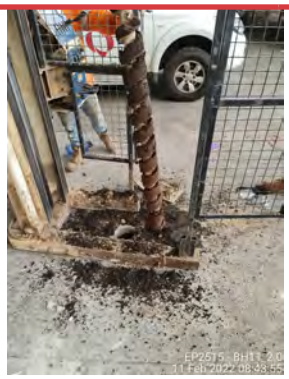
PHOTOGRAPH 12 - SHALLOW BOREHOLE DRILLING

Shallow borehole drilling using a solid flight auger for the purposes of sampling.



PHOTOGRAPH 13 - BOREHOLE AND GROUNDWATER MONITORING WELL DRILLING

Shallow borehole and groundwater monitoring well drilling using a hollow flight auger.

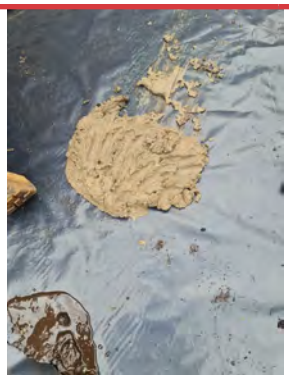


PHOTOGRAPH 14 - SHALLOW BOREHOLE DRILLING

Shallow borehole drilling using a solid flight auger for the purposes of sampling.

PHOTOGRAPH 15 - SHALLOW BOREHOLE DRILLING

Shallow borehole drilling using a solid flight auger for the purposes of sampling.

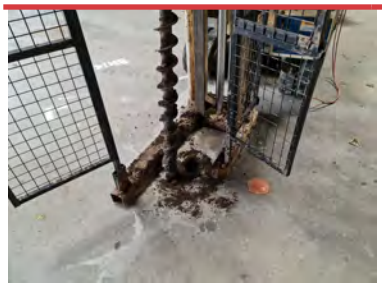


PHOTOGRAPH 16 - SAMPLE OF SAND

Sample of SAND extracted from borehole.

PHOTOGRAPH 17 - SHALLOW BOREHOLE DRILLING

Shallow borehole drilling using a solid flight auger for the purposes of sampling.



PHOTOGRAPH 18 - SHALLOW BOREHOLE DRILLING

Shallow borehole drilling using a solid flight auger for the purposes of sampling.

PHOTOGRAPH 19 - DRILL RIG SETUP

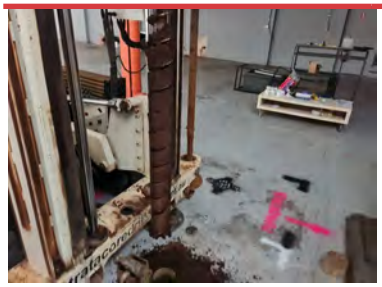
Drilling shallow boreholes for the purposes of sampling.

PHOTOGRAPH 20 - SHALLOW BOREHOLE DRILLING

Shallow borehole drilling using a solid flight auger for the purposes of sampling.

PHOTOGRAPH 21 - SHALLOW BOREHOLE DRILLING

Shallow borehole drilling using a solid flight auger for the purposes of sampling.



PHOTOGRAPH 22 - SHALLOW BOREHOLE DRILLING

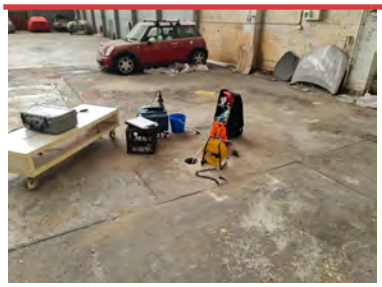
Shallow borehole drilling using a solid flight auger for the purposes of sampling.

PHOTOGRAPH 23 - SHALLOW BOREHOLE DRILLING

Shallow borehole drilling using a solid flight auger for the purposes of sampling.

PHOTOGRAPH 24 - GROUNDWATER MONITORING WELL

Groundwater monitoring well at the time of the GME.



PHOTOGRAPH 25 - GROUNDWATER MONITORING SETUP

Groundwater monitoring event equipment setup.

PHOTOGRAPH 26 - GROUNDWATER MONITORING SETUP

Groundwater monitoring event equipment setup.

Appendix B

BOREHOLE LOGS

Borehole Log

PROJECT NUMBER EP2515
PROJECT NAME Johnstaff Bourke Road DSI
ADDRESS 28 Bourke Road, Alexandria

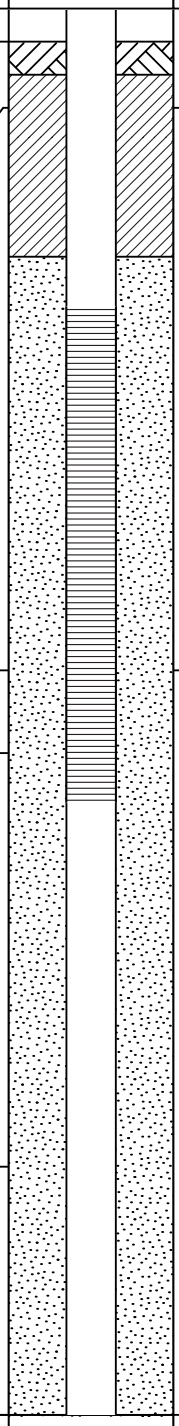
DRILLING DATE 08.02.2022
TOTAL DEPTH 8.5 mBGL
BOREHOLE BH01/MW01

DRILLING METHOD Solid Flight Auger

COMMENTS

LOGGED BY TD
CHECKED BY HB

PID	Samples	Depth (m)	Graphic Log	Material Description	Well Diagram	Additional Observations
27.0 ppm	0.2 mBGL			Concrete.		
		0.5		FILL: gravelly sand, medium to coarse grained, angular to subangular gravels, black to brown, slightly moist.		
29.1 ppm	0.6 mBGL			Silty SAND, grey/black in colour, medium to coarse grained, moist.		Small sample volume @ 0.6 mBGL.
35.0 ppm	1.0 mBGL	1				Minor clay content. Becoming more brown at 1.5 mBGL.
		1.5				Water strike at 2.3 mBGL.
24.0 ppm	2.0 mBGL	2				
		2.5				
		3				
		3.5				
0.0 ppm	4.0 mBGL	4		SAND, fine grained, beige, saturated.		
	4.5 mBGL	4.5		Clayey SAND, fine grained, pale, moist.		
		5				
0.0 ppm	5.5 mBGL	5.5				
		6				
		6.5				
0.3 ppm	7.0 mBGL	7		Sandy CLAY, fine grained, white with reddish mottling, moist, firm.		
		7.5				
		8				
		8.5		End of Hole at 8.5 mBGL due to Bedrock Reached.		



Disclaimer This bore log is intended for environmental not geotechnical purposes.
produced by ESlog.ESdat.net on 17 Jun 2022

Borehole Log

PROJECT NUMBER EP2515
PROJECT NAME Johnstaff Bourke Road DSI
ADDRESS 28 Bourke Road, Alexandria

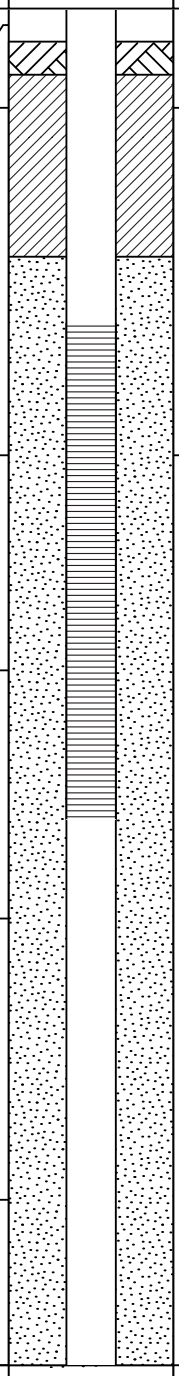
DRILLING DATE 09.02.2022
TOTAL DEPTH 8.2 mBGL
BOREHOLE BH02/MW02

DRILLING METHOD Solid Flight Auger

COMMENTS

LOGGED BY TD
CHECKED BY HB

PID	Samples	Depth (m)	Graphic Log	Material Description	Well Diagram	Additional Observations
414.7 ppm	0.1 mBGL	0.5		Concrete FILL: gravelly sandy silt, sub-angular gravels, black/brown, moist.		
230.0 ppm	1.0 mBGL	1 1.5		Silty SAND, fine grained, dark brown/black, moist.		Colour becomes lighter and is saturated at 2.0 mBGL. Water strike at 2.4 mBGL.
393.2 ppm	2.0 mBGL	2 2.5				
	2.7 mBGL	3 3.5		Silty SAND, fine grained, pale brown, very moist.		
		4 4.5 5		Sandy CLAY, medium plasticity, medium grained, light brown/pale with red mottling, dense.		
5.9 ppm	5.5 mBGL	5.5 6 6.5		Clayey SAND, low plasticity, medium grained, light brown/pale, moist.		
0.3 ppm	7.2 mBGL	7 7.5 8		Sandy CLAY, high plasticity, fine grained, grey with red mottling, dense.		
		8.5		End of Hole at 8.2 mBGL due to Bedrock Reached.		



Disclaimer This bore log is intended for environmental not geotechnical purposes.
produced by ESlog.ESdat.net on 17 Jun 2022

Borehole Log

PROJECT NUMBER EP2515
PROJECT NAME Johnstaff Bourke Road DSI
ADDRESS 28 Bourke Road, Alexandria

DRILLING DATE 09.02.2022
TOTAL DEPTH 6.0 mBGL
BOREHOLE BH03

DRILLING METHOD Solid Flight Auger

COMMENTS Groundwater samples for MW03 are taken from location BH05

LOGGED BY TD
CHECKED BY HB

PID	Samples	Depth (m)	Graphic Log	Material Description	Well Diagram	Additional Observations
0.6 ppm	0.2 mBGL			Concrete.		
0.9 ppm	0.5 mBGL	0.5		FILL: silty sand, fine grained, brown, moist.		
2.8 ppm	0.7 mBGL					
		1		FILL: clayey silt, low plasticity, brown.		
1.1 ppm	1.5 mBGL	1.5				
		2		Silty CLAY, low plasticity, black/brown.		
		2.5				
2.8 ppm	3.0 mBGL	3				
		3.5				
		4		Sandy CLAY, medium plasticity, medium grained, light brown/pale with red mottling, dense.		
	4.5 mBGL	4.5				
		5				
		5.5				
	6.0 mBGL	6		End of Hole at 6.0 mBGL due to Refusal.		
		6.5				
		7				
		7.5				
		8				
		8.5				

Disclaimer This bore log is intended for environmental not geotechnical purposes.

produced by ESlog.ESdat.net on 17 Jun 2022

Borehole Log

PROJECT NUMBER EP2515
PROJECT NAME Johnstaff Bourke Road DSI
ADDRESS 28 Bourke Road, Alexandria

DRILLING DATE 10.02.2022
TOTAL DEPTH 7.6 m
BOREHOLE BH04/MW04

DRILLING METHOD Solid Flight Auger

COMMENTS

LOGGED BY TD
CHECKED BY HB

PID	Samples	Depth (m)	Graphic Log	Material Description	Well Diagram	Additional Observations
4.2 ppm	0.2 mBGL			Concrete.		
				FILL: silty sand, medium to coarse grained, dark brown, slightly moist, loose.		Bits of ceramic and gravels present.
		0.5				
				Concrete.		
3.0 ppm	1.0 mBGL	1		SAND, medium to coarse grained, dark brown, slightly moist, loose.		Becoming darker at 3.0 mBGL.
		1.5				
3.4 ppm	2.0 mBGL	2				
		2.5				
		3				
		3.5				
		4				
	4.5 mBGL	4.5		SAND, medium to coarse grained, grey to light grey, saturated, loose.		Grey at 5.0 mBGL Light grey at 7.0 mBGL
		5				
		5.5				
		6				
		6.5				
		7				
2.6 ppm	7.5 mBGL	7.5		Sandy CLAY, medium plasticity, medium grained, greyish brown, saturated, soft.		
				End of Hole at 7.6 mBGL due to Refusal.		
		8				
		8.5				

Disclaimer This bore log is intended for environmental not geotechnical purposes.
produced by ESlog.ESdat.net on 17 Jun 2022

Borehole Log

PROJECT NUMBER EP2515
PROJECT NAME Johnstaff Bourke Road DSI
ADDRESS 28 Bourke Road, Alexandria

DRILLING DATE 10.02.2022
TOTAL DEPTH 7.0 m
BOREHOLE BH05/MW03

DRILLING METHOD Solid Flight Auger

COMMENTS

LOGGED BY TD
CHECKED BY HB

PID	Samples	Depth (m)	Graphic Log	Material Description	Well Diagram	Additional Observations
				Concrete.		
26.7 ppm	0.2 mBGL	0.5 1		FILL: gravelly sand, coarse grained, angular to subangular gravels, black with grey mottling, dry, loose.		Mild hydrocarbon odour. Dup01 and Trp01 @ 0.2 mBGL.
7.0 ppm	1.5 mBGL	1.5		FILL: silty sand, coarse grained, black, dry, loose.		
5.2 ppm	2.0 mBGL	2 2.5		SAND, fine grained, dark grey, moist, loose.		Potential water strike at 1.8 mBGL
4.4 ppm	3.0 mBGL	3 3.5				
3.6 ppm	4.0 mBGL	4 4.5				
4.2 ppm	5.0 mBGL	5 5.5				
8.7 ppm	6.0 mBGL	6 6.5		SAND, fine grained, light grey, moist, loose.		
	7.0 mBGL	7		Sandy CLAY, low plasticity, fine grained, grey with brown mottling, saturated, soft clay, loose.		
		7.5 8 8.5		End of Hole at 7.0 mBGL due to Refusal.		

Disclaimer This bore log is intended for environmental not geotechnical purposes.

produced by ESlog.ESdat.net on 17 Jun 2022

Borehole Log

PROJECT NUMBER EP2515
PROJECT NAME Johnstaff Bourke Road DSI
ADDRESS 28 Bourke Road, Alexandria

DRILLING DATE 14.02.2022
TOTAL DEPTH 2.0 mBGL
BOREHOLE BH06

DRILLING METHOD Solid Flight Auger

COMMENTS

LOGGED BY TD
CHECKED BY HB

PID	Samples	Depth (m)	Graphic Log	Material Description	Well Diagram	Additional Observations
		0.1		Concrete.		
		0.2		FILL: sandy gravel, fine grained, angular gravels, grey, dry.		Anthropogenic gravel with bits of concrete. Dup08 and Trp08 @ 0.4 mBGL
2.6 ppm	0.4 mBGL	0.3 0.4 0.5 0.6 0.7				
		0.8		Silty SAND, fine grained, dark grey, slightly moist, loose.		Dup and Trp 09 at 0.9 mBGL
1.2 ppm	0.9 mBGL	0.9 1 1.1 1.2 1.3				
		1.4		Silty SAND, fine grained, black with grey mottling, moist, loose.		
4.7 ppm	1.8 mBGL	1.5 1.6 1.7 1.8 1.9				
		2		End of Hole at 2.0 mBGL due to Target Depth Reached.		

Disclaimer This bore log is intended for environmental not geotechnical purposes.
produced by ESlog.ESdat.net on 17 Jun 2022

Borehole Log

PROJECT NUMBER EP2515
PROJECT NAME Johnstaff Bourke Road DSI
ADDRESS 28 Bourke Road, Alexandria

DRILLING DATE 11.02.2022
TOTAL DEPTH 2.0 mBGL
BOREHOLE BH07

DRILLING METHOD Solid Flight Auger

COMMENTS

LOGGED BY TD
CHECKED BY HB

PID	Samples	Depth (m)	Graphic Log	Material Description	Well Diagram	Additional Observations
		0.1		Concrete.		
		0.2		FILL: clayey silty SAND, medium plasticity, black, soft clay.		Anthropogenic material including bricks, concrete, and some gravels present. Dup06 @ 0.5 mBGL
4.8 ppm	0.5 mBGL	0.3				
		0.4				
		0.5				
		0.6				
		0.7				
		0.8				
		0.9				
		1				
		1.1				
		1.2		Silty CLAY, medium plasticity, black, soft clay.		
4.3 ppm	1.3 mBGL	1.3				
		1.4				
		1.5		End of Hole at 1.5 mBGL due to refusal (hard clay).		
		1.6				
		1.7				
		1.8				
		1.9				

Disclaimer This bore log is intended for environmental not geotechnical purposes.
produced by ESlog.ESdat.net on 17 Jun 2022

Borehole Log

PROJECT NUMBER EP2515
PROJECT NAME Johnstaff Bourke Road DSI
ADDRESS 28 Bourke Road, Alexandria

DRILLING DATE 11.02.2022
TOTAL DEPTH 2.0 mBGL
BOREHOLE BH08

DRILLING METHOD Solid Flight Auger

COMMENTS

LOGGED BY TD
CHECKED BY HB

PID	Samples	Depth (m)	Graphic Log	Material Description	Well Diagram	Additional Observations
		0.1		Concrete.		
6.8 ppm	0.2 mBGL	0.2		FILL: silty sand, fine grained, dark grey, slightly moist.		
		0.3		SAND, medium grained, grey, slightly moist.		
		0.4				
5.6 ppm	0.5 mBGL	0.5				
		0.6				
		0.7				
		0.8		Sandy silty CLAY, low plasticity, medium grained, grey, slightly moist.		Some gravels present. Getting wetter at 1.7 mBGL.
		0.9				
		1				
		1.1				
		1.2				
		1.3				
		1.4				
4.9 ppm	1.5 mBGL	1.5				
		1.6				
		1.7				
		1.8				
		1.9				
		2		End of Hole at 2.0 mBGL due to Target Depth Reached.		

Disclaimer This bore log is intended for environmental not geotechnical purposes.
produced by ESlog.ESdat.net on 17 Jun 2022

Borehole Log

PROJECT NUMBER EP2515
PROJECT NAME Johnstaff Bourke Road DSI
ADDRESS 28 Bourke Road, Alexandria

DRILLING DATE 11.02.2022
TOTAL DEPTH 2.0 mBGL
BOREHOLE BH09

DRILLING METHOD Solid Flight Auger

COMMENTS

LOGGED BY TD
CHECKED BY HB

PID	Samples	Depth (m)	Graphic Log	Material Description	Well Diagram	Additional Observations
		0.1		Concrete.		
		0.2		FILL: sandy gravelly silt, black to brown, moist.		Some anthropogenic material present.
3.2 ppm	0.3 mBGL	0.3				
		0.4				
		0.5		Silty SAND, medium grained, beige, moist.		Increasingly darker with depth. Becoming lighter at 1.8 mBGL.
		0.6				
		0.7				
		0.8				
		0.9				
1.4 ppm	1.0 mBGL	1				
		1.1				
		1.2				
		1.3				
		1.4				
		1.5				
		1.6				
		1.7				
		1.8				
		1.9				
		2		End of Hole at 2.0 mBGL due to Target Depth Reached.		

Disclaimer This bore log is intended for environmental not geotechnical purposes.

produced by ESlog.ESdat.net on 17 Jun 2022

Borehole Log

PROJECT NUMBER EP2515
PROJECT NAME Johnstaff Bourke Road DSI
ADDRESS 28 Bourke Road, Alexandria

DRILLING DATE 11.02.2022
TOTAL DEPTH 2.0 mBGL
BOREHOLE BH10

DRILLING METHOD Solid Flight Auger

COMMENTS

LOGGED BY TD
CHECKED BY HB

PID	Samples	Depth (m)	Graphic Log	Material Description	Well Diagram	Additional Observations
		0.1		Concrete.		
		0.2		FILL: sandy silt, medium grained, subangular gravels, orange, very moist.		Some anthropogenic material present including gravels and bricks.
1.3 ppm	0.3 mBGL	0.3				
		0.4				
		0.5				
		0.6				
		0.7				
		0.8		FILL: sandy clayey silt, low plasticity, medium grained, black to brown, very moist, very soft clay.		Water at 1.8 mBGL.
		0.9				
		1				
		1.1				
		1.2				
		1.3				
		1.4				
		1.5				
		1.6				
		1.7				
		1.8				
		1.9				
2.9 ppm	2.0 mBGL	2		End of Hole at 2.0 mBGL due to Target Depth Reached.		

Disclaimer This bore log is intended for environmental not geotechnical purposes.

produced by ESlog.ESdat.net on 17 Jun 2022

Borehole Log

PROJECT NUMBER EP2515
PROJECT NAME Johnstaff Bourke Road DSI
ADDRESS 28 Bourke Road, Alexandria

DRILLING DATE 11.02.2022
TOTAL DEPTH 2.0 mBGL
BOREHOLE BH11

DRILLING METHOD Solid Flight Auger

COMMENTS

LOGGED BY TD
CHECKED BY HB

PID	Samples	Depth (m)	Graphic Log	Material Description	Well Diagram	Additional Observations
		0.1		Concrete.		
6.2 ppm	0.2 mBGL	0.2		FILL: sandy silt, medium grained, dark grey with orange mottling, slightly moist, loose sand.		Some anthropogenic material present including gravels, concrete and bricks. Dup03 at 0.2 mBGL.
		0.3 0.4 0.5 0.6 0.7				
		0.8		Gravelly silty SAND, medium grained, angular to subangular gravels, black, slightly moist, loose.		
		0.9 1 1.1 1.2 1.3				
		1.4		Gravelly silty SAND, medium grained, angular to subangular gravels, brown/black, moist, loose sand.		Becoming more moist at 1.8 mBGL.
	1.5 mBGL	1.5 1.6 1.7 1.8 1.9				
		2		End of Hole at 2.0 mBGL due to Target Depth Reached.		

Disclaimer This bore log is intended for environmental not geotechnical purposes.

produced by ESlog.ESdat.net on 17 Jun 2022

Borehole Log

PROJECT NUMBER EP2515
PROJECT NAME Johnstaff Bourke Road DSI
ADDRESS 28 Bourke Road, Alexandria

DRILLING DATE 14.02.2022
TOTAL DEPTH 1.5 mBGL
BOREHOLE BH12

DRILLING METHOD Solid Flight Auger

COMMENTS

LOGGED BY TD
CHECKED BY HB

PID	Samples	Depth (m)	Graphic Log	Material Description	Well Diagram	Additional Observations
		0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1 1.1 1.2 1.3 1.4 1.5		Concrete (2 slabs).		No samples collected. It is assumed that this borehole is located on a building footing.
		1.6 1.7 1.8 1.9		End of Hole at 1.5 mBGL due to drilling into concrete footing. Soil not reached.		

Disclaimer This bore log is intended for environmental not geotechnical purposes.
produced by ESlog.ESdat.net on 17 Jun 2022

Borehole Log

PROJECT NUMBER EP2515
PROJECT NAME Johnstaff Bourke Road DSI
ADDRESS 28 Bourke Road, Alexandria

DRILLING DATE 11.02.2022
TOTAL DEPTH 2.0 mBGL
BOREHOLE BH13

DRILLING METHOD Solid Flight Auger

COMMENTS BH dug to bedrock for geotechnical purposes. No sampling after 2.0 mBGL.

LOGGED BY TD
CHECKED BY HB

PID	Samples	Depth (m)	Graphic Log	Material Description	Well Diagram	Additional Observations
		0.1		Concrete.		
		0.2		FILL: sandy silt, medium grained, subangular gravels, brown, very moist.		Some anthropogenic materials including gravels, brick and concrete.
7.6 ppm	0.3 mBGL	0.3				
		0.4				
		0.5				
		0.6				
		0.7				
		0.8		Silty clayey SAND, low plasticity, medium grained, black to brown, very moist.		Bits of gravels present. Water at 2.0 mBGL.
		0.9				
		1				
		1.1				
		1.2				
		1.3				
		1.4				
4.8 ppm	1.5 mBGL	1.5				
		1.6				
		1.7				
		1.8				
		1.9				
		2		End of Hole at 2.0 mBGL due to Target Depth Reached.		

Disclaimer This bore log is intended for environmental not geotechnical purposes.

produced by ESlog.ESdat.net on 17 Jun 2022

Borehole Log

PROJECT NUMBER EP2515
PROJECT NAME Johnstaff Bourke Road DSI
ADDRESS 28 Bourke Road, Alexandria

DRILLING DATE 11.02.2022
TOTAL DEPTH 1.0 mBGL
BOREHOLE BH14

DRILLING METHOD Solid Flight Auger

COMMENTS

LOGGED BY TD
CHECKED BY HB

PID	Samples	Depth (m)	Graphic Log	Material Description	Well Diagram	Additional Observations
		0.1		Concrete.		
2.8 ppm	0.2 mBGL	0.2		FILL: silty sand, medium grained, brown.		Anthropogenic materials including gravels present. Mud was also present. Dup05 at 0.2 mBGL
		0.3				
		0.4				
		0.5				
		0.6				
		0.7				
		0.8		FILL: silty sand, medium grained, grey.		Anthropogenic materials present
4.0 ppm	0.9 mBGL	0.9				
		1		End of Hole at 1.0 mBGL due to Refusal on Concrete.		
		1.1				
		1.2				
		1.3				
		1.4				
		1.5				
		1.6				
		1.7				
		1.8				
		1.9				

Disclaimer This bore log is intended for environmental not geotechnical purposes.
produced by ESlog.ESdat.net on 17 Jun 2022

Borehole Log

PROJECT NUMBER EP2515
PROJECT NAME Johnstaff Bourke Road DSI
ADDRESS 28 Bourke Road, Alexandria

DRILLING DATE 14.02.2022
TOTAL DEPTH 2.0 mBGL
BOREHOLE BH15

DRILLING METHOD Solid Flight Auger

COMMENTS

LOGGED BY TD
CHECKED BY HB

PID	Samples	Depth (m)	Graphic Log	Material Description	Well Diagram	Additional Observations
		0.1		Concrete.		
		0.2		FILL: sandy gravelly silt, black, slightly moist.		DUP07 at 0.4 mBGL
2.8 ppm	0.4 mBGL	0.4				
		0.5				
		0.6				
		0.7				
		0.8		Silty SAND, beige, slightly moist.		Becoming blacker at 1.2 mBGL.
		0.9				
		1				
		1.1				
		1.2				
		1.3				
		1.4				
2.4 ppm	1.5 mBGL	1.5				
		1.6		Silty SAND, light brown with black mottling, slightly moist.		
		1.7				
0.5 ppm	1.8 mBGL	1.8				
		1.9				
		2				
				End of Hole at 2.0 mBGL due to Target Depth Reached.		

Disclaimer This bore log is intended for environmental not geotechnical purposes.
produced by ESlog.ESdat.net on 17 Jun 2022

Borehole Log

PROJECT NUMBER EP2515
PROJECT NAME Johnstaff Bourke Road DSI
ADDRESS 28 Bourke Road, Alexandria

DRILLING DATE 14.02.2022
TOTAL DEPTH 2.0 mBGL
BOREHOLE BH16

DRILLING METHOD Solid Flight Auger

COMMENTS

LOGGED BY TD
CHECKED BY HB

PID	Samples	Depth (m)	Graphic Log	Material Description	Well Diagram	Additional Observations
		0.1		Concrete.		
		0.2		FILL: gravelly sandy silt, medium grained, black to light brown, moist.		Large rocks and concrete at 1.0 mBGL. Also getting darker at 1.0 mBGL.
1.3 ppm	0.4 mBGL	0.3, 0.4, 0.5, 0.6, 0.7, 0.8, 0.9, 1				
		1.1		Sandy gravelly CLAY, low plasticity, black.		Sulphur smell.
		1.2, 1.3, 1.4, 1.5, 1.6, 1.7				
9.0 ppm	1.8 mBGL	1.8, 1.9, 2				
				End of Hole at 2.0 mBGL due to Target Depth Reached.		

Disclaimer This bore log is intended for environmental not geotechnical purposes.

produced by ESlog.ESdat.net on 17 Jun 2022

Borehole Log

PROJECT NUMBER EP2515
PROJECT NAME Johnstaff Bourke Road DSI
ADDRESS 28 Bourke Road, Alexandria

DRILLING DATE 14.02.2022
TOTAL DEPTH 2.0 mBGL
BOREHOLE BH17

DRILLING METHOD Solid Flight Auger

COMMENTS

LOGGED BY TD
CHECKED BY HB

PID	Samples	Depth (m)	Graphic Log	Material Description	Well Diagram	Additional Observations
		0.1		Concrete.		
		0.2		FILL: sandy gravelly silt, medium grained, angular to subangular gravels, brown.		Some anthropogenic materials present. Little sand present.
5.7 ppm	0.4 mBGL	0.4				
		0.5				
		0.6				
		0.7				
		0.8				
		0.9				
		1				
		1.1				
		1.2				
		1.3				
		1.4		Silty SAND, medium grained, brown/black.		Becoming increasingly darker with depth.
7.1 ppm	1.5 mBGL	1.5				
		1.6				
		1.7				
		1.8				
		1.9				
		2		End of Hole at 2.0 mBGL due to Target Depth Reached.		

Disclaimer This bore log is intended for environmental not geotechnical purposes.

produced by ESlog.ESdat.net on 17 Jun 2022

Appendix C

GEOTECHNICAL INVESTIGATION REPORT

GEOTECHNICAL INVESTIGATION REPORT

FORTIFY GEOTECH

Proposed Commercial Development

CLIENT

EP Risk Management

ADDRESS

28-32 Bourke Road,
Alexandria, NSW

DATE

February 2022

2/538 Gardeners Road, Alexandria NSW 2015
PO Box 9225, Deakin ACT 2600

Consulting Engineers

(02) 9188 4033
FortifyGeotech.com.au

25 February 2022
Our ref: MM/S1413

EP Risk Management
Via email: loek.munnichs@eprisk.com.au

Proposed Commercial Development – 28-32 Bourke Road, Alexandria, NSW
Geotechnical Investigation Report

We are pleased to present our geotechnical investigation report for the commercial development at 28-32 Bourke Road, Alexandria, NSW.

The report outlines the methods and results of exploration, describes site subsurface conditions, and provides recommendations for building footing design, excavation conditions, preparation of subgrades, stability of cut and fill batters, temporary and permanent excavation support, earthquake design and site drainage.

Should you require any further information regarding this report, please do not hesitate to contact our office.

Yours faithfully
Fortify Geotech

Jeremy Murray
Director
Senior Geotechnical Engineer

About us

We work with our clients to provide practical advice and solutions tailored to each project. Our professional services are reliable, responsive and efficient.

Our highly capable Geotechnical Engineers and Geologists have a comprehensive understanding of the industry. We provide the best engineering solution for complicated geotechnical engineering issues. This has earned us a solid reputation with our Construction Industry, Municipal and Government clients

INDUSTRIES WE WORK IN

- Residential
- Commercial
- Transport Infrastructure
- Industrial Developments of all sizes.

SERVICES

- Geotechnical Site Investigations and Reporting;
- Engineering Geology;
- Mining/Rock Geotechnics;
- Foundation Engineering;
- Dam Engineering; Embankment Design and Specification;
- Geotechnical Design Recommendations;
- Pavement Engineering and Design;
- Pavement Condition Surveys;
- Slope Stability and Risk Assessments;
- Geotechnical and Hydrological Instrumentation and Monitoring;
- Footing and Excavation Supervision and Certifications;
- Excavated soil/rock assessments and VENM assessments;
- Supervision and Certification of Earthworks and Controlled Fill, including Level 1 supervision;
- Geotechnical Construction Specifications;
- Deep Excavation Support; and
- Slope/Retaining Structure Analysis and Design

Contents

1 INTRODUCTION 1

2 SITE DESCRIPTION & GEOLOGY 1

3 INVESTIGATION METHODS 2

4 INVESTIGATION RESULTS 2

4.1 Subsurface Conditions 2

4.2 Point-Load Strength Testing 3

4.3 Groundwater 3

5 DISCUSSION & RECOMMENDATIONS 4

5.1 Site Classification 4

5.2 Building Footings 4

5.3 Excavation Conditions & Use of Excavated Material 5

5.4 Basement Excavation Temporary Support 5

5.4.1 Lateral Pressure on Temporary Support Systems 5

5.4.2 Resistance Parameters for Temporary Support Systems 6

5.5 Basement Excavation Permanent Support 7

5.6 Stable Excavation Batters 7

5.7 Controlled Fill Construction 8

5.8 Earthquake Site Factor 8

5.9 Site Drainage 8

REFERENCES 9

Legend: 11

Borehole Logs BH1-BH5, BH10, BH11, BH13 13

Point Load Strength Test Results 14

Definitions of Geotechnical Engineering Terms 16

Figure 1: Site Locality
Figure 2: Aerial Photograph and Borehole Locations
Figure 3: Rock Core Photos

Appendix A: Borehole logs BH1-BH5, BH10, BH11, BH13
Appendix B: Point Load Strength Test Results
Appendix C: Definitions of Geotechnical Engineering Terms

FORTIFY
GEOTECH

Geotechnical Investigation Report

Proposed Commercial Development

EP Risk Management

Proposed Commercial Development
28-32 Bourke Road, Alexandria, NSW

Geotechnical Investigation Report

1 INTRODUCTION

At the request of EP Risk Management, Fortify Geotech Pty Ltd carried out a geotechnical investigation for the proposed commercial development at 28-32 Bourke Road, Alexandria, NSW. It is understood the development will comprise the construction of a multi-storey commercial structure, with a potential single level basement. Basement excavations are expected to extend to ~1.5m depth below existing ground surface levels.

The aim of the investigation was to:

I. Identify subsurface conditions including the extent and nature of any fill materials, soil strata, bedrock type and depth, and groundwater presence.

II. Provide site classification to AS2870 “Residential Slabs & Footings”.

III. Advise on suitable footings systems, founding depths, allowable bearing pressures and design parameters for ground slabs.

IV. Provide guidelines for design and construction of controlled fill platforms and preparation of subgrades.

V. Advise on excavation conditions and suitability of excavated material for use as structural fill.

VI. Advise on stable batter slopes and excavation support (temporary and permanent).

VII. Provide earthquake design parameters and site sub-soil class.

VIII. Drainage and other geotechnical advice.

2 SITE DESCRIPTION & GEOLOGY

The site of the proposed commercial development at 28-32 Bourke Road, Alexandria, NSW is bounded by Bourke Road to the north, and existing commercial developments to the east, west and south. The ~3000m^2 site is currently occupied by an existing commercial structure which has a relatively level floor. The site locality is shown in Figure 1. A recent aerial photograph of the site and the approximate location of the investigation boreholes are shown in Figure 2.

The geological information provided by the Department of Regional NSW (Reference 1) indicates the area to be underlain by Coastal deposited dune facies over Triassic Age Ashfield Shale. Ashfield Shale consists of black to light grey shale and laminite.

3 INVESTIGATION METHODS

The site investigation was conducted on the 8th to the 11th of February 2022, comprising eight boreholes, designated BH1-BH5, BH10, BH11, and BH13. Coring of the bedrock was conducted in two of the boreholes, BH1 and BH2. The boreholes ranged in depth from 2m to 13.35m from existing groundsurface levels. Standard Penetrometer Testing (SPT's) were conducted in BH1, BH2 and BH5. The locations of the boreholes are shown in Figure 2, and the detailed borehole logs are included in Appendix A.

BH1, BH2 and BH5 were drilled using a Drilltechniques D-4T drilling rig. The boreholes were augered to depths where water seepage and borehole collapse occurred, then wash-bored to bedrock before coring of the bedrock was carried out. BH3, BH4, BH10, BH11 and BH13 were drilled using a Geoprobe 6712DT drilling rig. Boreholes BH4, BH10 & BH11 were augered to target depths of ~2m/7.6m and boreholes BH3, BH5 and BH13 were augered to near refusal in extremely weathered (XW) bedrock at ~7.5m/8m.

Core retrieved from the boreholes were placed in metal core trays. Following drilling, the core was photographed, and selected core was tested for point load strength index testing. Borehole logs, including core photographs, are presented in Appendix A and Figure 3 respectively.

The borehole profiles were visually logged in accordance with the Unified Soil Classification System (USCS). Definitions of geotechnical engineering terms used in the report on the borehole logs, including a copy of the USCS chart, are provided in Appendix C.

4 INVESTIGATION RESULTS

4.1 SUBSURFACE CONDITIONS

The subsurface conditions of the proposed development were investigated by eight boreholes designated BH1-BH5, BH10, BH11, and BH13. The borehole logs in Appendix A can be referred to for more detail.

The investigation boreholes found the subsurface profile to comprise:

Geological Profile	Typical Interval Depth	Description
CONCRETE/ FILL	0m to 0.6m/1.9m	CONCRETE, SANDY GRAVEL, SILTY GRAVELLY SAND, SILTY SANDY GRAVEL, SILTY CLAYEY SAND, SAND, GRAVELLY CLAYEY SAND, SILTY SAND; fine to medium sand, fine to coarse sand, low plasticity clay, medium plasticity clay, angular gravels to 15mm size, sub-angular gravels to 50mm size, black, dark grey, dark brown, brown, grey, dry to moist, moist, moist to wet, loose, loose to medium dense, medium dense.
ALLUVIAL/ RESIDUAL SOILS	0.6m/1.9m to 7.3m/8.5m	SAND, CLAYEY SAND/SAND, CLAYEY SAND/SANDY CLAY, SANDY CLAY, CLAY, SANDY CLAY/CLAY, SANDY GRAVELLY CLAY, SILTY SAND/SAND, CLAYEY SANDY GRAVEL; fine sand, fine to medium sand, fine to coarse sand, low plasticity clay, low to medium plasticity clay, medium plasticity clay, sub-angular gravels to 30mm size, dark grey, dark brown, pale brown, pale grey, mottled orange/red, dark red, grey, black, yellow-brown, ironstone gravels, dry, dry to moist, moist, moist to wet, wet,

		loose to medium dense, medium dense, medium dense to dense, dense, dense to very dense, firm to stiff, stiff, stiff to very stiff, very stiff, very stiff to hard, hard.
BEDROCK	Below 7.3m/8.5m	SANDSTONE; extremely weathered (XW) at the bedrock surface, quickly becoming slightly weathered (SW) and high strength fresh (FR), medium to coarse grained, grey, pale grey, red, dry, wet

Note: USCS - Unified Soil Classification System

4.2 POINT-LOAD STRENGTH TESTING

A total of nine (9) point-load strength index tests were carried out on select rock core specimens. The test method and calculation of point-load strength index "Is(50)" was in accordance with the International Society for Rock Mechanics. The index was used to estimate the rock compressive strength using the empirical relationship "qu = 24 x Is(50)", where qu is the ultimate compressive strength. Testing was conducted using a diametrial point-load. Results of the point-load testing are presented in Appendix B, which show the sandstone bedrock to be of high strength.

Estimated values of compressive strengths of the site bedrock are summarized in Table 1.

TABLE 1
Estimated Rock Compressive Strengths

Rock Weathering	Estimated Compressive Strength			Number of Point Load Tests
	Test Method	**Range (MPa)**	**Average (MPa)**	
MW to SW Bedrock	Diametrial	25.68 – 68.88	44.51	9

4.3 GROUNDWATER

Permanent groundwater was encountered from ~1.8m/3.0m depth in investigation boreholes BH1-BH5 and BH13. Natural soils above this depth were mostly moist and moist to wet. Temporary perched seepages could also occur at shallower depths following rainfall, particularly within the upper more pervious alluvial soils.

5 DISCUSSION & RECOMMENDATIONS

5.1 SITE CLASSIFICATION

Due to the presence of uncontrolled fill material to a depth of up to ~1.9m depth, the site is designated as Class "P" (problem) site in accordance with AS2870 "Residential Slabs & Footings". If the fill is removed, and replaced with controlled fill, or if footings are founded in the natural soil below the fill, a Class "M" (moderately reactive) category can be used in design of new footings (Ys is estimated to be between 20mm and 40mm).

Deemed-to-comply footing designs provided by AS2870 are applicable specifically to residential-style one and two-storey structures, or buildings with similar loads and superstructure stiffness.

5.2 BUILDING FOOTINGS

AS2870 provides "deemed-to-comply" footing/slab designs, which for a class "M" site includes stiffened rafts, stiffened footing slabs, waffle rafts, and strip and/or pad footings with above ground floors. Footings and slabs should be in accordance with the principles of AS2870 (Reference 2).

For structures founded at existing grade, footings, including thickened sections of slabs forming footings should be founded below any uncontrolled fill, loose to medium dense alluvial soils and founded in medium dense alluvial soils. A depth of ~1m/3m from existing levels may be required to reach a suitable founding stratum. Shallow footings could be founded in any newly placed controlled fill following removal of any uncontrolled fill material (see Section 5.6). Alternatively, piles founded in weathered bedrock could be used. Given the collapsible nature of the sandy soils and the presence of shallow groundwater, driven piles, screw piles or CFA piles would be the most practical.

Recommended allowable end-bearing pressures and shaft adhesion values for various footing systems and likely foundation materials are provided in Table 2.

Table 2 – Recommended Allowable End-Bearing Pressures for Footings

Foundation Material Type	Depth Below Existing Surface Level	Allowable End-Bearing Pressure			Allowable Shaft Adhesion on Piles and Anchors	
		Strips	Pads	Piles	Downward Loading	Uplift
Newly Placed Controlled Fill	-	100kPa	125kPa	N.A	N.A	N.A
Medium Dense Alluvial Soils	~1m/3m	100kPa	125kPa	150kPa	15kPa	7kPa
MW & Less Weathered Bedrock (Class III Bedrock)	Below ~8.1m/9m	2000kPa	2500kPa	3000kPa	300kPa	150kPa

All footings should be inspected and approved by an experienced geotechnical engineer to confirm the foundation material and design values, and to ensure the excavations are clean and stable.

Groundslabs can be constructed on the natural soils or newly placed controlled fill, following the removal of any uncontrolled fill material. Following excavation to required level, slab areas on soil should be proof-rolled by a pad foot

roller to check for any weak, wet or deforming soils that may require replacement. Suitable replacement fill should be compacted in not thicker than 150mm layers to not less than 98%StdMDD.

If required for design of ground slabs, a modulus of subgrade reaction of 50kPa/mm can be assumed for a natural soil or controlled fill foundation.

5.3 EXCAVATION CONDITIONS & USE OF EXCAVATED MATERIAL

It is understood that excavations up to ~1.5m depth are anticipated for the development. Such excavations will be through uncontrolled fill and alluvial material. The fill and alluvial material are readily diggable by backhoe and medium sized excavator to ~8.1m/9m depth. Moderately weathered and less weathered bedrock could be encountered below ~8.1m depth and would require heavy excavator, bulldozer ripping and rock hammering.

Any low/medium plasticity alluvial clays can be used in controlled fill construction of building platforms, provided any rock particles are broken down to <75mm size and the fill is environmentally suitable for re-use on site. Fill material and any medium to high and high plasticity, clayey soils should not be used in controlled fill construction.

If imported fill is required, a suitable select fill material would include a low or medium plasticity soil such as clayey sand or gravelly clayey sand, containing between 25% and 50% fines less than 0.075mm size (silt and clay), and no particles greater than 75mm size.

5.4 BASEMENT EXCAVATION TEMPORARY SUPPORT

Temporary basement excavation batters should be formed no steeper than 1(H):1(V) in soil. The soil batter surfaces should be temporarily protected against deterioration due to the weather by covering in plastic, held by pinned chain-link mesh. Excavations that encounter groundwater will be prone to collapse and shoring would be required.

Where space limitations preclude battering back to stable slopes, temporary support options include CFA soldier piles with tie-back anchors, and horizontal lagging or reinforced shotcrete supporting the spaces between piers. CFA soldier piles, spaced at about three to five pier diameters, socketed below basement level, and secured by tensioned anchors, may be a suitable option. CFA pile holes would typically be drilled from existing surface levels prior to bulk excavation. The excavation could then proceed in maximum 3m depth stages, with tie-back anchors installed and tensioned prior to excavation of the next level. Lateral support would also be provided by the passive and cantilever resistance of pier-sections socketing below final excavation level. Horizontal lagging or structural facing shotcrete between piers should be installed in sequence with deepening of the excavation. Alternatively, contiguous CFA piles or sheet piles could be used.

5.4.1 Lateral Pressure on Temporary Support Systems

The loads in anchors or struts for tied-back walls used in the temporary support of vertical excavations, such as sheet piles or soldier piers tied back by tensioned ground anchors or internally strutted to the basement floor, can be calculated using a trapezoidal pressure distribution given by:

$$\sigma_h = (5H \times \frac{4z}{H}) + 0.4q \qquad \text{For } z < 0.25H$$

$$\sigma_h = (5H) + 0.4q \qquad \text{For } z > 0.25H$$

where,

σ_h is the apparent horizontal earth/rock pressure acting on the back of the wall, in kPa

H is the total height of the full excavation to be supported, in metres

z is the distance from the top of the excavation, in metres

q is any uniformly distributed vertical surcharge acting on the ground surface at the top of the excavation, in kPa

The above expression takes no account of groundwater pressure, as it is assumed the temporary walls will be fully drained. Where the walls are to be covered by shotcrete and/or where these will be incorporated into a permanent basement wall, synthetic drainage strips should be installed vertically against the excavated face, draining to collector pipes at the base of the excavation, taken to a basement pump-out sump.

5.4.2 Resistance Parameters for Temporary Support Systems

The allowable horizontal passive resistance provided by socketed sections of soldier piers or other retaining systems in hard soils below the basement excavation floor level can be calculated as:

$$\sigma_p = 50z \qquad \text{(Hard soil socket only)}$$

where,

σ_p is the allowable passive pressure acting on the front of the pier/footing at depth z, in kPa

z is the pier socket length below excavation level in weathered bedrock, in metres

The effective width of a socketed pier for calculation of allowable passive resistance can be assumed to be equivalent to twice its actual width, except where the centre-to-centre distance between the piers is two diameters or less, in which case the soldier piers can be considered to act as one continuous wall.

If internal struts are used, propped to anchor blocks in the basement floor, the allowable passive resistance provided by the anchor blocks can be calculated using the same pressure distribution given above, although the effective width of the footing or block can be taken as 1.5 times its actual width. In addition, an allowable base friction factor (tanδ) of 0.35, and allowable base adhesion (c) of 5kPa can be used for calculation of sliding resistance of concrete anchor blocks in the hard soil.

An average ultimate bond value of 30kPa can be assumed for cement-grouted ground anchors in the hard soils. It is important that at least a few of the anchors should be proof-tested by pull-out tests to confirm or adjust bond values. It is recommended that ground anchors be inclined downward at between 5° and 20°, and that the “fixed” (anchored) section be assumed to extend beyond a line inclined upward from the batter toe at 45°. Tensioned multi-strand cable anchors are recommended rather than using passive (non-tensioned) anchors.

5.5 BASEMENT EXCAVATION PERMANENT SUPPORT

Permanent unsupported batters in soil would need to be formed no steeper than 2(H):1(V). Permanent batters should be protected against erosion by stone pitching, shotcreting, or other suitable means.

Permanent basement walls can be integrated into the temporary excavation support systems, or constructed separately from these, but with the space between backfilled or spanned by horizontal struts.

The walls and floor slabs for basement walls incorporated with or strutted to the temporary excavation supports should be designed to cater for the pressures given in Section 5.4.1.

Where basement walls are constructed in open excavation and backfilled later, or for soldier piles or CFA soldier piles that are cantilevered below basement floor level without propping or anchoring, the wall and floor slabs can be designed to resist lateral pressure using a distribution given by:

$$\sigma_h = (8d) + 0.4q$$

where,

d is the depth below the top of the backfill or retained ground, in metres

q is any uniformly distributed surcharge acting on the surface of the backfill, in kPa

The first term of the expression is a triangular pressure distribution, the second a uniform pressure distribution. The design pressure takes no account of hydrostatic pressure, as it is assumed that the walls will be provided with permanent backfill drainage, and that any groundwater is drawn below the level of the lower basement. Backfill materials for walls constructed in open excavation should be clean, granular and free-draining, and preferably the upper backfill can be a clayey soil to reduce infiltration of surface water.

5.6 STABLE EXCAVATION BATTERS

Temporary site excavations to 1.5m depth should be cut back at no steeper than 1(H):1(V). If required and space allows, deeper temporary cuts can be formed at 2(H):1(V) or benched at 1.5m intervals in soils. A geotechnical engineer should inspect all cut batters during construction to confirm stability. Exposed temporary batters should be protected from the weather by black plastic pinned to the face with link-wire mesh, or similar. Excavations that extend below the groundwater level will be prone to collapse, and temporary support, such as shoring boxes, will be required.

Permanent cut & fill batter slopes should be formed at no steeper than 2(H):1(V) in soil and should be protected against erosion by shotcreting, stone pitching or other suitable methods. Alternatively, permanent excavations can be supported by structural retaining walls.

5.7 CONTROLLED FILL CONSTRUCTION

For construction of any new fill foundation platforms and road subgrades, it is recommended that:

- Areas be fully stripped of all uncontrolled fill. A stripping depth of ~0.6m/1.9m could be required. Stripped foundations should be proof-rolled by a vibratory pad-foot roller of not less than 9 tonne static mass to check for any weak or wet areas that would require replacement. No fill should be placed until a geotechnical engineer has confirmed the suitability of the foundation.

- Controlled fill comprising suitable site excavated or imported materials of not greater than 75mm maximum particle size, be compacted in not greater than 150mm layers to a Density Ratio of not less than 98%StdMDD at about OMC. If clean sand is used as fill material, it must be compacted to a Density Index of not less than 75%.

- Fill placement and control testing be overviewed and certified by a geotechnical engineer at Level 1 or 2 involvement of AS3798 – 1996 “Guidelines on Earthworks for Commercial & Residential Developments” (Reference 3).

5.8 EARTHQUAKE SITE FACTOR

The Geoscience Australia Earthquake Hazard Map (Reference 5) indicates the earthquake acceleration coefficients for Australia to be used in structural design. The Alexandria area has an acceleration coefficient of 0.06. The minimum value permitted by AS1170.4 “minimum Design Loads on Structures – Part 4: Earthquake Loads” (Reference 4) is 0.08.

Section 4.2 of AS1170.4 “Minimum Design Loads on Structures – Part 4: Earthquake Loads” lists the site sub-soil classes to be considered in structural design. The site is classified as a “Class C_e – Shallow Soil Site”.

5.9 SITE DRAINAGE

Suitable surface drainage should be provided to ensure rainfall run-off or other surface water cannot pond against buildings or pavements. Drainage should be provided behind all retaining walls, and subsoil drains should be installed along the upslope sides of access Streets and carparks.

Groundwater was encountered from ~1.8m/3.0m depth in the investigative boreholes BH1-BH5 and BH13. Excavations deeper than 1.8m could encounter significant groundwater inflow. Temporary perched seepages could also be present at shallower depth following rain but should be readily controllable using pumps during construction.

If the single-level basement excavations extend below the groundwater table then the basement retaining walls will have to be fully tanked, and the retaining walls and groundslabs designed to withstand hydrostatic pressures. Dewatering may be required during excavations. As dewatering could negatively impact surrounding properties, it is recommended that a hydrogeologist be engaged to provide further advice.

It may be prudent to allow for installation of a permanent sub-floor gravel blanket drain, and for a grid of gravel-filled trench drains below the basement floor slab. A layer of crushed volcanic rock at least 150mm thick would be suitable and the drains should lead to the collector sump(s) and pump-out unit, which would also cater for any internal flooding. The requirement for underslab drains can be assessed by inspection during excavation of the basement.

REFERENCES

Reference 1: MinView – geological map - https://minview.geoscience.nsw.gov.au - Accessed 23/02/2022

Reference 2: Standards Australia, “AS2870 – Residential Slabs & Footings”, 2011.

Reference 3: AS3798, “Guidelines on earthworks for commercial and residential developments”.

Reference 4: Standards Australia, “AS1170.4 – 2007 – Minimum Design Loads on Structures – Part 4 Earthquake Loads”.

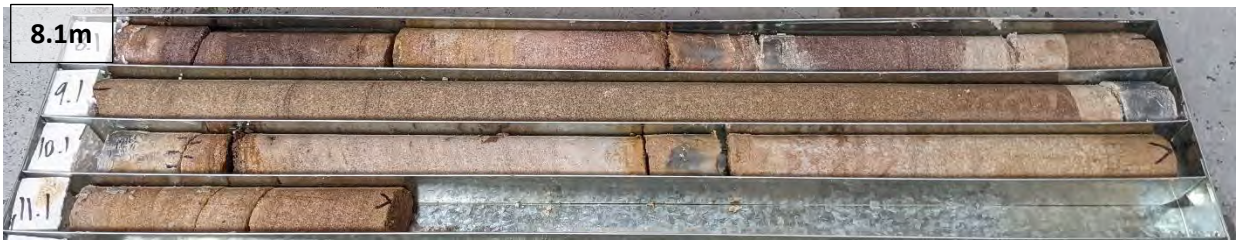
Reference 5: Geoscience Australia – earthquake hazards map - http://www.ga.gov.au/darwin-view/hazards.xhtml# - Accessed 24/02/2022

SITE LOCALITY	S1413	FIGURE 1

AERIAL PHOTOGRAPH & APPROXIMATE BOREHOLE LOCATIONS	S1413	FIGURE 2

BH01
9.0m to 13.45m depth

BH02
8.1m to 11.4m depth



ROCK CORE PHOTOS	S1413	FIGURE 3

FORTIFY
GEOTECH

Appendix A

Borehole Logs BH1-BH5, BH10, BH11, BH13

Borehole Log

Borehole No.	**BH01**
Sheet	1 of 3
Job No.	S1413

CLIENT:	EP Risk Management
PROJECT	Proposed Commercial Development 28-32 Bourke Rd, Alexandria

Equipment Type : Drilltechniques D-4T Drilling Rig
Hole Diameter : 150mm

Location : See Report

Collar Level : Not Known
Angle From Vertical : 0°
Bearing : N.A.

Samples	Water	Casing	Depth Metres	Graphic Log	U.S.C.S.	Material Description, Structure Soil Type: Plasticity or Particle Characteristics, Colour, Secondary and Minor Components, Moisture, Structure	Consistency or Relative Density	Field Test Results	Geological Profile
	None Encountered		0.2			CONCRETE; double slab (~100mm each)			CONCRETE
			0.3		GW	SANDY GRAVEL; fine to coarse sand, angular gravels to 10mm size, black-dark grey, dry to moist.	Medium Dense		FILL
			0.6		SW	SILTY GRAVELLY SAND; fine to medium sand, angular gravels to 15mm size, darkgrey-black, dry to moist.	Loose to Medium Dense		ALLUVIUM
					SW	SAND; fine to coarse sand, dark grey-dark brown, dry to moist.	Loose to Medium Dense		
			1.0		SW	Dark brown, trace low plasticity clay.	Medium Dense	SPT 2, 2, 2 N=4	
					SW	Dark brown-dark red, trace low plasticity clay, moist.	Medium Dense		
			1.9						
			2.0		SW	CLAYEY SAND/SAND; fine to coarse sand, low to medium plasticity clay, pale brown-brown, moist.	Medium Dense		
			2.3		SW	SAND; fine to coarse sand, pale brown, wet.	Medium Dense		
								SPT 3, 5, 7 N=12	
			3.0						
			4.0					SPT 4, 4, 4 N=8	
			4.4		CL	CLAYEY SAND/SANDY CLAY; fine to coarse sand, medium plasticity clay, pale grey, trace brown, wet.	Firm to Stiff		
			5.0		SW	SAND; fine to coarse sand, pale grey-brown, wet.	Medium Dense		
						pale yellow.	Dense	SPT 4, 7, 17 N=24	
			6.0						
			7.0		CL	SANDY CLAY; fine sand, medium plasticity clay, pale grey, trace orange/red, moist.	Stiff to Very Stiff	SPT 3, 8, 18 N=26	
						ironstone gravels, dark red.	Very Stiff		
			8.0						
			8.5			SANDSTONE; Extremely weathered (XW), medium to coarse grained, grey, red, wet.		SPT 15+ for 50mm N>15	
			9.0			CORING COMMENCED AT 9m			
			9.5						

Logged By : JS	Date : 8/2/22	Checked By :	Date :

BOREHOLE/EXCAVATION LOG S1413.GPJ ACT GEO.GDT 24/2/22

ACT Geotechnical Engineers

Fortify Geotech

Cored Borehole Log

Borehole No. **BH01**

CLIENT:	EP Risk Management
PROJECT	Proposed Commercial Development 28-32 Bourke Rd, Alexandria

Job No. S1413

Location : See Report

Collar Level : Not Known
Angle From Horizontal : 90°
Bearing : N.A.

Drill Type :
Barrel Type, Length, Drilling fluid :

Method/Casing	R.Q.D./Lift	Water	Depth Metres	Graphic Log	Soil or Rock Substance Description	Degree of Weathering	Estimated Strength Range (EW VW W MS S VS ES)	Is(50) MPa (D = diaxial A = axial)	Core Length (mm) (30 100 300 1000 3000)	Defects	Defect Description
			1.0								
			2.0								
			3.0								
			4.0								
			5.0								
			6.0								
			7.0								
			8.0								
			9.0								
	90% 100%		9.5			SW					

Logged By : JS Date : 8/2/22 Checked By : Date :

CORED BOREHOLE LOG S1413.GPJ ACT GEO.GDT 24/2/22

ACT Geotechnical Engineers

Fortify Geotech

Cored Borehole Log

Borehole No. **BH01**

Job No. S1413

CLIENT: EP Risk Management

PROJECT: Proposed Commercial Development
28-32 Bourke Rd, Alexandria

Location : See Report

Collar Level : Not Known
Angle From Horizontal : 90°
Bearing : N.A.

Drill Type :
Barrel Type, Length, Drilling fluid :

Method/Casing	R.Q.D./Lift	Water	Depth Metres	Graphic Log	Soil or Rock Substance Description	Degree of Weathering	Estimated Strength Range	Is(50) MPa (D = diaxial, A = axial)	Core Length (mm)	Defects	Defect Description
		None Encountered	10.0			SW		D = 1.9 A = 45.6			joint, 15°, planar, rough, -
	90% 100%					SW/FR					joint, 25°, planar, rough, joint, 30°, planar, rough, - joint, 30°, planar, rough, -
			11.0					D = 1.8 A = 43.7			joint, 5°, planar, rough, clay seam joint, 30°, planar, rough, clay seam joint, 20°, planar, rough, - joint, 20°, planar, rough, -
	89% 100%		12.0			SW/FR		D = 2.5 A = 59.3			joint, 0,10°, irregular, rough, - joint, 5°, planar, rough, - joint, 30°, planar, rough, - joint, 30°, planar, rough, - joint, 0°, planar, rough, clay seam
			13.0					D = 2.2 A = 52.1 D = 1.5 A = 35.5			joint, 5°, planar, rough, -
			14.0								
			15.0								
			16.0								
			17.0								
			18.0								
			19.0								

Logged By : JS Date : 8/2/22 Checked By : Date :

CORED BOREHOLE LOG S1413.GPJ ACT GEO.GDT 24/2/22

ACT Geotechnical Engineers

Fortify Geotech

Borehole Log

Borehole No.	**BH02**
Sheet	1 of 3
Job No.	S1413

CLIENT: EP Risk Management

PROJECT: Proposed Commercial Development
28-32 Bourke Rd, Alexandria

Location : See Report

Collar Level : Not Known
Angle From Vertical : 0°
Bearing : N.A.

Equipment Type : Drilltechniques D-4T Drilling Rig
Hole Diameter : 150mm

Samples	Water	Casing	Depth Metres	Graphic Log	U.S.C.S.	Material Description, Structure (Soil Type: Plasticity or Particle Characteristics, Colour, Secondary and Minor Components, Moisture, Structure)	Consistency or Relative Density	Field Test Results	Geological Profile
	None Encountered		0.2			CONCRETE; double slab (~100mm each)			CONCRETE
			0.3		GW SW	SILTY SANDY GRAVEL; fine to coarse sand, angular gravels to 10mm size, black-dark grey, dry to moist.	Medium Dense		FILL
			0.6		SW	SILTY GRAVELLY SAND; fine to medium sand, angular gravels to 15mm size, darkgrey-black, dry to moist.	Loose to Medium Dense		ALLUVIUM
						SAND; fine to coarse sand, dark grey-dark brown, dry to moist.	Loose to Medium Dense		
			1.0			dark red, some dark brown, moist.	Medium Dense	SPT 2, 2, 8 N=10	
						moist to wet.	Medium Dense to Dense		
			2.0				Dense		
						pale brown, wet. pale grey.	Dense to Very Dense	SPT 4, 9, 13 N=22	
			3.0						
			4.0		SW	CLAYEY SAND; fine to coarse sand, low plasticity clay, pale grey, mottled orange, moist.	Dense to Very Dense	SPT 3, 6, 11 N=17	
			5.0						
			5.5		SW	CLAYEY SAND/SAND; fine to coarse sand, low plasticity clay, pale grey, pale orange, wet.	Dense to Very Dense	SPT 7, 15, 18 N=33	
			6.0						
			7.0		CH	CLAY; medium to high plasticity clay, grey, trace red/white/orange, trace ironstone gravels to 5mm size, moist to wet.	Firm to Stiff	SPT 3, 4, 6 N=10	RESIDUAL
			7.35		CL	SANDY CLAY/CLAY; fine to medium sand, medium plastcity clay, grey, moist.	Stiff to Very Stiff		
			7.5		CL	SANDY GRAVELLY CLAY; fine to coarse sand, medium plasticty clay, sandstone gravels to 30mm size, pale grey, mottled red, dry to moist.	Very Stiff to Hard		
			8.0			CORING COMMENCED AT 8.1m		SPT 8, 19, 25+ for 0mm N>44	
			9.0						
			9.5						

Logged By : MM Date : 9/2/22 Checked By : Date :

BOREHOLE/EXCAVATION LOG S1413.GPJ ACT GEO.GDT 24/2/22

ACT Geotechnical Engineers

Fortify Geotech

Cored Borehole Log

Borehole No. **BH02**

CLIENT:	EP Risk Management
PROJECT	Proposed Commercial Development 28-32 Bourke Rd, Alexandria

Job No. S1413

Location : See Report

Collar Level : Not Known
Angle From Horizontal : 90°
Bearing : N.A.

Drill Type :
Barrel Type, Length, Drilling fluid :

Method/Casing	R.Q.D./Lift	Water	Depth Metres	Graphic Log	Soil or Rock Substance Description	Degree of Weathering	Estimated Strength Range (EW VW W MS S VS ES)	Is(50) MPa (D = diaxial A = axial)	Core Length (mm) (30 100 300 1000 3000)	Defects	Defect Description
			1.0								
			2.0								
			3.0								
			4.0								
			5.0								
			6.0								
			7.0								
			8.0								
	87% 100%	None Encountered	9.0 9.5			SW SW		D = 1.1 A = 25.7 D = 2.9 A = 68.9			joint, 30°, planar, rough, - joint, 10°, planar, rough, - joint, 0, 10°, irregular, rough, - joint, 0°, planar, rough, Clay Seam joint, 0°, planar, rough, Clay Seam joint, 0°, planar, rough, -

Logged By : MM	Date : 9/2/22	Checked By :	Date :

CORED BOREHOLE LOG S1413.GPJ ACT GEO.GDT 24/2/22

ACT Geotechnical Engineers

Fortify Geotech

Cored Borehole Log

Borehole No. **BH02**

Job No. S1413

CLIENT: EP Risk Management

PROJECT: Proposed Commercial Development
28-32 Bourke Rd, Alexandria

Location : See Report

Collar Level : Not Known
Angle From Horizontal : 90°
Bearing : N.A.

Drill Type :
Barrel Type, Length, Drilling fluid :

Method/Casing	R.Q.D./Lift	Water	Depth Metres	Graphic Log	Soil or Rock Substance Description	Degree of Weathering	Estimated Strength Range (EW VW W MS S VS ES)	Is(50) MPa (D = diaxial, A = axial)	Core Length (mm) (30 100 300 1000 3000)	Defects	Defect Description
	87% 100%	None Encountered	10.0			SW					joint, 10°, planar, rough, Clay Seam joint, 15°, planar, rough, Clay Seam joint, 10°, planar, rough, Ironstone gravels
						SW		D = 1.2 A = 29.3			joint, 10°, planar, rough, - joint, 0°, planar, rough, Clay Seam joint, 0°, planar, rough, Clay Seam
	73% 100%		11.0			SW		D = 1.7 A = 40.6			joint, 35°, planar, rough, - joint, 35°, planar, rough, -
			12.0								
			13.0								
			14.0								
			15.0								
			16.0								
			17.0								
			18.0								
			19.0								

Logged By : MM Date : 9/2/22 Checked By : Date :

ACT Geotechnical Engineers

Fortify Geotech

Borehole Log

Borehole No.	**BH03**
Sheet	1 of 1
Job No.	S1413

CLIENT:	EP Risk Management
PROJECT	Proposed Commercial Development 28-32 Bourke Rd, Alexandria

Location : See Report

Collar Level : Not Known
Angle From Vertical : 0°
Bearing : N.A.

Equipment Type : Geoprobe 6712DT Drilling Rig
Hole Diameter : 150mm

Samples	Water	Casing	Depth Metres	Graphic Log	U.S.C.S.	Material Description, Structure Soil Type: Plasticity or Particle Characteristics, Colour, Secondary and Minor Components, Moisture, Structure	Consistency or Relative Density	Field Test Results	Geological Profile
			0.2			CONCRETE			CONCRETE
					SW	SILTY GRAVELLY SAND; fine to coarse sand, sub-angular gravels to 10mm size, dark brown, dry to moist.	Loose to Medium Dense		FILL
			0.8						
			1.0		SW	SILTY CLAYEY SAND; fine to coarse sand, medium plasticity clay, dark brown-black, some sub-angular gravels to 10mm size, dry to moist.	Loose to Medium Dense		
			1.2		SW	SILTY CLAYEY SAND; fine to medium sand, medium plasticity clay, black, moist.	Loose to Medium Dense		
			1.6		SW	SAND; fine to coarse sand, dark brown, moist to wet. wet.	Medium Dense		ALLUVIUM
			2.0						
			3.0			brown-grey.			
	None Encountered		4.0						
			5.0						
			6						
			6.0		SW	CLAYEY SAND/SAND: fine to coarse sand, medium plasticity clay, grey, wet. trace clay.	Medium Dense to Dense		
			6.8						
			7.0		SW	CLAYEY SAND/SANDY CLAY; fine to coarse sand, medium plasticity clay, grey, wet.	Medium Dense to Dense		
			7.3		CL	SANDY CLAY/CLAY; fine sand, low to medium plasticty clay, pale grey, dry.	Stiff to Very Stiff		RESIDUAL
			8						
			8.0			BOREHOLE TERMINATED AT 8m near Refusal in XW Sandstone			
			9.0						
			9.5						

Logged By : MM	Date : 10/2/22	Checked By :	Date :

BOREHOLE/EXCAVATION LOG S1413.GPJ ACT GEO.GDT 24/2/22

ACT Geotechnical Engineers

Fortify Geotech

Borehole Log

Borehole No.	**BH04**
Sheet	1 of 1
Job No.	S1413

CLIENT:	EP Risk Management
PROJECT	Proposed Commercial Development 28-32 Bourke Rd, Alexandria

Location : See Report

Collar Level : Not Known
Angle From Vertical : 0°
Bearing : N.A.

Equipment Type : Geoprobe 6712DT Drilling Rig
Hole Diameter : 150mm

Samples	Water	Casing	Depth Metres	Graphic Log	U.S.C.S.	Material Description, Structure Soil Type: Plasticity or Particle Characteristics, Colour, Secondary and Minor Components, Moisture, Structure	Consistency or Relative Density	Field Test Results	Geological Profile
	None Encountered		0.1			CONCRETE; first slab.			CONCRETE
			0.15			SANDY GRAVEL/GRAVELLY SAND; fine to coarse sand, sub-angular gravels to 50mm size, brown, moist.	Medium Dense		FILL
			0.45			CONCRETE; second slab.			CONCRETE
					SW	SAND; fine to coarse sand, brown, some silt, anthropogenic materials (ceramics), angular gravels to 5mm size, dry to moist.	Loose to Medium Dense		FILL
			1.0		SW	SILTY SAND/SAND; fine to coarse sand, brown, dry to moist. red-brown.	Loose to Medium Dense		ALLUVIUM
			1.5		SW	SAND; fine to coarse sand, brown, moist. moist to wet. wet. grey	Medium Dense		
			2.0						
			3.0						
			4.0						
			5.0						
			6.0						
			7.0			trace clay			
			7.1		CL	SANDY CLAY/CLAY; fine to medium sand, medium plasticity clay, yellow-brown, wet.	Stiff		
			7.6			BOREHOLE TERMINATED AT 7.6m at Target			
			8.0						
			9.0						
			9.5						

Logged By : MM	Date : 10/2/22	Checked By :	Date :

BOREHOLE/EXCAVATION LOG S1413.GPJ ACT GEO.GDT 24/2/22

ACT Geotechnical Engineers

Fortify Geotech

Borehole Log

Borehole No.	BH05
Sheet	1 of 1
Job No.	S1413

CLIENT: EP Risk Management

PROJECT: Proposed Commercial Development
28-32 Bourke Rd, Alexandria

Location : See Report

Collar Level : Not Known
Angle From Vertical : 0°
Bearing : N.A.

Equipment Type : Drilltechniques D-4T Drilling Rig
Hole Diameter : 150mm

Samples	Water	Casing	Depth Metres	Graphic Log	U.S.C.S.	Material Description, Structure (Soil Type: Plasticity or Particle Characteristics, Colour, Secondary and Minor Components, Moisture, Structure)	Consistency or Relative Density	Field Test Results	Geological Profile
	None Encountered		0.2			CONCRETE; double slab (~100mm each)			CONCRETE
			0.4		SW	GRAVELLY CLAYEY SAND; fine to medium sand, low plasticity clay, sub-angular gravels to 10mm size, brown, dry to moist.	Loose		FILL
					SW	GRAVELLY CLAYEY SAND; fine to medium sand, low plasticity clay, sub-angular gravels to 10mm size, grey, dry to moist. brown, trace orange/grey.	Loose		
			1.0						
			1.3		SW	SILTY CLAYEY SAND; fine to medium sand, medium plastcity clay, black, moist.	Loose to Medium Dense		
			1.6		SW	SILTY SAND; fine to coarse sand, black, moist to wet.	Loose to Medium Dense	SPT 2, 0, 1 N=1	
			1.9		SW	SAND; fine to coarse sand, dark brown, moist to wet. wet, sulphur smell.	Loose to Medium Dense		ALLUVIUM
			2.0						
			3.0						
			4.0						
			4.5						
			4.65		SW	CLAYEY SAND; fine to coarse sand, medium plasticity clay, pale orange, moist to wet.	Medium Dense to Dense	SPT 2, 8, 18 N=26	
					SW	CLAYEY SAND/SAND; fine to coarse sand, medium plasticity clay, grey, moist to wet.	Medium Dense to Dense		
			5.0						
			6.0			wet.			
			6.1		CL	SANDY CLAY/CLAY, fine to medium sand, medium plasticity clay, brown, mottled red/orange/grey, dry to moist.	Hard	SPT 4, 22, 13 N=35	
			6.4		GW	CLAYEY SANDY GRAVEL; fine to coarse sand, low to medium plasticity clay, sub-angular gravels to 20mm, red, trace dark red, moist to wet.	Dense		RESIDUAL
			7.0						
			7.5			SANDSTONE; extremely weathered (XW), medium to coarse grained, pale grey, wet.		SPT 9, 25+ for 100mm N>25	BEDROCK
			7.75			BOREHOLE TERMINATED AT 7.75m near Refusal in XW Sandstone			
			8.0						
			9.0						
			9.5						

Logged By : MM Date : 9/2/22 Checked By : Date :

BOREHOLE/EXCAVATION LOG S1413.GPJ ACT GEO.GDT 24/2/22

ACT Geotechnical Engineers

Fortify Geotech

Borehole Log

Borehole No.	**BH10**
Sheet	1 of 1
Job No.	S1413

CLIENT:	EP Risk Management
PROJECT	Proposed Commercial Development 28-32 Bourke Rd, Alexandria

Location : See Report

Collar Level : Not Known
Angle From Vertical : 0°
Bearing : N.A.

Equipment Type : Geoprobe 6712DT Drilling Rig
Hole Diameter : 150mm

Samples	Water	Casing	Depth Metres	Graphic Log	U.S.C.S.	Material Description, Structure Soil Type: Plasticity or Particle Characteristics, Colour, Secondary and Minor Components, Moisture, Structure	Consistency or Relative Density	Field Test Results	Geological Profile
	None Encountered		0.13			CONCRETE			CONCRETE
			0.2		SW	SAND; fine to coarse sand, orange, moist.	Loose		FILL
					SW	GRAVELLY SILTY SAND; fine to medium sand, angular gravels to 15mm size, dark grey-black, some brown, moist.	Loose		
			0.6		SW	SAND; fine to medium sand, brown, trace dark grey, some angular gravels to 20mm size, moist.	Loose		
			0.8		SW	CLAYEY SILTY SAND; fine to coarse sand, low plasticity clay, dark grey-black, moist.	Loose to Medium Dense		ALLUVIUM
			1.0						
			1.6		SW	CLAYEY SAND; fine to coarse sand, medium plasticity clay, dark borwn, moist to wet.	Loose to Medium Dense		
			2.0			BOREHOLE TERMINATED AT 2m at Target			
			3.0						
			4.0						
			5.0						
			6.0						
			7.0						
			8.0						
			9.0						
			9.5						

Logged By : JS	Date : 11/2/22	Checked By :	Date :

BOREHOLE/EXCAVATION LOG S1413.GPJ ACT GEO.GDT 24/2/22

ACT Geotechnical Engineers

Fortify Geotech

Borehole Log

Borehole No.	**BH11**
Sheet	1 of 1
Job No.	S1413

CLIENT:	EP Risk Management
PROJECT	Proposed Commercial Development 28-32 Bourke Rd, Alexandria

Location : See Report

Collar Level : Not Known
Angle From Vertical : 0°
Bearing : N.A.

Equipment Type : Geoprobe 6712DT Drilling Rig
Hole Diameter : 150mm

Samples	Water	Casing	Depth Metres	Graphic Log	U.S.C.S.	Material Description, Structure Soil Type: Plasticity or Particle Characteristics, Colour, Secondary and Minor Components, Moisture, Structure	Consistency or Relative Density	Field Test Results	Geological Profile
	None Encountered		0.16			CONCRETE			CONCRETE
					SW	GRAVELLY SILTY SAND; fine to medium sand, angular gravels to 15mm size, dark grey-black, trace anthropogenic materials (glass), dry to moist.	Loose		FILL
			0.8		CL	CLAYEY SAND/SANDY CLAY; fine to coarse sand, low to medium plasticity clay, brown-red, mottled dark grey, moist.	Loose to Medium Dense/Firm		ALLUVIUM
			1.0						
			1.5		SW	CLAYEY SAND; fine to coarse sand, low plasticity clay, dark brown, trace grey, moist to wet.	Loose to Medium Dense		
			2.0			BOREHOLE TERMINATED AT 2m at Target			
			3.0						
			4.0						
			5.0						
			6.0						
			7.0						
			8.0						
			9.0						
			9.5						

Logged By : JS	Date : 11/2/22	Checked By :	Date :

BOREHOLE/EXCAVATION LOG S1413.GPJ ACT GEO.GDT 24/2/22

ACT Geotechnical Engineers

Fortify Geotech

Borehole Log

Borehole No.	**BH13**
Sheet	1 of 1
Job No.	S1413

CLIENT:	EP Risk Management
PROJECT	Proposed Commercial Development 28-32 Bourke Rd, Alexandria

Location : See Report

Collar Level : Not Known
Angle From Vertical : 0°
Bearing : N.A.

Equipment Type : Geoprobe 6712DT Drilling Rig
Hole Diameter : 150mm

Samples	Water	Casing	Depth Metres	Graphic Log	U.S.C.S.	Material Description, Structure Soil Type: Plasticity or Particle Characteristics, Colour, Secondary and Minor Components, Moisture, Structure	Consistency or Relative Density	Field Test Results	Geological Profile
	None Encountered		0.12			CONCRETE			CONCRETE
					CL	GRAVELLY SANDY CLAY; fine to coarse sand, low to medium plasticity clay, angular gravels to 40mm size, brown, grey, trace orange/black, trace anthropogenic materials (concrete, ceramics), dry.	Firm to Stiff		FILL
			0.8						
			1.0		CL	SANDY CLAY; fine to medium sand, medium plasticity clay, dark brown, trace sub-angular gravels to 2mm, moist.	Soft to Firm		ALLUVIUM
			2						
			2.0		CL	SANDY CLAY/CLAYEY SAND; fine to coarse sand, low to medium plasticity clay, dark brown, moist to wet.	Soft/Loose to Medium Dense		
			3						
			3.0		SW	CLAYEY SAND; fine to coarse sand, low plasticity clay, dark brown, wet.	Loose to Medium Dense		
			3.5		SW	SAND; fine to coarse sand, dark brown, wet.	Loose to Medium Dense		
			4.0						
			5.0						
			5.5		SW	CLAYEY SAND; fine to coarse sand, low to medium plasticity clay, pale brown, wet.	Loose to Medium Dense		
			6						
			6.0		CL	SANDY CLAY; fine to coarse sand, medium plasticity clay, pale red, trace grey, wet.	Firm to Stiff		
			6.5		CL	SANDY CLAY; fine to course sand, medium plasticity clay, pale red, some grey, wet.	Stiff		RESIDUAL
			7.0						
			7.3						
			7.5			SANDSTONE; extremely weathered (XW), fine to coarse grained, red, some grey, wet.			BEDROCK
						BOREHOLE TERMINATED AT 7.5m near Refusal in XW/HW Sandstone			
			8.0						
			9.0						
			9.5						

Logged By : JS	Date : 11/2/22	Checked By :	Date :

BOREHOLE/EXCAVATION LOG S1413.GPJ ACT GEO.GDT 24/2/22

ACT Geotechnical Engineers

Fortify Geotech

FORTIFY
GEOTECH

Appendix B

Point Load Strength Test Results

Diametrial Tests								
Borehole	Depth (m)	Test No.	Equivalent Diameter (cm)	Gauge Reading (kN)	(Is)50	UCS (Mpa)	Weathering	Strength
BH1	9.9	2A	5.2	5.14	1.9	45.6	MW	H
	10.94	2B	5.2	4.93	1.82	43.68	MW	H
	11.84	2C	5.2	6.67	2.47	59.28	MW	H
	12.73	2D	5.2	5.86	2.17	52.08	MW	H
	13.43	2E	5.2	3.99	1.48	35.52	MW	H
BH2	8.5	2F	5.2	2.88	1.07	25.68	MW	H
	9.03	2G	5.2	7.76	2.87	68.88	MW	H
	10.55	2H	5.2	3.3	1.22	29.28	MW	H
	11.3	2I	5.2	4.58	1.69	40.56	MW	H

FORTIFY
GEOTECH

Appendix C

Definitions of Geotechnical Engineering Terms

DESCRIPTION AND CLASSIFICATION OF SOILS

The methods of description and classification of soils used in this report are based on the Australian Standard 1726 – 1993, Geotechnical site investigations. In general, descriptions cover the following properties – soil type, colour, secondary grain size, structure, inclusions, strength or density and geological description.

Soil types are described according to the predominating particle size, qualified by the grading of other particles present (e.g. sandy clay) on the following basis:

Classification	Particle Size
Clay	Less than 0.002mm
Silt	0.002mm to 0.06mm
Sand	0.06mm to 2.00mm
Gravel	2.00mm to 60.00mm
Cobbles	60mm (63mm) to 200mm
Boulders	>200mm

Soils are also classified according to the Unified Soil Classifications System which is included in this Appendix. Rock types are classified by their geological names.

Cohesive soils are classified on the basis of strength either by laboratory testing or engineering examination. The terms are defined as follows:

Consistency	Shear Strength su(kPa) (Representative Undrained Shear)	
Very soft	< 12	<2 (~SPT "N")
Soft	12 - 25	2-4
Firm	25 - 50	4-8
Stiff	50 – 100	8-15
Very Stiff	100 – 200	15-30
Hard	> 200	>30

Non-cohesive soils are classified on the basis of relative density, generally from the results of in-situ standard penetration tests as below:

Term	Relative Density (%)	SPT Blows/300mm 'N'
Very loose	< 15	<4
Loose	15-35	4-10
Medium dense	35-65	10-30
Dense	65-85	30-50
Very Dense	>85	>50

SAMPLING

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

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

Undisturbed samples are generally taken by one of two methods:

1. Driving or pushing a thin walled sample tube into the soil and withdrawing with a sample of soil in a relatively undisturbed state.

2. Core drilling using a retractable inner tube (R.I.T.) core barrel.

Such samples yield information on structure and strength in additions to that obtained from disturbed samples and are necessary for laboratory determination of shear strength and compressibility. Undisturbed sampling is generally effective only in cohesive soils.

Details of the type and method of sampling are given in the report.

PENETRATION TESTING

The relative density of non-cohesive soils is generally assessed by in-situ penetration tests, the most common of which is the standard penetration test. The test procedure is described in Australian Standard 1289 “Testing Soils for Engineering Purposes” Testing Soils for Engineering Purposes” – Test No. F3.1.

The standard penetration test is carried out by driving a 50mm diameter split tube penetrometer of standard dimensions under the impact of a 63 kg hammer having a free fall of 750mm.

The “N” value is determined as the number of blows to achieve 300mm of penetration (generally after disregarding the first 150mm penetration through possibly disturbed material). The results of these tests can be related empirically to the engineering properties of the soil.

The test is also used to provide useful information in cohesive soils under certain conditions, a good quality disturbed sample being recovered with each test. Other forms of in situ testing are used under certain conditions and where this occurs, details are given in the report.

DEFINITIONS OF ROCK, SOIL, AND DEGREES OF CHEMICAL WEATHERING

GENERAL DEFINITIONS – ROCK AND SOIL

ROCK In engineering usage, rock is a natural aggregate of minerals connected by strong and permanent cohesive forces.

Note: Since “strong” and “permanent” are subject to different interpretations, the boundary between rock and soil is necessarily an arbitrary one.

SOIL In engineering usage, soil is a natural aggregate of mineral grains which can be separated by such gentle mechanical means as agitation in water, can be remoulded and can be classified according to the Unified Soil Classification System. Three principal classes of soil recognized are:

Residual soils: soils which have been formed in-situ by the chemical weathering of parent rock. Residual soil may retain evidence of the original rock texture or fabric or, when mature, the original rock texture may be destroyed.

Transported soils: soils which have been moved from their places of origin and deposited elsewhere. The principal agents of erosion, transport and deposition are water, wind and gravity. Two important types of transported soil in engineering geology and materials investigations are:

Colluvium – a soil, often including angular rock fragments and boulders, which has been transported downslope predominantly under the action of gravity assisted by water. The principle forming process is that of soil creep in which the soil moves after it has been weakened by saturation. It may be water borne for short distances.

Alluvium – a soil which has been transported and deposited by running water. The larger particles (sand and gravel size) are water worn.

Lateritic soils: soils which have formed in situ under the effects of tropical weathering include all reddish residual and non residual soils which genetically form a chain of material ranging from decomposed rock through clay to sesqui-oxide rich crusts. The term does not necessarily imply any compositional, textural or morphological definition; all distinctions useful for engineering purposes are based on the differences in geotechnical characteristics.

ROCK WEATHERING DEFINITIONS

Extremely Weathered (EW)	Rock substance affected by weathering to the extent that the rock exhibits soil properties, i.e. it can be remoulded and can be classified according to the Unified Classification System, but the texture of the original rock is still evident.
Highly Weathered (HW)	Rock substance affected by weathering to the extent that limonite staining or bleaching affects the whole of the rock substance and other signs of the chemical or physical decomposition are evident. Porosity and strength may be increased or decreased compared to the fresh rock usually as a result of iron leaching or deposition. The colour and strength of the original fresh rock substance is no longer recognisable.
Moderately Weathered (MW)	Rock substance affected by weathering to the extent that staining extends throughout the whole of the rock substance and the original colour of the fresh rock is no longer recognisable.
Slightly Weathered (SW)	Rock substance affected by weathering to the extent that partial staining or discolouration of the rock substance, usually by limonite, has taken place. The colour and texture of the fresh rock is recognisable.
Fresh (Fr)	Rock substance unaffected by weathering.

The degrees of rock weathering may be gradational. Intermediate stages are described by dual symbols with the prominent degree of weathering first (e.g. EW-HW).

The various degrees of weathering do not necessarily define strength parameters as some rocks are weak, even when fresh, to the extent that they can be broken by hand across the fabric, and some rocks may increase in strength during the weathering process.

Fresh drill cores of some rock types, such as basalt and shale may disintegrate after exposure to the atmosphere due to slaking, desiccation, expansion or contraction, stress relief or a combination of any of these factors.

AN ENGINEERING CLASSIFICATION OF SEDIMENTARY ROCKS

This classification system provides a standardised terminology for the engineering description of the sandstone and shales in the Sydney area, but the terms and definitions may be used elsewhere when applicable. Where other rock types are encountered, such as in dykes, standard geological descriptions are used for rock types and the same descriptions as below are used for strength, fracturing and weathering.

Under this system rocks are classified by Rock Type, Strength, Stratification Spacing, Degree of Fracturing and Degree of Weathering. These terms do not cover the full range of engineering properties. Descriptions of rock may also need to refer to other properties (e.g. durability, abrasiveness, etc) where these are relevant.

ROCK TYPE DEFINITIONS

ROCK TYPE	DEFINITION
Conglomerate:	More than 50% of the rock consists of gravel sized (greater than 2mm) fragments.
Sandstone:	More than 50% of the rock consists of sand sized (0.06 to 2mm) grains.
Siltstone:	More than 50% of the rock consists of silt-sized (less than 0.06mm) granular particles and the rock is not laminated.
Claystone:	More than 50% of the rock consists of silt or clay sized particles and the rock is not laminated.
Shale:	More than 50% of the rock consists of silt or clay sized particles and the rock is laminated.

Rocks possessing characteristics of two groups are described by their predominant particle size with reference also to the minor constituents, e.g. clayey sandstone, sandy shale.

STRATIFICATION SPACING

Term	Separation of Stratification Planes
Thinly Laminated	< 6mm
Laminated	6mm to 20mm
Very thinly bedded	20mm to 60mm
Thinly bedded	60mm to 0.2m
Medium bedded	0.2m to 0.6m
Thickly bedded	0.6m to 2m
Very thickly bedded	> 2m

DEGREE OF FRACTURING

This classification applies to diamond drill cores and refers to the spacing of all types of natural fractures along which the core is discontinuous. These include bedding plane partings, joints and other rock defects, but exclude known artificial fractures such as drilling breaks.

Term	Description
Fragmented:	The core is comprised primarily of fragments of length less than 20mm, and mostly of width less than the core diameter
Highly Fractured:	Core lengths are generally less than 20mm – 40mm with occasional fragments.
Fractured:	Core lengths are mainly 30mm – 100mm with occasional shorter and longer section.
Slightly Fractured:	Core lengths are generally 300mm – 1000mm with occasional longer sections and occasional sections of 100mm – 300mm.
Unbroken:	The core does not contain any fracture.

ROCK STRENGTH

Rock strength is defined by the Point Load Strength Index (Is 50) and refers to the strength of the rock substance in the direction normal to the bedding. The test procedure is described by the International Society of Rock Mechanics.

Term	Point Load Index Is(50) MPa	Field Guide	Approx qu MPa*
Extremely Weak:	0.03	Easily remoulded by hand to a material with soil properties.	0.7
Very Weak:	0.1	May be crumbled in the hand. Sandstone is “sugary” and friable.	2.4
Weak:	0.3	A piece of core 150mm long x 50mm dia. May be broken by hand and easily scored with a knife. Sharp edges of core may be friable and break during handling.	7
Medium Strong:	1	A piece of core 150mm long x 50mm dia. can be broken by hand with considerable difficulty. Readily scored with knife.	24
Strong: (SW)	3	A piece of core 150mm long x 50mm dia. core cannot be broken by unaided hands, can be slightly scratched or scored with knife.	70
Very Strong (SW)	10	A piece of core 150mm long x 50mm dia. may be broken readily with hand held hammer. Cannot be scratched with pen knife.	240
Extremely Strong (Fr)	>10	A piece of core 150mm long x 50mm dia. is difficult to break with hand held hammer. Rings when struck with a hammer.	>240

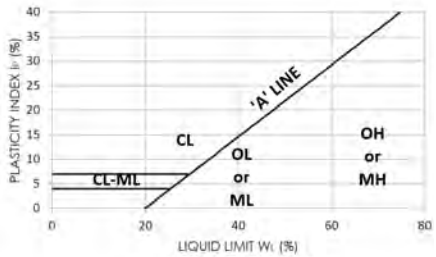
The approximate unconfined compressive strength (qu) shown in the table is based on an assumed ration to the point load index of 24:1. This ratio may vary widely.

Unified Soil Classification System (Metricated)
Data for Description Indentification and Classification of Soils

MAJOR DIVISIONS				DESCRIPTION: Group Symbol	Graphic Symbol	TYPICAL NAME	DESCRIPTIVE DATA
COARSE GRAINED SOILS	More than 50% by dry mass, less than 60mm is greater than 0.06mm.	GRAVELS	More than 50% of coarse grains are greater than 2.0mm	GW		Well graded gravels and gravel-sand mixtures, little or no fines	Give typical name, indicate approximate percentages of sand and gravel, maximum size, angularity, surface condition and hardness of the coarse grains, local or geological name and other pertinent descriptive information, symbols in parenthesis. For undisturbed soils add information on stratification, degree of compactness, cementation, moisture conditions and drainage characteristics. EXAMPLE: Silty Sand, gravelly, about 20% hard, angular gravel particles, 10mm maximum size, rounded and sub angular sand grains coarse to fine, about 15% non-plastic fines with low dry strength, well compacted and moist in place, light brown alluvial sand, (SM)
				GP		Poorly graded gravels and gravel sand mixtures, little or no fines	
		GRAVELLY SOILS		GM		Silty gravels, gravel-sand-silt mixtures	
				GC		Clayey gravels gravel-sand-clay mixtures	
		SANDS	More than 50% of coarse grains are greater than 2.0mm	SW		Well graded sands and gravelly sands, little or no fines	
				SP		Poorly graded sands and gravelly sands, little or no fines	
		SANDY SOILS		SM		Silty sand, sand-silt mixtures	
				SC		Clayey sands, sand-clay mixtures	
FINE GRAINED SOILS	More than 50% by dry mass, less than 60mm is less than 0.06mm	Liquid Limit less than 50%		ML		Inorganic silts, very fine sands, rock flour, silty or clayey fine sands.	Give typical name, indicate degree and character of plasticity, amount and maximum size of coarse grains, colour in wet condition, odour if any, local or geological name and r pertinent descriptive information, symbols in parenthesis. For undisturbed soil add information on structure, stratification, consistancy in undisturbed and remoulded states, moisture and drainage conditions. EXAMPLE Clayey Silt, brown, low plasticity, small percentage of fine sand, numerous vertical root-holes, firm and dry in place, fill, (ML).
				CL		Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays.	
				OL		Organic silts and organic silty clays of low plasticity	
		Liquid Limit more than 50%		MH		Inorganic silts, micaceous or diatomaceous fine sands or silts, elastic silts.	
				CH		Inorganic clays of high plasticity, fat clays.	
				OH		Organic clays of medium to high plasticity.	
				Pt		Peat muck and other highly organic soils.	

FIELD IDENTIFICATION								
			GRAVELS AND SANDS: GRADATIONS		NATURE OF FINES	DRY STRENGTH	Group Symbol	
Determine approximate percentages of material over 60mm size, maximum size, shape, surface texture, hardness of material, geological description, identify on estimated percentage mass of the various fractions.	COARSE GRAINED SOILS	More than half of the material less than 60mm is larger than 0.06mm	0.06mm is about the smallest particle visible to the naked eye	GOOD	Wide range in grain size	"Clean" materials (not enough fines to band coarse grains)	None	GW
				POOR	Predominantly one size or range of sizes			GP
				GOOD TO FAIR	"Dirty" materials (Excess of fines)	Fines are non-plastic (1)	None to medium	GM
						Fines are plastic (1)		GC
				GOOD	Wide range in grain size	"Clean" materials (not enough fines to band coarse grains)	None	SW
				POOR	Predominantly one size or range of sizes			SP
				GOOD TO FAIR	"Dirty" materials (Excess of fines)	Fines are non-plastic (1)	None to medium	SM
						Fines are plastic (1)		SC
	FINE GRAINED SOILS	More than half of the material less than 50mm is less than 0.06mm		SILT AND CLAY FRACTION: Fraction smaller than 0 20mm AS sieve size				
				DRY STRENGTH	DILATANCY	TOUGHNESS		
				None to low	Quick to slow	None		ML
				Medium to high	None to very slow	Medium		CL
				Low to medium	Slow	Low		OL
				Low to medium	Slow to none	Low to medium		MH
				High to very high	None	High		CH
				Medium to high	None to very slow	Low to medium		OH
Readily identified by colour, odour, spongy feel and generally by fibrous texture								Pt*

LABORATORY CLASSIFICATION					
	% [2] < 0.06mm	PLASTICITY OF FINE FRACTION			NOTES
Use the gradation curve of material passing 60mm for classification of fractions according to criteria given under "Major Division".	0-5	-	>4	Between 1 and 3	1. Identify Fines by the method given for fine grained soils. 2. Borderline classifications occur when the percentage of fines (fraction smaller than 0.06mm size) is greater than 5% and less than 12%. Borderline classifications require the use of dual symbols eg SP-SM GW-GC
	0-5	-	Fails to comply with above		
	12-50	Below 'A' line and Ip >7	-	-	
	12-50	Above 'A' line and Ip > 7	-	-	
	0-5	-	>6	between 1 and 3	
	0-5	-	Fails to comply with above		
	12-50	Below 'A' line or Ip < 4	-	-	
	12-50	Above 'A' line and Ip > 7	-	-	
More than 50% passing 0.06mm		Below 'A' line			
		Above 'A' line			
		Below 'A' line			
		Below 'A' line			
		Above 'A' line			
		Below 'A' line			
*Effervescence with H2O2					



PLASTICITY CHART
FOR CLASSIFICATION OF FINE GRAINED SOILS

FORTIFY GEOTECH

Limitations in the Use and Interpretation of this Geotechnical Report

Our Professional services were performed, our findings obtained, and our recommendations prepared in accordance with generally accepted engineering principles and practices. This warranty is in lieu of all other warranties, either expressed or implied.

The geotechnical report was prepared for the use of the Owner in the design of the subject facility and should be made available to potential contractors and/or the Contractor for information on factual data only. This report should not be used for contractual purposes as a warranty of interpreted subsurface conditions such as those indicated by the interpretive boring and test pit logs, cross- sections, or discussion of subsurface conditions contained herein.

The analyses, conclusions and recommendations contained in the report are based on site conditions as they presently exist and assume that the exploratory borings, test pits, and/or probes are representative of the subsurface conditions of the site. If, during construction, subsurface conditions are found which are significantly different from those observes in the exploratory borings and test pits, or assumed to exist in the excavations, we should be advised at once so that we can review these conditions and reconsider our recommendations where necessary. If there is a substantial lapse of time between the submission of this report and the start of work at the site, or if conditions have changed due to natural causes or construction operations at or adjacent to the site, this report should be reviewed to determine the applicability of the conclusions and the recommendations considering the changed conditions and time lapse.

The Summary Boring Logs are our opinion of the subsurface conditions revealed by periodic sampling of the ground as the borings progressed. The soil descriptions and interfaces between strata are interpretive and actual changes may be gradual.

The boring logs and related information depict subsurface conditions only at the specific locations and at the particular time designated on the logs. Soil conditions at the other locations may differ from conditions occurring at these boring locations. Also, the passage of time may result in a change in the soil conditions at these boring locations.

Groundwater levels often vary seasonally. Groundwater levels reported on the boring logs or in the body of the report are factual data only for the dates shown.

Unanticipated soil conditions are commonly encountered on construction sites and cannot be fully anticipated by merely taking soil samples, borings or test pits. Such unexpected conditions frequently require that additional expenditures be made to attain a properly constructed project. It is recommended that the Owner consider providing a contingency fund to accommodate such potential extra costs.

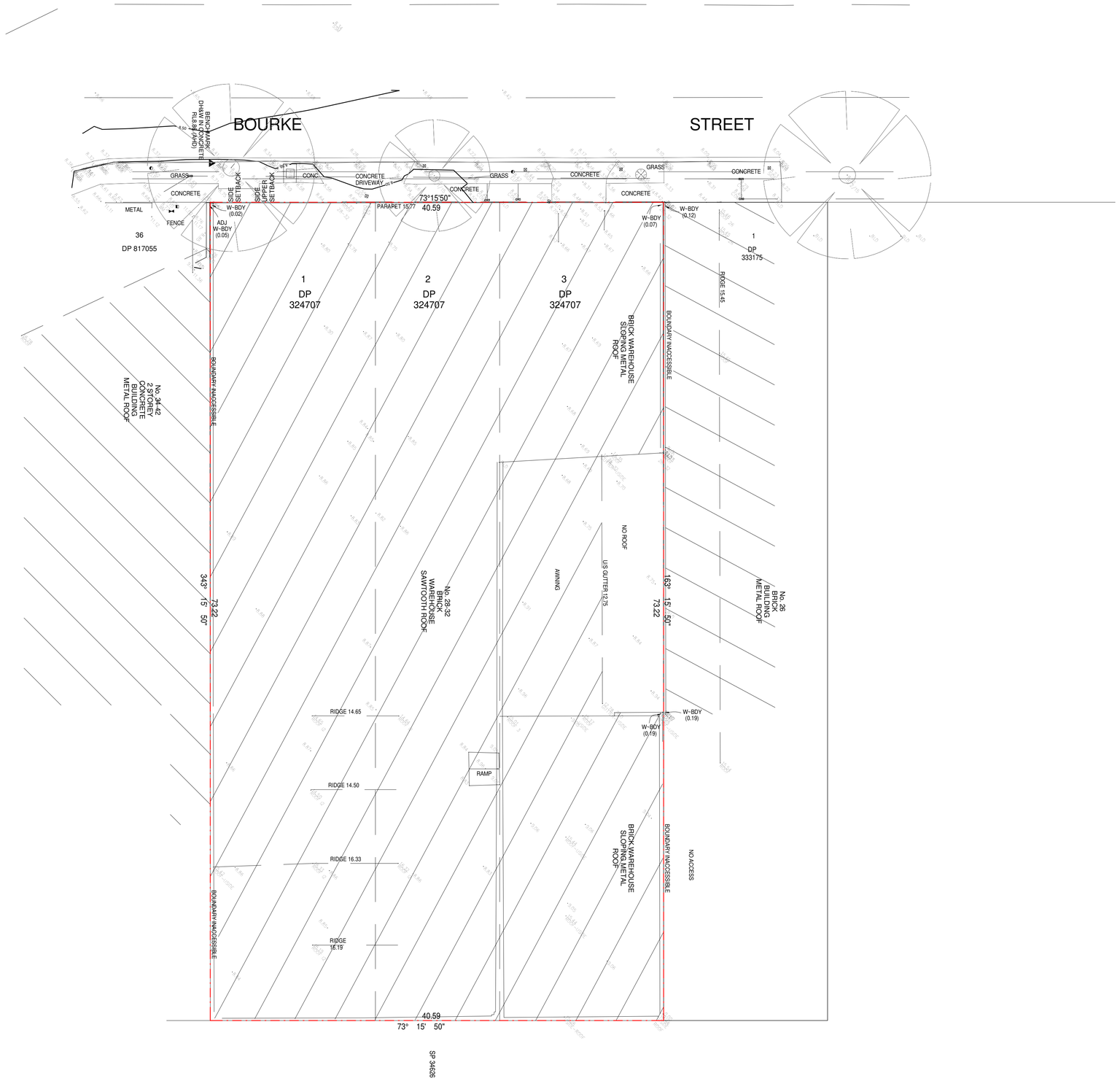
This firm cannot be responsible for any deviation from the intent of this report including, but not restricted to, any changes to the scheduled time of construction, the nature of the project or the specific construction methods or means indicated in this report: nor can our firm be responsible for any construction activity on sites other than the specific site referred to in this report.

Appendix D

SITE CONCEPT PLANS

NBRSARCHITECTURE.

PRELIMINARY



Issue

No.	Date	Description	Chkd
1	09/02/22	SEARs Request	
2	11/02/22	Revised Scheme J	
3	15/02/22	Issue for SEARs Request	

Architect
NBRSARCHITECTURE.

Sydney
61 2 9922 2344 nbrsarchitecture.com

Any form of replication of this drawing in full or in part without the written permission of NBRS+PARTNERS Pty Ltd constitutes an infringement of the copyright.

Nominated Architect:
Andrew Duffin NSW 5602

© 2020

NBRS & Partners Pty Ltd VIC 51197 ABN 16 002 247 565

Project

Bourke Road Feasibility

at

28-32 Bourke Road, Alexandria, NSW 2015

for

Alexandria Property Development Pty Ltd
Level 10, 50 Berry Street, North Sydney NSW 2060
ACN: 657 387 178

Drawing Title

Existing Site Plan

Date 18/02/2022 8:12:20 AM

Scale 1 : 200 @ A1

Drawing Reference

21476-NBRS-DR-A-SR01

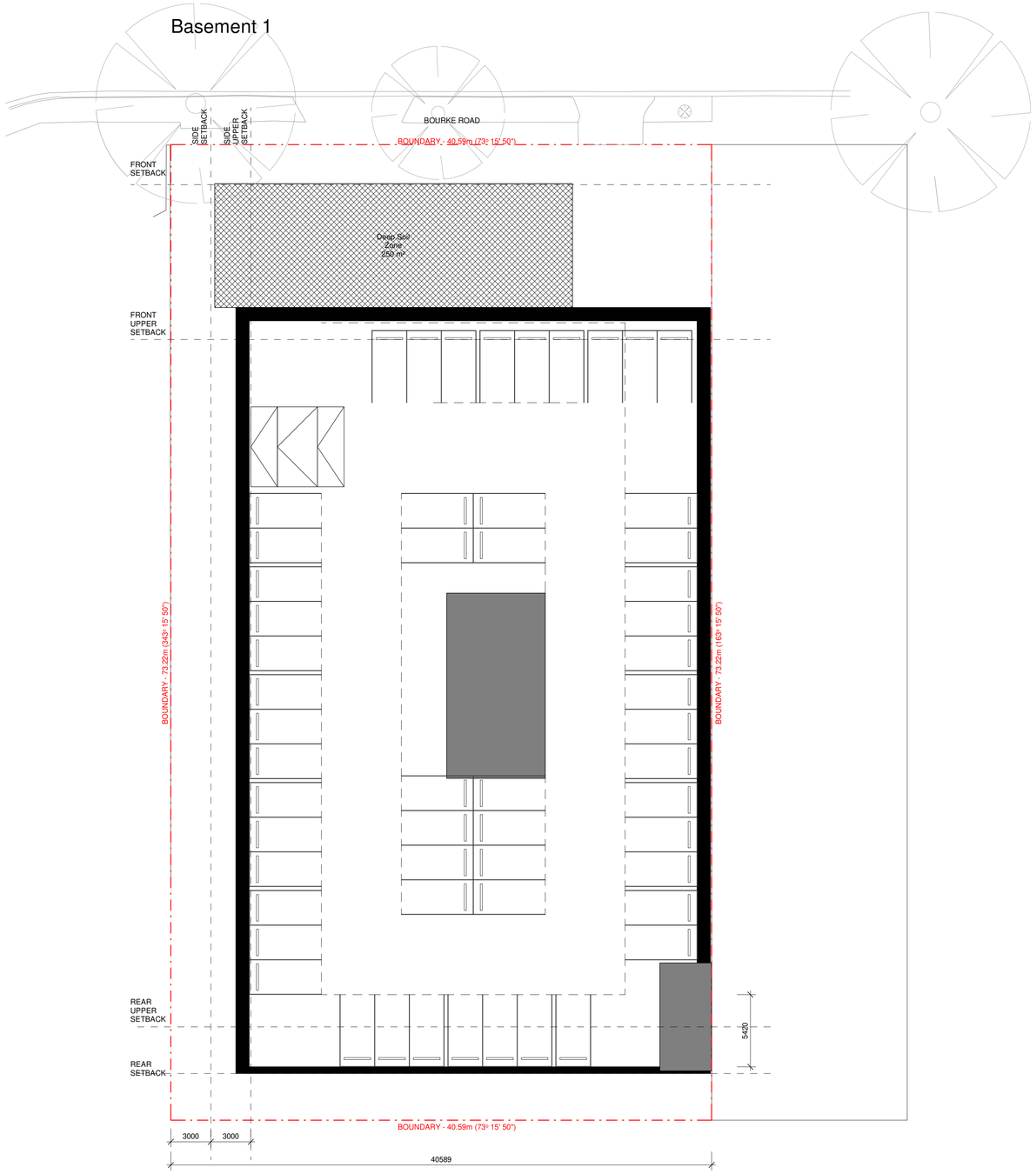
Revision

3

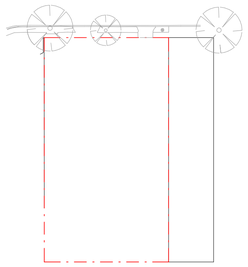
0 10 20 30 40 50 60 70 80 90 100

NBRSARCHITECTURE.

Basement 1



PRELIMINARY



LEGEND

- BASE BUILDING
- VERTICAL CIRCULATION
- COMMERCIAL/HEALTH SERVICES
- HEALTH
- LANDSCAPED TERRACE
- DEEP SOIL ZONE
- SITE BOUNDARY
- SITE SETBACK

Issue

No.	Date	Description	Chkd
1	09/02/22	SEARs Request	
2	11/02/22	Revised Scheme J	
3	15/02/22	Issue for SEARs Request	

Architect
NBRSARCHITECTURE.
Sydney
61 2 9922 2344 nbrsarchitecture.com

Any form of replication of this drawing in full or in part without the written permission of NBRS+PARTNERS Pty Ltd constitutes an infringement of the copyright.

Nominated Architect:
Andrew Duffin NSW 5602
NBRS & Partners Pty Ltd VIC 51197

© 2020

ABN 16 002 247 565

Project
Bourke Road Feasibility

at
28-32 Bourke Road, Alexandria, NSW 2015

for
Alexandria Property Development Pty Ltd
Level 10, 50 Berry Street, North Sydney NSW 2060
ACN: 657 387 178

Drawing Title
Building Envelope - Basement

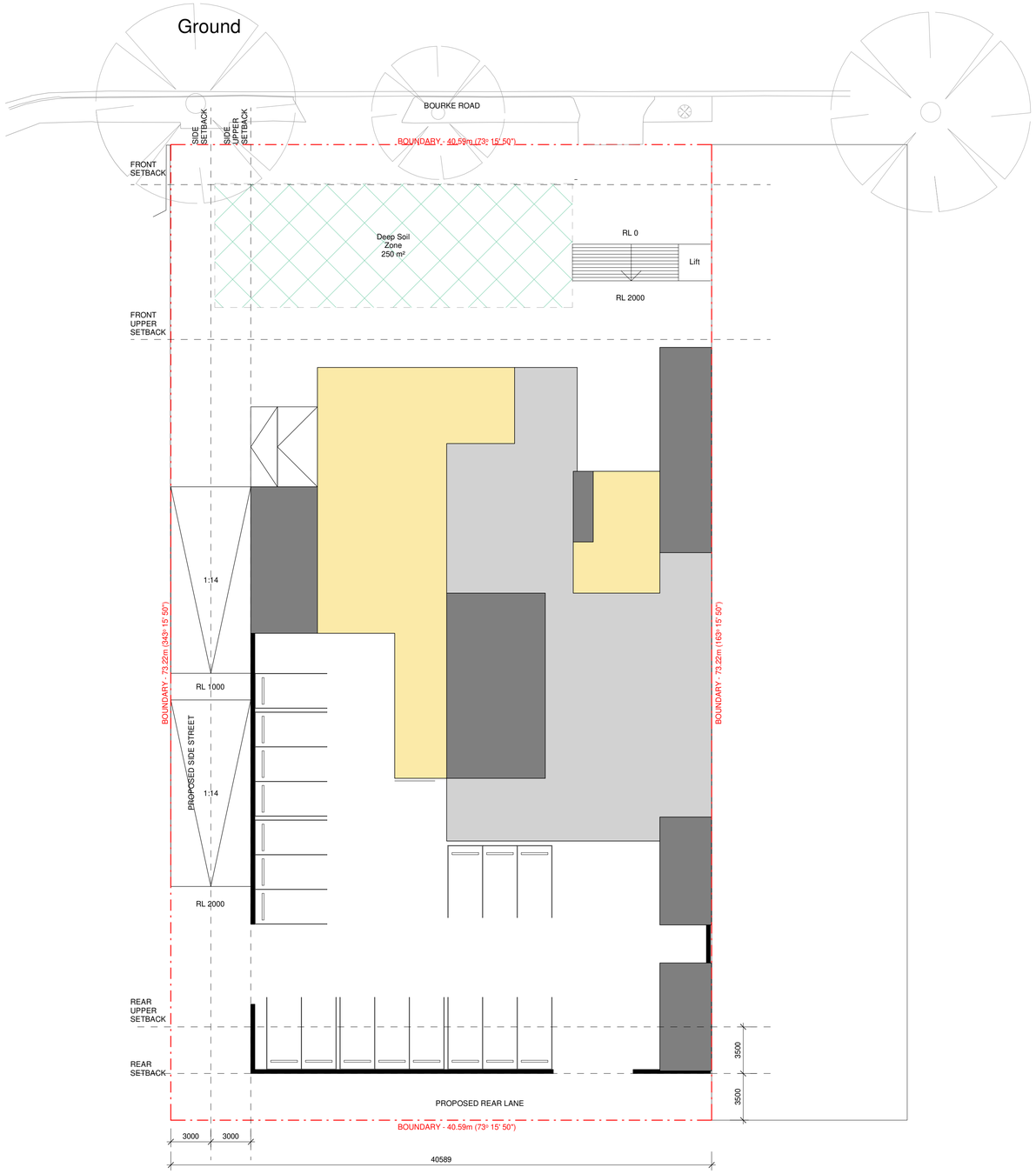
Date 18/02/2022 8:12:21 AM
Scale As indicated @ A1

Drawing Reference
21476-NBRS-DR-A-SR02

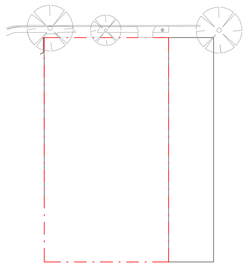
Revision
3

0 10 20 30 40 50 60 70 80 90 100

NBRSARCHITECTURE.



PRELIMINARY



LEGEND

- BASE BUILDING
- VERTICAL CIRCULATION
- COMMERCIAL/HEALTH SERVICES
- HEALTH
- LANDSCAPED TERRACE
- DEEP SOIL ZONE
- SITE BOUNDARY
- SITE SETBACK

Issue

No.	Date	Description	Chkd
1	09/02/22	SEARs Request	
2	11/02/22	Revised Scheme J	
3	15/02/22	Issue for SEARs Request	

Architect
NBRSARCHITECTURE.
Sydney
61 2 9922 2344 nbrsarchitecture.com

Any form of replication of this drawing in full or in part without the written permission of NBRS+PARTNERS Pty Ltd constitutes an infringement of the copyright.

Nominated Architect:
Andrew Duffin NSW 5602

© 2020

NBRS & Partners Pty Ltd VIC 51197 ABN 16 002 247 565

Project
Bourke Road Feasibility

at
28-32 Bourke Road, Alexandria, NSW 2015

for
Alexandria Property Development Pty Ltd
Level 10, 50 Berry Street, North Sydney NSW 2060
ACN: 657 387 178

Drawing Title
Building Envelope - Ground Floor

Date 18/02/2022 8:12:23 AM
Scale As indicated @ A1

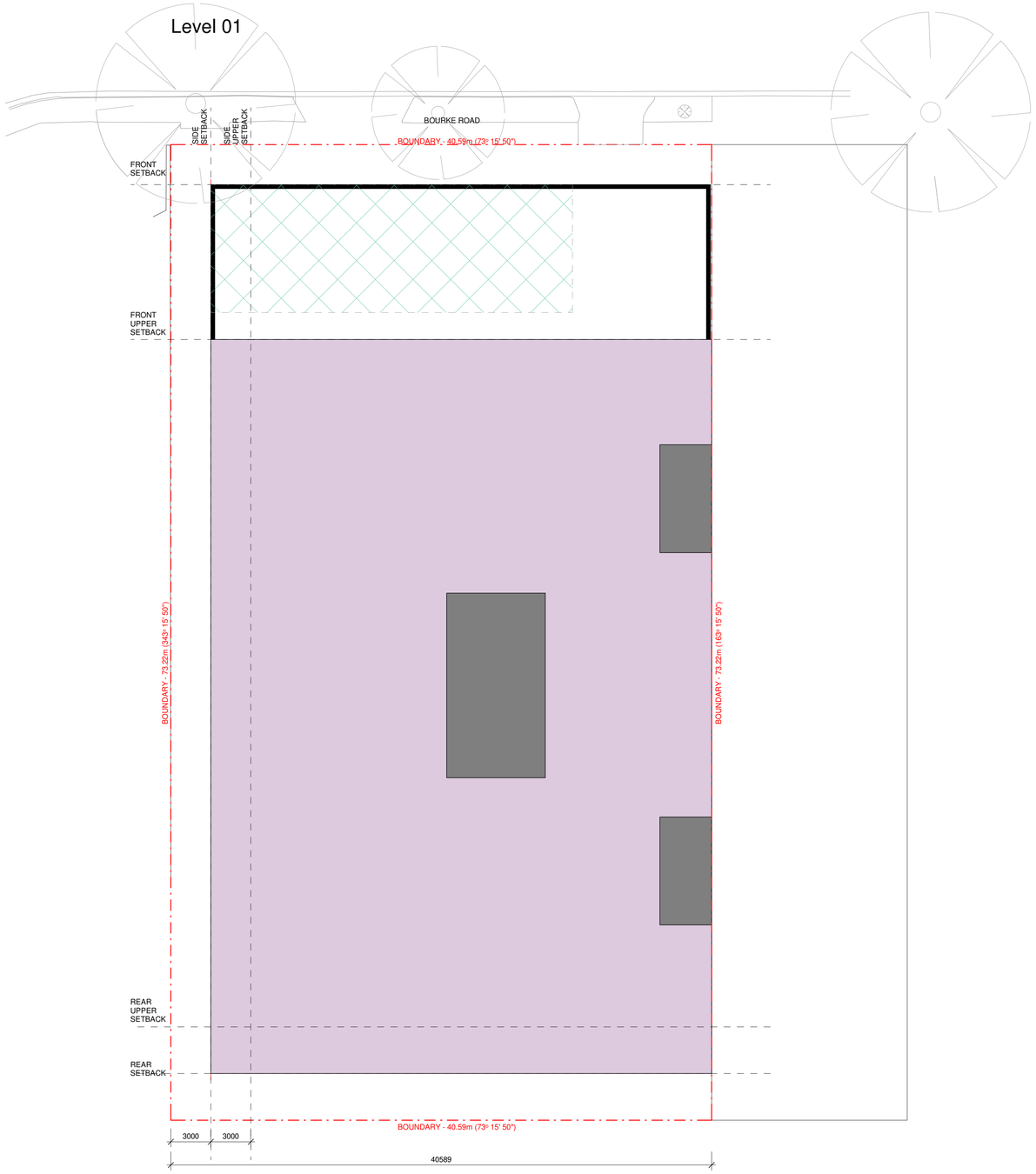
Drawing Reference
21476-NBRS-DR-A-SR03

Revision
3

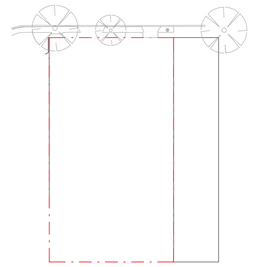
0 10 20 30 40 50 60 70 80 90 100

NBRSARCHITECTURE.

Level 01



PRELIMINARY



LEGEND

- BASE BUILDING
- VERTICAL CIRCULATION
- COMMERCIAL/HEALTH SERVICES
- HEALTH
- LANDSCAPED TERRACE
- DEEP SOIL ZONE
- SITE BOUNDARY
- SITE SETBACK

Issue

No.	Date	Description	Chkd
1	09/02/22	SEARs Request	
2	11/02/22	Revised Scheme J	
3	15/02/22	Issue for SEARs Request	

Architect
NBRSARCHITECTURE.
Sydney
61 2 9922 2344 nbrsarchitecture.com

Any form of replication of this drawing in full or in part without the written permission of NBRS+PARTNERS Pty Ltd constitutes an infringement of the copyright.

Nominated Architect:
Andrew Duffin NSW 5602

© 2020

NBRS & Partners Pty Ltd VIC 51197 ABN 16 002 247 565

Project
Bourke Road Feasibility

at
28-32 Bourke Road, Alexandria, NSW 2015

for
Alexandria Property Development Pty Ltd
Level 10, 50 Berry Street, North Sydney NSW 2060
ACN: 657 387 178

Drawing Title
Building Envelope - Level 01

Date 18/02/2022 8:12:24 AM
Scale As indicated @ A1

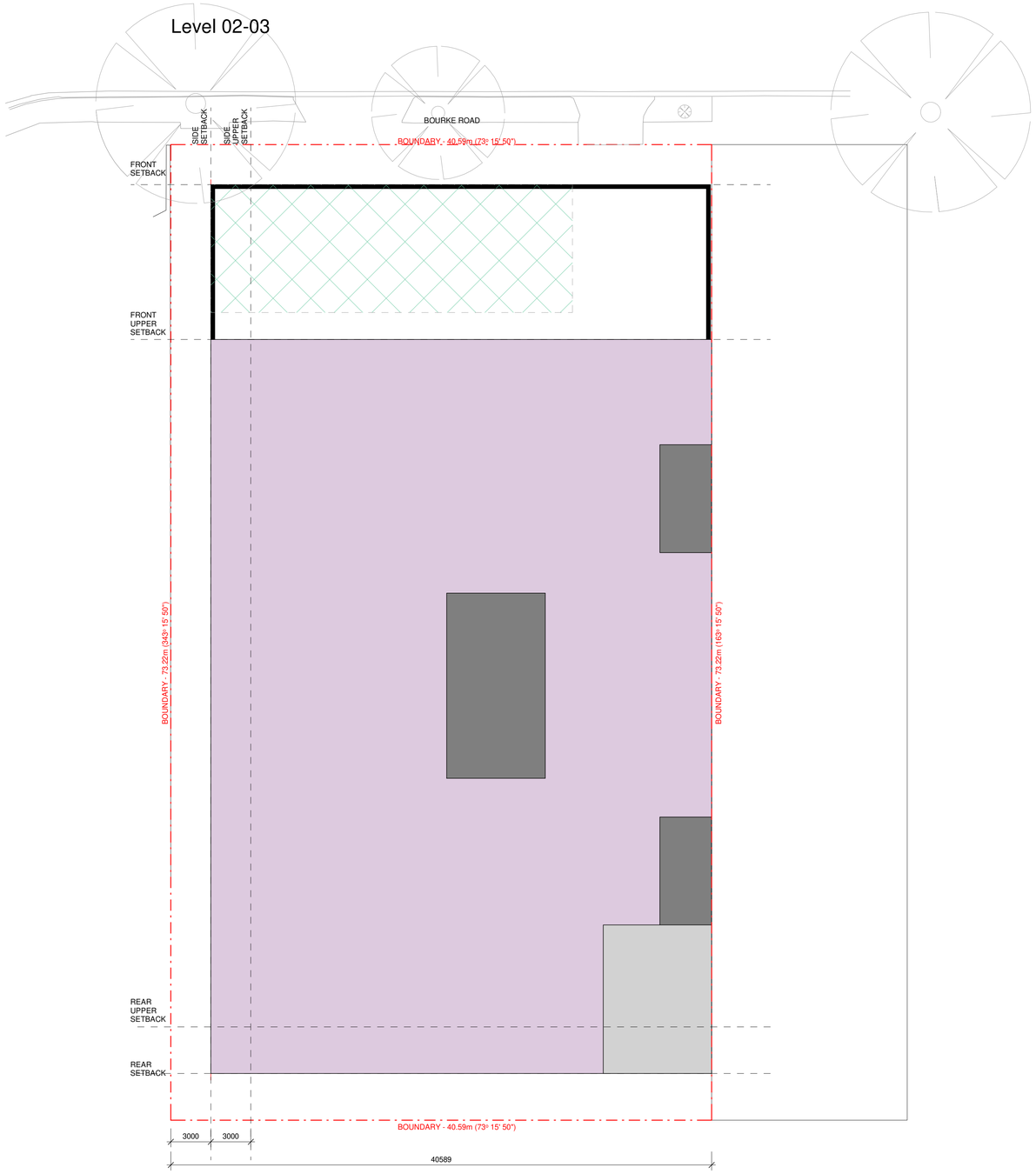
Drawing Reference
21476-NBRS-DR-A-SR04

Revision
3

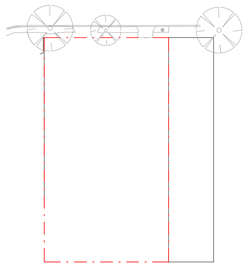
0 10 20 30 40 50 60 70 80 90 100

NBRSARCHITECTURE.

Level 02-03



PRELIMINARY



LEGEND

- BASE BUILDING
- VERTICAL CIRCULATION
- COMMERCIAL/HEALTH SERVICES
- HEALTH
- LANDSCAPED TERRACE
- DEEP SOIL ZONE
- SITE BOUNDARY
- SITE SETBACK

Issue

No.	Date	Description	Chkd
1	09/02/22	SEARs Request	
2	11/02/22	Revised Scheme J	
3	15/02/22	Issue for SEARs Request	

Architect
NBRSARCHITECTURE.
Sydney
61 2 9922 2344 nbrsarchitecture.com

Any form of replication of this drawing in full or in part without the written permission of NBRS+PARTNERS Pty Ltd constitutes an infringement of the copyright.

Nominated Architect:
Andrew Duffin NSW 5602

© 2020

NBRS & Partners Pty Ltd VIC 51197 ABN 16 002 247 565

Project
Bourke Road Feasibility

at
28-32 Bourke Road, Alexandria, NSW 2015

for
Alexandria Property Development Pty Ltd
Level 10, 50 Berry Street, North Sydney NSW 2060
ACN: 657 387 178

Drawing Title
Building Envelope - Level 02-03

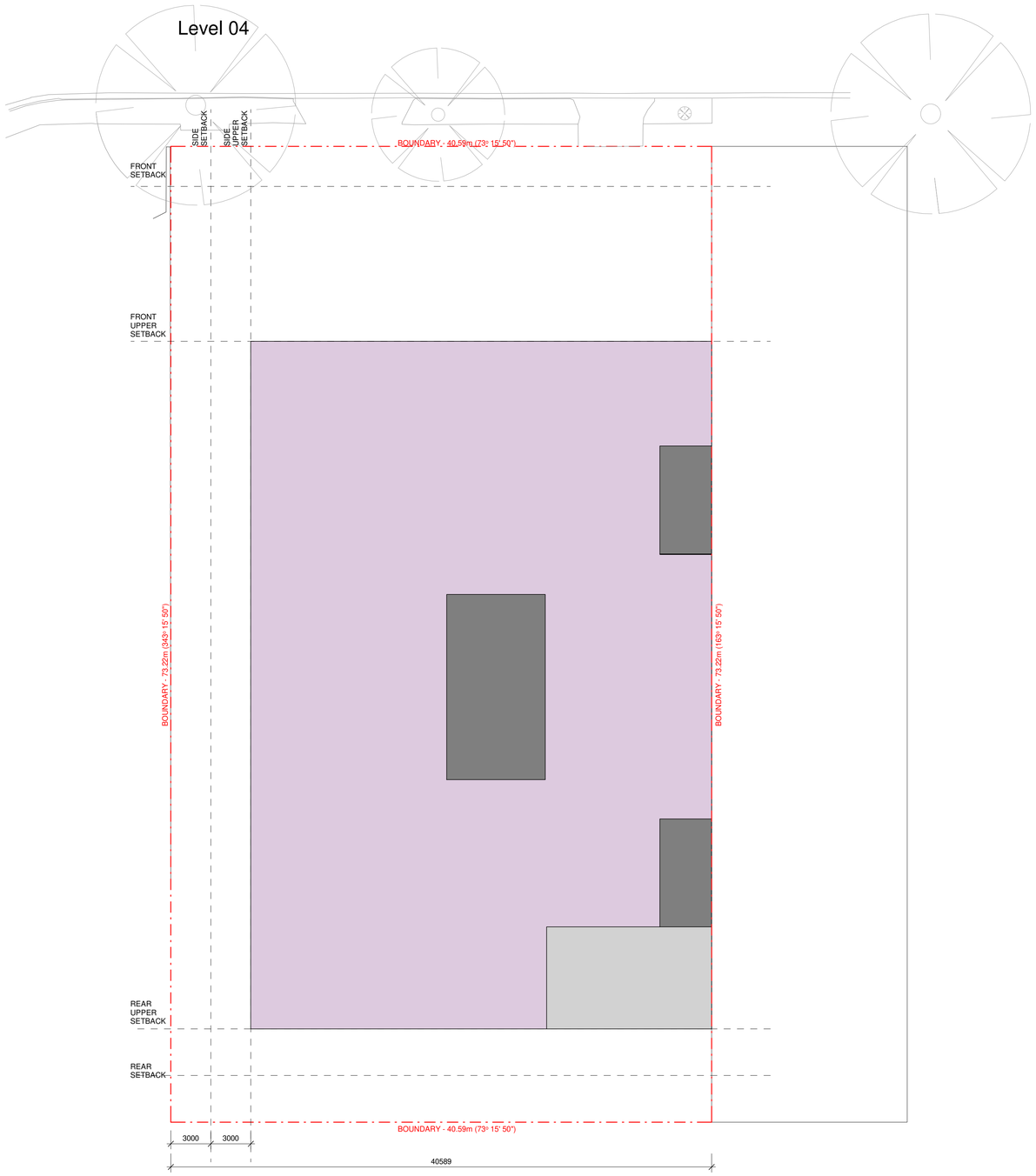
Date 18/02/2022 8:12:25 AM
Scale As indicated @ A1

Drawing Reference
21476-NBRS-DR-A-SR05

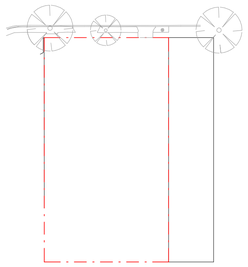
Revision
3

0 10 20 30 40 50 60 70 80 90 100

NBRSARCHITECTURE.



PRELIMINARY



LEGEND

- BASE BUILDING
- VERTICAL CIRCULATION
- COMMERCIAL/HEALTH SERVICES
- HEALTH
- LANDSCAPED TERRACE
- DEEP SOIL ZONE
- SITE BOUNDARY
- SITE SETBACK

Issue

No.	Date	Description	Chkd
1	09/02/22	SEARs Request	
2	11/02/22	Revised Scheme J	
3	15/02/22	Issue for SEARs Request	

Architect
NBRSARCHITECTURE.
Sydney
61 2 9922 2344 nbrsarchitecture.com

Any form of replication of this drawing in full or in part without the written permission of NBRS+PARTNERS Pty Ltd constitutes an infringement of the copyright.

Nominated Architect:
Andrew Duffin NSW 5602

© 2020

NBRS & Partners Pty Ltd VIC 51197 ABN 16 002 247 565

Project
Bourke Road Feasibility

at
28-32 Bourke Road, Alexandria, NSW 2015

for
Alexandria Property Development Pty Ltd
Level 10, 50 Berry Street, North Sydney NSW 2060
ACN: 657 387 178

Drawing Title
Building Envelope - Level 04

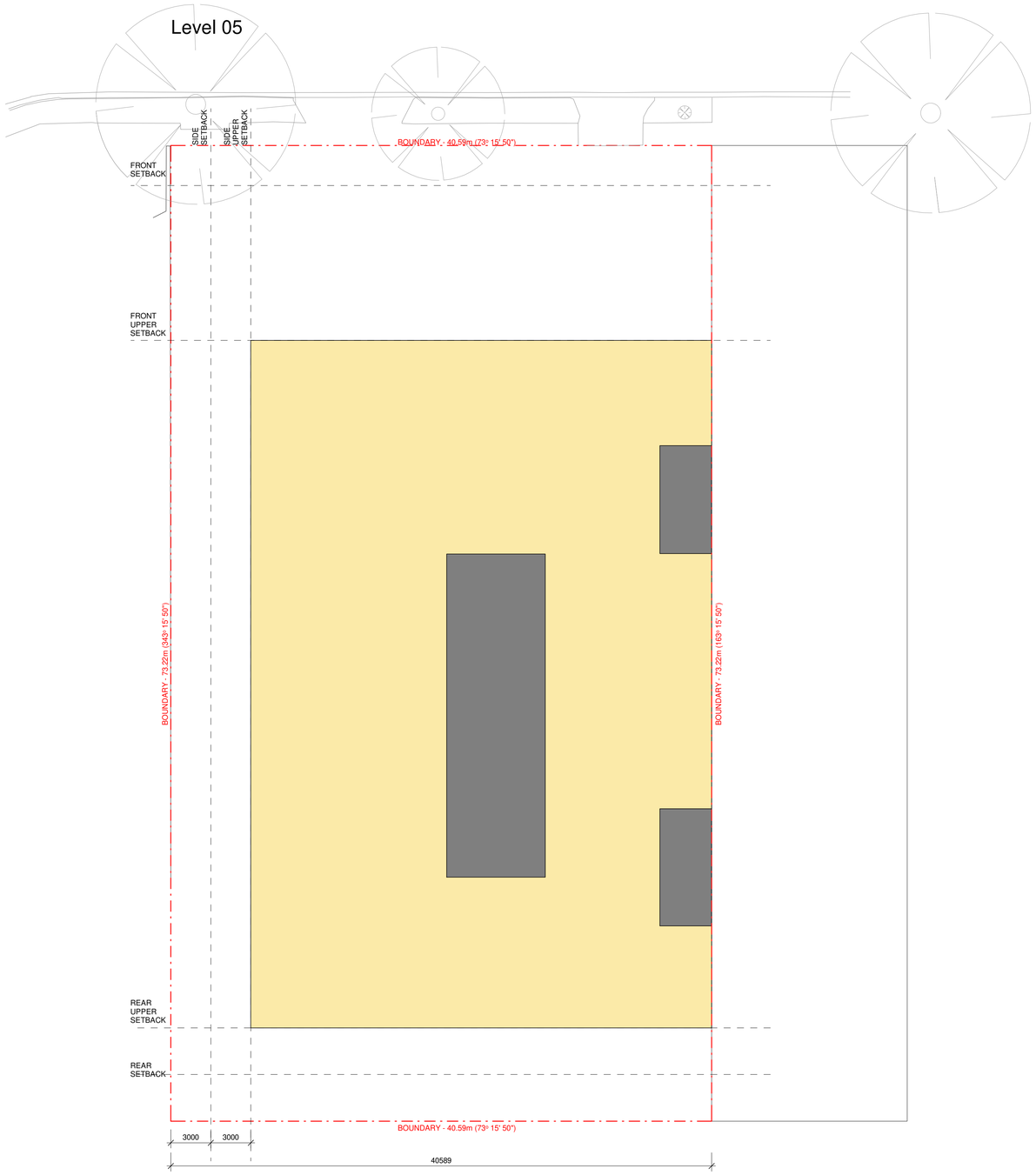
Date 18/02/2022 8:12:26 AM
Scale As indicated @ A1

Drawing Reference
21476-NBRS-DR-A-SR06

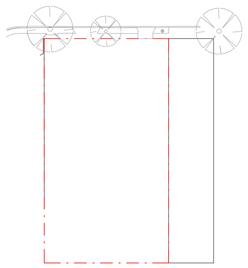
Revision
3

0 10 20 30 40 50 60 70 80 90 100

NBRSARCHITECTURE.



PRELIMINARY



LEGEND

- BASE BUILDING
- VERTICAL CIRCULATION
- COMMERCIAL/HEALTH SERVICES
- HEALTH
- LANDSCAPED TERRACE
- DEEP SOIL ZONE
- SITE BOUNDARY
- SITE SETBACK

Issue

No.	Date	Description	Chkd
1	09/02/22	SEARs Request	
2	11/02/22	Revised Scheme J	
3	15/02/22	Issue for SEARs Request	

Architect
NBRSARCHITECTURE.
Sydney
61 2 9922 2344 nbrsarchitecture.com

Any form of replication of this drawing in full or in part without the written permission of NBRS+PARTNERS Pty Ltd constitutes an infringement of the copyright.

Nominated Architect:
Andrew Duffin NSW 5602

© 2020

NBRS & Partners Pty Ltd VIC 51197 ABN 16 002 247 565

Project

Bourke Road Feasibility

at

28-32 Bourke Road, Alexandria, NSW 2015

for

Alexandria Property Development Pty Ltd
Level 10, 50 Berry Street, North Sydney NSW 2060
ACN: 657 387 178

Drawing Title

Building Envelope - Level 05

Date 18/02/2022 8:12:27 AM

Scale As indicated @ A1

Drawing Reference

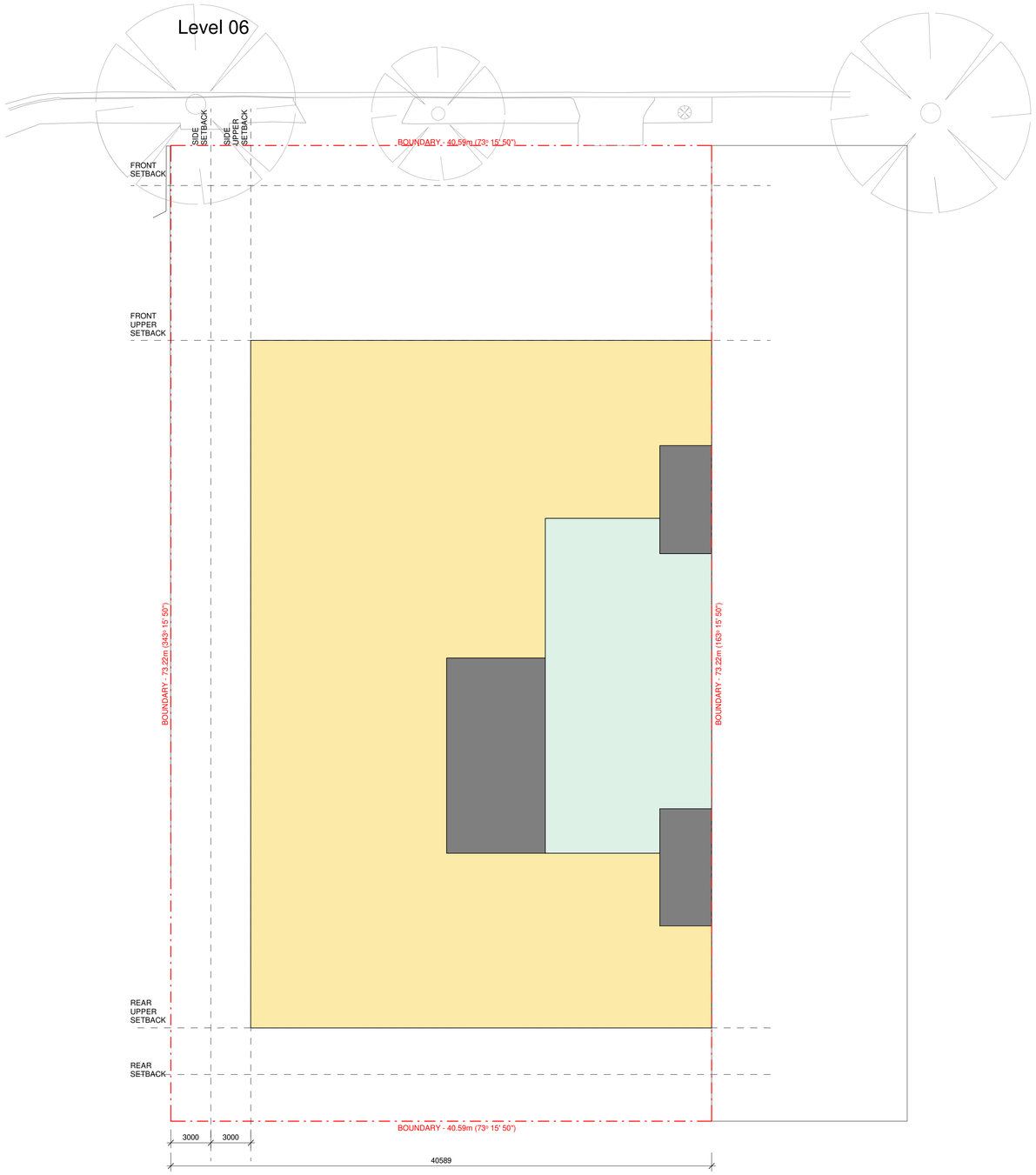
21476-NBRS-DR-A-SR07

Revision

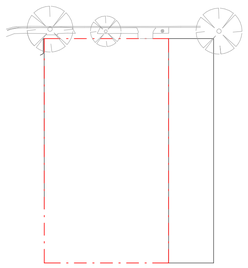
3

0 10 20 30 40 50 60 70 80 90 100

NBRSARCHITECTURE.



PRELIMINARY



LEGEND

- BASE BUILDING
- VERTICAL CIRCULATION
- COMMERCIAL/HEALTH SERVICES
- HEALTH
- LANDSCAPED TERRACE
- DEEP SOIL ZONE
- SITE BOUNDARY
- SITE SETBACK

Issue

No.	Date	Description	Chkd
1	09/02/22	SEARs Request	
2	11/02/22	Revised Scheme J	
3	15/02/22	Issue for SEARs Request	

Architect
NBRSARCHITECTURE.
Sydney
61 2 9922 2344 nbrsarchitecture.com

Any form of replication of this drawing in full or in part without the written permission of NBRS+PARTNERS Pty Ltd constitutes an infringement of the copyright.

Nominated Architect:
Andrew Duffin NSW 5602

© 2020

NBRS & Partners Pty Ltd VIC 51197 ABN 16 002 247 565

Project

Bourke Road Feasibility

at

28-32 Bourke Road, Alexandria, NSW 2015

for

Alexandria Property Development Pty Ltd
Level 10, 50 Berry Street, North Sydney NSW 2060
ACN: 657 387 178

Drawing Title

Building Envelope - Level 06

Date 18/02/2022 8:12:28 AM
Scale As indicated @ A1

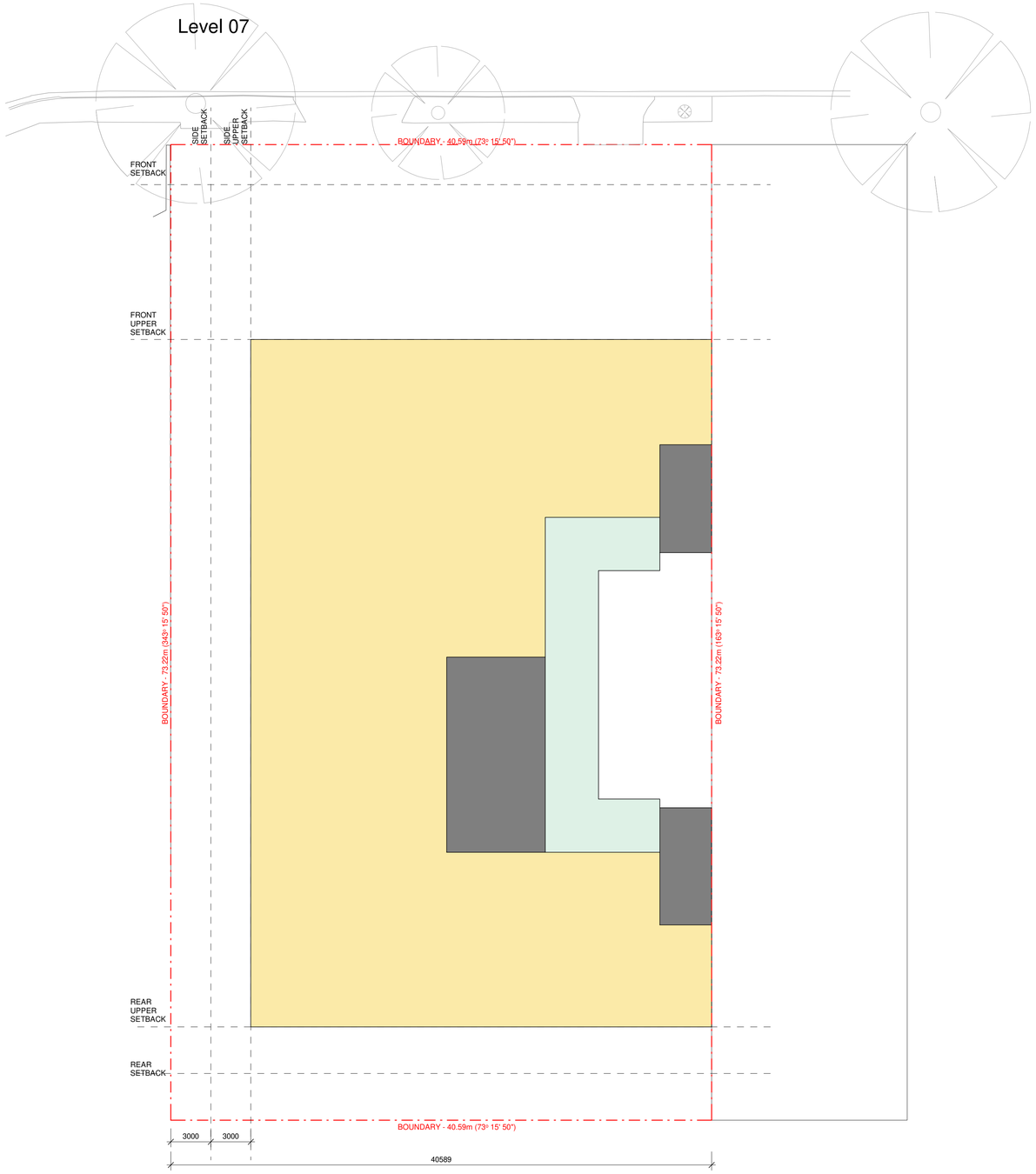
Drawing Reference
21476-NBRS-DR-A-SR08

Revision
3

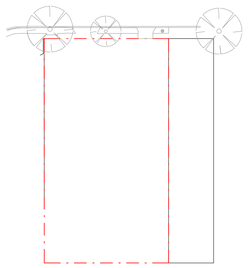
0 10 20 30 40 50 60 70 80 90 100

NBRSARCHITECTURE.

Level 07



PRELIMINARY



LEGEND

- BASE BUILDING
- VERTICAL CIRCULATION
- COMMERCIAL/HEALTH SERVICES
- HEALTH
- LANDSCAPED TERRACE
- DEEP SOIL ZONE
- SITE BOUNDARY
- SITE SETBACK

Issue

No.	Date	Description	Chkd
1	09/02/22	SEARs Request	
2	11/02/22	Revised Scheme J	
3	15/02/22	Issue for SEARs Request	

Architect
NBRSARCHITECTURE.
Sydney
61 2 9922 2344 nbrsarchitecture.com

Any form of replication of this drawing in full or in part without the written permission of NBRS+PARTNERS Pty Ltd constitutes an infringement of the copyright.

Nominated Architect:
Andrew Duffin NSW 5602

© 2020

NBRS & Partners Pty Ltd VIC 51197 ABN 16 002 247 565

Project

Bourke Road Feasibility

at

28-32 Bourke Road, Alexandria, NSW 2015

for

Alexandria Property Development Pty Ltd
Level 10, 50 Berry Street, North Sydney NSW 2060
ACN: 657 387 178

Drawing Title

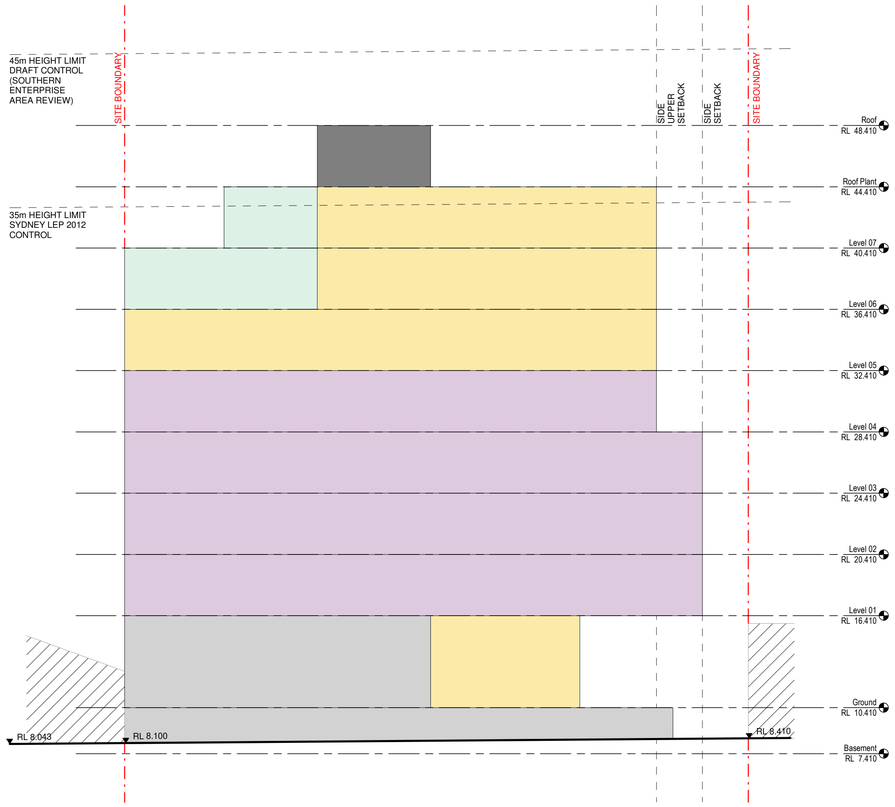
Building Envelope - Level 07

Date 18/02/2022 8:12:30 AM
Scale As indicated @ A1

Drawing Reference
21476-NBRS-DR-A-SR09

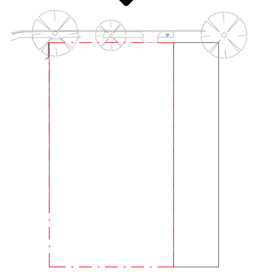
Revision
3

0 10 20 30 40 50 60 70 80 90 100



1 Elevation North
1 : 200

PRELIMINARY



LEGEND

- BASE BUILDING
- VERTICAL CIRCULATION
- COMMERCIAL/HEALTH SERVICES
- HEALTH
- LANDSCAPED TERRACE
- DEEP SOIL ZONE
- SITE BOUNDARY
- SITE SETBACK

Issue

No.	Date	Description	Chkd
1	09/02/22	SEARs Request	
2	11/02/22	Revised Scheme J	
3	15/02/22	Issue for SEARs Request	

Architect
NBRSARCHITECTURE.
Sydney
61 2 9922 2344 nbrsarchitecture.com
Any form of replication of this drawing in full or in part without the written permission of NBRS+PARTNERS Pty Ltd constitutes an infringement of the copyright.
Nominated Architect:
Andrew Duffin NSW 5602
© 2020
NBRS & Partners Pty Ltd VIC 51197 ABN 16 002 247 565

Project
Bourke Road Feasibility

at
28-32 Bourke Road, Alexandria, NSW 2015

for
Alexandria Property Development Pty Ltd
Level 10, 50 Berry Street, North Sydney NSW 2060
ACN: 657 387 178

Drawing Title
Building Envelope - North Elevation

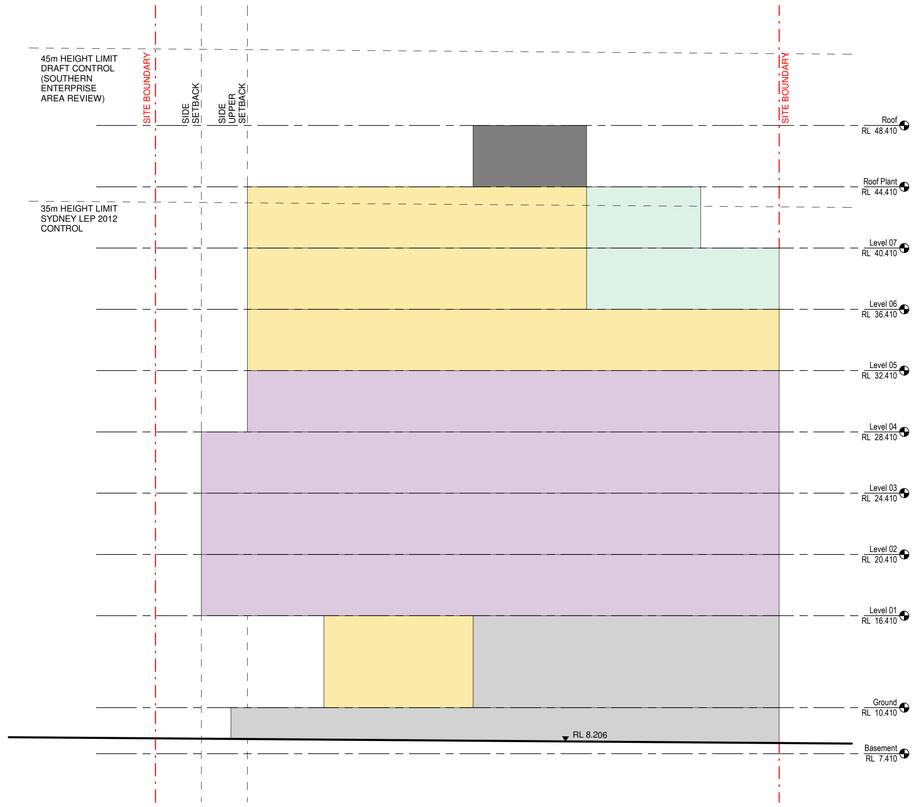
Date 18/02/2022 8:12:31 AM
Scale As indicated @ A1

Drawing Reference
21476-NBRS-DR-A-SR10

Revision
3

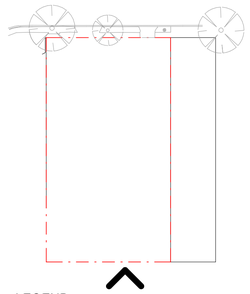
0 10 20 30 40 50 60 70 80 90 100

NBRSARCHITECTURE.



1 Elevation South
1 : 200

PRELIMINARY



LEGEND

- BASE BUILDING
- VERTICAL CIRCULATION
- COMMERCIAL/HEALTH SERVICES
- HEALTH
- LANDSCAPED TERRACE
- DEEP SOIL ZONE
- SITE BOUNDARY
- SITE SETBACK

Issue

No.	Date	Description	Chkd
1	09/02/22	SEARs Request	
2	11/02/22	Revised Scheme J	
3	15/02/22	Issue for SEARs Request	

Architect
NBRSARCHITECTURE.
Sydney
61 2 9922 2344 nbrsarchitecture.com
Any form of replication of this drawing in full or in part without the written permission of NBRS+PARTNERS Pty Ltd constitutes an infringement of the copyright.
Nominated Architect:
Andrew Duffin NSW 5602
© 2020
NBRS & Partners Pty Ltd VIC 51197 ABN 16 002 247 565

Project
Bourke Road Feasibility

at
28-32 Bourke Road, Alexandria, NSW 2015

for
Alexandria Property Development Pty Ltd
Level 10, 50 Berry Street, North Sydney NSW 2060
ACN: 657 387 178

Drawing Title
Building Envelope - South Elevation

Date 18/02/2022 8:12:32 AM
Scale As indicated @ A1

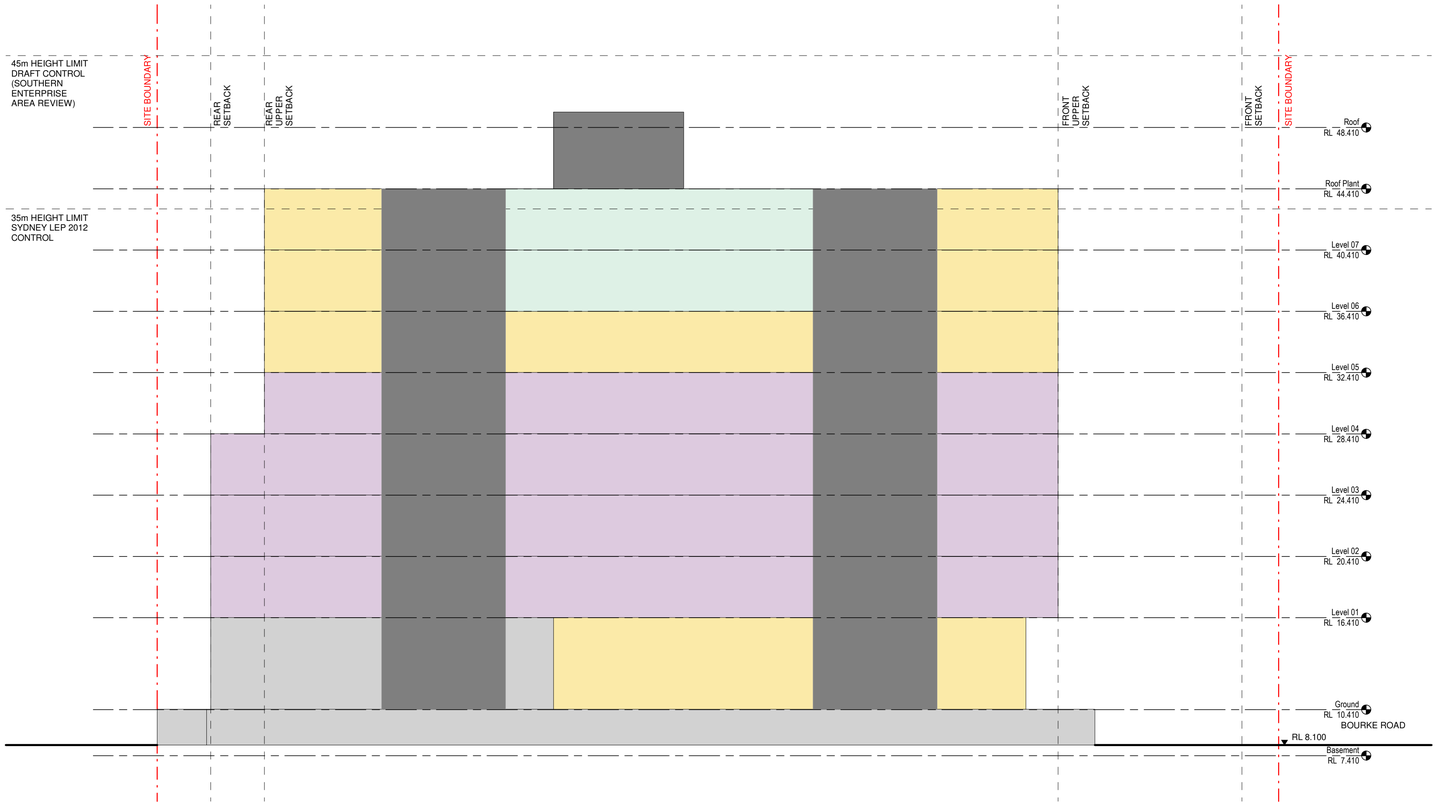
Drawing Reference
21476-NBRS-DR-A-SR11

Revision
3

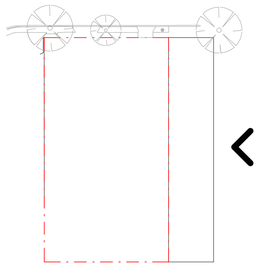
0 10 20 30 40 50 60 70 80 90 100

NBRSARCHITECTURE.

PRELIMINARY



1 Elevation East
1 : 200



LEGEND

- BASE BUILDING
- VERTICAL CIRCULATION
- COMMERCIAL/HEALTH SERVICES
- HEALTH
- LANDSCAPED TERRACE
- DEEP SOIL ZONE
- SITE BOUNDARY
- SITE SETBACK

Issue

No.	Date	Description	Chkd
1	09/02/22	SEARs Request	
2	11/02/22	Revised Scheme J	
3	15/02/22	Issue for SEARs Request	

Architect
NBRSARCHITECTURE.
Sydney
61 2 9922 2344 nbrsarchitecture.com

Any form of replication of this drawing in full or in part without the written permission of NBRS+PARTNERS Pty Ltd constitutes an infringement of the copyright.

Nominated Architect:
Andrew Duffin NSW 5602

© 2020

NBRS & Partners Pty Ltd VIC 51197 ABN 16 002 247 565

Project
Bourke Road Feasibility

at
28-32 Bourke Road, Alexandria, NSW 2015

for
Alexandria Property Development Pty Ltd
Level 10, 50 Berry Street, North Sydney NSW 2060
ACN: 657 387 178

Drawing Title
Building Envelope - East Elevation

Date 18/02/2022 8:12:33 AM
Scale As indicated @ A1

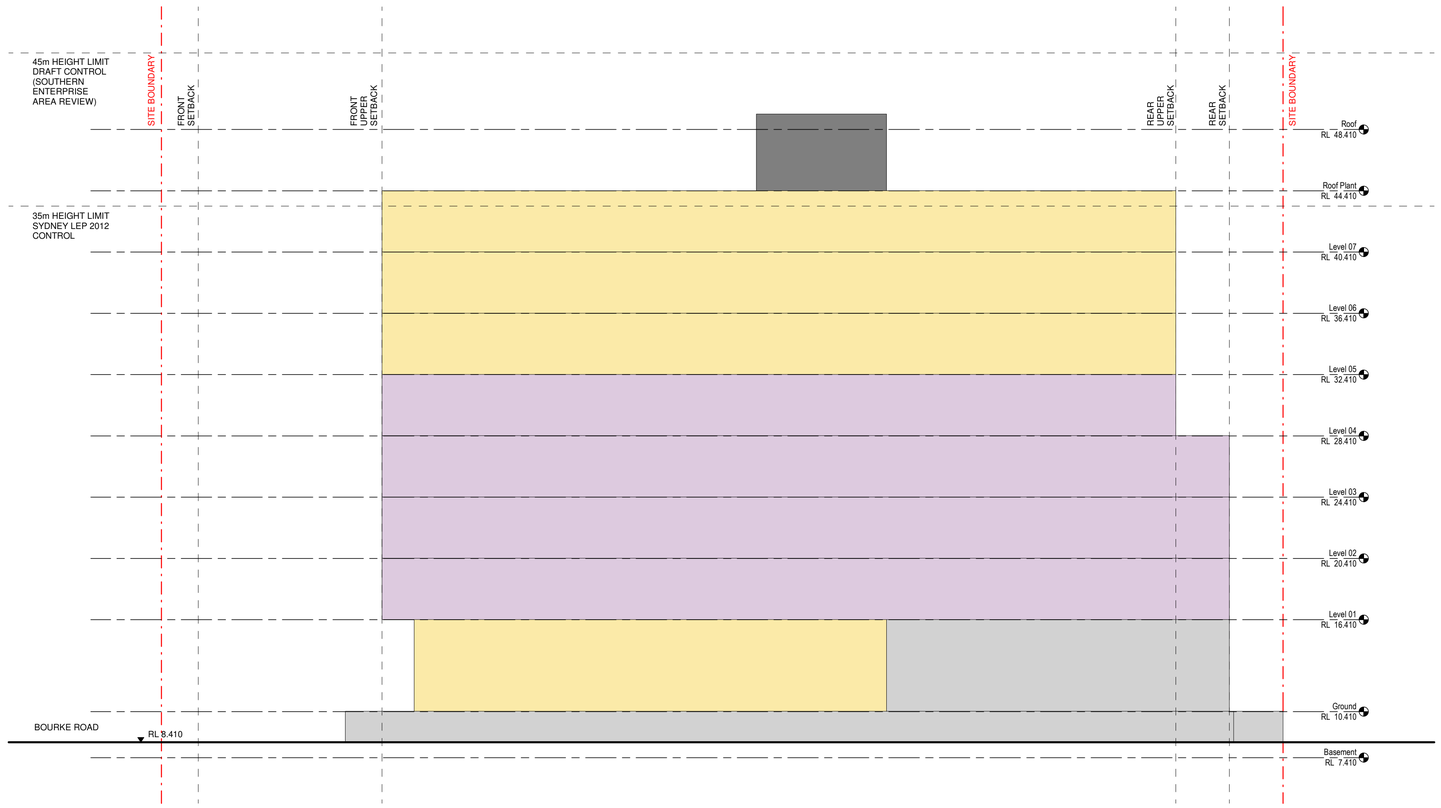
Drawing Reference
21476-NBRS-DR-A-SR12

Revision
3

0 10 20 30 40 50 60 70 80 90 100

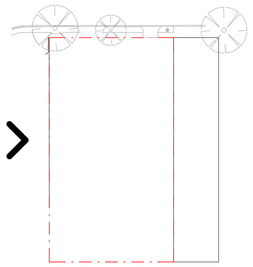
NBRSARCHITECTURE.

PRELIMINARY



1 Elevation West

1 : 200



LEGEND

- BASE BUILDING
- VERTICAL CIRCULATION
- COMMERCIAL/HEALTH SERVICES
- HEALTH
- LANDSCAPED TERRACE
- DEEP SOIL ZONE
- SITE BOUNDARY
- SITE SETBACK

Issue

No.	Date	Description	Chkd
1	09/02/22	SEARs Request	
2	11/02/22	Revised Scheme J	
3	15/02/22	Issue for SEARs Request	

Architect
NBRSARCHITECTURE.

Sydney
61 2 9922 2344 nbrsarchitecture.com

Any form of replication of this drawing in full or in part without the written permission of NBRS+PARTNERS Pty Ltd constitutes an infringement of the copyright.

Nominated Architect:
Andrew Duffin NSW 5602

© 2020

NBRS & Partners Pty Ltd VIC 51197 ABN 16 002 247 565

Project

Bourke Road Feasibility

at

28-32 Bourke Road, Alexandria, NSW 2015

for

Alexandria Property Development Pty Ltd
Level 10, 50 Berry Street, North Sydney NSW 2060
ACN: 657 387 178

Drawing Title

Building Envelope - West Elevation

Date 18/02/2022 8:12:34 AM

Scale As indicated @ A1

Drawing Reference

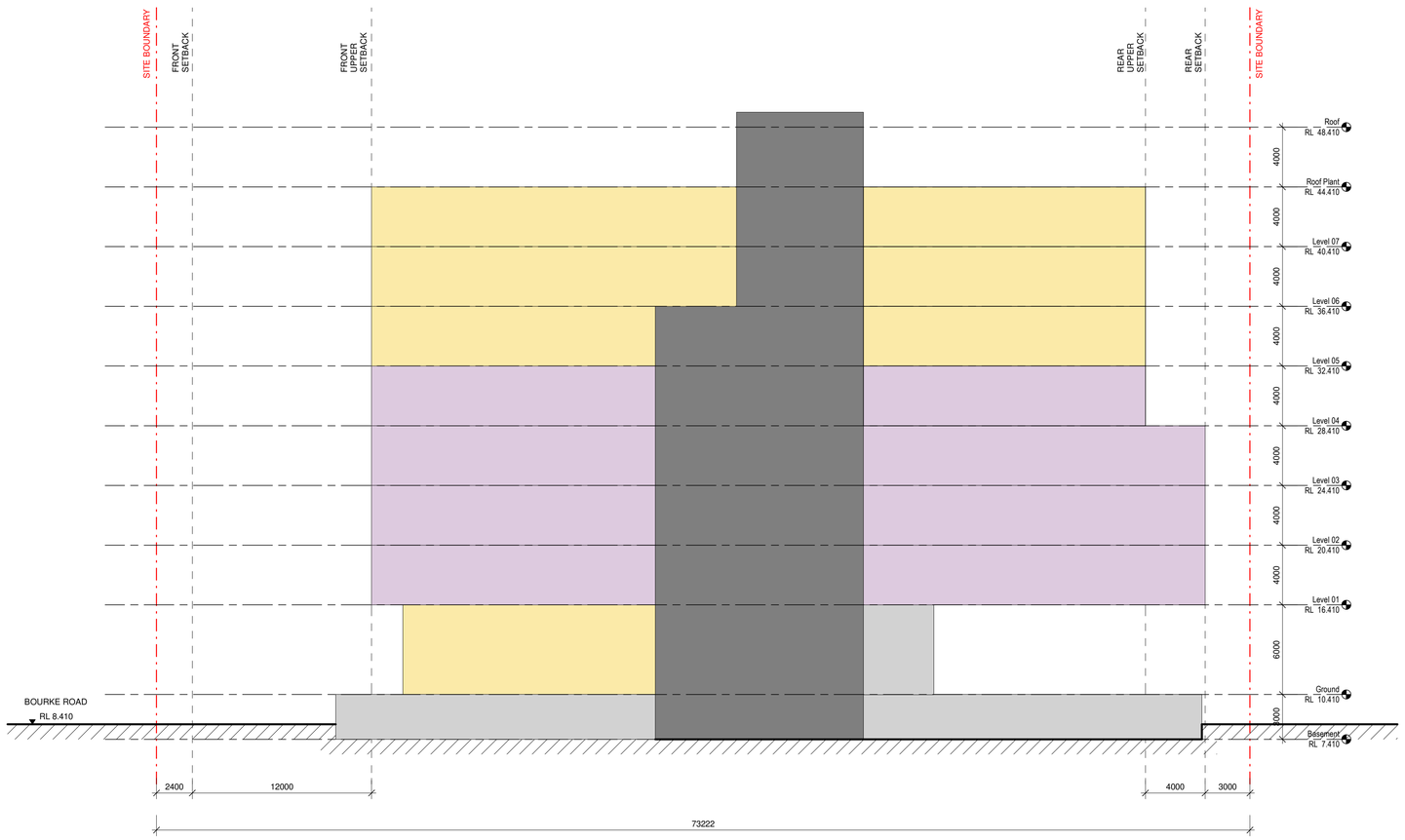
21476-NBRS-DR-A-SR13

Revision

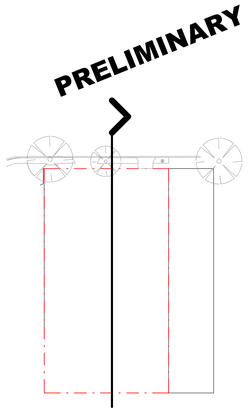
3

0 10 20 30 40 50 60 70 80 90 100

NBRSARCHITECTURE.



1 Section 1
1 : 200



LEGEND

- BASE BUILDING
- VERTICAL CIRCULATION
- COMMERCIAL/HEALTH SERVICES
- HEALTH
- LANDSCAPED TERRACE
- DEEP SOIL ZONE
- SITE BOUNDARY
- SITE SETBACK

Issue

No.	Date	Description	Chkd
1	09/02/22	SEARs Request	
2	10/02/22	Revised Scheme J	
3	15/02/22	Issue for SEARs Request	

Architect
NBRSARCHITECTURE.
Sydney
61 2 9922 2344 nbrsarchitecture.com

Any form of replication of this drawing in full or in part without the written permission of NBRS+PARTNERS Pty Ltd constitutes an infringement of the copyright.

Nominated Architect:
Andrew Duffin NSW 5602

© 2020

NBRS & Partners Pty Ltd VIC 51197 ABN 16 002 247 565

Project
Bourke Road Feasibility

at
28-32 Bourke Road, Alexandria, NSW 2015

for
Alexandria Property Development Pty Ltd
Level 10, 50 Berry Street, North Sydney NSW 2060
ACN: 657 387 178

Drawing Title
Building Envelope - Section 1

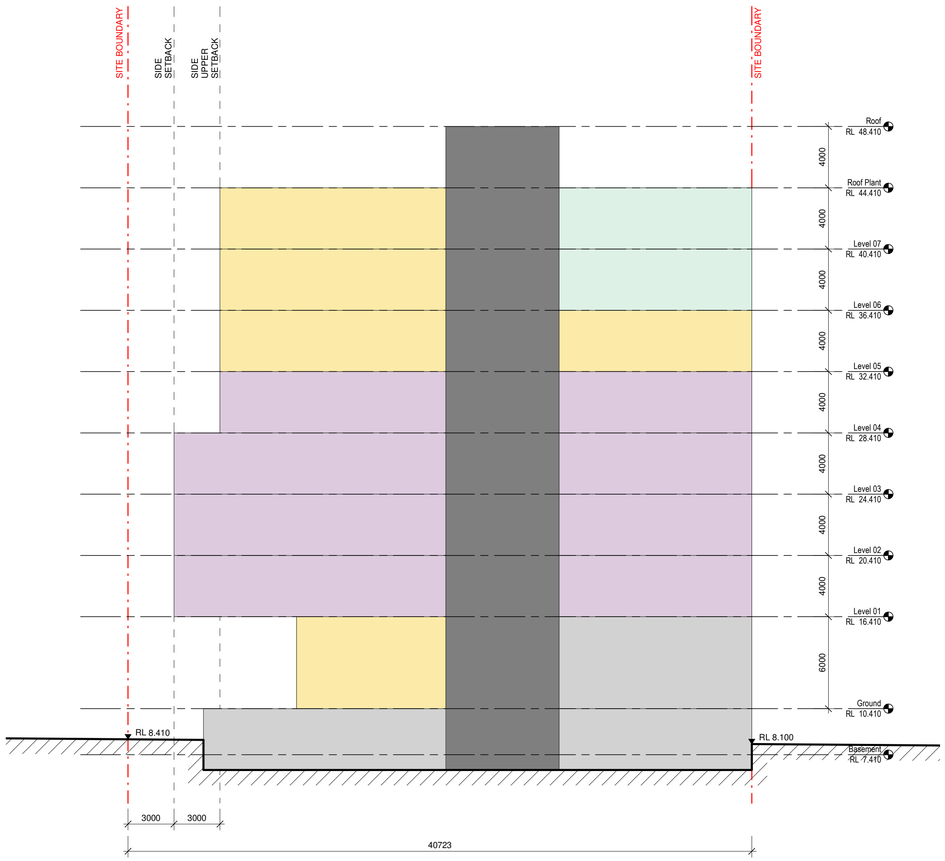
Date 18/02/2022 8:12:36 AM
Scale As indicated @ A1

Drawing Reference
21476-NBRS-DR-A-SR14

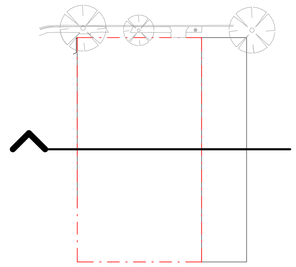
Revision
3

0 10 20 30 40 50 60 70 80 90 100

PRELIMINARY



1 Section 2
1 : 200



LEGEND

- BASE BUILDING
- VERTICAL CIRCULATION
- COMMERCIAL/HEALTH SERVICES
- HEALTH
- LANDSCAPED TERRACE
- DEEP SOIL ZONE
- SITE BOUNDARY
- SITE SETBACK

Issue

No.	Date	Description	Chkd
1	09/02/22	SEARs Request	
2	11/02/22	Revised Scheme J	
3	15/02/22	Issue for SEARs Request	

Architect
NBRSARCHITECTURE.
Sydney
61 2 9922 2344 nbrsarchitecture.com

Any form of replication of this drawing in full or in part without the written permission of NBRS+PARTNERS Pty Ltd constitutes an infringement of the copyright.

Nominated Architect:
Andrew Duffin NSW 5602
© 2020
NBRS & Partners Pty Ltd VIC 51197 ABN 16 002 247 565

Project
Bourke Road Feasibility

at
28-32 Bourke Road, Alexandria, NSW 2015

for
Alexandria Property Development Pty Ltd
Level 10, 50 Berry Street, North Sydney NSW 2060
ACN: 657 387 178

Drawing Title
Building Elevation - Section 2

Date 18/02/2022 8:12:37 AM
Scale As indicated @ A1

Drawing Reference
21476-NBRS-DR-A-SR15

Revision
3

0 10 20 30 40 50 60 70 80 90 100

Appendix E

CALIBRATION CERTIFICATES

EP RISK

EP Risk Management Pty Ltd

Photo-ionisation Detector (PID) Calibration Certificate

Project Details		
Date: 8/2/22	Project No.: EP2515	Project Manager: Harrison Blake
Time: 09:00	Location: Warehouse, indoors	
Weather: Rain		

PID Information				
Calibration	Actual Value	Reading	Pass	
Zero - Fresh Air	0 ppm	0 ppm	Y	
Span - Isobutylene	100 ppm	100 ppm	Y	
Set Alarm Limits to	High	ppm	Low	ppm

Operations Check					
	Performance Check (pump, lamp, sensor and battery voltage check)				
	Battery Charge		Filters Check		Spare battery voltage (5.5 V min) V
	Bump Test		Date: 8/2/22		

Date: 8/2/22 Check By: Harrison Blake

Signed: [signature]

EP RISK

EP Risk Management Pty Ltd

Photo-ionisation Detector (PID) Calibration Certificate

Project Details		
Date: 9/2/22	Project No.: EP 2515	Project Manager: Harrison Blake
Time: 0730	Location: 28-32 Bourke Rd, Alexandria	
Weather: Sunny		

PID Information				
Calibration	Actual Value	Reading	Pass	
Zero - Fresh Air	ppm	ppm		
Span - Isobutylene	ppm	ppm		
Set Alarm Limits to	High	ppm	Low	ppm

Operations Check					
	Performance Check (pump, lamp, sensor and battery voltage check)				
75 %	Battery Charge		Filters Check		Spare battery voltage (5.5 V min) V
	Bump Test		Date: 9/2/22		

Date: 9/2/22 Check By: Harrison Blake

Signed: [signature]

EP RISK

EP Risk Management Pty Ltd

Photo-ionisation Detector (PID) Calibration Certificate

Project Details		
Date: 10/2/22	Project No.: EP2515	Project Manager: Harrison Blake
Time: 08:00	Location: Warehouse, 28 Bourke Rd, Alexandria	
Weather: Sunny		

PID Information				
Calibration	**Actual Value**	**Reading**	**Pass**	
Zero - Fresh Air	0.0 ppm	0.0 ppm	✓	
Span - Isobutylene	100 ppm	100.1 ppm	✓	
Set Alarm Limits to	High	100 ppm	Low	50 ppm

Operations Check					
✓	Performance Check (pump, lamp, sensor and battery voltage check)				
✓	Battery Charge		Filters Check		Spare battery voltage (5.5 V min) V
✓	Bump Test		Date: 10/2/22		

Date: 10/2/22 Check By: Harrison Blake

Signed: [signature]

EP RISK

EP Risk Management Pty Ltd

Photo-ionisation Detector (PID) Calibration Certificate

Project Details		
Date: 11/2/22	Project No.: EP2515	Project Manager: Harrison Blake
Time: 08:00	Location: Warehouse, 28 Bourke Rd, Alexandria	
Weather: Sunny.		

PID Information				
Calibration	**Actual Value**	**Reading**	**Pass**	
Zero - Fresh Air	0.0 ppm	0.0 ppm	✓	
Span - Isobutylene	100 ppm	100.1 ppm	✓	
Set Alarm Limits to	High	100 ppm	Low	50 ppm

Operations Check					
✓	Performance Check (pump, lamp, sensor and battery voltage check)				
✓	Battery Charge	✓	Filters Check	✓	Spare battery voltage (5.5 V min) V
✓	Bump Test	Date: 11/2/22			

Date: 11/2/22 Check By: Harrison Blake

Signed: [signature]

EP RISK

EP Risk Management Pty Ltd

Photo-ionisation Detector (PID) Calibration Certificate

Project Details		
Date: 14/2/22	Project No.: EP2515	Project Manager: Harrison Blake
Time: 08:00	Location: Warehouse, 28 Bourke Rd, Alexandria	
Weather: Sunny		

PID Information				
Calibration	**Actual Value**	**Reading**	**Pass**	
Zero - Fresh Air	0.0 ppm	0.0 ppm	✓	
Span - Isobutylene	100 ppm	100.1 ppm	✓	
Set Alarm Limits to	High	100 ppm	Low	50 ppm

Operations Check					
✓	Performance Check (pump, lamp, sensor and battery voltage check)				
✓	Battery Charge	✓	Filters Check	✓	Spare battery voltage (5.5 V min) V
✓	Bump Test	Date: 14/2/22			

Date: 14/2/22 Check By: Harrison Blake

Signed:

Appendix F

LABORATORY ANALYTICAL RESULTS

ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **ES2204270**	Page	: 1 of 17
Client	: **EP RISK MANAGEMENT**	Laboratory	: Environmental Division Sydney
Contact	: HARRISON BLAKE	Contact	: Tyler Anderson
Address	: Level 4 73 Walker St North Sydney 2060	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: +61 2 8784 8555
Project	: EP2515	Date Samples Received	: 08-Feb-2022 18:00
Order number	: ----	Date Analysis Commenced	: 09-Feb-2022
C-O-C number	: ----	Issue Date	: 16-Feb-2022 21:58
Sampler	: HARRISON BLAKE		
Site	: ----		
Quote number	: SY/497/20 Primary analysis only		
No. of samples received	: 8		
No. of samples analysed	: 5		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Descriptive Results
- Surrogate Control Limits

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

Signatories

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

Signatories	*Position*	*Accreditation Category*
Ben Felgendrejeris	Senior Acid Sulfate Soil Chemist	Brisbane Acid Sulphate Soils, Stafford, QLD
Brendan Schrader	Laboratory Technician	Newcastle - Asbestos, Mayfield West, NSW
Edwandy Fadjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Franco Lentini	LCMS Coordinator	Sydney Inorganics, Smithfield, NSW
Franco Lentini	LCMS Coordinator	Sydney Organics, Smithfield, NSW
Ivan Taylor	Analyst	Sydney Inorganics, Smithfield, NSW

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero, for 'TEQ 1/2LOR' are treated as half the reported LOR, and for 'TEQ LOR' are treated as being equal to the reported LOR. Note: TEQ 1/2LOR and TEQ LOR will calculate as 0.6mg/Kg and 1.2mg/Kg respectively for samples with non-detects for all of the eight TEQ PAHs.
- EP080: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EP068: Where reported, Total Chlordane (sum) is the sum of the reported concentrations of cis-Chlordane and trans-Chlordane at or above the LOR.
- EP068: Where reported, Total OCP is the sum of the reported concentrations of all Organochlorine Pesticides at or above LOR.
- EP074: Where reported, Total Trihalomethanes is the sum of the reported concentrations of all Trihalomethanes at or above the LOR.
- EP074: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EP074: Where reported, Sum of chlorinated hydrocarbons includes carbon tetrachloride, chlorobenzene, chloroform, 1,2-dichlorobenzene, 1,4-dichlorobenzene, 1,2-dichloroethane, 1,1-dichloroethene, cis-1,2-dichlorothene, trans-1,2-dichlorothene, 1,1,1,2-tetrachloroethane, 1,1,2,2-tetrachloroethane, 1,2,4-trichlorobenzene, 1,1,1-trichloroethane, 1,1,2-trichloroethane, trichloroethene, vinyl chloride, hexachlorobutadiene and methylene chloride.
- EP074: Where reported, Total Trimethylbenzenes is the sum of the reported concentrations of 1.2.3-Trimethylbenzene, 1.2.4-Trimethylbenzene and 1.3.5-Trimethylbenzene at or above the LOR.
- EP075(SIM): Where reported, Total Cresol is the sum of the reported concentrations of 2-Methylphenol and 3- & 4-Methylphenol at or above the LOR.
- ASS: EA029 (SPOCAS): Retained Acidity not required because pH KCl greater than or equal to 4.5
- EP075(SIM): Poor duplicate precision due to sample heterogeneity.
- ASS: EA029 (SPOCAS): Excess ANC not required because pH OX less than 6.5.
- EP075: Where reported, 'Sum of PAH' is the sum of the USEPA 16 priority PAHs
- ASS: EA029 (SPOCAS): Liming rate is calculated and reported on a dry weight basis assuming use of fine agricultural lime ($CaCO_3$) and using a safety factor of 1.5 to allow for non-homogeneous mixing and poor reactivity of lime. For conversion of Liming Rate from kg/t dry weight to kg/m3 in-situ soil, multiply reported results x wet bulk density of soil in t/m3.
- ASS: EA003 (NATA Field and F(ox) screening): pH F(ox) Reaction Rate: 1 - Slight; 2 - Moderate; 3 - Strong; 4 - Extreme
- EA200 'Am' Amosite (brown asbestos)
- EA200 'Cr' Crocidolite (blue asbestos)
- EA200 'Trace' - Asbestos fibres ("Free Fibres") detected by trace analysis per AS4964. The result can be interpreted that the sample contains detectable 'respirable' asbestos fibres
- EA200: Asbestos Identification Samples were analysed by Polarised Light Microscopy including dispersion staining.
- EA200 Legend

- EA200 'Ch' Chrysotile (white asbestos)
- EA200: 'UMF' Unknown Mineral Fibres. "-" indicates fibres detected may or may not be asbestos fibres. Confirmation by alternative techniques is recommended.
- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero, for 'TEQ 1/2LOR' are treated as half the reported LOR, and for 'TEQ LOR' are treated as being equal to the reported LOR. Note: TEQ 1/2LOR and TEQ LOR will calculate as 0.6mg/Kg and 1.2mg/Kg respectively for samples with non-detects for all of the eight TEQ PAHs.
- EA200: For samples larger than 30g, the <2mm fraction may be sub-sampled prior to trace analysis as outlined in ISO23909:2008(E) Sect 6.3.2-2
- EA200: 'Yes' - Asbestos detected by polarised light microscopy including dispersion staining.
- EA200: 'No*' - No asbestos found, at the reporting limit of 0.1g/kg, by polarised light microscopy including dispersion staining. Asbestos material was detected and positively identified at concentrations estimated to be below 0.1g/kg.
- EA200: 'No' - No asbestos found at the reporting limit 0.1g/kg, by polarised light microscopy including dispersion staining.
- EP231: Stable isotope enriched internal standards are added to samples prior to extraction. Target compounds have a direct analogous internal standard with the exception of PFPeS, PFHpA, PFDS, PFTrDA and 10:2 FTS. These compounds use an internal standard that is chemically related and has a retention time close to that of the target compound. The DQO for internal standard response is 50-150% of that established at initial calibration. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS (Australian HEPA) and also conform to QSM 5.3 (US DoD) requirements.

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH01_0.2	BH01_1.0	BH01_2.0	BH01_4.0	BH01_5.5
			Sampling date / time	08-Feb-2022 00:00	08-Feb-2022 00:00	08-Feb-2022 00:00	08-Feb-2022 00:00	08-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2204270-001	ES2204270-003	ES2204270-004	ES2204270-006	ES2204270-007
				Result	Result	Result	Result	Result
EA003 :pH (field/fox)								
pH (F)	----	0.1	pH Unit	----	----	----	7.2	7.6
pH (Fox)	----	0.1	pH Unit	----	----	----	4.2	4.6
Reaction Rate	----	1	Reaction Unit	----	----	----	2	2
EA029-A: pH Measurements								
pH KCl (23A)	----	0.1	pH Unit	----	----	----	6.5	----
pH OX (23B)	----	0.1	pH Unit	----	----	----	5.6	----
EA029-B: Acidity Trail								
Titratable Actual Acidity (23F)	----	2	mole H+ / t	----	----	----	<2	----
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	----	----	----	5	----
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	----	----	----	5	----
sulfidic - Titratable Actual Acidity (s-23F)	----	0.020	% pyrite S	----	----	----	<0.020	----
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.020	% pyrite S	----	----	----	<0.020	----
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.020	% pyrite S	----	----	----	<0.020	----
EA029-C: Sulfur Trail								
KCl Extractable Sulfur (23Ce)	----	0.020	% S	----	----	----	<0.020	----
Peroxide Sulfur (23De)	----	0.020	% S	----	----	----	<0.020	----
Peroxide Oxidisable Sulfur (23E)	----	0.020	% S	----	----	----	<0.020	----
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	----	----	----	<10	----
EA029-D: Calcium Values								
KCl Extractable Calcium (23Vh)	----	0.020	% Ca	----	----	----	<0.020	----
Peroxide Calcium (23Wh)	----	0.020	% Ca	----	----	----	<0.020	----
Acid Reacted Calcium (23X)	----	0.020	% Ca	----	----	----	<0.020	----
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	----	----	----	<10	----
sulfidic - Acid Reacted Calcium (s-23X)	----	0.020	% S	----	----	----	<0.020	----
EA029-E: Magnesium Values								
KCl Extractable Magnesium (23Sm)	----	0.020	% Mg	----	----	----	<0.020	----
Peroxide Magnesium (23Tm)	----	0.020	% Mg	----	----	----	<0.020	----
Acid Reacted Magnesium (23U)	----	0.020	% Mg	----	----	----	<0.020	----
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	----	----	----	<10	----
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.020	% S	----	----	----	<0.020	----
EA029-H: Acid Base Accounting								

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH01_0.2	BH01_1.0	BH01_2.0	BH01_4.0	BH01_5.5
			Sampling date / time	08-Feb-2022 00:00	08-Feb-2022 00:00	08-Feb-2022 00:00	08-Feb-2022 00:00	08-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2204270-001	ES2204270-003	ES2204270-004	ES2204270-006	ES2204270-007
				Result	Result	Result	Result	Result
EA029-H: Acid Base Accounting - Continued								
ANC Fineness Factor	----	0.5	-	----	----	----	1.5	----
Net Acidity (sulfur units)	----	0.02	% S	----	----	----	<0.02	----
Net Acidity (acidity units)	----	10	mole H+ / t	----	----	----	<10	----
Liming Rate	----	1	kg CaCO3/t	----	----	----	<1	----
Net Acidity excluding ANC (sulfur units)	----	0.02	% S	----	----	----	<0.02	----
Net Acidity excluding ANC (acidity units)	----	10	mole H+ / t	----	----	----	<10	----
Liming Rate excluding ANC	----	1	kg CaCO3/t	----	----	----	<1	----
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	0.1	%	----	----	16.9	----	----
Moisture Content	----	1.0	%	11.6	6.0	----	----	17.9
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	No	----	----	----	----
Asbestos (Trace)	1332-21-4	5	Fibres	No	----	----	----	----
Asbestos Type	1332-21-4	-	--	-	----	----	----	----
Synthetic Mineral Fibre	----	0.1	g/kg	No	----	----	----	----
Organic Fibre	----	0.1	g/kg	No	----	----	----	----
Sample weight (dry)	----	0.01	g	168	----	----	----	----
APPROVED IDENTIFIER:	----	-	--	B.SCHRADER	----	----	----	----
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	17	<5	----	----	<5
Cadmium	7440-43-9	1	mg/kg	<1	<1	----	----	<1
Chromium	7440-47-3	2	mg/kg	15	3	----	----	14
Copper	7440-50-8	5	mg/kg	293	18	----	----	12
Lead	7439-92-1	5	mg/kg	772	36	----	----	5
Nickel	7440-02-0	2	mg/kg	37	3	----	----	8
Zinc	7440-66-6	5	mg/kg	242	46	----	----	34
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	0.3	<0.1	----	----	<0.1
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	----	----	<0.1
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	----	----	<0.05
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	----	----	<0.05
beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	----	----	<0.05

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH01_0.2	BH01_1.0	BH01_2.0	BH01_4.0	BH01_5.5
			Sampling date / time	08-Feb-2022 00:00	08-Feb-2022 00:00	08-Feb-2022 00:00	08-Feb-2022 00:00	08-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2204270-001	ES2204270-003	ES2204270-004	ES2204270-006	ES2204270-007
				Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued								
gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	----	----	<0.05
delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	----	----	<0.05
Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	----	----	<0.05
Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	----	----	<0.05
Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	----	----	<0.05
^ Total Chlordane (sum)	----	0.05	mg/kg	<0.05	<0.05	----	----	<0.05
trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	----	----	<0.05
alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	----	----	<0.05
cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	----	----	<0.05
Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	----	----	<0.05
4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	----	----	<0.05
Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	----	----	<0.05
beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	----	----	<0.05
^ Endosulfan (sum)	115-29-7	0.05	mg/kg	<0.05	<0.05	----	----	<0.05
4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	----	----	<0.05
Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	----	----	<0.05
Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	----	----	<0.05
4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	----	----	<0.2
Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	----	----	<0.05
Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	----	----	<0.2
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	<0.05	<0.05	----	----	<0.05
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.05	mg/kg	<0.05	<0.05	----	----	<0.05
EP068B: Organophosphorus Pesticides (OP)								
Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	----	----	<0.05
Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	----	----	<0.05
Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	----	----	<0.2
Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	----	----	<0.05
Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	----	----	<0.05
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	----	----	<0.05
Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	----	----	<0.2
Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	----	----	<0.05
Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	----	----	<0.05
Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	----	----	<0.05
Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	----	----	<0.2

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH01_0.2	BH01_1.0	BH01_2.0	BH01_4.0	BH01_5.5
			Sampling date / time	08-Feb-2022 00:00	08-Feb-2022 00:00	08-Feb-2022 00:00	08-Feb-2022 00:00	08-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2204270-001	ES2204270-003	ES2204270-004	ES2204270-006	ES2204270-007
				Result	Result	Result	Result	Result
EP068B: Organophosphorus Pesticides (OP) - Continued								
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	----	----	<0.05
Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	----	----	<0.05
Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	----	----	<0.05
Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	----	----	<0.05
Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	----	----	<0.05
Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	----	----	<0.05
Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	----	----	<0.05
Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	----	----	<0.05
EP074A: Monocyclic Aromatic Hydrocarbons								
Styrene	100-42-5	0.5	mg/kg	<0.5	<0.5	----	----	----
Isopropylbenzene	98-82-8	0.5	mg/kg	<0.5	<0.5	----	----	----
n-Propylbenzene	103-65-1	0.5	mg/kg	<0.5	<0.5	----	----	----
1.3.5-Trimethylbenzene	108-67-8	0.5	mg/kg	<0.5	<0.5	----	----	----
sec-Butylbenzene	135-98-8	0.5	mg/kg	<0.5	<0.5	----	----	----
1.2.4-Trimethylbenzene	95-63-6	0.5	mg/kg	<0.5	<0.5	----	----	----
tert-Butylbenzene	98-06-6	0.5	mg/kg	<0.5	<0.5	----	----	----
p-Isopropyltoluene	99-87-6	0.5	mg/kg	<0.5	<0.5	----	----	----
n-Butylbenzene	104-51-8	0.5	mg/kg	<0.5	<0.5	----	----	----
EP074B: Oxygenated Compounds								
Vinyl Acetate	108-05-4	5	mg/kg	<5	<5	----	----	----
2-Butanone (MEK)	78-93-3	5	mg/kg	<5	<5	----	----	----
4-Methyl-2-pentanone (MIBK)	108-10-1	5	mg/kg	<5	<5	----	----	----
2-Hexanone (MBK)	591-78-6	5	mg/kg	<5	<5	----	----	----
EP074C: Sulfonated Compounds								
Carbon disulfide	75-15-0	0.5	mg/kg	<0.5	<0.5	----	----	----
EP074D: Fumigants								
2.2-Dichloropropane	594-20-7	0.5	mg/kg	<0.5	<0.5	----	----	----
1.2-Dichloropropane	78-87-5	0.5	mg/kg	<0.5	<0.5	----	----	----
cis-1.3-Dichloropropylene	10061-01-5	0.5	mg/kg	<0.5	<0.5	----	----	----
trans-1.3-Dichloropropylene	10061-02-6	0.5	mg/kg	<0.5	<0.5	----	----	----
1.2-Dibromoethane (EDB)	106-93-4	0.5	mg/kg	<0.5	<0.5	----	----	----
EP074E: Halogenated Aliphatic Compounds								
Dichlorodifluoromethane	75-71-8	5	mg/kg	<5	<5	----	----	----
Chloromethane	74-87-3	5	mg/kg	<5	<5	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH01_0.2	BH01_1.0	BH01_2.0	BH01_4.0	BH01_5.5
			Sampling date / time	08-Feb-2022 00:00	08-Feb-2022 00:00	08-Feb-2022 00:00	08-Feb-2022 00:00	08-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2204270-001	ES2204270-003	ES2204270-004	ES2204270-006	ES2204270-007
				Result	Result	Result	Result	Result
EP074E: Halogenated Aliphatic Compounds - Continued								
Vinyl chloride	75-01-4	5	mg/kg	<5	<5	----	----	----
Bromomethane	74-83-9	5	mg/kg	<5	<5	----	----	----
Chloroethane	75-00-3	5	mg/kg	<5	<5	----	----	----
Trichlorofluoromethane	75-69-4	5	mg/kg	<5	<5	----	----	----
1.1-Dichloroethene	75-35-4	0.5	mg/kg	<0.5	<0.5	----	----	----
Iodomethane	74-88-4	0.5	mg/kg	<0.5	<0.5	----	----	----
trans-1.2-Dichloroethene	156-60-5	0.5	mg/kg	<0.5	<0.5	----	----	----
1.1-Dichloroethane	75-34-3	0.5	mg/kg	<0.5	<0.5	----	----	----
cis-1.2-Dichloroethene	156-59-2	0.5	mg/kg	<0.5	<0.5	----	----	----
1.1.1-Trichloroethane	71-55-6	0.5	mg/kg	<0.5	<0.5	----	----	----
1.1-Dichloropropylene	563-58-6	0.5	mg/kg	<0.5	<0.5	----	----	----
Carbon Tetrachloride	56-23-5	0.5	mg/kg	<0.5	<0.5	----	----	----
1.2-Dichloroethane	107-06-2	0.5	mg/kg	<0.5	<0.5	----	----	----
Trichloroethene	79-01-6	0.5	mg/kg	<0.5	<0.5	----	----	----
Dibromomethane	74-95-3	0.5	mg/kg	<0.5	<0.5	----	----	----
1.1.2-Trichloroethane	79-00-5	0.5	mg/kg	<0.5	<0.5	----	----	----
1.3-Dichloropropane	142-28-9	0.5	mg/kg	<0.5	<0.5	----	----	----
Tetrachloroethene	127-18-4	0.5	mg/kg	<0.5	<0.5	----	----	----
1.1.1.2-Tetrachloroethane	630-20-6	0.5	mg/kg	<0.5	<0.5	----	----	----
trans-1.4-Dichloro-2-butene	110-57-6	0.5	mg/kg	<0.5	<0.5	----	----	----
cis-1.4-Dichloro-2-butene	1476-11-5	0.5	mg/kg	<0.5	<0.5	----	----	----
1.1.2.2-Tetrachloroethane	79-34-5	0.5	mg/kg	<0.5	<0.5	----	----	----
1.2.3-Trichloropropane	96-18-4	0.5	mg/kg	<0.5	<0.5	----	----	----
Pentachloroethane	76-01-7	0.5	mg/kg	<0.5	<0.5	----	----	----
1.2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg	<0.5	<0.5	----	----	----
EP074F: Halogenated Aromatic Compounds								
Chlorobenzene	108-90-7	0.5	mg/kg	<0.5	<0.5	----	----	----
Bromobenzene	108-86-1	0.5	mg/kg	<0.5	<0.5	----	----	----
2-Chlorotoluene	95-49-8	0.5	mg/kg	<0.5	<0.5	----	----	----
4-Chlorotoluene	106-43-4	0.5	mg/kg	<0.5	<0.5	----	----	----
1.2.3-Trichlorobenzene	87-61-6	0.5	mg/kg	<0.5	<0.5	----	----	----
EP074G: Trihalomethanes								
Chloroform	67-66-3	0.5	mg/kg	<0.5	<0.5	----	----	----
Bromodichloromethane	75-27-4	0.5	mg/kg	<0.5	<0.5	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH01_0.2	BH01_1.0	BH01_2.0	BH01_4.0	BH01_5.5
			Sampling date / time	08-Feb-2022 00:00	08-Feb-2022 00:00	08-Feb-2022 00:00	08-Feb-2022 00:00	08-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2204270-001	ES2204270-003	ES2204270-004	ES2204270-006	ES2204270-007
				Result	Result	Result	Result	Result
EP074G: Trihalomethanes - Continued								
Dibromochloromethane	124-48-1	0.5	mg/kg	<0.5	<0.5	----	----	----
Bromoform	75-25-2	0.5	mg/kg	<0.5	<0.5	----	----	----
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	----	----	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	----	----	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	----	----	<0.5
3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	----	----	<1
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	----	----	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	----	----	<0.5
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	----	----	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	----	----	<0.5
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	----	----	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	----	----	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	----	----	<0.5
Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	----	----	<2
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	----	----	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	----	----	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	----	----	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	----	----	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	**0.9**	<0.5	----	----	<0.5
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	----	----	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	**1.9**	**0.6**	----	----	<0.5
Pyrene	129-00-0	0.5	mg/kg	**2.0**	**0.5**	----	----	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg	**1.4**	<0.5	----	----	<0.5
Chrysene	218-01-9	0.5	mg/kg	**1.2**	<0.5	----	----	<0.5
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	**2.0**	<0.5	----	----	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	**0.8**	<0.5	----	----	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	**1.5**	<0.5	----	----	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	**1.0**	<0.5	----	----	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	----	----	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	**0.9**	<0.5	----	----	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	**13.6**	**1.1**	----	----	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	**2.0**	<0.5	----	----	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH01_0.2	BH01_1.0	BH01_2.0	BH01_4.0	BH01_5.5
			Sampling date / time	08-Feb-2022 00:00	08-Feb-2022 00:00	08-Feb-2022 00:00	08-Feb-2022 00:00	08-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2204270-001	ES2204270-003	ES2204270-004	ES2204270-006	ES2204270-007
				Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	**2.3**	**0.6**	----	----	**0.6**
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	**2.5**	**1.2**	----	----	**1.2**
EP075B: Polynuclear Aromatic Hydrocarbons								
2-Methylnaphthalene	91-57-6	0.5	mg/kg	<0.5	<0.5	----	----	----
2-Chloronaphthalene	91-58-7	0.5	mg/kg	<0.5	<0.5	----	----	----
N-2-Fluorenyl Acetamide	53-96-3	0.5	mg/kg	<0.5	<0.5	----	----	----
7.12-Dimethylbenz(a)anthracene	57-97-6	0.5	mg/kg	<0.5	<0.5	----	----	----
3-Methylcholanthrene	56-49-5	0.5	mg/kg	<0.5	<0.5	----	----	----
EP075C: Phthalate Esters								
Dimethyl phthalate	131-11-3	0.5	mg/kg	<0.5	<0.5	----	----	----
Diethyl phthalate	84-66-2	0.5	mg/kg	<0.5	<0.5	----	----	----
Di-n-butyl phthalate	84-74-2	0.5	mg/kg	**1.0**	<0.5	----	----	----
Butyl benzyl phthalate	85-68-7	0.5	mg/kg	<0.5	<0.5	----	----	----
bis(2-ethylhexyl) phthalate	117-81-7	5.0	mg/kg	<5.0	<5.0	----	----	----
Di-n-octylphthalate	117-84-0	0.5	mg/kg	<0.5	<0.5	----	----	----
EP075D: Nitrosamines								
N-Nitrosomethylethylamine	10595-95-6	0.5	mg/kg	<0.5	<0.5	----	----	----
N-Nitrosodiethylamine	55-18-5	0.5	mg/kg	<0.5	<0.5	----	----	----
N-Nitrosopyrrolidine	930-55-2	1.0	mg/kg	<1.0	<1.0	----	----	----
N-Nitrosomorpholine	59-89-2	0.5	mg/kg	<0.5	<0.5	----	----	----
N-Nitrosodi-n-propylamine	621-64-7	0.5	mg/kg	<0.5	<0.5	----	----	----
N-Nitrosopiperidine	100-75-4	0.5	mg/kg	<0.5	<0.5	----	----	----
N-Nitrosodibutylamine	924-16-3	0.5	mg/kg	<0.5	<0.5	----	----	----
N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	1.0	mg/kg	<1.0	<1.0	----	----	----
Methapyrilene	91-80-5	0.5	mg/kg	<0.5	<0.5	----	----	----
EP075E: Nitroaromatics and Ketones								
2-Picoline	109-06-8	0.5	mg/kg	<0.5	<0.5	----	----	----
Acetophenone	98-86-2	0.5	mg/kg	<0.5	<0.5	----	----	----
Nitrobenzene	98-95-3	0.5	mg/kg	<0.5	<0.5	----	----	----
Isophorone	78-59-1	0.5	mg/kg	<0.5	<0.5	----	----	----
2.6-Dinitrotoluene	606-20-2	1.0	mg/kg	<1.0	<1.0	----	----	----
2.4-Dinitrotoluene	121-14-2	1.0	mg/kg	<1.0	<1.0	----	----	----
1-Naphthylamine	134-32-7	0.5	mg/kg	<0.5	<0.5	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH01_0.2	BH01_1.0	BH01_2.0	BH01_4.0	BH01_5.5
			Sampling date / time	08-Feb-2022 00:00	08-Feb-2022 00:00	08-Feb-2022 00:00	08-Feb-2022 00:00	08-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2204270-001	ES2204270-003	ES2204270-004	ES2204270-006	ES2204270-007
				Result	Result	Result	Result	Result
EP075E: Nitroaromatics and Ketones - Continued								
4-Nitroquinoline-N-oxide	56-57-5	0.5	mg/kg	<0.5	<0.5	----	----	----
5-Nitro-o-toluidine	99-55-8	0.5	mg/kg	<0.5	<0.5	----	----	----
Azobenzene	103-33-3	1	mg/kg	<1	<1	----	----	----
1.3.5-Trinitrobenzene	99-35-4	0.5	mg/kg	<0.5	<0.5	----	----	----
Phenacetin	62-44-2	0.5	mg/kg	<0.5	<0.5	----	----	----
4-Aminobiphenyl	92-67-1	0.5	mg/kg	<0.5	<0.5	----	----	----
Pentachloronitrobenzene	82-68-8	0.5	mg/kg	<0.5	<0.5	----	----	----
Pronamide	23950-58-5	0.5	mg/kg	<0.5	<0.5	----	----	----
Dimethylaminoazobenzene	60-11-7	0.5	mg/kg	<0.5	<0.5	----	----	----
Chlorobenzilate	510-15-6	0.5	mg/kg	<0.5	<0.5	----	----	----
EP075F: Haloethers								
Bis(2-chloroethyl) ether	111-44-4	0.5	mg/kg	<0.5	<0.5	----	----	----
Bis(2-chloroethoxy) methane	111-91-1	0.5	mg/kg	<0.5	<0.5	----	----	----
4-Chlorophenyl phenyl ether	7005-72-3	0.5	mg/kg	<0.5	<0.5	----	----	----
4-Bromophenyl phenyl ether	101-55-3	0.5	mg/kg	<0.5	<0.5	----	----	----
EP075G: Chlorinated Hydrocarbons								
1.3-Dichlorobenzene	541-73-1	0.5	mg/kg	<0.5	<0.5	----	----	----
1.4-Dichlorobenzene	106-46-7	0.5	mg/kg	<0.5	<0.5	----	----	----
1.2-Dichlorobenzene	95-50-1	0.5	mg/kg	<0.5	<0.5	----	----	----
Hexachloroethane	67-72-1	0.5	mg/kg	<0.5	<0.5	----	----	----
1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg	<0.5	<0.5	----	----	----
Hexachloropropylene	1888-71-7	0.5	mg/kg	<0.5	<0.5	----	----	----
Hexachlorobutadiene	87-68-3	0.5	mg/kg	<0.5	<0.5	----	----	----
Hexachlorocyclopentadiene	77-47-4	2.5	mg/kg	<2.5	<2.5	----	----	----
Pentachlorobenzene	608-93-5	0.5	mg/kg	<0.5	<0.5	----	----	----
Hexachlorobenzene (HCB)	118-74-1	1.0	mg/kg	<1.0	<1.0	----	----	----
EP075H: Anilines and Benzidines								
Aniline	62-53-3	0.5	mg/kg	<0.5	<0.5	----	----	----
4-Chloroaniline	106-47-8	0.5	mg/kg	<0.5	<0.5	----	----	----
2-Nitroaniline	88-74-4	1.0	mg/kg	<1.0	<1.0	----	----	----
3-Nitroaniline	99-09-2	1.0	mg/kg	<1.0	<1.0	----	----	----
Dibenzofuran	132-64-9	0.5	mg/kg	<0.5	<0.5	----	----	----
4-Nitroaniline	100-01-6	0.5	mg/kg	<0.5	<0.5	----	----	----
Carbazole	86-74-8	0.5	mg/kg	<0.5	<0.5	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH01_0.2	BH01_1.0	BH01_2.0	BH01_4.0	BH01_5.5
			Sampling date / time	08-Feb-2022 00:00	08-Feb-2022 00:00	08-Feb-2022 00:00	08-Feb-2022 00:00	08-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2204270-001	ES2204270-003	ES2204270-004	ES2204270-006	ES2204270-007
				Result	Result	Result	Result	Result
EP075H: Anilines and Benzidines - Continued								
3.3`-Dichlorobenzidine	91-94-1	0.5	mg/kg	<0.5	<0.5	----	----	----
EP075I: Organochlorine Pesticides								
alpha-BHC	319-84-6	0.5	mg/kg	<0.5	<0.5	----	----	----
beta-BHC	319-85-7	0.5	mg/kg	<0.5	<0.5	----	----	----
gamma-BHC	58-89-9	0.5	mg/kg	<0.5	<0.5	----	----	----
delta-BHC	319-86-8	0.5	mg/kg	<0.5	<0.5	----	----	----
Heptachlor	76-44-8	0.5	mg/kg	<0.5	<0.5	----	----	----
Aldrin	309-00-2	0.5	mg/kg	<0.5	<0.5	----	----	----
Heptachlor epoxide	1024-57-3	0.5	mg/kg	<0.5	<0.5	----	----	----
alpha-Endosulfan	959-98-8	0.5	mg/kg	<0.5	<0.5	----	----	----
4.4`-DDE	72-55-9	0.5	mg/kg	<0.5	<0.5	----	----	----
Dieldrin	60-57-1	0.5	mg/kg	<0.5	<0.5	----	----	----
Endrin	72-20-8	0.5	mg/kg	<0.5	<0.5	----	----	----
beta-Endosulfan	33213-65-9	0.5	mg/kg	<0.5	<0.5	----	----	----
4.4`-DDD	72-54-8	0.5	mg/kg	<0.5	<0.5	----	----	----
Endosulfan sulfate	1031-07-8	0.5	mg/kg	<0.5	<0.5	----	----	----
4.4`-DDT	50-29-3	1.0	mg/kg	<1.0	<1.0	----	----	----
EP075J: Organophosphorus Pesticides								
Dichlorvos	62-73-7	0.5	mg/kg	<0.5	<0.5	----	----	----
Dimethoate	60-51-5	0.5	mg/kg	<0.5	<0.5	----	----	----
Diazinon	333-41-5	0.5	mg/kg	<0.5	<0.5	----	----	----
Chlorpyrifos-methyl	5598-13-0	0.5	mg/kg	<0.5	<0.5	----	----	----
Malathion	121-75-5	0.5	mg/kg	<0.5	<0.5	----	----	----
Fenthion	55-38-9	0.5	mg/kg	<0.5	<0.5	----	----	----
Chlorpyrifos	2921-88-2	0.5	mg/kg	<0.5	<0.5	----	----	----
Pirimphos-ethyl	23505-41-1	0.5	mg/kg	<0.5	<0.5	----	----	----
Chlorfenvinphos	470-90-6	0.5	mg/kg	<0.5	<0.5	----	----	----
Prothiofos	34643-46-4	0.5	mg/kg	<0.5	<0.5	----	----	----
Ethion	563-12-2	0.5	mg/kg	<0.5	<0.5	----	----	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	----	----	<10
C10 - C14 Fraction	----	50	mg/kg	<50	<50	----	----	<50
C15 - C28 Fraction	----	100	mg/kg	<100	<100	----	----	<100
C29 - C36 Fraction	----	100	mg/kg	<100	<100	----	----	<100

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH01_0.2	BH01_1.0	BH01_2.0	BH01_4.0	BH01_5.5
			Sampling date / time	08-Feb-2022 00:00	08-Feb-2022 00:00	08-Feb-2022 00:00	08-Feb-2022 00:00	08-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2204270-001	ES2204270-003	ES2204270-004	ES2204270-006	ES2204270-007
				Result	Result	Result	Result	Result
EP080/071: Total Petroleum Hydrocarbons - Continued								
^ C10 - C36 Fraction (sum)	----	50	mg/kg	<50	<50	----	----	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	----	----	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	<10	<10	----	----	<10
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	----	----	<50
>C16 - C34 Fraction	----	100	mg/kg	<100	<100	----	----	<100
>C34 - C40 Fraction	----	100	mg/kg	<100	<100	----	----	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	<50	----	----	<50
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	<50	<50	----	----	<50
EP080: BTEXN								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	----	----	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	----	----	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	----	----	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	----	----	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	----	----	<0.5
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	----	----	<0.2
^ Total Xylenes	----	0.5	mg/kg	<0.5	<0.5	----	----	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	<1	----	----	<1
EP231A: Perfluoroalkyl Sulfonic Acids								
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	----	<0.0002	----	<0.0002
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	----	<0.0002	----	<0.0002
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	<0.0002	----	<0.0002	----	<0.0002
EP231B: Perfluoroalkyl Carboxylic Acids								
Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	----	<0.001	----	<0.001
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	----	<0.0002	----	<0.0002
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	----	<0.0002	----	<0.0002
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	----	<0.0002	----	<0.0002
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	----	<0.0002	----	<0.0002
EP231D: (n:2) Fluorotelomer Sulfonic Acids								

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH01_0.2	BH01_1.0	BH01_2.0	BH01_4.0	BH01_5.5
			Sampling date / time	08-Feb-2022 00:00	08-Feb-2022 00:00	08-Feb-2022 00:00	08-Feb-2022 00:00	08-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2204270-001	ES2204270-003	ES2204270-004	ES2204270-006	ES2204270-007
				Result	Result	Result	Result	Result
EP231D: (n:2) Fluorotelomer Sulfonic Acids - Continued								
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	----	<0.0005	----	<0.0005
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	----	<0.0005	----	<0.0005
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	----	<0.0005	----	<0.0005
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	----	<0.0005	----	<0.0005
EP231P: PFAS Sums								
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg	<0.0002	----	<0.0002	----	<0.0002
Sum of PFAS (WA DER List)	----	0.0002	mg/kg	<0.0002	----	<0.0002	----	<0.0002
EP066S: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	110	98.1	----	----	98.0
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.05	%	104	87.0	----	----	93.1
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.05	%	121	95.8	----	----	95.2
EP074S: VOC Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.5	%	108	108	----	----	----
Toluene-D8	2037-26-5	0.5	%	108	112	----	----	----
4-Bromofluorobenzene	460-00-4	0.5	%	110	117	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	90.6	93.2	----	----	80.2
2-Chlorophenol-D4	93951-73-6	0.5	%	105	91.3	----	----	89.2
2.4.6-Tribromophenol	118-79-6	0.5	%	82.1	79.6	----	----	61.9
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.5	%	112	109	----	----	97.0
Anthracene-d10	1719-06-8	0.5	%	102	101	----	----	99.5
4-Terphenyl-d14	1718-51-0	0.5	%	103	93.7	----	----	79.1
EP075S: Acid Extractable Surrogates								
2-Fluorophenol	367-12-4	0.5	%	116	74.8	----	----	----
Phenol-d6	13127-88-3	0.5	%	122	82.3	----	----	----
2-Chlorophenol-D4	93951-73-6	0.5	%	126	86.1	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH01_0.2	BH01_1.0	BH01_2.0	BH01_4.0	BH01_5.5
			Sampling date / time	08-Feb-2022 00:00	08-Feb-2022 00:00	08-Feb-2022 00:00	08-Feb-2022 00:00	08-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2204270-001	ES2204270-003	ES2204270-004	ES2204270-006	ES2204270-007
				Result	Result	Result	Result	Result
EP075S: Acid Extractable Surrogates - Continued								
2.4.6-Tribromophenol	118-79-6	0.5	%	113	91.9	----	----	----
EP075T: Base/Neutral Extractable Surrogates								
Nitrobenzene-D5	4165-60-0	0.5	%	110	80.9	----	----	----
1.2-Dichlorobenzene-D4	2199-69-1	0.5	%	105	74.8	----	----	----
2-Fluorobiphenyl	321-60-8	0.5	%	116	71.9	----	----	----
Anthracene-d10	1719-06-8	0.5	%	126	107	----	----	----
4-Terphenyl-d14	1718-51-0	0.5	%	111	85.9	----	----	----
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.2	%	79.4	79.4	----	----	93.1
Toluene-D8	2037-26-5	0.2	%	86.4	89.5	----	----	94.6
4-Bromofluorobenzene	460-00-4	0.2	%	81.5	86.9	----	----	96.2
EP231S: PFAS Surrogate								
13C4-PFOS	----	0.0002	%	114	----	96.5	----	99.0
13C8-PFOA	----	0.0002	%	93.5	----	89.0	----	95.0

Analytical Results

Descriptive Results

Sub-Matrix: SOIL

Method: Compound	Sample ID - Sampling date / time	Analytical Results
EA200: AS 4964 - 2004 Identification of Asbestos in Soils		
EA200: Description	BH01_0.2 - 08-Feb-2022 00:00	A soil sample.

Surrogate Control Limits

Sub-Matrix: SOIL		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP066S: PCB Surrogate			
Decachlorobiphenyl	2051-24-3	39	149
EP068S: Organochlorine Pesticide Surrogate			
Dibromo-DDE	21655-73-2	49	147
EP068T: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	35	143
EP074S: VOC Surrogates			
1.2-Dichloroethane-D4	17060-07-0	64	130
Toluene-D8	2037-26-5	66	136
4-Bromofluorobenzene	460-00-4	60	122
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	63	123
2-Chlorophenol-D4	93951-73-6	66	122
2.4.6-Tribromophenol	118-79-6	40	138
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	70	122
Anthracene-d10	1719-06-8	66	128
4-Terphenyl-d14	1718-51-0	65	129
EP075S: Acid Extractable Surrogates			
2-Fluorophenol	367-12-4	29	149
Phenol-d6	13127-88-3	32	128
2-Chlorophenol-D4	93951-73-6	32	128
2.4.6-Tribromophenol	118-79-6	13	121
EP075T: Base/Neutral Extractable Surrogates			
Nitrobenzene-D5	4165-60-0	33	125
1.2-Dichlorobenzene-D4	2199-69-1	34	108
2-Fluorobiphenyl	321-60-8	35	121
Anthracene-d10	1719-06-8	35	123
4-Terphenyl-d14	1718-51-0	33	125
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	73	133
Toluene-D8	2037-26-5	74	132
4-Bromofluorobenzene	460-00-4	72	130
EP231S: PFAS Surrogate			
13C4-PFOS	----	60	120
13C8-PFOA	----	60	120

Inter-Laboratory Testing

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

(SOIL) EA003 :pH (field/fox)

(SOIL) EA029-D: Calcium Values

(SOIL) EA029-E: Magnesium Values

(SOIL) EA029-F: Excess Acid Neutralising Capacity

(SOIL) EA029-H: Acid Base Accounting

(SOIL) EA029-G: Retained Acidity

(SOIL) EA029-A: pH Measurements

(SOIL) EA029-C: Sulfur Trail

(SOIL) EA029-B: Acidity Trail

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

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

ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **ES2204462**	Page	: 1 of 21
Client	: **EP RISK MANAGEMENT**	Laboratory	: Environmental Division Sydney
Contact	: HARRISON BLAKE	Contact	: Tyler Anderson
Address	: Level 4 73 Walker St North Sydney 2060	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: +61 2 8784 8555
Project	: EP2515	Date Samples Received	: 09-Feb-2022 18:00
Order number	: ----	Date Analysis Commenced	: 14-Feb-2022
C-O-C number	: ----	Issue Date	: 23-Feb-2022 10:51
Sampler	: HARRISON BLAKE		
Site	: ----		
Quote number	: SYBQ/401/21		
No. of samples received	: 12		
No. of samples analysed	: 6		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Descriptive Results
- Surrogate Control Limits

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

Signatories

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

Signatories	*Position*	*Accreditation Category*
Alana Smylie	Team Leader - Asbestos	Newcastle - Asbestos, Mayfield West, NSW
Ben Felgendrejeris	Senior Acid Sulfate Soil Chemist	Brisbane Acid Sulphate Soils, Stafford, QLD
Edwandy Fadjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Franco Lentini	LCMS Coordinator	Sydney Inorganics, Smithfield, NSW
Franco Lentini	LCMS Coordinator	Sydney Organics, Smithfield, NSW
Ivan Taylor	Analyst	Sydney Inorganics, Smithfield, NSW
Sanjeshni Jyoti	Senior Chemist Volatiles	Sydney Organics, Smithfield, NSW

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero, for 'TEQ 1/2LOR' are treated as half the reported LOR, and for 'TEQ LOR' are treated as being equal to the reported LOR. Note: TEQ 1/2LOR and TEQ LOR will calculate as 0.6mg/Kg and 1.2mg/Kg respectively for samples with non-detects for all of the eight TEQ PAHs.
- EP080: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EP068: Where reported, Total Chlordane (sum) is the sum of the reported concentrations of cis-Chlordane and trans-Chlordane at or above the LOR.
- EP068: Where reported, Total OCP is the sum of the reported concentrations of all Organochlorine Pesticides at or above LOR.
- EP074: Where reported, Total Trihalomethanes is the sum of the reported concentrations of all Trihalomethanes at or above the LOR.
- EP074: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EP074: Where reported, Sum of chlorinated hydrocarbons includes carbon tetrachloride, chlorobenzene, chloroform, 1,2-dichlorobenzene, 1,4-dichlorobenzene, 1,2-dichloroethane, 1,1-dichloroethene, cis-1,2-dichlorothene, trans-1,2-dichlorothene, 1,1,1,2-tetrachloroethane, 1,1,2,2-tetrachloroethane, 1,2,4-trichlorobenzene, 1,1,1-trichloroethane, 1,1,2-trichloroethane, trichloroethene, vinyl chloride, hexachlorobutadiene and methylene chloride.
- EP074: Where reported, Total Trimethylbenzenes is the sum of the reported concentrations of 1.2.3-Trimethylbenzene, 1.2.4-Trimethylbenzene and 1.3.5-Trimethylbenzene at or above the LOR.
- EP075(SIM): Where reported, Total Cresol is the sum of the reported concentrations of 2-Methylphenol and 3- & 4-Methylphenol at or above the LOR.
- EP231X: Sample ES2204462_001 required dilution due to sample matrix interferences. LOR values have been adjusted accordingly.
- EP075(SIM): Results of BH03_0.2 & BH03_0.2 Dup have been confirmed by re-extraction & re-analysis.
- ASS: EA029 (SPOCAS): Retained Acidity not required because pH KCl greater than or equal to 4.5
- ASS: EA029 (SPOCAS): Excess ANC not required because pH OX less than 6.5.
- EP075: Where reported, 'Sum of PAH' is the sum of the USEPA 16 priority PAHs
- ASS: EA029 (SPOCAS): Liming rate is calculated and reported on a dry weight basis assuming use of fine agricultural lime ($CaCO_3$) and using a safety factor of 1.5 to allow for non-homogeneous mixing and poor reactivity of lime. For conversion of Liming Rate from kg/t dry weight to kg/m3 in-situ soil, multiply reported results x wet bulk density of soil in t/m3.
- ASS: EA003 (NATA Field and F(ox) screening): pH F(ox) Reaction Rate: 1 - Slight; 2 - Moderate; 3 - Strong; 4 - Extreme
- EA200 'Am' Amosite (brown asbestos)
- EA200 'Cr' Crocidolite (blue asbestos)
- EA200 'Trace' - Asbestos fibres ("Free Fibres") detected by trace analysis per AS4964. The result can be interpreted that the sample contains detectable 'respirable' asbestos fibres
- EA200: Asbestos Identification Samples were analysed by Polarised Light Microscopy including dispersion staining.

- EA200 Legend
- EA200 'Ch' Chrysotile (white asbestos)
- EA200: 'UMF' Unknown Mineral Fibres. "-" indicates fibres detected may or may not be asbestos fibres. Confirmation by alternative techniques is recommended.
- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero, for 'TEQ 1/2LOR' are treated as half the reported LOR, and for 'TEQ LOR' are treated as being equal to the reported LOR. Note: TEQ 1/2LOR and TEQ LOR will calculate as 0.6mg/Kg and 1.2mg/Kg respectively for samples with non-detects for all of the eight TEQ PAHs.
- EA200: For samples larger than 30g, the <2mm fraction may be sub-sampled prior to trace analysis as outlined in ISO23909:2008(E) Sect 6.3.2-2
- EA200: 'Yes' - Asbestos detected by polarised light microscopy including dispersion staining.
- EA200: 'No*' - No asbestos found, at the reporting limit of 0.1g/kg, by polarised light microscopy including dispersion staining. Asbestos material was detected and positively identified at concentrations estimated to be below 0.1g/kg.
- EA200: 'No' - No asbestos found at the reporting limit 0.1g/kg, by polarised light microscopy including dispersion staining.
- EP231: Stable isotope enriched internal standards are added to samples prior to extraction. Target compounds have a direct analogous internal standard with the exception of PFPeS, PFHpA, PFDS, PFTrDA and 10:2 FTS. These compounds use an internal standard that is chemically related and has a retention time close to that of the target compound. The DQO for internal standard response is 50-150% of that established at initial calibration. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS (Australian HEPA) and also conform to QSM 5.3 (US DoD) requirements.

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH03_0.2	BH03_0.5	BH03_1.5	BH03_3.0	BH03_0.2 Dup
			Sampling date / time	09-Feb-2022 00:00	09-Feb-2022 00:00	09-Feb-2022 00:00	09-Feb-2022 00:00	09-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2204462-001	ES2204462-003	ES2204462-006	ES2204462-007	ES2204462-010
				Result	Result	Result	Result	Result
EA003 :pH (field/fox)								
pH (F)	----	0.1	pH Unit	----	----	----	7.6	----
pH (Fox)	----	0.1	pH Unit	----	----	----	4.2	----
Reaction Rate	----	1	Reaction Unit	----	----	----	2	----
EA029-A: pH Measurements								
pH KCl (23A)	----	0.1	pH Unit	----	----	----	7.6	----
pH OX (23B)	----	0.1	pH Unit	----	----	----	4.9	----
EA029-B: Acidity Trail								
Titratable Actual Acidity (23F)	----	2	mole H+ / t	----	----	----	<2	----
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	----	----	----	19	----
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	----	----	----	19	----
sulfidic - Titratable Actual Acidity (s-23F)	----	0.020	% pyrite S	----	----	----	<0.020	----
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.020	% pyrite S	----	----	----	0.031	----
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.020	% pyrite S	----	----	----	0.031	----
EA029-C: Sulfur Trail								
KCl Extractable Sulfur (23Ce)	----	0.020	% S	----	----	----	<0.020	----
Peroxide Sulfur (23De)	----	0.020	% S	----	----	----	0.024	----
Peroxide Oxidisable Sulfur (23E)	----	0.020	% S	----	----	----	0.024	----
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	----	----	----	15	----
EA029-D: Calcium Values								
KCl Extractable Calcium (23Vh)	----	0.020	% Ca	----	----	----	0.053	----
Peroxide Calcium (23Wh)	----	0.020	% Ca	----	----	----	0.055	----
Acid Reacted Calcium (23X)	----	0.020	% Ca	----	----	----	<0.020	----
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	----	----	----	<10	----
sulfidic - Acid Reacted Calcium (s-23X)	----	0.020	% S	----	----	----	<0.020	----
EA029-E: Magnesium Values								
KCl Extractable Magnesium (23Sm)	----	0.020	% Mg	----	----	----	<0.020	----
Peroxide Magnesium (23Tm)	----	0.020	% Mg	----	----	----	<0.020	----
Acid Reacted Magnesium (23U)	----	0.020	% Mg	----	----	----	<0.020	----
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	----	----	----	<10	----
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.020	% S	----	----	----	<0.020	----
EA029-H: Acid Base Accounting								

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH03_0.2	BH03_0.5	BH03_1.5	BH03_3.0	BH03_0.2 Dup
			Sampling date / time	09-Feb-2022 00:00	09-Feb-2022 00:00	09-Feb-2022 00:00	09-Feb-2022 00:00	09-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2204462-001	ES2204462-003	ES2204462-006	ES2204462-007	ES2204462-010
				Result	Result	Result	Result	Result
EA029-H: Acid Base Accounting - Continued								
ANC Fineness Factor	----	0.5	-	----	----	----	1.5	----
Net Acidity (sulfur units)	----	0.02	% S	----	----	----	0.03	----
Net Acidity (acidity units)	----	10	mole H+ / t	----	----	----	18	----
Liming Rate	----	1	kg CaCO3/t	----	----	----	1	----
Net Acidity excluding ANC (sulfur units)	----	0.02	% S	----	----	----	0.02	----
Net Acidity excluding ANC (acidity units)	----	10	mole H+ / t	----	----	----	15	----
Liming Rate excluding ANC	----	1	kg CaCO3/t	----	----	----	1	----
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	13.0	9.6	23.0	19.9	12.7
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	No	No	No	----	----
Asbestos (Trace)	1332-21-4	5	Fibres	No	No	No	----	----
Asbestos Type	1332-21-4	-	--	-	-	-	----	----
Synthetic Mineral Fibre	----	0.1	g/kg	No	No	No	----	----
Organic Fibre	----	0.1	g/kg	No	No	No	----	----
Sample weight (dry)	----	0.01	g	65.2	171	68.6	----	----
APPROVED IDENTIFIER:	----	-	--	A. SMYLIE	A. SMYLIE	A. SMYLIE	----	----
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	85	29	41	<5	32
Cadmium	7440-43-9	1	mg/kg	28	9	12	<1	9
Chromium	7440-47-3	2	mg/kg	79	48	37	<2	41
Copper	7440-50-8	5	mg/kg	3510	493	382	<5	374
Lead	7439-92-1	5	mg/kg	196000	125000	6590	39	170000
Nickel	7440-02-0	2	mg/kg	139	58	71	<2	48
Zinc	7440-66-6	5	mg/kg	13900	6280	1640	11	7130
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.2	<0.1	<0.1
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH03_0.2	BH03_0.5	BH03_1.5	BH03_3.0	BH03_0.2 Dup
			Sampling date / time	09-Feb-2022 00:00	09-Feb-2022 00:00	09-Feb-2022 00:00	09-Feb-2022 00:00	09-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2204462-001	ES2204462-003	ES2204462-006	ES2204462-007	ES2204462-010
				Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued								
delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
^ Total Chlordane (sum)	----	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
^ Endosulfan (sum)	115-29-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
EP068B: Organophosphorus Pesticides (OP)								
Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH03_0.2	BH03_0.5	BH03_1.5	BH03_3.0	BH03_0.2 Dup
			Sampling date / time	09-Feb-2022 00:00	09-Feb-2022 00:00	09-Feb-2022 00:00	09-Feb-2022 00:00	09-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2204462-001	ES2204462-003	ES2204462-006	ES2204462-007	ES2204462-010
				Result	Result	Result	Result	Result
EP068B: Organophosphorus Pesticides (OP) - Continued								
Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
EP074A: Monocyclic Aromatic Hydrocarbons								
Styrene	100-42-5	0.5	mg/kg	<0.5	----	----	<0.5	----
Isopropylbenzene	98-82-8	0.5	mg/kg	<0.5	----	----	<0.5	----
n-Propylbenzene	103-65-1	0.5	mg/kg	<0.5	----	----	<0.5	----
1.3.5-Trimethylbenzene	108-67-8	0.5	mg/kg	<0.5	----	----	<0.5	----
sec-Butylbenzene	135-98-8	0.5	mg/kg	<0.5	----	----	<0.5	----
1.2.4-Trimethylbenzene	95-63-6	0.5	mg/kg	<0.5	----	----	<0.5	----
tert-Butylbenzene	98-06-6	0.5	mg/kg	<0.5	----	----	<0.5	----
p-Isopropyltoluene	99-87-6	0.5	mg/kg	<0.5	----	----	<0.5	----
n-Butylbenzene	104-51-8	0.5	mg/kg	<0.5	----	----	<0.5	----
EP074B: Oxygenated Compounds								
Vinyl Acetate	108-05-4	5	mg/kg	<5	----	----	<5	----
2-Butanone (MEK)	78-93-3	5	mg/kg	<5	----	----	<5	----
4-Methyl-2-pentanone (MIBK)	108-10-1	5	mg/kg	<5	----	----	<5	----
2-Hexanone (MBK)	591-78-6	5	mg/kg	<5	----	----	<5	----
EP074C: Sulfonated Compounds								
Carbon disulfide	75-15-0	0.5	mg/kg	<0.5	----	----	<0.5	----
EP074D: Fumigants								
2.2-Dichloropropane	594-20-7	0.5	mg/kg	<0.5	----	----	<0.5	----
1.2-Dichloropropane	78-87-5	0.5	mg/kg	<0.5	----	----	<0.5	----
cis-1.3-Dichloropropylene	10061-01-5	0.5	mg/kg	<0.5	----	----	<0.5	----
trans-1.3-Dichloropropylene	10061-02-6	0.5	mg/kg	<0.5	----	----	<0.5	----
1.2-Dibromoethane (EDB)	106-93-4	0.5	mg/kg	<0.5	----	----	<0.5	----
EP074E: Halogenated Aliphatic Compounds								
Dichlorodifluoromethane	75-71-8	5	mg/kg	<5	----	----	<5	----
Chloromethane	74-87-3	5	mg/kg	<5	----	----	<5	----
Vinyl chloride	75-01-4	5	mg/kg	<5	----	----	<5	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH03_0.2	BH03_0.5	BH03_1.5	BH03_3.0	BH03_0.2 Dup
			Sampling date / time	09-Feb-2022 00:00	09-Feb-2022 00:00	09-Feb-2022 00:00	09-Feb-2022 00:00	09-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2204462-001	ES2204462-003	ES2204462-006	ES2204462-007	ES2204462-010
				Result	Result	Result	Result	Result
EP074E: Halogenated Aliphatic Compounds - Continued								
Bromomethane	74-83-9	5	mg/kg	<5	----	----	<5	----
Chloroethane	75-00-3	5	mg/kg	<5	----	----	<5	----
Trichlorofluoromethane	75-69-4	5	mg/kg	<5	----	----	<5	----
1.1-Dichloroethene	75-35-4	0.5	mg/kg	<0.5	----	----	<0.5	----
Iodomethane	74-88-4	0.5	mg/kg	<0.5	----	----	<0.5	----
trans-1.2-Dichloroethene	156-60-5	0.5	mg/kg	<0.5	----	----	<0.5	----
1.1-Dichloroethane	75-34-3	0.5	mg/kg	<0.5	----	----	<0.5	----
cis-1.2-Dichloroethene	156-59-2	0.5	mg/kg	<0.5	----	----	<0.5	----
1.1.1-Trichloroethane	71-55-6	0.5	mg/kg	<0.5	----	----	<0.5	----
1.1-Dichloropropylene	563-58-6	0.5	mg/kg	<0.5	----	----	<0.5	----
Carbon Tetrachloride	56-23-5	0.5	mg/kg	<0.5	----	----	<0.5	----
1.2-Dichloroethane	107-06-2	0.5	mg/kg	<0.5	----	----	<0.5	----
Trichloroethene	79-01-6	0.5	mg/kg	<0.5	----	----	<0.5	----
Dibromomethane	74-95-3	0.5	mg/kg	<0.5	----	----	<0.5	----
1.1.2-Trichloroethane	79-00-5	0.5	mg/kg	<0.5	----	----	<0.5	----
1.3-Dichloropropane	142-28-9	0.5	mg/kg	<0.5	----	----	<0.5	----
Tetrachloroethene	127-18-4	0.5	mg/kg	<0.5	----	----	<0.5	----
1.1.1.2-Tetrachloroethane	630-20-6	0.5	mg/kg	<0.5	----	----	<0.5	----
trans-1.4-Dichloro-2-butene	110-57-6	0.5	mg/kg	<0.5	----	----	<0.5	----
cis-1.4-Dichloro-2-butene	1476-11-5	0.5	mg/kg	<0.5	----	----	<0.5	----
1.1.2.2-Tetrachloroethane	79-34-5	0.5	mg/kg	<0.5	----	----	<0.5	----
1.2.3-Trichloropropane	96-18-4	0.5	mg/kg	<0.5	----	----	<0.5	----
Pentachloroethane	76-01-7	0.5	mg/kg	<0.5	----	----	<0.5	----
1.2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg	<0.5	----	----	<0.5	----
EP074F: Halogenated Aromatic Compounds								
Chlorobenzene	108-90-7	0.5	mg/kg	<0.5	----	----	<0.5	----
Bromobenzene	108-86-1	0.5	mg/kg	<0.5	----	----	<0.5	----
2-Chlorotoluene	95-49-8	0.5	mg/kg	<0.5	----	----	<0.5	----
4-Chlorotoluene	106-43-4	0.5	mg/kg	<0.5	----	----	<0.5	----
1.2.3-Trichlorobenzene	87-61-6	0.5	mg/kg	<0.5	----	----	<0.5	----
EP074G: Trihalomethanes								
Chloroform	67-66-3	0.5	mg/kg	<0.5	----	----	<0.5	----
Bromodichloromethane	75-27-4	0.5	mg/kg	<0.5	----	----	<0.5	----
Dibromochloromethane	124-48-1	0.5	mg/kg	<0.5	----	----	<0.5	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH03_0.2	BH03_0.5	BH03_1.5	BH03_3.0	BH03_0.2 Dup
			Sampling date / time	09-Feb-2022 00:00	09-Feb-2022 00:00	09-Feb-2022 00:00	09-Feb-2022 00:00	09-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2204462-001	ES2204462-003	ES2204462-006	ES2204462-007	ES2204462-010
				Result	Result	Result	Result	Result
EP074G: Trihalomethanes - Continued								
Bromoform	75-25-2	0.5	mg/kg	<0.5	----	----	<0.5	----
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	<1	<1	<1
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	<2	<2	<2
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	**1.4**	**1.4**	**1.0**	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg	**0.5**	**0.5**	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	**2.2**	**2.0**	**1.9**	<0.5	**0.6**
Pyrene	129-00-0	0.5	mg/kg	**2.2**	**2.0**	**1.9**	<0.5	**0.6**
Benz(a)anthracene	56-55-3	0.5	mg/kg	**1.1**	**1.0**	**1.1**	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg	**1.0**	**0.9**	**1.0**	<0.5	<0.5
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	**1.4**	**1.2**	**1.5**	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	**0.6**	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	**1.2**	**1.0**	**1.3**	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	**0.7**	**0.6**	**0.7**	<0.5	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	**0.8**	**0.8**	**0.9**	<0.5	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	**12.5**	**11.4**	**11.9**	<0.5	**1.2**
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	**1.5**	**1.3**	**1.7**	<0.5	<0.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	**1.8**	**1.6**	**2.0**	**0.6**	**0.6**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH03_0.2	BH03_0.5	BH03_1.5	BH03_3.0	BH03_0.2 Dup
			Sampling date / time	09-Feb-2022 00:00	09-Feb-2022 00:00	09-Feb-2022 00:00	09-Feb-2022 00:00	09-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2204462-001	ES2204462-003	ES2204462-006	ES2204462-007	ES2204462-010
				Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	**2.1**	**1.8**	**2.2**	**1.2**	**1.2**
EP075A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	----	----	<0.5	----
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	----	----	<0.5	----
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	----	----	<0.5	----
3- & 4-Methylphenol	1319-77-3	0.5	mg/kg	<0.5	----	----	<0.5	----
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	----	----	<0.5	----
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	----	----	<0.5	----
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	----	----	<0.5	----
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	----	----	<0.5	----
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	----	----	<0.5	----
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	----	----	<0.5	----
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	----	----	<0.5	----
Pentachlorophenol	87-86-5	1	mg/kg	<1	----	----	<1	----
EP075B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	----	----	<0.5	----
2-Methylnaphthalene	91-57-6	0.5	mg/kg	<0.5	----	----	<0.5	----
2-Chloronaphthalene	91-58-7	0.5	mg/kg	<0.5	----	----	<0.5	----
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	----	----	<0.5	----
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	----	----	<0.5	----
Fluorene	86-73-7	0.5	mg/kg	<0.5	----	----	<0.5	----
Phenanthrene	85-01-8	0.5	mg/kg	**2.1**	----	----	<0.5	----
Anthracene	120-12-7	0.5	mg/kg	**0.7**	----	----	<0.5	----
Fluoranthene	206-44-0	0.5	mg/kg	**3.2**	----	----	<0.5	----
Pyrene	129-00-0	0.5	mg/kg	**3.2**	----	----	<0.5	----
N-2-Fluorenyl Acetamide	53-96-3	0.5	mg/kg	<0.5	----	----	<0.5	----
Benz(a)anthracene	56-55-3	0.5	mg/kg	**1.6**	----	----	<0.5	----
Chrysene	218-01-9	0.5	mg/kg	**1.4**	----	----	<0.5	----
Benzo(b+j) & Benzo(k)fluoranthene	205-99-2 207-08-9	1	mg/kg	**3**	----	----	<1	----
7.12-Dimethylbenz(a)anthracene	57-97-6	0.5	mg/kg	<0.5	----	----	<0.5	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg	**1.9**	----	----	<0.5	----
3-Methylcholanthrene	56-49-5	0.5	mg/kg	<0.5	----	----	<0.5	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	**1.1**	----	----	<0.5	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	----	----	<0.5	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH03_0.2	BH03_0.5	BH03_1.5	BH03_3.0	BH03_0.2 Dup
			Sampling date / time	09-Feb-2022 00:00	09-Feb-2022 00:00	09-Feb-2022 00:00	09-Feb-2022 00:00	09-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2204462-001	ES2204462-003	ES2204462-006	ES2204462-007	ES2204462-010
				Result	Result	Result	Result	Result
EP075B: Polynuclear Aromatic Hydrocarbons - Continued								
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	**1.3**	----	----	<0.5	----
^ Sum of PAHs	----	0.5	mg/kg	**19.5**	----	----	<0.5	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	**2.5**	----	----	<0.5	----
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	**2.7**	----	----	**0.6**	----
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	**3.0**	----	----	**1.2**	----
EP075C: Phthalate Esters								
Dimethyl phthalate	131-11-3	0.5	mg/kg	<0.5	----	----	<0.5	----
Diethyl phthalate	84-66-2	0.5	mg/kg	<0.5	----	----	<0.5	----
Di-n-butyl phthalate	84-74-2	0.5	mg/kg	<0.5	----	----	<0.5	----
Butyl benzyl phthalate	85-68-7	0.5	mg/kg	<0.5	----	----	<0.5	----
bis(2-ethylhexyl) phthalate	117-81-7	5.0	mg/kg	<5.0	----	----	<5.0	----
Di-n-octylphthalate	117-84-0	0.5	mg/kg	<0.5	----	----	<0.5	----
EP075D: Nitrosamines								
N-Nitrosomethylethylamine	10595-95-6	0.5	mg/kg	<0.5	----	----	<0.5	----
N-Nitrosodiethylamine	55-18-5	0.5	mg/kg	<0.5	----	----	<0.5	----
N-Nitrosopyrrolidine	930-55-2	1.0	mg/kg	<1.0	----	----	<1.0	----
N-Nitrosomorpholine	59-89-2	0.5	mg/kg	<0.5	----	----	<0.5	----
N-Nitrosodi-n-propylamine	621-64-7	0.5	mg/kg	<0.5	----	----	<0.5	----
N-Nitrosopiperidine	100-75-4	0.5	mg/kg	<0.5	----	----	<0.5	----
N-Nitrosodibutylamine	924-16-3	0.5	mg/kg	<0.5	----	----	<0.5	----
N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	1.0	mg/kg	<1.0	----	----	<1.0	----
Methapyrilene	91-80-5	0.5	mg/kg	<0.5	----	----	<0.5	----
EP075E: Nitroaromatics and Ketones								
2-Picoline	109-06-8	0.5	mg/kg	<0.5	----	----	<0.5	----
Acetophenone	98-86-2	0.5	mg/kg	<0.5	----	----	<0.5	----
Nitrobenzene	98-95-3	0.5	mg/kg	<0.5	----	----	<0.5	----
Isophorone	78-59-1	0.5	mg/kg	<0.5	----	----	<0.5	----
2.6-Dinitrotoluene	606-20-2	1.0	mg/kg	<1.0	----	----	<1.0	----
2.4-Dinitrotoluene	121-14-2	1.0	mg/kg	<1.0	----	----	<1.0	----
1-Naphthylamine	134-32-7	0.5	mg/kg	<0.5	----	----	<0.5	----
4-Nitroquinoline-N-oxide	56-57-5	0.5	mg/kg	<0.5	----	----	<0.5	----
5-Nitro-o-toluidine	99-55-8	0.5	mg/kg	<0.5	----	----	<0.5	----
Azobenzene	103-33-3	1	mg/kg	<1	----	----	<1	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH03_0.2	BH03_0.5	BH03_1.5	BH03_3.0	BH03_0.2 Dup
			Sampling date / time	09-Feb-2022 00:00	09-Feb-2022 00:00	09-Feb-2022 00:00	09-Feb-2022 00:00	09-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2204462-001	ES2204462-003	ES2204462-006	ES2204462-007	ES2204462-010
				Result	Result	Result	Result	Result
EP075E: Nitroaromatics and Ketones - Continued								
1.3.5-Trinitrobenzene	99-35-4	0.5	mg/kg	<0.5	----	----	<0.5	----
Phenacetin	62-44-2	0.5	mg/kg	<0.5	----	----	<0.5	----
4-Aminobiphenyl	92-67-1	0.5	mg/kg	<0.5	----	----	<0.5	----
Pentachloronitrobenzene	82-68-8	0.5	mg/kg	<0.5	----	----	<0.5	----
Pronamide	23950-58-5	0.5	mg/kg	<0.5	----	----	<0.5	----
Dimethylaminoazobenzene	60-11-7	0.5	mg/kg	<0.5	----	----	<0.5	----
Chlorobenzilate	510-15-6	0.5	mg/kg	<0.5	----	----	<0.5	----
EP075F: Haloethers								
Bis(2-chloroethyl) ether	111-44-4	0.5	mg/kg	<0.5	----	----	<0.5	----
Bis(2-chloroethoxy) methane	111-91-1	0.5	mg/kg	<0.5	----	----	<0.5	----
4-Chlorophenyl phenyl ether	7005-72-3	0.5	mg/kg	<0.5	----	----	<0.5	----
4-Bromophenyl phenyl ether	101-55-3	0.5	mg/kg	<0.5	----	----	<0.5	----
EP075G: Chlorinated Hydrocarbons								
1.3-Dichlorobenzene	541-73-1	0.5	mg/kg	<0.5	----	----	<0.5	----
1.4-Dichlorobenzene	106-46-7	0.5	mg/kg	<0.5	----	----	<0.5	----
1.2-Dichlorobenzene	95-50-1	0.5	mg/kg	<0.5	----	----	<0.5	----
Hexachloroethane	67-72-1	0.5	mg/kg	<0.5	----	----	<0.5	----
1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg	<0.5	----	----	<0.5	----
Hexachloropropylene	1888-71-7	0.5	mg/kg	<0.5	----	----	<0.5	----
Hexachlorobutadiene	87-68-3	0.5	mg/kg	<0.5	----	----	<0.5	----
Hexachlorocyclopentadiene	77-47-4	2.5	mg/kg	<2.5	----	----	<2.5	----
Pentachlorobenzene	608-93-5	0.5	mg/kg	<0.5	----	----	<0.5	----
Hexachlorobenzene (HCB)	118-74-1	1.0	mg/kg	<1.0	----	----	<1.0	----
EP075H: Anilines and Benzidines								
Aniline	62-53-3	0.5	mg/kg	<0.5	----	----	<0.5	----
4-Chloroaniline	106-47-8	0.5	mg/kg	<0.5	----	----	<0.5	----
2-Nitroaniline	88-74-4	1.0	mg/kg	<1.0	----	----	<1.0	----
3-Nitroaniline	99-09-2	1.0	mg/kg	<1.0	----	----	<1.0	----
Dibenzofuran	132-64-9	0.5	mg/kg	<0.5	----	----	<0.5	----
4-Nitroaniline	100-01-6	0.5	mg/kg	<0.5	----	----	<0.5	----
Carbazole	86-74-8	0.5	mg/kg	<0.5	----	----	<0.5	----
3.3`-Dichlorobenzidine	91-94-1	0.5	mg/kg	<0.5	----	----	<0.5	----
EP075I: Organochlorine Pesticides								
alpha-BHC	319-84-6	0.5	mg/kg	<0.5	----	----	<0.5	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH03_0.2	BH03_0.5	BH03_1.5	BH03_3.0	BH03_0.2 Dup
			Sampling date / time	09-Feb-2022 00:00	09-Feb-2022 00:00	09-Feb-2022 00:00	09-Feb-2022 00:00	09-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2204462-001	ES2204462-003	ES2204462-006	ES2204462-007	ES2204462-010
				Result	Result	Result	Result	Result
EP075I: Organochlorine Pesticides - Continued								
beta-BHC	319-85-7	0.5	mg/kg	<0.5	----	----	<0.5	----
gamma-BHC	58-89-9	0.5	mg/kg	<0.5	----	----	<0.5	----
delta-BHC	319-86-8	0.5	mg/kg	<0.5	----	----	<0.5	----
Heptachlor	76-44-8	0.5	mg/kg	<0.5	----	----	<0.5	----
Aldrin	309-00-2	0.5	mg/kg	<0.5	----	----	<0.5	----
Heptachlor epoxide	1024-57-3	0.5	mg/kg	<0.5	----	----	<0.5	----
alpha-Endosulfan	959-98-8	0.5	mg/kg	<0.5	----	----	<0.5	----
4.4`-DDE	72-55-9	0.5	mg/kg	<0.5	----	----	<0.5	----
Dieldrin	60-57-1	0.5	mg/kg	<0.5	----	----	<0.5	----
Endrin	72-20-8	0.5	mg/kg	<0.5	----	----	<0.5	----
beta-Endosulfan	33213-65-9	0.5	mg/kg	<0.5	----	----	<0.5	----
4.4`-DDD	72-54-8	0.5	mg/kg	<0.5	----	----	<0.5	----
Endosulfan sulfate	1031-07-8	0.5	mg/kg	<0.5	----	----	<0.5	----
4.4`-DDT	50-29-3	1.0	mg/kg	<1.0	----	----	<1.0	----
EP075J: Organophosphorus Pesticides								
Dichlorvos	62-73-7	0.5	mg/kg	<0.5	----	----	<0.5	----
Dimethoate	60-51-5	0.5	mg/kg	<0.5	----	----	<0.5	----
Diazinon	333-41-5	0.5	mg/kg	<0.5	----	----	<0.5	----
Chlorpyrifos-methyl	5598-13-0	0.5	mg/kg	<0.5	----	----	<0.5	----
Malathion	121-75-5	0.5	mg/kg	<0.5	----	----	<0.5	----
Fenthion	55-38-9	0.5	mg/kg	<0.5	----	----	<0.5	----
Chlorpyrifos	2921-88-2	0.5	mg/kg	<0.5	----	----	<0.5	----
Pirimphos-ethyl	23505-41-1	0.5	mg/kg	<0.5	----	----	<0.5	----
Chlorfenvinphos	470-90-6	0.5	mg/kg	<0.5	----	----	<0.5	----
Prothiofos	34643-46-4	0.5	mg/kg	<0.5	----	----	<0.5	----
Ethion	563-12-2	0.5	mg/kg	<0.5	----	----	<0.5	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg	<100	**160**	**120**	<100	<100
C29 - C36 Fraction	----	100	mg/kg	<100	**130**	**110**	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg	<50	**290**	**230**	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	<10	<10	<10

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH03_0.2	BH03_0.5	BH03_1.5	BH03_3.0	BH03_0.2 Dup
			Sampling date / time	09-Feb-2022 00:00	09-Feb-2022 00:00	09-Feb-2022 00:00	09-Feb-2022 00:00	09-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2204462-001	ES2204462-003	ES2204462-006	ES2204462-007	ES2204462-010
				Result	Result	Result	Result	Result
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued								
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg	<100	**250**	**190**	<100	<100
>C34 - C40 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	**250**	**190**	<50	<50
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	<50	<50	<50	<50	<50
EP080: BTEXN								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1
EP231A: Perfluoroalkyl Sulfonic Acids								
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0005	<0.0002	----	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0005	<0.0002	----	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	<0.0005	<0.0002	----	----	----
EP231B: Perfluoroalkyl Carboxylic Acids								
Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.002	<0.001	----	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0005	<0.0002	----	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0005	<0.0002	----	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0005	<0.0002	----	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0005	<0.0002	----	----	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids								
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	----	----	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH03_0.2	BH03_0.5	BH03_1.5	BH03_3.0	BH03_0.2 Dup
			Sampling date / time	09-Feb-2022 00:00	09-Feb-2022 00:00	09-Feb-2022 00:00	09-Feb-2022 00:00	09-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2204462-001	ES2204462-003	ES2204462-006	ES2204462-007	ES2204462-010
				Result	Result	Result	Result	Result
EP231D: (n:2) Fluorotelomer Sulfonic Acids - Continued								
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0005	----	----	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	----	----	----
EP231P: PFAS Sums								
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg	<0.0005	<0.0002	----	----	----
Sum of PFAS (WA DER List)	----	0.0002	mg/kg	<0.0005	<0.0002	----	----	----
EP066S: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	98.0	102	109	93.5	99.0
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.05	%	88.6	101	91.8	76.6	87.0
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.05	%	75.0	100	83.6	71.4	73.7
EP074S: VOC Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.5	%	93.9	----	----	91.1	----
Toluene-D8	2037-26-5	0.5	%	91.3	----	----	91.6	----
4-Bromofluorobenzene	460-00-4	0.5	%	80.9	----	----	82.6	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	85.9	91.6	88.0	82.1	102
2-Chlorophenol-D4	93951-73-6	0.5	%	92.1	94.2	94.0	88.8	104
2.4.6-Tribromophenol	118-79-6	0.5	%	73.8	78.7	84.1	73.3	95.7
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.5	%	95.5	103	96.2	90.3	118
Anthracene-d10	1719-06-8	0.5	%	95.3	102	99.0	93.8	115
4-Terphenyl-d14	1718-51-0	0.5	%	90.5	101	94.1	88.2	119
EP075S: Acid Extractable Surrogates								
2-Fluorophenol	367-12-4	0.5	%	119	----	----	91.4	----
Phenol-d6	13127-88-3	0.5	%	112	----	----	86.6	----
2-Chlorophenol-D4	93951-73-6	0.5	%	109	----	----	85.4	----
2.4.6-Tribromophenol	118-79-6	0.5	%	95.3	----	----	73.3	----
EP075T: Base/Neutral Extractable Surrogates								
Nitrobenzene-D5	4165-60-0	0.5	%	106	----	----	78.7	----
1.2-Dichlorobenzene-D4	2199-69-1	0.5	%	101	----	----	81.8	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH03_0.2	BH03_0.5	BH03_1.5	BH03_3.0	BH03_0.2 Dup
			Sampling date / time	09-Feb-2022 00:00	09-Feb-2022 00:00	09-Feb-2022 00:00	09-Feb-2022 00:00	09-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2204462-001	ES2204462-003	ES2204462-006	ES2204462-007	ES2204462-010
				Result	Result	Result	Result	Result
EP075T: Base/Neutral Extractable Surrogates - Continued								
2-Fluorobiphenyl	321-60-8	0.5	%	105	----	----	97.9	----
Anthracene-d10	1719-06-8	0.5	%	99.4	----	----	95.1	----
4-Terphenyl-d14	1718-51-0	0.5	%	113	----	----	76.8	----
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.2	%	104	79.9	96.3	100	90.6
Toluene-D8	2037-26-5	0.2	%	88.0	79.4	99.6	88.5	93.1
4-Bromofluorobenzene	460-00-4	0.2	%	86.3	81.3	97.3	90.2	91.4
EP231S: PFAS Surrogate								
13C4-PFOS	----	0.0002	%	95.0	103	----	----	----
13C8-PFOA	----	0.0002	%	100	100	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH03_0.5 Dup	----	----	----	----
			Sampling date / time	09-Feb-2022 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit	ES2204462-011	--------	--------	--------	--------
				Result	----	----	----	----
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	0.1	%	8.6	----	----	----	----
EP231A: Perfluoroalkyl Sulfonic Acids								
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	----	----	----	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	----	----	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	----	----	----	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	----	----	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	<0.0002	----	----	----	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	----	----	----	----
EP231B: Perfluoroalkyl Carboxylic Acids								
Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	----	----	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	----	----	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	----	----	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	----	----	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	----	----	----	----
Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	----	----	----	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	----	----	----	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	----	----	----	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	----	----	----	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	----	----	----	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides								
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	----	----	----	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH03_0.5 Dup	----	----	----	----
			Sampling date / time	09-Feb-2022 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit	ES2204462-011	--------	--------	--------	--------
				Result	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides - Continued								
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	----	----	----	----
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	----	----	----	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	----	----	----	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids								
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	----	----	----	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	----	----	----	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	----	----	----	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	----	----	----	----
EP231P: PFAS Sums								
Sum of PFAS	----	0.0002	mg/kg	<0.0002	----	----	----	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg	<0.0002	----	----	----	----
Sum of PFAS (WA DER List)	----	0.0002	mg/kg	<0.0002	----	----	----	----
EP231S: PFAS Surrogate								
13C4-PFOS	----	0.0002	%	**91.0**	----	----	----	----
13C8-PFOA	----	0.0002	%	**98.5**	----	----	----	----

Analytical Results

Descriptive Results

Sub-Matrix: **SOIL**

Method: Compound	*Sample ID - Sampling date / time*	*Analytical Results*
EA200: AS 4964 - 2004 Identification of Asbestos in Soils		
EA200: Description	BH03_0.2 - 09-Feb-2022 00:00	Soil sample.
EA200: Description	BH03_0.5 - 09-Feb-2022 00:00	Soil sample.
EA200: Description	BH03_1.5 - 09-Feb-2022 00:00	Soil sample.

Surrogate Control Limits

Sub-Matrix: SOIL		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP066S: PCB Surrogate			
Decachlorobiphenyl	2051-24-3	39	149
EP068S: Organochlorine Pesticide Surrogate			
Dibromo-DDE	21655-73-2	49	147
EP068T: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	35	143
EP074S: VOC Surrogates			
1.2-Dichloroethane-D4	17060-07-0	64	130
Toluene-D8	2037-26-5	66	136
4-Bromofluorobenzene	460-00-4	60	122
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	63	123
2-Chlorophenol-D4	93951-73-6	66	122
2.4.6-Tribromophenol	118-79-6	40	138
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	70	122
Anthracene-d10	1719-06-8	66	128
4-Terphenyl-d14	1718-51-0	65	129
EP075S: Acid Extractable Surrogates			
2-Fluorophenol	367-12-4	29	149
Phenol-d6	13127-88-3	32	128
2-Chlorophenol-D4	93951-73-6	32	128
2.4.6-Tribromophenol	118-79-6	13	121
EP075T: Base/Neutral Extractable Surrogates			
Nitrobenzene-D5	4165-60-0	33	125
1.2-Dichlorobenzene-D4	2199-69-1	34	108
2-Fluorobiphenyl	321-60-8	35	121
Anthracene-d10	1719-06-8	35	123
4-Terphenyl-d14	1718-51-0	33	125
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	73	133
Toluene-D8	2037-26-5	74	132
4-Bromofluorobenzene	460-00-4	72	130
EP231S: PFAS Surrogate			
13C4-PFOS	----	60	120
13C8-PFOA	----	60	120

Inter-Laboratory Testing

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

(SOIL) EA003 :pH (field/fox)

(SOIL) EA029-D: Calcium Values

(SOIL) EA029-E: Magnesium Values

(SOIL) EA029-F: Excess Acid Neutralising Capacity

(SOIL) EA029-H: Acid Base Accounting

(SOIL) EA029-G: Retained Acidity

(SOIL) EA029-A: pH Measurements

(SOIL) EA029-C: Sulfur Trail

(SOIL) EA029-B: Acidity Trail

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

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

ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **ES2204627**	Page	: 1 of 18
Client	: **EP RISK MANAGEMENT**	Laboratory	: Environmental Division Sydney
Contact	: HARRISON BLAKE	Contact	: Tyler Anderson
Address	: Level 4 73 Walker St North Sydney 2060	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: +61 2 8784 8555
Project	: EP2515	Date Samples Received	: 10-Feb-2022 10:30
Order number	: ----	Date Analysis Commenced	: 14-Feb-2022
C-O-C number	: ----	Issue Date	: 22-Feb-2022 17:02
Sampler	: HARRISON BLAKE		
Site	: ----		
Quote number	: SYBQ/401/21		
No. of samples received	: 8		
No. of samples analysed	: 5		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Descriptive Results
- Surrogate Control Limits

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

Signatories

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

Signatories	*Position*	*Accreditation Category*
Alana Smylie	Team Leader - Asbestos	Newcastle - Asbestos, Mayfield West, NSW
Ben Felgendrejeris	Senior Acid Sulfate Soil Chemist	Brisbane Acid Sulphate Soils, Stafford, QLD
Edwandy Fadjar	Organic Coordinator	Sydney Inorganics, Smithfield, NSW
Edwandy Fadjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Franco Lentini	LCMS Coordinator	Sydney Inorganics, Smithfield, NSW
Franco Lentini	LCMS Coordinator	Sydney Organics, Smithfield, NSW
Ivan Taylor	Analyst	Sydney Inorganics, Smithfield, NSW

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero, for 'TEQ 1/2LOR' are treated as half the reported LOR, and for 'TEQ LOR' are treated as being equal to the reported LOR. Note: TEQ 1/2LOR and TEQ LOR will calculate as 0.6mg/Kg and 1.2mg/Kg respectively for samples with non-detects for all of the eight TEQ PAHs.
- EP080: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EP068: Where reported, Total Chlordane (sum) is the sum of the reported concentrations of cis-Chlordane and trans-Chlordane at or above the LOR.
- EP068: Where reported, Total OCP is the sum of the reported concentrations of all Organochlorine Pesticides at or above LOR.
- EP074: Where reported, Total Trihalomethanes is the sum of the reported concentrations of all Trihalomethanes at or above the LOR.
- EP074: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EP074: Where reported, Sum of chlorinated hydrocarbons includes carbon tetrachloride, chlorobenzene, chloroform, 1,2-dichlorobenzene, 1,4-dichlorobenzene, 1,2-dichloroethane, 1,1-dichloroethene, cis-1,2-dichlorothene, trans-1,2-dichlorothene, 1,1,1,2-tetrachloroethane, 1,1,2,2-tetrachloroethane, 1,2,4-trichlorobenzene, 1,1,1-trichloroethane, 1,1,2-trichloroethane, trichloroethene, vinyl chloride, hexachlorobutadiene and methylene chloride.
- EP074: Where reported, Total Trimethylbenzenes is the sum of the reported concentrations of 1.2.3-Trimethylbenzene, 1.2.4-Trimethylbenzene and 1.3.5-Trimethylbenzene at or above the LOR.
- EP075(SIM): Where reported, Total Cresol is the sum of the reported concentrations of 2-Methylphenol and 3- & 4-Methylphenol at or above the LOR.
- ASS: EA029 (SPOCAS): Retained Acidity not required because pH KCl greater than or equal to 4.5
- ASS: EA029 (SPOCAS): Excess ANC not required because pH OX less than 6.5.
- EP075: Where reported, 'Sum of PAH' is the sum of the USEPA 16 priority PAHs
- ASS: EA029 (SPOCAS): Liming rate is calculated and reported on a dry weight basis assuming use of fine agricultural lime ($CaCO_3$) and using a safety factor of 1.5 to allow for non-homogeneous mixing and poor reactivity of lime. For conversion of Liming Rate from kg/t dry weight to kg/m3 in-situ soil, multiply reported results x wet bulk density of soil in t/m3.
- ASS: EA003 (NATA Field and F(ox) screening): pH F(ox) Reaction Rate: 1 - Slight; 2 - Moderate; 3 - Strong; 4 - Extreme
- EA200 'Am' Amosite (brown asbestos)
- EA200 'Cr' Crocidolite (blue asbestos)
- EA200 'Trace' - Asbestos fibres ("Free Fibres") detected by trace analysis per AS4964. The result can be interpreted that the sample contains detectable 'respirable' asbestos fibres
- EA200: Asbestos Identification Samples were analysed by Polarised Light Microscopy including dispersion staining.
- EA200 Legend
- EA200 'Ch' Chrysotile (white asbestos)

- EA200: 'UMF' Unknown Mineral Fibres. "-" indicates fibres detected may or may not be asbestos fibres. Confirmation by alternative techniques is recommended.
- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero, for 'TEQ 1/2LOR' are treated as half the reported LOR, and for 'TEQ LOR' are treated as being equal to the reported LOR. Note: TEQ 1/2LOR and TEQ LOR will calculate as 0.6mg/Kg and 1.2mg/Kg respectively for samples with non-detects for all of the eight TEQ PAHs.
- EA200: For samples larger than 30g, the <2mm fraction may be sub-sampled prior to trace analysis as outlined in ISO23909:2008(E) Sect 6.3.2-2
- EA200: 'Yes' - Asbestos detected by polarised light microscopy including dispersion staining.
- EA200: 'No*' - No asbestos found, at the reporting limit of 0.1g/kg, by polarised light microscopy including dispersion staining. Asbestos material was detected and positively identified at concentrations estimated to be below 0.1g/kg.
- EA200: 'No' - No asbestos found at the reporting limit 0.1g/kg, by polarised light microscopy including dispersion staining.
- EP231: Stable isotope enriched internal standards are added to samples prior to extraction. Target compounds have a direct analogous internal standard with the exception of PFPeS, PFHpA, PFDS, PFTrDA and 10:2 FTS. These compounds use an internal standard that is chemically related and has a retention time close to that of the target compound. The DQO for internal standard response is 50-150% of that established at initial calibration. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS (Australian HEPA) and also conform to QSM 5.3 (US DoD) requirements.

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH02_0.1	BH02_1.0	BH02_2.0	BH02_4.0	BH02_5.5
			Sampling date / time	09-Feb-2022 00:00	09-Feb-2022 00:00	09-Feb-2022 00:00	09-Feb-2022 00:00	09-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2204627-001	ES2204627-002	ES2204627-003	ES2204627-005	ES2204627-006
				Result	Result	Result	Result	Result
EA003 :pH (field/fox)								
pH (F)	----	0.1	pH Unit	----	----	7.0	6.4	----
pH (Fox)	----	0.1	pH Unit	----	----	4.4	4.6	----
Reaction Rate	----	1	Reaction Unit	----	----	2	2	----
EA029-A: pH Measurements								
pH KCl (23A)	----	0.1	pH Unit	----	----	----	4.9	----
pH OX (23B)	----	0.1	pH Unit	----	----	----	5.1	----
EA029-B: Acidity Trail								
Titratable Actual Acidity (23F)	----	2	mole H+ / t	----	----	----	12	----
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	----	----	----	<2	----
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	----	----	----	<2	----
sulfidic - Titratable Actual Acidity (s-23F)	----	0.020	% pyrite S	----	----	----	0.020	----
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.020	% pyrite S	----	----	----	<0.020	----
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.020	% pyrite S	----	----	----	<0.020	----
EA029-C: Sulfur Trail								
KCl Extractable Sulfur (23Ce)	----	0.020	% S	----	----	----	<0.020	----
Peroxide Sulfur (23De)	----	0.020	% S	----	----	----	<0.020	----
Peroxide Oxidisable Sulfur (23E)	----	0.020	% S	----	----	----	<0.020	----
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	----	----	----	<10	----
EA029-D: Calcium Values								
KCl Extractable Calcium (23Vh)	----	0.020	% Ca	----	----	----	<0.020	----
Peroxide Calcium (23Wh)	----	0.020	% Ca	----	----	----	<0.020	----
Acid Reacted Calcium (23X)	----	0.020	% Ca	----	----	----	<0.020	----
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	----	----	----	<10	----
sulfidic - Acid Reacted Calcium (s-23X)	----	0.020	% S	----	----	----	<0.020	----
EA029-E: Magnesium Values								
KCl Extractable Magnesium (23Sm)	----	0.020	% Mg	----	----	----	<0.020	----
Peroxide Magnesium (23Tm)	----	0.020	% Mg	----	----	----	<0.020	----
Acid Reacted Magnesium (23U)	----	0.020	% Mg	----	----	----	<0.020	----
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	----	----	----	<10	----
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.020	% S	----	----	----	<0.020	----
EA029-H: Acid Base Accounting								

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH02_0.1	BH02_1.0	BH02_2.0	BH02_4.0	BH02_5.5
			Sampling date / time	09-Feb-2022 00:00	09-Feb-2022 00:00	09-Feb-2022 00:00	09-Feb-2022 00:00	09-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2204627-001	ES2204627-002	ES2204627-003	ES2204627-005	ES2204627-006
				Result	Result	Result	Result	Result
EA029-H: Acid Base Accounting - Continued								
ANC Fineness Factor	----	0.5	-	----	----	----	1.5	----
Net Acidity (sulfur units)	----	0.02	% S	----	----	----	0.02	----
Net Acidity (acidity units)	----	10	mole H+ / t	----	----	----	12	----
Liming Rate	----	1	kg CaCO3/t	----	----	----	<1	----
Net Acidity excluding ANC (sulfur units)	----	0.02	% S	----	----	----	0.02	----
Net Acidity excluding ANC (acidity units)	----	10	mole H+ / t	----	----	----	12	----
Liming Rate excluding ANC	----	1	kg CaCO3/t	----	----	----	<1	----
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	0.1	%	----	----	----	----	18.5
Moisture Content	----	1.0	%	28.0	7.3	20.6	----	----
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	No	----	----	----	----
Asbestos (Trace)	1332-21-4	5	Fibres	No	----	----	----	----
Asbestos Type	1332-21-4	-	--	-	----	----	----	----
Synthetic Mineral Fibre	----	0.1	g/kg	No	----	----	----	----
Organic Fibre	----	0.1	g/kg	No	----	----	----	----
Sample weight (dry)	----	0.01	g	49.5	----	----	----	----
APPROVED IDENTIFIER:	----	-	--	A. SMYLIE	----	----	----	----
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	7	9	<5	----	----
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	----	----
Chromium	7440-47-3	2	mg/kg	15	7	3	----	----
Copper	7440-50-8	5	mg/kg	717	106	18	----	----
Lead	7439-92-1	5	mg/kg	819	245	27	----	----
Nickel	7440-02-0	2	mg/kg	85	19	3	----	----
Zinc	7440-66-6	5	mg/kg	1330	320	84	----	----
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	0.2	0.2	<0.1	----	----
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	<0.1	----	----
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	<0.05	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH02_0.1	BH02_1.0	BH02_2.0	BH02_4.0	BH02_5.5
			Sampling date / time	09-Feb-2022 00:00	09-Feb-2022 00:00	09-Feb-2022 00:00	09-Feb-2022 00:00	09-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2204627-001	ES2204627-002	ES2204627-003	ES2204627-005	ES2204627-006
				Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued								
gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
^ Total Chlordane (sum)	----	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
^ Endosulfan (sum)	115-29-7	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	<0.2	----	----
Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	<0.2	----	----
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
EP068B: Organophosphorus Pesticides (OP)								
Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	<0.2	----	----
Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	<0.2	----	----
Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	<0.2	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH02_0.1	BH02_1.0	BH02_2.0	BH02_4.0	BH02_5.5
			Sampling date / time	09-Feb-2022 00:00	09-Feb-2022 00:00	09-Feb-2022 00:00	09-Feb-2022 00:00	09-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2204627-001	ES2204627-002	ES2204627-003	ES2204627-005	ES2204627-006
				Result	Result	Result	Result	Result
EP068B: Organophosphorus Pesticides (OP) - Continued								
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
EP074A: Monocyclic Aromatic Hydrocarbons								
Styrene	100-42-5	0.5	mg/kg	<0.5	<0.5	----	----	----
Isopropylbenzene	98-82-8	0.5	mg/kg	<0.5	<0.5	----	----	----
n-Propylbenzene	103-65-1	0.5	mg/kg	<0.5	<0.5	----	----	----
1.3.5-Trimethylbenzene	108-67-8	0.5	mg/kg	<0.5	<0.5	----	----	----
sec-Butylbenzene	135-98-8	0.5	mg/kg	<0.5	<0.5	----	----	----
1.2.4-Trimethylbenzene	95-63-6	0.5	mg/kg	<0.5	<0.5	----	----	----
tert-Butylbenzene	98-06-6	0.5	mg/kg	<0.5	<0.5	----	----	----
p-Isopropyltoluene	99-87-6	0.5	mg/kg	<0.5	<0.5	----	----	----
n-Butylbenzene	104-51-8	0.5	mg/kg	<0.5	<0.5	----	----	----
EP074B: Oxygenated Compounds								
Vinyl Acetate	108-05-4	5	mg/kg	<5	<5	----	----	----
2-Butanone (MEK)	78-93-3	5	mg/kg	<5	<5	----	----	----
4-Methyl-2-pentanone (MIBK)	108-10-1	5	mg/kg	<5	<5	----	----	----
2-Hexanone (MBK)	591-78-6	5	mg/kg	<5	<5	----	----	----
EP074C: Sulfonated Compounds								
Carbon disulfide	75-15-0	0.5	mg/kg	<0.5	<0.5	----	----	----
EP074D: Fumigants								
2.2-Dichloropropane	594-20-7	0.5	mg/kg	<0.5	<0.5	----	----	----
1.2-Dichloropropane	78-87-5	0.5	mg/kg	<0.5	<0.5	----	----	----
cis-1.3-Dichloropropylene	10061-01-5	0.5	mg/kg	<0.5	<0.5	----	----	----
trans-1.3-Dichloropropylene	10061-02-6	0.5	mg/kg	<0.5	<0.5	----	----	----
1.2-Dibromoethane (EDB)	106-93-4	0.5	mg/kg	<0.5	<0.5	----	----	----
EP074E: Halogenated Aliphatic Compounds								
Dichlorodifluoromethane	75-71-8	5	mg/kg	<5	<5	----	----	----
Chloromethane	74-87-3	5	mg/kg	<5	<5	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH02_0.1	BH02_1.0	BH02_2.0	BH02_4.0	BH02_5.5
			Sampling date / time	09-Feb-2022 00:00	09-Feb-2022 00:00	09-Feb-2022 00:00	09-Feb-2022 00:00	09-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2204627-001	ES2204627-002	ES2204627-003	ES2204627-005	ES2204627-006
				Result	Result	Result	Result	Result
EP074E: Halogenated Aliphatic Compounds - Continued								
Vinyl chloride	75-01-4	5	mg/kg	<5	<5	----	----	----
Bromomethane	74-83-9	5	mg/kg	<5	<5	----	----	----
Chloroethane	75-00-3	5	mg/kg	<5	<5	----	----	----
Trichlorofluoromethane	75-69-4	5	mg/kg	<5	<5	----	----	----
1.1-Dichloroethene	75-35-4	0.5	mg/kg	<0.5	<0.5	----	----	----
Iodomethane	74-88-4	0.5	mg/kg	<0.5	<0.5	----	----	----
trans-1.2-Dichloroethene	156-60-5	0.5	mg/kg	<0.5	<0.5	----	----	----
1.1-Dichloroethane	75-34-3	0.5	mg/kg	<0.5	<0.5	----	----	----
cis-1.2-Dichloroethene	156-59-2	0.5	mg/kg	<0.5	<0.5	----	----	----
1.1.1-Trichloroethane	71-55-6	0.5	mg/kg	<0.5	<0.5	----	----	----
1.1-Dichloropropylene	563-58-6	0.5	mg/kg	<0.5	<0.5	----	----	----
Carbon Tetrachloride	56-23-5	0.5	mg/kg	<0.5	<0.5	----	----	----
1.2-Dichloroethane	107-06-2	0.5	mg/kg	<0.5	<0.5	----	----	----
Trichloroethene	79-01-6	0.5	mg/kg	<0.5	<0.5	----	----	----
Dibromomethane	74-95-3	0.5	mg/kg	<0.5	<0.5	----	----	----
1.1.2-Trichloroethane	79-00-5	0.5	mg/kg	<0.5	<0.5	----	----	----
1.3-Dichloropropane	142-28-9	0.5	mg/kg	<0.5	<0.5	----	----	----
Tetrachloroethene	127-18-4	0.5	mg/kg	<0.5	<0.5	----	----	----
1.1.1.2-Tetrachloroethane	630-20-6	0.5	mg/kg	<0.5	<0.5	----	----	----
trans-1.4-Dichloro-2-butene	110-57-6	0.5	mg/kg	<0.5	<0.5	----	----	----
cis-1.4-Dichloro-2-butene	1476-11-5	0.5	mg/kg	<0.5	<0.5	----	----	----
1.1.2.2-Tetrachloroethane	79-34-5	0.5	mg/kg	<0.5	<0.5	----	----	----
1.2.3-Trichloropropane	96-18-4	0.5	mg/kg	<0.5	<0.5	----	----	----
Pentachloroethane	76-01-7	0.5	mg/kg	<0.5	<0.5	----	----	----
1.2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg	<0.5	<0.5	----	----	----
EP074F: Halogenated Aromatic Compounds								
Chlorobenzene	108-90-7	0.5	mg/kg	<0.5	<0.5	----	----	----
Bromobenzene	108-86-1	0.5	mg/kg	<0.5	<0.5	----	----	----
2-Chlorotoluene	95-49-8	0.5	mg/kg	<0.5	<0.5	----	----	----
4-Chlorotoluene	106-43-4	0.5	mg/kg	<0.5	<0.5	----	----	----
1.2.3-Trichlorobenzene	87-61-6	0.5	mg/kg	<0.5	<0.5	----	----	----
EP074G: Trihalomethanes								
Chloroform	67-66-3	0.5	mg/kg	<0.5	<0.5	----	----	----
Bromodichloromethane	75-27-4	0.5	mg/kg	<0.5	<0.5	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH02_0.1	BH02_1.0	BH02_2.0	BH02_4.0	BH02_5.5
			Sampling date / time	09-Feb-2022 00:00	09-Feb-2022 00:00	09-Feb-2022 00:00	09-Feb-2022 00:00	09-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2204627-001	ES2204627-002	ES2204627-003	ES2204627-005	ES2204627-006
				Result	Result	Result	Result	Result
EP074G: Trihalomethanes - Continued								
Dibromochloromethane	124-48-1	0.5	mg/kg	<0.5	<0.5	----	----	----
Bromoform	75-25-2	0.5	mg/kg	<0.5	<0.5	----	----	----
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	<1	----	----
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	<2	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	**1.3**	<0.5	----	----
Pyrene	129-00-0	0.5	mg/kg	<0.5	**1.3**	<0.5	----	----
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	**0.6**	<0.5	----	----
Chrysene	218-01-9	0.5	mg/kg	<0.5	**0.6**	<0.5	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	**0.9**	<0.5	----	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	**0.7**	<0.5	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	**5.4**	<0.5	----	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	**0.8**	<0.5	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH02_0.1	BH02_1.0	BH02_2.0	BH02_4.0	BH02_5.5
			Sampling date / time	09-Feb-2022 00:00	09-Feb-2022 00:00	09-Feb-2022 00:00	09-Feb-2022 00:00	09-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2204627-001	ES2204627-002	ES2204627-003	ES2204627-005	ES2204627-006
				Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	**0.6**	**1.2**	**0.6**	----	----
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	**1.2**	**1.5**	**1.2**	----	----
EP075A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	----	----	----
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	----	----	----
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	----	----	----
3- & 4-Methylphenol	1319-77-3	0.5	mg/kg	<0.5	<0.5	----	----	----
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	----	----	----
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	----	----	----
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	----	----	----
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	----	----	----
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	----	----	----
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	----	----	----
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	----	----	----
Pentachlorophenol	87-86-5	1	mg/kg	<1	<1	----	----	----
EP075B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	----	----	----
2-Methylnaphthalene	91-57-6	0.5	mg/kg	<0.5	<0.5	----	----	----
2-Chloronaphthalene	91-58-7	0.5	mg/kg	<0.5	<0.5	----	----	----
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	----	----	----
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	----	----	----
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	----	----	----
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	----	----	----
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	----	----	----
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	**1.2**	----	----	----
Pyrene	129-00-0	0.5	mg/kg	<0.5	**1.2**	----	----	----
N-2-Fluorenyl Acetamide	53-96-3	0.5	mg/kg	<0.5	<0.5	----	----	----
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	**0.7**	----	----	----
Chrysene	218-01-9	0.5	mg/kg	<0.5	**0.6**	----	----	----
Benzo(b+j) & Benzo(k)fluoranthene	205-99-2 207-08-9	1	mg/kg	<1	**1**	----	----	----
7.12-Dimethylbenz(a)anthracene	57-97-6	0.5	mg/kg	<0.5	<0.5	----	----	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	**0.7**	----	----	----
3-Methylcholanthrene	56-49-5	0.5	mg/kg	<0.5	<0.5	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH02_0.1	BH02_1.0	BH02_2.0	BH02_4.0	BH02_5.5
			Sampling date / time	09-Feb-2022 00:00	09-Feb-2022 00:00	09-Feb-2022 00:00	09-Feb-2022 00:00	09-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2204627-001	ES2204627-002	ES2204627-003	ES2204627-005	ES2204627-006
				Result	Result	Result	Result	Result
EP075B: Polynuclear Aromatic Hydrocarbons - Continued								
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	----	----	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	----	----	----
^ Sum of PAHs	----	0.5	mg/kg	<0.5	**5.4**	----	----	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	**0.9**	----	----	----
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	**0.6**	**1.2**	----	----	----
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	**1.2**	**1.4**	----	----	----
EP075C: Phthalate Esters								
Dimethyl phthalate	131-11-3	0.5	mg/kg	<0.5	<0.5	----	----	----
Diethyl phthalate	84-66-2	0.5	mg/kg	<0.5	<0.5	----	----	----
Di-n-butyl phthalate	84-74-2	0.5	mg/kg	<0.5	<0.5	----	----	----
Butyl benzyl phthalate	85-68-7	0.5	mg/kg	<0.5	<0.5	----	----	----
bis(2-ethylhexyl) phthalate	117-81-7	5.0	mg/kg	<5.0	<5.0	----	----	----
Di-n-octylphthalate	117-84-0	0.5	mg/kg	<0.5	<0.5	----	----	----
EP075D: Nitrosamines								
N-Nitrosomethylethylamine	10595-95-6	0.5	mg/kg	<0.5	<0.5	----	----	----
N-Nitrosodiethylamine	55-18-5	0.5	mg/kg	<0.5	<0.5	----	----	----
N-Nitrosopyrrolidine	930-55-2	1.0	mg/kg	<1.0	<1.0	----	----	----
N-Nitrosomorpholine	59-89-2	0.5	mg/kg	<0.5	<0.5	----	----	----
N-Nitrosodi-n-propylamine	621-64-7	0.5	mg/kg	<0.5	<0.5	----	----	----
N-Nitrosopiperidine	100-75-4	0.5	mg/kg	<0.5	<0.5	----	----	----
N-Nitrosodibutylamine	924-16-3	0.5	mg/kg	<0.5	<0.5	----	----	----
N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	1.0	mg/kg	<1.0	<1.0	----	----	----
Methapyrilene	91-80-5	0.5	mg/kg	<0.5	<0.5	----	----	----
EP075E: Nitroaromatics and Ketones								
2-Picoline	109-06-8	0.5	mg/kg	<0.5	<0.5	----	----	----
Acetophenone	98-86-2	0.5	mg/kg	<0.5	<0.5	----	----	----
Nitrobenzene	98-95-3	0.5	mg/kg	<0.5	<0.5	----	----	----
Isophorone	78-59-1	0.5	mg/kg	<0.5	<0.5	----	----	----
2.6-Dinitrotoluene	606-20-2	1.0	mg/kg	<1.0	<1.0	----	----	----
2.4-Dinitrotoluene	121-14-2	1.0	mg/kg	<1.0	<1.0	----	----	----
1-Naphthylamine	134-32-7	0.5	mg/kg	<0.5	<0.5	----	----	----
4-Nitroquinoline-N-oxide	56-57-5	0.5	mg/kg	<0.5	<0.5	----	----	----
5-Nitro-o-toluidine	99-55-8	0.5	mg/kg	<0.5	<0.5	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH02_0.1	BH02_1.0	BH02_2.0	BH02_4.0	BH02_5.5
			Sampling date / time	09-Feb-2022 00:00	09-Feb-2022 00:00	09-Feb-2022 00:00	09-Feb-2022 00:00	09-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2204627-001	ES2204627-002	ES2204627-003	ES2204627-005	ES2204627-006
				Result	Result	Result	Result	Result
EP075E: Nitroaromatics and Ketones - Continued								
Azobenzene	103-33-3	1	mg/kg	<1	<1	----	----	----
1.3.5-Trinitrobenzene	99-35-4	0.5	mg/kg	<0.5	<0.5	----	----	----
Phenacetin	62-44-2	0.5	mg/kg	<0.5	<0.5	----	----	----
4-Aminobiphenyl	92-67-1	0.5	mg/kg	<0.5	<0.5	----	----	----
Pentachloronitrobenzene	82-68-8	0.5	mg/kg	<0.5	<0.5	----	----	----
Pronamide	23950-58-5	0.5	mg/kg	<0.5	<0.5	----	----	----
Dimethylaminoazobenzene	60-11-7	0.5	mg/kg	<0.5	<0.5	----	----	----
Chlorobenzilate	510-15-6	0.5	mg/kg	<0.5	<0.5	----	----	----
EP075F: Haloethers								
Bis(2-chloroethyl) ether	111-44-4	0.5	mg/kg	<0.5	<0.5	----	----	----
Bis(2-chloroethoxy) methane	111-91-1	0.5	mg/kg	<0.5	<0.5	----	----	----
4-Chlorophenyl phenyl ether	7005-72-3	0.5	mg/kg	<0.5	<0.5	----	----	----
4-Bromophenyl phenyl ether	101-55-3	0.5	mg/kg	<0.5	<0.5	----	----	----
EP075G: Chlorinated Hydrocarbons								
1.3-Dichlorobenzene	541-73-1	0.5	mg/kg	<0.5	<0.5	----	----	----
1.4-Dichlorobenzene	106-46-7	0.5	mg/kg	<0.5	<0.5	----	----	----
1.2-Dichlorobenzene	95-50-1	0.5	mg/kg	<0.5	<0.5	----	----	----
Hexachloroethane	67-72-1	0.5	mg/kg	<0.5	<0.5	----	----	----
1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg	<0.5	<0.5	----	----	----
Hexachloropropylene	1888-71-7	0.5	mg/kg	<0.5	<0.5	----	----	----
Hexachlorobutadiene	87-68-3	0.5	mg/kg	<0.5	<0.5	----	----	----
Hexachlorocyclopentadiene	77-47-4	2.5	mg/kg	<2.5	<2.5	----	----	----
Pentachlorobenzene	608-93-5	0.5	mg/kg	<0.5	<0.5	----	----	----
Hexachlorobenzene (HCB)	118-74-1	1.0	mg/kg	<1.0	<1.0	----	----	----
EP075H: Anilines and Benzidines								
Aniline	62-53-3	0.5	mg/kg	<0.5	<0.5	----	----	----
4-Chloroaniline	106-47-8	0.5	mg/kg	<0.5	<0.5	----	----	----
2-Nitroaniline	88-74-4	1.0	mg/kg	<1.0	<1.0	----	----	----
3-Nitroaniline	99-09-2	1.0	mg/kg	<1.0	<1.0	----	----	----
Dibenzofuran	132-64-9	0.5	mg/kg	<0.5	<0.5	----	----	----
4-Nitroaniline	100-01-6	0.5	mg/kg	<0.5	<0.5	----	----	----
Carbazole	86-74-8	0.5	mg/kg	<0.5	<0.5	----	----	----
3.3`-Dichlorobenzidine	91-94-1	0.5	mg/kg	<0.5	<0.5	----	----	----
EP075I: Organochlorine Pesticides								

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH02_0.1	BH02_1.0	BH02_2.0	BH02_4.0	BH02_5.5
			Sampling date / time	09-Feb-2022 00:00	09-Feb-2022 00:00	09-Feb-2022 00:00	09-Feb-2022 00:00	09-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2204627-001	ES2204627-002	ES2204627-003	ES2204627-005	ES2204627-006
				Result	Result	Result	Result	Result
EP075I: Organochlorine Pesticides - Continued								
alpha-BHC	319-84-6	0.5	mg/kg	<0.5	<0.5	----	----	----
beta-BHC	319-85-7	0.5	mg/kg	<0.5	<0.5	----	----	----
gamma-BHC	58-89-9	0.5	mg/kg	<0.5	<0.5	----	----	----
delta-BHC	319-86-8	0.5	mg/kg	<0.5	<0.5	----	----	----
Heptachlor	76-44-8	0.5	mg/kg	<0.5	<0.5	----	----	----
Aldrin	309-00-2	0.5	mg/kg	<0.5	<0.5	----	----	----
Heptachlor epoxide	1024-57-3	0.5	mg/kg	<0.5	<0.5	----	----	----
alpha-Endosulfan	959-98-8	0.5	mg/kg	<0.5	<0.5	----	----	----
4.4`-DDE	72-55-9	0.5	mg/kg	<0.5	<0.5	----	----	----
Dieldrin	60-57-1	0.5	mg/kg	<0.5	<0.5	----	----	----
Endrin	72-20-8	0.5	mg/kg	<0.5	<0.5	----	----	----
beta-Endosulfan	33213-65-9	0.5	mg/kg	<0.5	<0.5	----	----	----
4.4`-DDD	72-54-8	0.5	mg/kg	<0.5	<0.5	----	----	----
Endosulfan sulfate	1031-07-8	0.5	mg/kg	<0.5	<0.5	----	----	----
4.4`-DDT	50-29-3	1.0	mg/kg	<1.0	<1.0	----	----	----
EP075J: Organophosphorus Pesticides								
Dichlorvos	62-73-7	0.5	mg/kg	<0.5	<0.5	----	----	----
Dimethoate	60-51-5	0.5	mg/kg	<0.5	<0.5	----	----	----
Diazinon	333-41-5	0.5	mg/kg	<0.5	<0.5	----	----	----
Chlorpyrifos-methyl	5598-13-0	0.5	mg/kg	<0.5	<0.5	----	----	----
Malathion	121-75-5	0.5	mg/kg	<0.5	<0.5	----	----	----
Fenthion	55-38-9	0.5	mg/kg	<0.5	<0.5	----	----	----
Chlorpyrifos	2921-88-2	0.5	mg/kg	<0.5	<0.5	----	----	----
Pirimphos-ethyl	23505-41-1	0.5	mg/kg	<0.5	<0.5	----	----	----
Chlorfenvinphos	470-90-6	0.5	mg/kg	<0.5	<0.5	----	----	----
Prothiofos	34643-46-4	0.5	mg/kg	<0.5	<0.5	----	----	----
Ethion	563-12-2	0.5	mg/kg	<0.5	<0.5	----	----	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	----	----
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	----	----
C15 - C28 Fraction	----	100	mg/kg	**130**	<100	<100	----	----
C29 - C36 Fraction	----	100	mg/kg	<100	<100	<100	----	----
^ C10 - C36 Fraction (sum)	----	50	mg/kg	**130**	<50	<50	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH02_0.1	BH02_1.0	BH02_2.0	BH02_4.0	BH02_5.5
			Sampling date / time	09-Feb-2022 00:00	09-Feb-2022 00:00	09-Feb-2022 00:00	09-Feb-2022 00:00	09-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2204627-001	ES2204627-002	ES2204627-003	ES2204627-005	ES2204627-006
				Result	Result	Result	Result	Result
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued								
C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	<10	----	----
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	<10	<10	<10	----	----
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	<50	----	----
>C16 - C34 Fraction	----	100	mg/kg	**180**	**140**	<100	----	----
>C34 - C40 Fraction	----	100	mg/kg	<100	<100	<100	----	----
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	**180**	**140**	<50	----	----
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	<50	<50	<50	----	----
EP080: BTEXN								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	----	----
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	----	----
^ Total Xylenes	----	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	----	----
EP231A: Perfluoroalkyl Sulfonic Acids								
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	----	----	----	<0.0002
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	----	----	----	<0.0002
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	<0.0002	----	----	----	<0.0002
EP231B: Perfluoroalkyl Carboxylic Acids								
Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	----	----	----	<0.001
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	----	----	----	<0.0002
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	----	----	----	<0.0002
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	----	----	----	<0.0002
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	----	----	----	<0.0002
EP231D: (n:2) Fluorotelomer Sulfonic Acids								
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	----	----	----	<0.0005

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH02_0.1	BH02_1.0	BH02_2.0	BH02_4.0	BH02_5.5
			Sampling date / time	09-Feb-2022 00:00	09-Feb-2022 00:00	09-Feb-2022 00:00	09-Feb-2022 00:00	09-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2204627-001	ES2204627-002	ES2204627-003	ES2204627-005	ES2204627-006
				Result	Result	Result	Result	Result
EP231D: (n:2) Fluorotelomer Sulfonic Acids - Continued								
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	----	----	----	<0.0005
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	----	----	----	<0.0005
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	----	----	----	<0.0005
EP231P: PFAS Sums								
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg	<0.0002	----	----	----	<0.0002
Sum of PFAS (WA DER List)	----	0.0002	mg/kg	<0.0002	----	----	----	<0.0002
EP066S: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	105	103	101	----	----
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.05	%	86.5	82.3	77.2	----	----
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.05	%	79.4	72.8	77.3	----	----
EP074S: VOC Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.5	%	95.0	84.8	----	----	----
Toluene-D8	2037-26-5	0.5	%	96.8	87.2	----	----	----
4-Bromofluorobenzene	460-00-4	0.5	%	93.8	86.4	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	89.6	84.9	86.8	----	----
2-Chlorophenol-D4	93951-73-6	0.5	%	88.7	85.4	87.9	----	----
2.4.6-Tribromophenol	118-79-6	0.5	%	49.6	66.2	69.4	----	----
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.5	%	102	88.4	89.6	----	----
Anthracene-d10	1719-06-8	0.5	%	102	90.7	92.3	----	----
4-Terphenyl-d14	1718-51-0	0.5	%	99.0	87.0	88.1	----	----
EP075S: Acid Extractable Surrogates								
2-Fluorophenol	367-12-4	0.5	%	102	107	----	----	----
Phenol-d6	13127-88-3	0.5	%	96.4	101	----	----	----
2-Chlorophenol-D4	93951-73-6	0.5	%	88.8	89.4	----	----	----
2.4.6-Tribromophenol	118-79-6	0.5	%	52.8	83.1	----	----	----
EP075T: Base/Neutral Extractable Surrogates								

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH02_0.1	BH02_1.0	BH02_2.0	BH02_4.0	BH02_5.5
			Sampling date / time	09-Feb-2022 00:00	09-Feb-2022 00:00	09-Feb-2022 00:00	09-Feb-2022 00:00	09-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2204627-001	ES2204627-002	ES2204627-003	ES2204627-005	ES2204627-006
				Result	Result	Result	Result	Result
EP075T: Base/Neutral Extractable Surrogates - Continued								
Nitrobenzene-D5	4165-60-0	0.5	%	94.5	95.8	----	----	----
1.2-Dichlorobenzene-D4	2199-69-1	0.5	%	87.3	90.0	----	----	----
2-Fluorobiphenyl	321-60-8	0.5	%	83.0	93.0	----	----	----
Anthracene-d10	1719-06-8	0.5	%	102	106	----	----	----
4-Terphenyl-d14	1718-51-0	0.5	%	84.1	87.4	----	----	----
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.2	%	90.3	80.3	91.4	----	----
Toluene-D8	2037-26-5	0.2	%	94.5	85.6	90.4	----	----
4-Bromofluorobenzene	460-00-4	0.2	%	90.4	84.5	89.4	----	----
EP231S: PFAS Surrogate								
13C4-PFOS	----	0.0002	%	104	----	----	----	88.5
13C8-PFOA	----	0.0002	%	107	----	----	----	105

Analytical Results

Descriptive Results

Sub-Matrix: SOIL

Method: Compound	Sample ID - Sampling date / time	Analytical Results
EA200: AS 4964 - 2004 Identification of Asbestos in Soils		
EA200: Description	BH02_0.1 - 09-Feb-2022 00:00	Soil sample.

Surrogate Control Limits

Sub-Matrix: SOIL		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP066S: PCB Surrogate			
Decachlorobiphenyl	2051-24-3	39	149
EP068S: Organochlorine Pesticide Surrogate			
Dibromo-DDE	21655-73-2	49	147
EP068T: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	35	143
EP074S: VOC Surrogates			
1.2-Dichloroethane-D4	17060-07-0	64	130
Toluene-D8	2037-26-5	66	136
4-Bromofluorobenzene	460-00-4	60	122
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	63	123
2-Chlorophenol-D4	93951-73-6	66	122
2.4.6-Tribromophenol	118-79-6	40	138
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	70	122
Anthracene-d10	1719-06-8	66	128
4-Terphenyl-d14	1718-51-0	65	129
EP075S: Acid Extractable Surrogates			
2-Fluorophenol	367-12-4	29	149
Phenol-d6	13127-88-3	32	128
2-Chlorophenol-D4	93951-73-6	32	128
2.4.6-Tribromophenol	118-79-6	13	121
EP075T: Base/Neutral Extractable Surrogates			
Nitrobenzene-D5	4165-60-0	33	125
1.2-Dichlorobenzene-D4	2199-69-1	34	108
2-Fluorobiphenyl	321-60-8	35	121
Anthracene-d10	1719-06-8	35	123
4-Terphenyl-d14	1718-51-0	33	125
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	73	133
Toluene-D8	2037-26-5	74	132
4-Bromofluorobenzene	460-00-4	72	130
EP231S: PFAS Surrogate			
13C4-PFOS	----	60	120
13C8-PFOA	----	60	120

Inter-Laboratory Testing

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

(SOIL) EA003 :pH (field/fox)

(SOIL) EA029-D: Calcium Values

(SOIL) EA029-E: Magnesium Values

(SOIL) EA029-F: Excess Acid Neutralising Capacity

(SOIL) EA029-H: Acid Base Accounting

(SOIL) EA029-G: Retained Acidity

(SOIL) EA029-A: pH Measurements

(SOIL) EA029-C: Sulfur Trail

(SOIL) EA029-B: Acidity Trail

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

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

ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **ES2204644**	Page	: 1 of 16
Client	: **EP RISK MANAGEMENT**	Laboratory	: Environmental Division Sydney
Contact	: HARRISON BLAKE	Contact	: Tyler Anderson
Address	: Level 4 73 Walker St North Sydney 2060	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: +61 2 8784 8555
Project	: EP2515	Date Samples Received	: 10-Feb-2022 16:50
Order number	: ----	Date Analysis Commenced	: 14-Feb-2022
C-O-C number	: ----	Issue Date	: 22-Feb-2022 17:06
Sampler	: HARRISON BLAKE		
Site	: ----		
Quote number	: SY/497/20 Primary analysis only		
No. of samples received	: 7		
No. of samples analysed	: 5		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Descriptive Results
- Surrogate Control Limits

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

Signatories

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

Signatories	*Position*	*Accreditation Category*
Alana Smylie	Team Leader - Asbestos	Newcastle - Asbestos, Mayfield West, NSW
Ben Felgendrejeris	Senior Acid Sulfate Soil Chemist	Brisbane Acid Sulphate Soils, Stafford, QLD
Edwandy Fadjar	Organic Coordinator	Sydney Inorganics, Smithfield, NSW
Edwandy Fadjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Franco Lentini	LCMS Coordinator	Sydney Organics, Smithfield, NSW
Ivan Taylor	Analyst	Sydney Inorganics, Smithfield, NSW

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero, for 'TEQ 1/2LOR' are treated as half the reported LOR, and for 'TEQ LOR' are treated as being equal to the reported LOR. Note: TEQ 1/2LOR and TEQ LOR will calculate as 0.6mg/Kg and 1.2mg/Kg respectively for samples with non-detects for all of the eight TEQ PAHs.
- EP080: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EP068: Where reported, Total Chlordane (sum) is the sum of the reported concentrations of cis-Chlordane and trans-Chlordane at or above the LOR.
- EP068: Where reported, Total OCP is the sum of the reported concentrations of all Organochlorine Pesticides at or above LOR.
- EP074: Where reported, Total Trihalomethanes is the sum of the reported concentrations of all Trihalomethanes at or above the LOR.
- EP074: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EP074: Where reported, Sum of chlorinated hydrocarbons includes carbon tetrachloride, chlorobenzene, chloroform, 1,2-dichlorobenzene, 1,4-dichlorobenzene, 1,2-dichloroethane, 1,1-dichloroethene, cis-1,2-dichlorothene, trans-1,2-dichlorothene, 1,1,1,2-tetrachloroethane, 1,1,2,2-tetrachloroethane, 1,2,4-trichlorobenzene, 1,1,1-trichloroethane, 1,1,2-trichloroethane, trichloroethene, vinyl chloride, hexachlorobutadiene and methylene chloride.
- EP074: Where reported, Total Trimethylbenzenes is the sum of the reported concentrations of 1.2.3-Trimethylbenzene, 1.2.4-Trimethylbenzene and 1.3.5-Trimethylbenzene at or above the LOR.
- EP075(SIM): Where reported, Total Cresol is the sum of the reported concentrations of 2-Methylphenol and 3- & 4-Methylphenol at or above the LOR.
- ASS: EA029 (SPOCAS): Retained Acidity not required because pH KCl greater than or equal to 4.5
- ASS: EA029 (SPOCAS): Excess ANC not required because pH OX less than 6.5.
- EP075: Where reported, 'Sum of PAH' is the sum of the USEPA 16 priority PAHs
- ASS: EA029 (SPOCAS): Liming rate is calculated and reported on a dry weight basis assuming use of fine agricultural lime ($CaCO_3$) and using a safety factor of 1.5 to allow for non-homogeneous mixing and poor reactivity of lime. For conversion of Liming Rate from kg/t dry weight to kg/m3 in-situ soil, multiply reported results x wet bulk density of soil in t/m3.
- ASS: EA003 (NATA Field and F(ox) screening): pH F(ox) Reaction Rate: 1 - Slight; 2 - Moderate; 3 - Strong; 4 - Extreme
- EA200 'Am' Amosite (brown asbestos)
- EA200 'Cr' Crocidolite (blue asbestos)
- EA200 'Trace' - Asbestos fibres ("Free Fibres") detected by trace analysis per AS4964. The result can be interpreted that the sample contains detectable 'respirable' asbestos fibres
- EA200: Asbestos Identification Samples were analysed by Polarised Light Microscopy including dispersion staining.
- EA200 Legend
- EA200 'Ch' Chrysotile (white asbestos)

- EA200: 'UMF' Unknown Mineral Fibres. "-" indicates fibres detected may or may not be asbestos fibres. Confirmation by alternative techniques is recommended.
- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero, for 'TEQ 1/2LOR' are treated as half the reported LOR, and for 'TEQ LOR' are treated as being equal to the reported LOR. Note: TEQ 1/2LOR and TEQ LOR will calculate as 0.6mg/Kg and 1.2mg/Kg respectively for samples with non-detects for all of the eight TEQ PAHs.
- EA200: For samples larger than 30g, the <2mm fraction may be sub-sampled prior to trace analysis as outlined in ISO23909:2008(E) Sect 6.3.2-2
- EA200: 'Yes' - Asbestos detected by polarised light microscopy including dispersion staining.
- EA200: 'No*' - No asbestos found, at the reporting limit of 0.1g/kg, by polarised light microscopy including dispersion staining. Asbestos material was detected and positively identified at concentrations estimated to be below 0.1g/kg.
- EA200: 'No' - No asbestos found at the reporting limit 0.1g/kg, by polarised light microscopy including dispersion staining.
- EP231: Stable isotope enriched internal standards are added to samples prior to extraction. Target compounds have a direct analogous internal standard with the exception of PFPeS, PFHpA, PFDS, PFTrDA and 10:2 FTS. These compounds use an internal standard that is chemically related and has a retention time close to that of the target compound. The DQO for internal standard response is 50-150% of that established at initial calibration. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS (Australian HEPA) and also conform to QSM 5.3 (US DoD) requirements.

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH04_0.2	BH04_1.0	BH04_2.0	BH04_5.0	BH04_7.5
			Sampling date / time	10-Feb-2022 00:00	10-Feb-2022 00:00	10-Feb-2022 00:00	10-Feb-2022 00:00	10-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2204644-001	ES2204644-002	ES2204644-003	ES2204644-005	ES2204644-006
				Result	Result	Result	Result	Result
EA003 :pH (field/fox)								
pH (F)	----	0.1	pH Unit	----	----	----	7.5	7.6
pH (Fox)	----	0.1	pH Unit	----	----	----	4.7	4.7
Reaction Rate	----	1	Reaction Unit	----	----	----	2	2
EA029-A: pH Measurements								
pH KCl (23A)	----	0.1	pH Unit	----	----	----	7.1	----
pH OX (23B)	----	0.1	pH Unit	----	----	----	5.8	----
EA029-B: Acidity Trail								
Titratable Actual Acidity (23F)	----	2	mole H+ / t	----	----	----	<2	----
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	----	----	----	2	----
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	----	----	----	2	----
sulfidic - Titratable Actual Acidity (s-23F)	----	0.020	% pyrite S	----	----	----	<0.020	----
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.020	% pyrite S	----	----	----	<0.020	----
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.020	% pyrite S	----	----	----	<0.020	----
EA029-C: Sulfur Trail								
KCl Extractable Sulfur (23Ce)	----	0.020	% S	----	----	----	<0.020	----
Peroxide Sulfur (23De)	----	0.020	% S	----	----	----	<0.020	----
Peroxide Oxidisable Sulfur (23E)	----	0.020	% S	----	----	----	<0.020	----
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	----	----	----	<10	----
EA029-D: Calcium Values								
KCl Extractable Calcium (23Vh)	----	0.020	% Ca	----	----	----	<0.020	----
Peroxide Calcium (23Wh)	----	0.020	% Ca	----	----	----	<0.020	----
Acid Reacted Calcium (23X)	----	0.020	% Ca	----	----	----	<0.020	----
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	----	----	----	<10	----
sulfidic - Acid Reacted Calcium (s-23X)	----	0.020	% S	----	----	----	<0.020	----
EA029-E: Magnesium Values								
KCl Extractable Magnesium (23Sm)	----	0.020	% Mg	----	----	----	<0.020	----
Peroxide Magnesium (23Tm)	----	0.020	% Mg	----	----	----	<0.020	----
Acid Reacted Magnesium (23U)	----	0.020	% Mg	----	----	----	<0.020	----
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	----	----	----	<10	----
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.020	% S	----	----	----	<0.020	----
EA029-H: Acid Base Accounting								

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH04_0.2	BH04_1.0	BH04_2.0	BH04_5.0	BH04_7.5
			Sampling date / time	10-Feb-2022 00:00	10-Feb-2022 00:00	10-Feb-2022 00:00	10-Feb-2022 00:00	10-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2204644-001	ES2204644-002	ES2204644-003	ES2204644-005	ES2204644-006
				Result	Result	Result	Result	Result
EA029-H: Acid Base Accounting - Continued								
ANC Fineness Factor	----	0.5	-	----	----	----	1.5	----
Net Acidity (sulfur units)	----	0.02	% S	----	----	----	<0.02	----
Net Acidity (acidity units)	----	10	mole H+ / t	----	----	----	<10	----
Liming Rate	----	1	kg CaCO3/t	----	----	----	<1	----
Net Acidity excluding ANC (sulfur units)	----	0.02	% S	----	----	----	<0.02	----
Net Acidity excluding ANC (acidity units)	----	10	mole H+ / t	----	----	----	<10	----
Liming Rate excluding ANC	----	1	kg CaCO3/t	----	----	----	<1	----
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	5.8	5.6	13.8	----	----
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	No	No	----	----	----
Asbestos (Trace)	1332-21-4	5	Fibres	No	No	----	----	----
Asbestos Type	1332-21-4	-	--	-	-	----	----	----
Sample weight (dry)	----	0.01	g	86.6	43.5	----	----	----
APPROVED IDENTIFIER:	----	-	--	A. SMYLIE	A. SMYLIE	----	----	----
Synthetic Mineral Fibre	----	0.1	g/kg	No	No	----	----	----
Organic Fibre	----	0.1	g/kg	No	No	----	----	----
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	<5	<5	<5	----	----
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	----	----
Chromium	7440-47-3	2	mg/kg	<2	<2	<2	----	----
Copper	7440-50-8	5	mg/kg	19	6	<5	----	----
Lead	7439-92-1	5	mg/kg	52	10	<5	----	----
Nickel	7440-02-0	2	mg/kg	<2	<2	<2	----	----
Zinc	7440-66-6	5	mg/kg	44	10	23	----	----
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	----	----
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	<0.1	----	----
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	<0.05	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH04_0.2	BH04_1.0	BH04_2.0	BH04_5.0	BH04_7.5
			Sampling date / time	10-Feb-2022 00:00	10-Feb-2022 00:00	10-Feb-2022 00:00	10-Feb-2022 00:00	10-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2204644-001	ES2204644-002	ES2204644-003	ES2204644-005	ES2204644-006
				Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued								
delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
^ Total Chlordane (sum)	----	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
^ Endosulfan (sum)	115-29-7	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	<0.2	----	----
Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	<0.2	----	----
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
EP068B: Organophosphorus Pesticides (OP)								
Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	<0.2	----	----
Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	<0.2	----	----
Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	<0.2	----	----
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	<0.05	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH04_0.2	BH04_1.0	BH04_2.0	BH04_5.0	BH04_7.5
			Sampling date / time	10-Feb-2022 00:00	10-Feb-2022 00:00	10-Feb-2022 00:00	10-Feb-2022 00:00	10-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2204644-001	ES2204644-002	ES2204644-003	ES2204644-005	ES2204644-006
				Result	Result	Result	Result	Result
EP068B: Organophosphorus Pesticides (OP) - Continued								
Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
EP074A: Monocyclic Aromatic Hydrocarbons								
Styrene	100-42-5	0.5	mg/kg	<0.5	----	<0.5	----	----
Isopropylbenzene	98-82-8	0.5	mg/kg	<0.5	----	<0.5	----	----
n-Propylbenzene	103-65-1	0.5	mg/kg	<0.5	----	<0.5	----	----
1.3.5-Trimethylbenzene	108-67-8	0.5	mg/kg	<0.5	----	<0.5	----	----
sec-Butylbenzene	135-98-8	0.5	mg/kg	<0.5	----	<0.5	----	----
1.2.4-Trimethylbenzene	95-63-6	0.5	mg/kg	<0.5	----	<0.5	----	----
tert-Butylbenzene	98-06-6	0.5	mg/kg	<0.5	----	<0.5	----	----
p-Isopropyltoluene	99-87-6	0.5	mg/kg	<0.5	----	<0.5	----	----
n-Butylbenzene	104-51-8	0.5	mg/kg	<0.5	----	<0.5	----	----
EP074B: Oxygenated Compounds								
Vinyl Acetate	108-05-4	5	mg/kg	<5	----	<5	----	----
2-Butanone (MEK)	78-93-3	5	mg/kg	<5	----	<5	----	----
4-Methyl-2-pentanone (MIBK)	108-10-1	5	mg/kg	<5	----	<5	----	----
2-Hexanone (MBK)	591-78-6	5	mg/kg	<5	----	<5	----	----
EP074C: Sulfonated Compounds								
Carbon disulfide	75-15-0	0.5	mg/kg	<0.5	----	<0.5	----	----
EP074D: Fumigants								
2.2-Dichloropropane	594-20-7	0.5	mg/kg	<0.5	----	<0.5	----	----
1.2-Dichloropropane	78-87-5	0.5	mg/kg	<0.5	----	<0.5	----	----
cis-1.3-Dichloropropylene	10061-01-5	0.5	mg/kg	<0.5	----	<0.5	----	----
trans-1.3-Dichloropropylene	10061-02-6	0.5	mg/kg	<0.5	----	<0.5	----	----
1.2-Dibromoethane (EDB)	106-93-4	0.5	mg/kg	<0.5	----	<0.5	----	----
EP074E: Halogenated Aliphatic Compounds								
Dichlorodifluoromethane	75-71-8	5	mg/kg	<5	----	<5	----	----
Chloromethane	74-87-3	5	mg/kg	<5	----	<5	----	----
Vinyl chloride	75-01-4	5	mg/kg	<5	----	<5	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH04_0.2	BH04_1.0	BH04_2.0	BH04_5.0	BH04_7.5
			Sampling date / time	10-Feb-2022 00:00	10-Feb-2022 00:00	10-Feb-2022 00:00	10-Feb-2022 00:00	10-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2204644-001	ES2204644-002	ES2204644-003	ES2204644-005	ES2204644-006
				Result	Result	Result	Result	Result
EP074E: Halogenated Aliphatic Compounds - Continued								
Bromomethane	74-83-9	5	mg/kg	<5	----	<5	----	----
Chloroethane	75-00-3	5	mg/kg	<5	----	<5	----	----
Trichlorofluoromethane	75-69-4	5	mg/kg	<5	----	<5	----	----
1.1-Dichloroethene	75-35-4	0.5	mg/kg	<0.5	----	<0.5	----	----
Iodomethane	74-88-4	0.5	mg/kg	<0.5	----	<0.5	----	----
trans-1.2-Dichloroethene	156-60-5	0.5	mg/kg	<0.5	----	<0.5	----	----
1.1-Dichloroethane	75-34-3	0.5	mg/kg	<0.5	----	<0.5	----	----
cis-1.2-Dichloroethene	156-59-2	0.5	mg/kg	<0.5	----	<0.5	----	----
1.1.1-Trichloroethane	71-55-6	0.5	mg/kg	<0.5	----	<0.5	----	----
1.1-Dichloropropylene	563-58-6	0.5	mg/kg	<0.5	----	<0.5	----	----
Carbon Tetrachloride	56-23-5	0.5	mg/kg	<0.5	----	<0.5	----	----
1.2-Dichloroethane	107-06-2	0.5	mg/kg	<0.5	----	<0.5	----	----
Trichloroethene	79-01-6	0.5	mg/kg	<0.5	----	<0.5	----	----
Dibromomethane	74-95-3	0.5	mg/kg	<0.5	----	<0.5	----	----
1.1.2-Trichloroethane	79-00-5	0.5	mg/kg	<0.5	----	<0.5	----	----
1.3-Dichloropropane	142-28-9	0.5	mg/kg	<0.5	----	<0.5	----	----
Tetrachloroethene	127-18-4	0.5	mg/kg	<0.5	----	<0.5	----	----
1.1.1.2-Tetrachloroethane	630-20-6	0.5	mg/kg	<0.5	----	<0.5	----	----
trans-1.4-Dichloro-2-butene	110-57-6	0.5	mg/kg	<0.5	----	<0.5	----	----
cis-1.4-Dichloro-2-butene	1476-11-5	0.5	mg/kg	<0.5	----	<0.5	----	----
1.1.2.2-Tetrachloroethane	79-34-5	0.5	mg/kg	<0.5	----	<0.5	----	----
1.2.3-Trichloropropane	96-18-4	0.5	mg/kg	<0.5	----	<0.5	----	----
Pentachloroethane	76-01-7	0.5	mg/kg	<0.5	----	<0.5	----	----
1.2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg	<0.5	----	<0.5	----	----
EP074F: Halogenated Aromatic Compounds								
Chlorobenzene	108-90-7	0.5	mg/kg	<0.5	----	<0.5	----	----
Bromobenzene	108-86-1	0.5	mg/kg	<0.5	----	<0.5	----	----
2-Chlorotoluene	95-49-8	0.5	mg/kg	<0.5	----	<0.5	----	----
4-Chlorotoluene	106-43-4	0.5	mg/kg	<0.5	----	<0.5	----	----
1.2.3-Trichlorobenzene	87-61-6	0.5	mg/kg	<0.5	----	<0.5	----	----
EP074G: Trihalomethanes								
Chloroform	67-66-3	0.5	mg/kg	<0.5	----	<0.5	----	----
Bromodichloromethane	75-27-4	0.5	mg/kg	<0.5	----	<0.5	----	----
Dibromochloromethane	124-48-1	0.5	mg/kg	<0.5	----	<0.5	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH04_0.2	BH04_1.0	BH04_2.0	BH04_5.0	BH04_7.5
			Sampling date / time	10-Feb-2022 00:00	10-Feb-2022 00:00	10-Feb-2022 00:00	10-Feb-2022 00:00	10-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2204644-001	ES2204644-002	ES2204644-003	ES2204644-005	ES2204644-006
				Result	Result	Result	Result	Result
EP074G: Trihalomethanes - Continued								
Bromoform	75-25-2	0.5	mg/kg	<0.5	----	<0.5	----	----
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	<1	----	----
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	<2	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	**0.6**	**0.6**	**0.6**	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH04_0.2	BH04_1.0	BH04_2.0	BH04_5.0	BH04_7.5
			Sampling date / time	10-Feb-2022 00:00	10-Feb-2022 00:00	10-Feb-2022 00:00	10-Feb-2022 00:00	10-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2204644-001	ES2204644-002	ES2204644-003	ES2204644-005	ES2204644-006
				Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	1.2	1.2	1.2	----	----
EP075B: Polynuclear Aromatic Hydrocarbons								
2-Methylnaphthalene	91-57-6	0.5	mg/kg	<0.5	----	<0.5	----	----
2-Chloronaphthalene	91-58-7	0.5	mg/kg	<0.5	----	<0.5	----	----
N-2-Fluorenyl Acetamide	53-96-3	0.5	mg/kg	<0.5	----	<0.5	----	----
7.12-Dimethylbenz(a)anthracene	57-97-6	0.5	mg/kg	<0.5	----	<0.5	----	----
3-Methylcholanthrene	56-49-5	0.5	mg/kg	<0.5	----	<0.5	----	----
EP075C: Phthalate Esters								
Dimethyl phthalate	131-11-3	0.5	mg/kg	<0.5	----	<0.5	----	----
Diethyl phthalate	84-66-2	0.5	mg/kg	<0.5	----	<0.5	----	----
Di-n-butyl phthalate	84-74-2	0.5	mg/kg	<0.5	----	<0.5	----	----
Butyl benzyl phthalate	85-68-7	0.5	mg/kg	<0.5	----	<0.5	----	----
bis(2-ethylhexyl) phthalate	117-81-7	5.0	mg/kg	<5.0	----	<5.0	----	----
Di-n-octylphthalate	117-84-0	0.5	mg/kg	<0.5	----	<0.5	----	----
EP075D: Nitrosamines								
N-Nitrosomethylethylamine	10595-95-6	0.5	mg/kg	<0.5	----	<0.5	----	----
N-Nitrosodiethylamine	55-18-5	0.5	mg/kg	<0.5	----	<0.5	----	----
N-Nitrosopyrrolidine	930-55-2	1.0	mg/kg	<1.0	----	<1.0	----	----
N-Nitrosomorpholine	59-89-2	0.5	mg/kg	<0.5	----	<0.5	----	----
N-Nitrosodi-n-propylamine	621-64-7	0.5	mg/kg	<0.5	----	<0.5	----	----
N-Nitrosopiperidine	100-75-4	0.5	mg/kg	<0.5	----	<0.5	----	----
N-Nitrosodibutylamine	924-16-3	0.5	mg/kg	<0.5	----	<0.5	----	----
N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	1.0	mg/kg	<1.0	----	<1.0	----	----
Methapyrilene	91-80-5	0.5	mg/kg	<0.5	----	<0.5	----	----
EP075E: Nitroaromatics and Ketones								
2-Picoline	109-06-8	0.5	mg/kg	<0.5	----	<0.5	----	----
Acetophenone	98-86-2	0.5	mg/kg	<0.5	----	<0.5	----	----
Nitrobenzene	98-95-3	0.5	mg/kg	<0.5	----	<0.5	----	----
Isophorone	78-59-1	0.5	mg/kg	<0.5	----	<0.5	----	----
2.6-Dinitrotoluene	606-20-2	1.0	mg/kg	<1.0	----	<1.0	----	----
2.4-Dinitrotoluene	121-14-2	1.0	mg/kg	<1.0	----	<1.0	----	----
1-Naphthylamine	134-32-7	0.5	mg/kg	<0.5	----	<0.5	----	----
4-Nitroquinoline-N-oxide	56-57-5	0.5	mg/kg	<0.5	----	<0.5	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH04_0.2	BH04_1.0	BH04_2.0	BH04_5.0	BH04_7.5
			Sampling date / time	10-Feb-2022 00:00	10-Feb-2022 00:00	10-Feb-2022 00:00	10-Feb-2022 00:00	10-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2204644-001	ES2204644-002	ES2204644-003	ES2204644-005	ES2204644-006
				Result	Result	Result	Result	Result
EP075E: Nitroaromatics and Ketones - Continued								
5-Nitro-o-toluidine	99-55-8	0.5	mg/kg	<0.5	----	<0.5	----	----
Azobenzene	103-33-3	1	mg/kg	<1	----	<1	----	----
1.3.5-Trinitrobenzene	99-35-4	0.5	mg/kg	<0.5	----	<0.5	----	----
Phenacetin	62-44-2	0.5	mg/kg	<0.5	----	<0.5	----	----
4-Aminobiphenyl	92-67-1	0.5	mg/kg	<0.5	----	<0.5	----	----
Pentachloronitrobenzene	82-68-8	0.5	mg/kg	<0.5	----	<0.5	----	----
Pronamide	23950-58-5	0.5	mg/kg	<0.5	----	<0.5	----	----
Dimethylaminoazobenzene	60-11-7	0.5	mg/kg	<0.5	----	<0.5	----	----
Chlorobenzilate	510-15-6	0.5	mg/kg	<0.5	----	<0.5	----	----
EP075F: Haloethers								
Bis(2-chloroethyl) ether	111-44-4	0.5	mg/kg	<0.5	----	<0.5	----	----
Bis(2-chloroethoxy) methane	111-91-1	0.5	mg/kg	<0.5	----	<0.5	----	----
4-Chlorophenyl phenyl ether	7005-72-3	0.5	mg/kg	<0.5	----	<0.5	----	----
4-Bromophenyl phenyl ether	101-55-3	0.5	mg/kg	<0.5	----	<0.5	----	----
EP075G: Chlorinated Hydrocarbons								
1.3-Dichlorobenzene	541-73-1	0.5	mg/kg	<0.5	----	<0.5	----	----
1.4-Dichlorobenzene	106-46-7	0.5	mg/kg	<0.5	----	<0.5	----	----
1.2-Dichlorobenzene	95-50-1	0.5	mg/kg	<0.5	----	<0.5	----	----
Hexachloroethane	67-72-1	0.5	mg/kg	<0.5	----	<0.5	----	----
1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg	<0.5	----	<0.5	----	----
Hexachloropropylene	1888-71-7	0.5	mg/kg	<0.5	----	<0.5	----	----
Hexachlorobutadiene	87-68-3	0.5	mg/kg	<0.5	----	<0.5	----	----
Hexachlorocyclopentadiene	77-47-4	2.5	mg/kg	<2.5	----	<2.5	----	----
Pentachlorobenzene	608-93-5	0.5	mg/kg	<0.5	----	<0.5	----	----
Hexachlorobenzene (HCB)	118-74-1	1.0	mg/kg	<1.0	----	<1.0	----	----
EP075H: Anilines and Benzidines								
Aniline	62-53-3	0.5	mg/kg	<0.5	----	<0.5	----	----
4-Chloroaniline	106-47-8	0.5	mg/kg	<0.5	----	<0.5	----	----
2-Nitroaniline	88-74-4	1.0	mg/kg	<1.0	----	<1.0	----	----
3-Nitroaniline	99-09-2	1.0	mg/kg	<1.0	----	<1.0	----	----
Dibenzofuran	132-64-9	0.5	mg/kg	<0.5	----	<0.5	----	----
4-Nitroaniline	100-01-6	0.5	mg/kg	<0.5	----	<0.5	----	----
Carbazole	86-74-8	0.5	mg/kg	<0.5	----	<0.5	----	----
3.3`-Dichlorobenzidine	91-94-1	0.5	mg/kg	<0.5	----	<0.5	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH04_0.2	BH04_1.0	BH04_2.0	BH04_5.0	BH04_7.5
			Sampling date / time	10-Feb-2022 00:00	10-Feb-2022 00:00	10-Feb-2022 00:00	10-Feb-2022 00:00	10-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2204644-001	ES2204644-002	ES2204644-003	ES2204644-005	ES2204644-006
				Result	Result	Result	Result	Result
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	----	----
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	----	----
C15 - C28 Fraction	----	100	mg/kg	<100	<100	<100	----	----
C29 - C36 Fraction	----	100	mg/kg	<100	<100	<100	----	----
^ C10 - C36 Fraction (sum)	----	50	mg/kg	<50	<50	<50	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	<10	----	----
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	<10	<10	<10	----	----
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	<50	----	----
>C16 - C34 Fraction	----	100	mg/kg	<100	<100	<100	----	----
>C34 - C40 Fraction	----	100	mg/kg	<100	<100	<100	----	----
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	<50	<50	----	----
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	<50	<50	<50	----	----
EP080: BTEXN								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	----	----
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	----	----
^ Total Xylenes	----	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	----	----
EP231A: Perfluoroalkyl Sulfonic Acids								
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	----	<0.0002	----	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	----	<0.0002	----	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	----	<0.0002	----	----	----
EP231B: Perfluoroalkyl Carboxylic Acids								
Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	----	<0.001	----	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	----	<0.0002	----	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	----	<0.0002	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH04_0.2	BH04_1.0	BH04_2.0	BH04_5.0	BH04_7.5
			Sampling date / time	10-Feb-2022 00:00	10-Feb-2022 00:00	10-Feb-2022 00:00	10-Feb-2022 00:00	10-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2204644-001	ES2204644-002	ES2204644-003	ES2204644-005	ES2204644-006
				Result	Result	Result	Result	Result
EP231B: Perfluoroalkyl Carboxylic Acids - Continued								
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	----	<0.0002	----	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	----	<0.0002	----	----	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids								
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	----	<0.0005	----	----	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	----	<0.0005	----	----	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	----	<0.0005	----	----	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	----	<0.0005	----	----	----
EP231P: PFAS Sums								
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg	----	<0.0002	----	----	----
Sum of PFAS (WA DER List)	----	0.0002	mg/kg	----	<0.0002	----	----	----
EP066S: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	93.1	120	89.7	----	----
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.05	%	76.7	92.4	75.0	----	----
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.05	%	67.5	79.2	65.2	----	----
EP074S: VOC Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.5	%	83.9	----	79.9	----	----
Toluene-D8	2037-26-5	0.5	%	88.0	----	81.5	----	----
4-Bromofluorobenzene	460-00-4	0.5	%	90.2	----	80.5	----	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	89.4	88.4	83.6	----	----
2-Chlorophenol-D4	93951-73-6	0.5	%	91.2	91.4	84.1	----	----
2.4.6-Tribromophenol	118-79-6	0.5	%	69.7	67.4	62.6	----	----
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.5	%	94.0	94.1	86.5	----	----
Anthracene-d10	1719-06-8	0.5	%	95.2	95.3	88.5	----	----
4-Terphenyl-d14	1718-51-0	0.5	%	91.8	93.8	85.3	----	----
EP075S: Acid Extractable Surrogates								

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH04_0.2	BH04_1.0	BH04_2.0	BH04_5.0	BH04_7.5
			Sampling date / time	10-Feb-2022 00:00	10-Feb-2022 00:00	10-Feb-2022 00:00	10-Feb-2022 00:00	10-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2204644-001	ES2204644-002	ES2204644-003	ES2204644-005	ES2204644-006
				Result	Result	Result	Result	Result
EP075S: Acid Extractable Surrogates - Continued								
2-Fluorophenol	367-12-4	0.5	%	107	----	97.6	----	----
Phenol-d6	13127-88-3	0.5	%	101	----	99.7	----	----
2-Chlorophenol-D4	93951-73-6	0.5	%	98.9	----	90.5	----	----
2.4.6-Tribromophenol	118-79-6	0.5	%	76.5	----	67.7	----	----
EP075T: Base/Neutral Extractable Surrogates								
Nitrobenzene-D5	4165-60-0	0.5	%	104	----	82.8	----	----
1.2-Dichlorobenzene-D4	2199-69-1	0.5	%	86.9	----	77.1	----	----
2-Fluorobiphenyl	321-60-8	0.5	%	83.3	----	74.6	----	----
Anthracene-d10	1719-06-8	0.5	%	113	----	104	----	----
4-Terphenyl-d14	1718-51-0	0.5	%	92.1	----	84.5	----	----
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.2	%	78.9	96.5	75.4	----	----
Toluene-D8	2037-26-5	0.2	%	86.3	91.8	80.1	----	----
4-Bromofluorobenzene	460-00-4	0.2	%	89.0	95.1	79.9	----	----
EP231S: PFAS Surrogate								
13C4-PFOS	----	0.0002	%	----	94.5	----	----	----
13C8-PFOA	----	0.0002	%	----	102	----	----	----

Analytical Results

Descriptive Results

Sub-Matrix: **SOIL**

Method: Compound	Sample ID - Sampling date / time	Analytical Results
EA200: AS 4964 - 2004 Identification of Asbestos in Soils		
EA200: Description	BH04_0.2 - 10-Feb-2022 00:00	Soil sample.
EA200: Description	BH04_1.0 - 10-Feb-2022 00:00	Soil sample.

Surrogate Control Limits

Sub-Matrix: SOIL		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP066S: PCB Surrogate			
Decachlorobiphenyl	2051-24-3	39	149
EP068S: Organochlorine Pesticide Surrogate			
Dibromo-DDE	21655-73-2	49	147
EP068T: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	35	143
EP074S: VOC Surrogates			
1.2-Dichloroethane-D4	17060-07-0	64	130
Toluene-D8	2037-26-5	66	136
4-Bromofluorobenzene	460-00-4	60	122
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	63	123
2-Chlorophenol-D4	93951-73-6	66	122
2.4.6-Tribromophenol	118-79-6	40	138
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	70	122
Anthracene-d10	1719-06-8	66	128
4-Terphenyl-d14	1718-51-0	65	129
EP075S: Acid Extractable Surrogates			
2-Fluorophenol	367-12-4	29	149
Phenol-d6	13127-88-3	32	128
2-Chlorophenol-D4	93951-73-6	32	128
2.4.6-Tribromophenol	118-79-6	13	121
EP075T: Base/Neutral Extractable Surrogates			
Nitrobenzene-D5	4165-60-0	33	125
1.2-Dichlorobenzene-D4	2199-69-1	34	108
2-Fluorobiphenyl	321-60-8	35	121
Anthracene-d10	1719-06-8	35	123
4-Terphenyl-d14	1718-51-0	33	125
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	73	133
Toluene-D8	2037-26-5	74	132
4-Bromofluorobenzene	460-00-4	72	130
EP231S: PFAS Surrogate			
13C4-PFOS	----	60	120
13C8-PFOA	----	60	120

Inter-Laboratory Testing

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

(SOIL) EA003 :pH (field/fox)

(SOIL) EA029-D: Calcium Values

(SOIL) EA029-E: Magnesium Values

(SOIL) EA029-F: Excess Acid Neutralising Capacity

(SOIL) EA029-H: Acid Base Accounting

(SOIL) EA029-G: Retained Acidity

(SOIL) EA029-A: pH Measurements

(SOIL) EA029-C: Sulfur Trail

(SOIL) EA029-B: Acidity Trail

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

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

ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **ES2204645**	Page	: 1 of 16
Client	: **EP RISK MANAGEMENT**	Laboratory	: Environmental Division Sydney
Contact	: HARRISON BLAKE	Contact	: Tyler Anderson
Address	: Level 4 73 Walker St North Sydney 2060	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: +61 2 8784 8555
Project	: EP2515	Date Samples Received	: 10-Feb-2022 16:50
Order number	: ----	Date Analysis Commenced	: 14-Feb-2022
C-O-C number	: ----	Issue Date	: 22-Feb-2022 17:29
Sampler	: HARRISON BLAKE		
Site	: ----		
Quote number	: SY/497/20 Primary analysis only		
No. of samples received	: 6		
No. of samples analysed	: 4		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Descriptive Results
- Surrogate Control Limits

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

Signatories

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

Signatories	*Position*	*Accreditation Category*
Alana Smylie	Team Leader - Asbestos	Newcastle - Asbestos, Mayfield West, NSW
Ben Felgendrejeris	Senior Acid Sulfate Soil Chemist	Brisbane Acid Sulphate Soils, Stafford, QLD
Edwandy Fadjar	Organic Coordinator	Sydney Inorganics, Smithfield, NSW
Edwandy Fadjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Franco Lentini	LCMS Coordinator	Sydney Organics, Smithfield, NSW
Ivan Taylor	Analyst	Sydney Inorganics, Smithfield, NSW

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero, for 'TEQ 1/2LOR' are treated as half the reported LOR, and for 'TEQ LOR' are treated as being equal to the reported LOR. Note: TEQ 1/2LOR and TEQ LOR will calculate as 0.6mg/Kg and 1.2mg/Kg respectively for samples with non-detects for all of the eight TEQ PAHs.
- EP080: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EP068: Where reported, Total Chlordane (sum) is the sum of the reported concentrations of cis-Chlordane and trans-Chlordane at or above the LOR.
- EP068: Where reported, Total OCP is the sum of the reported concentrations of all Organochlorine Pesticides at or above LOR.
- EP074: Where reported, Total Trihalomethanes is the sum of the reported concentrations of all Trihalomethanes at or above the LOR.
- EP074: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EP074: Where reported, Sum of chlorinated hydrocarbons includes carbon tetrachloride, chlorobenzene, chloroform, 1,2-dichlorobenzene, 1,4-dichlorobenzene, 1,2-dichloroethane, 1,1-dichloroethene, cis-1,2-dichlorothene, trans-1,2-dichlorothene, 1,1,1,2-tetrachloroethane, 1,1,2,2-tetrachloroethane, 1,2,4-trichlorobenzene, 1,1,1-trichloroethane, 1,1,2-trichloroethane, trichloroethene, vinyl chloride, hexachlorobutadiene and methylene chloride.
- EP074: Where reported, Total Trimethylbenzenes is the sum of the reported concentrations of 1.2.3-Trimethylbenzene, 1.2.4-Trimethylbenzene and 1.3.5-Trimethylbenzene at or above the LOR.
- EP075(SIM): Where reported, Total Cresol is the sum of the reported concentrations of 2-Methylphenol and 3- & 4-Methylphenol at or above the LOR.
- ASS: EA029 (SPOCAS): Retained Acidity not required because pH KCl greater than or equal to 4.5
- ASS: EA029 (SPOCAS): Excess ANC not required because pH OX less than 6.5.
- EP075: Where reported, 'Sum of PAH' is the sum of the USEPA 16 priority PAHs
- ASS: EA029 (SPOCAS): Liming rate is calculated and reported on a dry weight basis assuming use of fine agricultural lime ($CaCO_3$) and using a safety factor of 1.5 to allow for non-homogeneous mixing and poor reactivity of lime. For conversion of Liming Rate from kg/t dry weight to kg/m3 in-situ soil, multiply reported results x wet bulk density of soil in t/m3.
- ASS: EA003 (NATA Field and F(ox) screening): pH F(ox) Reaction Rate: 1 - Slight; 2 - Moderate; 3 - Strong; 4 - Extreme
- EA200 'Am' Amosite (brown asbestos)
- EA200 'Cr' Crocidolite (blue asbestos)
- EA200 'Trace' - Asbestos fibres ("Free Fibres") detected by trace analysis per AS4964. The result can be interpreted that the sample contains detectable 'respirable' asbestos fibres
- EA200: Asbestos Identification Samples were analysed by Polarised Light Microscopy including dispersion staining.
- EA200 Legend
- EA200 'Ch' Chrysotile (white asbestos)

- EA200: 'UMF' Unknown Mineral Fibres. "-" indicates fibres detected may or may not be asbestos fibres. Confirmation by alternative techniques is recommended.
- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero, for 'TEQ 1/2LOR' are treated as half the reported LOR, and for 'TEQ LOR' are treated as being equal to the reported LOR. Note: TEQ 1/2LOR and TEQ LOR will calculate as 0.6mg/Kg and 1.2mg/Kg respectively for samples with non-detects for all of the eight TEQ PAHs.
- EA200: For samples larger than 30g, the <2mm fraction may be sub-sampled prior to trace analysis as outlined in ISO23909:2008(E) Sect 6.3.2-2
- EA200: 'Yes' - Asbestos detected by polarised light microscopy including dispersion staining.
- EA200: 'No*' - No asbestos found, at the reporting limit of 0.1g/kg, by polarised light microscopy including dispersion staining. Asbestos material was detected and positively identified at concentrations estimated to be below 0.1g/kg.
- EA200: 'No' - No asbestos found at the reporting limit 0.1g/kg, by polarised light microscopy including dispersion staining.
- EP231: Stable isotope enriched internal standards are added to samples prior to extraction. Target compounds have a direct analogous internal standard with the exception of PFPeS, PFHpA, PFDS, PFTrDA and 10:2 FTS. These compounds use an internal standard that is chemically related and has a retention time close to that of the target compound. The DQO for internal standard response is 50-150% of that established at initial calibration. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS (Australian HEPA) and also conform to QSM 5.3 (US DoD) requirements.

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH05_0.2	BH05_1.5	BH05_2.0	BH05_4.0	----
			Sampling date / time	10-Feb-2022 00:00	10-Feb-2022 00:00	10-Feb-2022 00:00	10-Feb-2022 00:00	----
Compound	CAS Number	LOR	Unit	ES2204645-001	ES2204645-002	ES2204645-003	ES2204645-004	--------
				Result	Result	Result	Result	----
EA003 :pH (field/fox)								
pH (F)	----	0.1	pH Unit	----	----	7.3	7.3	----
pH (Fox)	----	0.1	pH Unit	----	----	3.4	3.2	----
Reaction Rate	----	1	Reaction Unit	----	----	3	3	----
EA029-A: pH Measurements								
pH KCl (23A)	----	0.1	pH Unit	----	----	----	6.4	----
pH OX (23B)	----	0.1	pH Unit	----	----	----	4.9	----
EA029-B: Acidity Trail								
Titratable Actual Acidity (23F)	----	2	mole H+ / t	----	----	----	<2	----
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	----	----	----	<2	----
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	----	----	----	<2	----
sulfidic - Titratable Actual Acidity (s-23F)	----	0.020	% pyrite S	----	----	----	<0.020	----
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.020	% pyrite S	----	----	----	<0.020	----
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.020	% pyrite S	----	----	----	<0.020	----
EA029-C: Sulfur Trail								
KCl Extractable Sulfur (23Ce)	----	0.020	% S	----	----	----	<0.020	----
Peroxide Sulfur (23De)	----	0.020	% S	----	----	----	<0.020	----
Peroxide Oxidisable Sulfur (23E)	----	0.020	% S	----	----	----	<0.020	----
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	----	----	----	<10	----
EA029-D: Calcium Values								
KCl Extractable Calcium (23Vh)	----	0.020	% Ca	----	----	----	0.032	----
Peroxide Calcium (23Wh)	----	0.020	% Ca	----	----	----	0.033	----
Acid Reacted Calcium (23X)	----	0.020	% Ca	----	----	----	<0.020	----
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	----	----	----	<10	----
sulfidic - Acid Reacted Calcium (s-23X)	----	0.020	% S	----	----	----	<0.020	----
EA029-E: Magnesium Values								
KCl Extractable Magnesium (23Sm)	----	0.020	% Mg	----	----	----	<0.020	----
Peroxide Magnesium (23Tm)	----	0.020	% Mg	----	----	----	<0.020	----
Acid Reacted Magnesium (23U)	----	0.020	% Mg	----	----	----	<0.020	----
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	----	----	----	<10	----
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.020	% S	----	----	----	<0.020	----
EA029-H: Acid Base Accounting								

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH05_0.2	BH05_1.5	BH05_2.0	BH05_4.0	----
			Sampling date / time	10-Feb-2022 00:00	10-Feb-2022 00:00	10-Feb-2022 00:00	10-Feb-2022 00:00	----
Compound	CAS Number	LOR	Unit	ES2204645-001	ES2204645-002	ES2204645-003	ES2204645-004	--------
				Result	Result	Result	Result	----
EA029-H: Acid Base Accounting - Continued								
ANC Fineness Factor	----	0.5	-	----	----	----	1.5	----
Net Acidity (sulfur units)	----	0.02	% S	----	----	----	<0.02	----
Net Acidity (acidity units)	----	10	mole H+ / t	----	----	----	<10	----
Liming Rate	----	1	kg CaCO3/t	----	----	----	<1	----
Net Acidity excluding ANC (sulfur units)	----	0.02	% S	----	----	----	<0.02	----
Net Acidity excluding ANC (acidity units)	----	10	mole H+ / t	----	----	----	<10	----
Liming Rate excluding ANC	----	1	kg CaCO3/t	----	----	----	<1	----
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	9.8	23.2	17.7	----	----
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	No	No	----	----	----
Asbestos (Trace)	1332-21-4	5	Fibres	No	No	----	----	----
Asbestos Type	1332-21-4	-	--	-	-	----	----	----
Sample weight (dry)	----	0.01	g	72.6	46.9	----	----	----
APPROVED IDENTIFIER:	----	-	--	A. SMYLIE	A. SMYLIE	----	----	----
Synthetic Mineral Fibre	----	0.1	g/kg	No	No	----	----	----
Organic Fibre	----	0.1	g/kg	No	No	----	----	----
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	18	<5	<5	----	----
Cadmium	7440-43-9	1	mg/kg	1	<1	<1	----	----
Chromium	7440-47-3	2	mg/kg	36	3	<2	----	----
Copper	7440-50-8	5	mg/kg	120	12	<5	----	----
Lead	7439-92-1	5	mg/kg	85	26	<5	----	----
Nickel	7440-02-0	2	mg/kg	27	2	<2	----	----
Zinc	7440-66-6	5	mg/kg	103	31	<5	----	----
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	0.2	<0.1	<0.1	----	----
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	<0.1	----	----
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	<0.05	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH05_0.2	BH05_1.5	BH05_2.0	BH05_4.0	----
			Sampling date / time	10-Feb-2022 00:00	10-Feb-2022 00:00	10-Feb-2022 00:00	10-Feb-2022 00:00	----
Compound	CAS Number	LOR	Unit	ES2204645-001	ES2204645-002	ES2204645-003	ES2204645-004	--------
				Result	Result	Result	Result	----
EP068A: Organochlorine Pesticides (OC) - Continued								
delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
^ Total Chlordane (sum)	----	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
^ Endosulfan (sum)	115-29-7	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	<0.2	----	----
Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	<0.2	----	----
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
EP068B: Organophosphorus Pesticides (OP)								
Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	<0.2	----	----
Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	<0.2	----	----
Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	<0.2	----	----
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	<0.05	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH05_0.2	BH05_1.5	BH05_2.0	BH05_4.0	----
			Sampling date / time	10-Feb-2022 00:00	10-Feb-2022 00:00	10-Feb-2022 00:00	10-Feb-2022 00:00	----
Compound	CAS Number	LOR	Unit	ES2204645-001	ES2204645-002	ES2204645-003	ES2204645-004	--------
				Result	Result	Result	Result	----
EP068B: Organophosphorus Pesticides (OP) - Continued								
Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
EP074A: Monocyclic Aromatic Hydrocarbons								
Styrene	100-42-5	0.5	mg/kg	<0.5	----	----	----	----
Isopropylbenzene	98-82-8	0.5	mg/kg	<0.5	----	----	----	----
n-Propylbenzene	103-65-1	0.5	mg/kg	<0.5	----	----	----	----
1.3.5-Trimethylbenzene	108-67-8	0.5	mg/kg	<0.5	----	----	----	----
sec-Butylbenzene	135-98-8	0.5	mg/kg	<0.5	----	----	----	----
1.2.4-Trimethylbenzene	95-63-6	0.5	mg/kg	<0.5	----	----	----	----
tert-Butylbenzene	98-06-6	0.5	mg/kg	<0.5	----	----	----	----
p-Isopropyltoluene	99-87-6	0.5	mg/kg	<0.5	----	----	----	----
n-Butylbenzene	104-51-8	0.5	mg/kg	<0.5	----	----	----	----
EP074B: Oxygenated Compounds								
Vinyl Acetate	108-05-4	5	mg/kg	<5	----	----	----	----
2-Butanone (MEK)	78-93-3	5	mg/kg	<5	----	----	----	----
4-Methyl-2-pentanone (MIBK)	108-10-1	5	mg/kg	<5	----	----	----	----
2-Hexanone (MBK)	591-78-6	5	mg/kg	<5	----	----	----	----
EP074C: Sulfonated Compounds								
Carbon disulfide	75-15-0	0.5	mg/kg	<0.5	----	----	----	----
EP074D: Fumigants								
2.2-Dichloropropane	594-20-7	0.5	mg/kg	<0.5	----	----	----	----
1.2-Dichloropropane	78-87-5	0.5	mg/kg	<0.5	----	----	----	----
cis-1.3-Dichloropropylene	10061-01-5	0.5	mg/kg	<0.5	----	----	----	----
trans-1.3-Dichloropropylene	10061-02-6	0.5	mg/kg	<0.5	----	----	----	----
1.2-Dibromoethane (EDB)	106-93-4	0.5	mg/kg	<0.5	----	----	----	----
EP074E: Halogenated Aliphatic Compounds								
Dichlorodifluoromethane	75-71-8	5	mg/kg	<5	----	----	----	----
Chloromethane	74-87-3	5	mg/kg	<5	----	----	----	----
Vinyl chloride	75-01-4	5	mg/kg	<5	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH05_0.2	BH05_1.5	BH05_2.0	BH05_4.0	----
			Sampling date / time	10-Feb-2022 00:00	10-Feb-2022 00:00	10-Feb-2022 00:00	10-Feb-2022 00:00	----
Compound	CAS Number	LOR	Unit	ES2204645-001	ES2204645-002	ES2204645-003	ES2204645-004	--------
				Result	Result	Result	Result	----
EP074E: Halogenated Aliphatic Compounds - Continued								
Bromomethane	74-83-9	5	mg/kg	<5	----	----	----	----
Chloroethane	75-00-3	5	mg/kg	<5	----	----	----	----
Trichlorofluoromethane	75-69-4	5	mg/kg	<5	----	----	----	----
1.1-Dichloroethene	75-35-4	0.5	mg/kg	<0.5	----	----	----	----
Iodomethane	74-88-4	0.5	mg/kg	<0.5	----	----	----	----
trans-1.2-Dichloroethene	156-60-5	0.5	mg/kg	<0.5	----	----	----	----
1.1-Dichloroethane	75-34-3	0.5	mg/kg	<0.5	----	----	----	----
cis-1.2-Dichloroethene	156-59-2	0.5	mg/kg	<0.5	----	----	----	----
1.1.1-Trichloroethane	71-55-6	0.5	mg/kg	<0.5	----	----	----	----
1.1-Dichloropropylene	563-58-6	0.5	mg/kg	<0.5	----	----	----	----
Carbon Tetrachloride	56-23-5	0.5	mg/kg	<0.5	----	----	----	----
1.2-Dichloroethane	107-06-2	0.5	mg/kg	<0.5	----	----	----	----
Trichloroethene	79-01-6	0.5	mg/kg	<0.5	----	----	----	----
Dibromomethane	74-95-3	0.5	mg/kg	<0.5	----	----	----	----
1.1.2-Trichloroethane	79-00-5	0.5	mg/kg	<0.5	----	----	----	----
1.3-Dichloropropane	142-28-9	0.5	mg/kg	<0.5	----	----	----	----
Tetrachloroethene	127-18-4	0.5	mg/kg	<0.5	----	----	----	----
1.1.1.2-Tetrachloroethane	630-20-6	0.5	mg/kg	<0.5	----	----	----	----
trans-1.4-Dichloro-2-butene	110-57-6	0.5	mg/kg	<0.5	----	----	----	----
cis-1.4-Dichloro-2-butene	1476-11-5	0.5	mg/kg	<0.5	----	----	----	----
1.1.2.2-Tetrachloroethane	79-34-5	0.5	mg/kg	<0.5	----	----	----	----
1.2.3-Trichloropropane	96-18-4	0.5	mg/kg	<0.5	----	----	----	----
Pentachloroethane	76-01-7	0.5	mg/kg	<0.5	----	----	----	----
1.2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg	<0.5	----	----	----	----
EP074F: Halogenated Aromatic Compounds								
Chlorobenzene	108-90-7	0.5	mg/kg	<0.5	----	----	----	----
Bromobenzene	108-86-1	0.5	mg/kg	<0.5	----	----	----	----
2-Chlorotoluene	95-49-8	0.5	mg/kg	<0.5	----	----	----	----
4-Chlorotoluene	106-43-4	0.5	mg/kg	<0.5	----	----	----	----
1.2.3-Trichlorobenzene	87-61-6	0.5	mg/kg	<0.5	----	----	----	----
EP074G: Trihalomethanes								
Chloroform	67-66-3	0.5	mg/kg	<0.5	----	----	----	----
Bromodichloromethane	75-27-4	0.5	mg/kg	<0.5	----	----	----	----
Dibromochloromethane	124-48-1	0.5	mg/kg	<0.5	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH05_0.2	BH05_1.5	BH05_2.0	BH05_4.0	----
			Sampling date / time	10-Feb-2022 00:00	10-Feb-2022 00:00	10-Feb-2022 00:00	10-Feb-2022 00:00	----
Compound	CAS Number	LOR	Unit	ES2204645-001	ES2204645-002	ES2204645-003	ES2204645-004	--------
				Result	Result	Result	Result	----
EP074G: Trihalomethanes - Continued								
Bromoform	75-25-2	0.5	mg/kg	<0.5	----	----	----	----
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	<1	----	----
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	<2	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	**0.6**	**0.6**	**0.6**	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH05_0.2	BH05_1.5	BH05_2.0	BH05_4.0	----
			Sampling date / time	10-Feb-2022 00:00	10-Feb-2022 00:00	10-Feb-2022 00:00	10-Feb-2022 00:00	----
Compound	CAS Number	LOR	Unit	ES2204645-001	ES2204645-002	ES2204645-003	ES2204645-004	--------
				Result	Result	Result	Result	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	1.2	1.2	1.2	----	----
EP075B: Polynuclear Aromatic Hydrocarbons								
2-Methylnaphthalene	91-57-6	0.5	mg/kg	<0.5	----	----	----	----
2-Chloronaphthalene	91-58-7	0.5	mg/kg	<0.5	----	----	----	----
N-2-Fluorenyl Acetamide	53-96-3	0.5	mg/kg	<0.5	----	----	----	----
7.12-Dimethylbenz(a)anthracene	57-97-6	0.5	mg/kg	<0.5	----	----	----	----
3-Methylcholanthrene	56-49-5	0.5	mg/kg	<0.5	----	----	----	----
EP075C: Phthalate Esters								
Dimethyl phthalate	131-11-3	0.5	mg/kg	<0.5	----	----	----	----
Diethyl phthalate	84-66-2	0.5	mg/kg	<0.5	----	----	----	----
Di-n-butyl phthalate	84-74-2	0.5	mg/kg	<0.5	----	----	----	----
Butyl benzyl phthalate	85-68-7	0.5	mg/kg	<0.5	----	----	----	----
bis(2-ethylhexyl) phthalate	117-81-7	5.0	mg/kg	<5.0	----	----	----	----
Di-n-octylphthalate	117-84-0	0.5	mg/kg	<0.5	----	----	----	----
EP075D: Nitrosamines								
N-Nitrosomethylethylamine	10595-95-6	0.5	mg/kg	<0.5	----	----	----	----
N-Nitrosodiethylamine	55-18-5	0.5	mg/kg	<0.5	----	----	----	----
N-Nitrosopyrrolidine	930-55-2	1.0	mg/kg	<1.0	----	----	----	----
N-Nitrosomorpholine	59-89-2	0.5	mg/kg	<0.5	----	----	----	----
N-Nitrosodi-n-propylamine	621-64-7	0.5	mg/kg	<0.5	----	----	----	----
N-Nitrosopiperidine	100-75-4	0.5	mg/kg	<0.5	----	----	----	----
N-Nitrosodibutylamine	924-16-3	0.5	mg/kg	<0.5	----	----	----	----
N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	1.0	mg/kg	<1.0	----	----	----	----
Methapyrilene	91-80-5	0.5	mg/kg	<0.5	----	----	----	----
EP075E: Nitroaromatics and Ketones								
2-Picoline	109-06-8	0.5	mg/kg	<0.5	----	----	----	----
Acetophenone	98-86-2	0.5	mg/kg	<0.5	----	----	----	----
Nitrobenzene	98-95-3	0.5	mg/kg	<0.5	----	----	----	----
Isophorone	78-59-1	0.5	mg/kg	<0.5	----	----	----	----
2.6-Dinitrotoluene	606-20-2	1.0	mg/kg	<1.0	----	----	----	----
2.4-Dinitrotoluene	121-14-2	1.0	mg/kg	<1.0	----	----	----	----
1-Naphthylamine	134-32-7	0.5	mg/kg	<0.5	----	----	----	----
4-Nitroquinoline-N-oxide	56-57-5	0.5	mg/kg	<0.5	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH05_0.2	BH05_1.5	BH05_2.0	BH05_4.0	----
			Sampling date / time	10-Feb-2022 00:00	10-Feb-2022 00:00	10-Feb-2022 00:00	10-Feb-2022 00:00	----
Compound	CAS Number	LOR	Unit	ES2204645-001	ES2204645-002	ES2204645-003	ES2204645-004	--------
				Result	Result	Result	Result	----
EP075E: Nitroaromatics and Ketones - Continued								
5-Nitro-o-toluidine	99-55-8	0.5	mg/kg	<0.5	----	----	----	----
Azobenzene	103-33-3	1	mg/kg	<1	----	----	----	----
1.3.5-Trinitrobenzene	99-35-4	0.5	mg/kg	<0.5	----	----	----	----
Phenacetin	62-44-2	0.5	mg/kg	<0.5	----	----	----	----
4-Aminobiphenyl	92-67-1	0.5	mg/kg	<0.5	----	----	----	----
Pentachloronitrobenzene	82-68-8	0.5	mg/kg	<0.5	----	----	----	----
Pronamide	23950-58-5	0.5	mg/kg	<0.5	----	----	----	----
Dimethylaminoazobenzene	60-11-7	0.5	mg/kg	<0.5	----	----	----	----
Chlorobenzilate	510-15-6	0.5	mg/kg	<0.5	----	----	----	----
EP075F: Haloethers								
Bis(2-chloroethyl) ether	111-44-4	0.5	mg/kg	<0.5	----	----	----	----
Bis(2-chloroethoxy) methane	111-91-1	0.5	mg/kg	<0.5	----	----	----	----
4-Chlorophenyl phenyl ether	7005-72-3	0.5	mg/kg	<0.5	----	----	----	----
4-Bromophenyl phenyl ether	101-55-3	0.5	mg/kg	<0.5	----	----	----	----
EP075G: Chlorinated Hydrocarbons								
1.3-Dichlorobenzene	541-73-1	0.5	mg/kg	<0.5	----	----	----	----
1.4-Dichlorobenzene	106-46-7	0.5	mg/kg	<0.5	----	----	----	----
1.2-Dichlorobenzene	95-50-1	0.5	mg/kg	<0.5	----	----	----	----
Hexachloroethane	67-72-1	0.5	mg/kg	<0.5	----	----	----	----
1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg	<0.5	----	----	----	----
Hexachloropropylene	1888-71-7	0.5	mg/kg	<0.5	----	----	----	----
Hexachlorobutadiene	87-68-3	0.5	mg/kg	<0.5	----	----	----	----
Hexachlorocyclopentadiene	77-47-4	2.5	mg/kg	<2.5	----	----	----	----
Pentachlorobenzene	608-93-5	0.5	mg/kg	<0.5	----	----	----	----
Hexachlorobenzene (HCB)	118-74-1	1.0	mg/kg	<1.0	----	----	----	----
EP075H: Anilines and Benzidines								
Aniline	62-53-3	0.5	mg/kg	<0.5	----	----	----	----
4-Chloroaniline	106-47-8	0.5	mg/kg	<0.5	----	----	----	----
2-Nitroaniline	88-74-4	1.0	mg/kg	<1.0	----	----	----	----
3-Nitroaniline	99-09-2	1.0	mg/kg	<1.0	----	----	----	----
Dibenzofuran	132-64-9	0.5	mg/kg	<0.5	----	----	----	----
4-Nitroaniline	100-01-6	0.5	mg/kg	<0.5	----	----	----	----
Carbazole	86-74-8	0.5	mg/kg	<0.5	----	----	----	----
3.3`-Dichlorobenzidine	91-94-1	0.5	mg/kg	<0.5	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH05_0.2	BH05_1.5	BH05_2.0	BH05_4.0	----
			Sampling date / time	10-Feb-2022 00:00	10-Feb-2022 00:00	10-Feb-2022 00:00	10-Feb-2022 00:00	----
Compound	CAS Number	LOR	Unit	ES2204645-001	ES2204645-002	ES2204645-003	ES2204645-004	--------
				Result	Result	Result	Result	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	----	----
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	----	----
C15 - C28 Fraction	----	100	mg/kg	<100	<100	<100	----	----
C29 - C36 Fraction	----	100	mg/kg	<100	<100	<100	----	----
^ C10 - C36 Fraction (sum)	----	50	mg/kg	<50	<50	<50	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	<10	----	----
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	<10	<10	<10	----	----
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	<50	----	----
>C16 - C34 Fraction	----	100	mg/kg	<100	<100	<100	----	----
>C34 - C40 Fraction	----	100	mg/kg	<100	<100	<100	----	----
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	<50	<50	----	----
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	<50	<50	<50	----	----
EP080: BTEXN								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	----	----
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	----	----
^ Total Xylenes	----	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	----	----
EP231A: Perfluoroalkyl Sulfonic Acids								
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	----	----	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	----	----	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	<0.0002	----	----	----	----
EP231B: Perfluoroalkyl Carboxylic Acids								
Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	----	----	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	----	----	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH05_0.2	BH05_1.5	BH05_2.0	BH05_4.0	----
			Sampling date / time	10-Feb-2022 00:00	10-Feb-2022 00:00	10-Feb-2022 00:00	10-Feb-2022 00:00	----
Compound	CAS Number	LOR	Unit	ES2204645-001	ES2204645-002	ES2204645-003	ES2204645-004	--------
				Result	Result	Result	Result	----
EP231B: Perfluoroalkyl Carboxylic Acids - Continued								
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	----	----	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	----	----	----	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids								
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	----	----	----	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	----	----	----	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	----	----	----	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	----	----	----	----
EP231P: PFAS Sums								
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg	<0.0002	----	----	----	----
Sum of PFAS (WA DER List)	----	0.0002	mg/kg	<0.0002	----	----	----	----
EP066S: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	**97.9**	**105**	**113**	----	----
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.05	%	**72.1**	**80.7**	**80.6**	----	----
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.05	%	**69.0**	**76.6**	**72.6**	----	----
EP074S: VOC Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.5	%	**84.7**	----	----	----	----
Toluene-D8	2037-26-5	0.5	%	**89.2**	----	----	----	----
4-Bromofluorobenzene	460-00-4	0.5	%	**86.8**	----	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	**74.4**	**92.8**	**85.3**	----	----
2-Chlorophenol-D4	93951-73-6	0.5	%	**75.8**	**93.3**	**86.6**	----	----
2.4.6-Tribromophenol	118-79-6	0.5	%	**52.7**	**74.7**	**65.3**	----	----
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.5	%	**80.4**	**96.4**	**88.1**	----	----
Anthracene-d10	1719-06-8	0.5	%	**72.0**	**96.5**	**89.4**	----	----
4-Terphenyl-d14	1718-51-0	0.5	%	**71.6**	**93.9**	**86.5**	----	----
EP075S: Acid Extractable Surrogates								

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH05_0.2	BH05_1.5	BH05_2.0	BH05_4.0	----
			Sampling date / time	10-Feb-2022 00:00	10-Feb-2022 00:00	10-Feb-2022 00:00	10-Feb-2022 00:00	----
Compound	CAS Number	LOR	Unit	ES2204645-001	ES2204645-002	ES2204645-003	ES2204645-004	--------
				Result	Result	Result	Result	----
EP075S: Acid Extractable Surrogates - Continued								
2-Fluorophenol	367-12-4	0.5	%	67.1	----	----	----	----
Phenol-d6	13127-88-3	0.5	%	75.0	----	----	----	----
2-Chlorophenol-D4	93951-73-6	0.5	%	62.1	----	----	----	----
2.4.6-Tribromophenol	118-79-6	0.5	%	24.2	----	----	----	----
EP075T: Base/Neutral Extractable Surrogates								
Nitrobenzene-D5	4165-60-0	0.5	%	72.2	----	----	----	----
1.2-Dichlorobenzene-D4	2199-69-1	0.5	%	68.7	----	----	----	----
2-Fluorobiphenyl	321-60-8	0.5	%	96.4	----	----	----	----
Anthracene-d10	1719-06-8	0.5	%	86.6	----	----	----	----
4-Terphenyl-d14	1718-51-0	0.5	%	73.5	----	----	----	----
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.2	%	79.6	80.7	93.1	----	----
Toluene-D8	2037-26-5	0.2	%	87.2	78.1	93.9	----	----
4-Bromofluorobenzene	460-00-4	0.2	%	84.7	79.8	93.9	----	----
EP231S: PFAS Surrogate								
13C4-PFOS	----	0.0002	%	95.0	----	----	----	----
13C8-PFOA	----	0.0002	%	103	----	----	----	----

Analytical Results

Descriptive Results

Sub-Matrix: SOIL

Method: Compound	Sample ID - Sampling date / time	Analytical Results
EA200: AS 4964 - 2004 Identification of Asbestos in Soils		
EA200: Description	BH05_0.2 - 10-Feb-2022 00:00	Soil sample.
EA200: Description	BH05_1.5 - 10-Feb-2022 00:00	Soil sample.

Surrogate Control Limits

Sub-Matrix: SOIL		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP066S: PCB Surrogate			
Decachlorobiphenyl	2051-24-3	39	149
EP068S: Organochlorine Pesticide Surrogate			
Dibromo-DDE	21655-73-2	49	147
EP068T: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	35	143
EP074S: VOC Surrogates			
1.2-Dichloroethane-D4	17060-07-0	64	130
Toluene-D8	2037-26-5	66	136
4-Bromofluorobenzene	460-00-4	60	122
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	63	123
2-Chlorophenol-D4	93951-73-6	66	122
2.4.6-Tribromophenol	118-79-6	40	138
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	70	122
Anthracene-d10	1719-06-8	66	128
4-Terphenyl-d14	1718-51-0	65	129
EP075S: Acid Extractable Surrogates			
2-Fluorophenol	367-12-4	29	149
Phenol-d6	13127-88-3	32	128
2-Chlorophenol-D4	93951-73-6	32	128
2.4.6-Tribromophenol	118-79-6	13	121
EP075T: Base/Neutral Extractable Surrogates			
Nitrobenzene-D5	4165-60-0	33	125
1.2-Dichlorobenzene-D4	2199-69-1	34	108
2-Fluorobiphenyl	321-60-8	35	121
Anthracene-d10	1719-06-8	35	123
4-Terphenyl-d14	1718-51-0	33	125
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	73	133
Toluene-D8	2037-26-5	74	132
4-Bromofluorobenzene	460-00-4	72	130
EP231S: PFAS Surrogate			
13C4-PFOS	----	60	120
13C8-PFOA	----	60	120

Inter-Laboratory Testing

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

(SOIL) EA003 :pH (field/fox)

(SOIL) EA029-D: Calcium Values

(SOIL) EA029-E: Magnesium Values

(SOIL) EA029-F: Excess Acid Neutralising Capacity

(SOIL) EA029-H: Acid Base Accounting

(SOIL) EA029-G: Retained Acidity

(SOIL) EA029-A: pH Measurements

(SOIL) EA029-C: Sulfur Trail

(SOIL) EA029-B: Acidity Trail

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

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

ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **ES2204812**	Page	: 1 of 37
Client	: **EP RISK MANAGEMENT**	Laboratory	: Environmental Division Sydney
Contact	: HARRISON BLAKE	Contact	: Tyler Anderson
Address	: Level 4 73 Walker St North Sydney 2060	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: +61 2 8784 8555
Project	: EP2515	Date Samples Received	: 11-Feb-2022 16:00
Order number	: ----	Date Analysis Commenced	: 14-Feb-2022
C-O-C number	: ----	Issue Date	: 16-Feb-2022 18:51
Sampler	: Harrison Blake		
Site	: ----		
Quote number	: SY/497/20 Primary analysis only		
No. of samples received	: 17		
No. of samples analysed	: 16		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Descriptive Results
- Surrogate Control Limits

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

Signatories

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

Signatories	*Position*	*Accreditation Category*
Alana Smylie	Team Leader - Asbestos	Newcastle - Asbestos, Mayfield West, NSW
Edwandy Fadjar	Organic Coordinator	Sydney Inorganics, Smithfield, NSW
Edwandy Fadjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Franco Lentini	LCMS Coordinator	Sydney Inorganics, Smithfield, NSW
Franco Lentini	LCMS Coordinator	Sydney Organics, Smithfield, NSW
Ivan Taylor	Analyst	Sydney Inorganics, Smithfield, NSW
Wisam Marassa	Inorganics Coordinator	Sydney Inorganics, Smithfield, NSW

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero, for 'TEQ 1/2LOR' are treated as half the reported LOR, and for 'TEQ LOR' are treated as being equal to the reported LOR. Note: TEQ 1/2LOR and TEQ LOR will calculate as 0.6mg/Kg and 1.2mg/Kg respectively for samples with non-detects for all of the eight TEQ PAHs.
- EP080: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EP068: Where reported, Total Chlordane (sum) is the sum of the reported concentrations of cis-Chlordane and trans-Chlordane at or above the LOR.
- EP068: Where reported, Total OCP is the sum of the reported concentrations of all Organochlorine Pesticides at or above LOR.
- EP074: Where reported, Total Trihalomethanes is the sum of the reported concentrations of all Trihalomethanes at or above the LOR.
- EP074: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EP074: Where reported, Sum of chlorinated hydrocarbons includes carbon tetrachloride, chlorobenzene, chloroform, 1,2-dichlorobenzene, 1,4-dichlorobenzene, 1,2-dichloroethane, 1,1-dichloroethene, cis-1,2-dichlorothene, trans-1,2-dichlorothene, 1,1,1,2-tetrachloroethane, 1,1,2,2-tetrachloroethane, 1,2,4-trichlorobenzene, 1,1,1-trichloroethane, 1,1,2-trichloroethane, trichloroethene, vinyl chloride, hexachlorobutadiene and methylene chloride.
- EP074: Where reported, Total Trimethylbenzenes is the sum of the reported concentrations of 1.2.3-Trimethylbenzene, 1.2.4-Trimethylbenzene and 1.3.5-Trimethylbenzene at or above the LOR.
- EP075(SIM): Where reported, Total Cresol is the sum of the reported concentrations of 2-Methylphenol and 3- & 4-Methylphenol at or above the LOR.
- EG005T: Poor precision was obtained for Chromium on sample ES2204812# 5. Confirmed by re-digestion and reanalysis.
- EG035: Positive Mercury result ES2204812 #14 has been confirmed by reanalysis.
- EP075(SIM): Surrogate recovery bias low due to sample matrix interferences.
- EP075: Where reported, 'Sum of PAH' is the sum of the USEPA 16 priority PAHs
- EA200 'Am' Amosite (brown asbestos)
- EA200 'Cr' Crocidolite (blue asbestos)
- EA200 'Trace' - Asbestos fibres ("Free Fibres") detected by trace analysis per AS4964. The result can be interpreted that the sample contains detectable 'respirable' asbestos fibres
- EA200: Asbestos Identification Samples were analysed by Polarised Light Microscopy including dispersion staining.
- EA200 Legend
- EA200 'Ch' Chrysotile (white asbestos)
- EA200: 'UMF' Unknown Mineral Fibres. "-" indicates fibres detected may or may not be asbestos fibres. Confirmation by alternative techniques is recommended.

- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero, for 'TEQ 1/2LOR' are treated as half the reported LOR, and for 'TEQ LOR' are treated as being equal to the reported LOR. Note: TEQ 1/2LOR and TEQ LOR will calculate as 0.6mg/Kg and 1.2mg/Kg respectively for samples with non-detects for all of the eight TEQ PAHs.
- EA200: For samples larger than 30g, the <2mm fraction may be sub-sampled prior to trace analysis as outlined in ISO23909:2008(E) Sect 6.3.2-2
- EA200: 'Yes' - Asbestos detected by polarised light microscopy including dispersion staining.
- EA200: 'No*' - No asbestos found, at the reporting limit of 0.1g/kg, by polarised light microscopy including dispersion staining. Asbestos material was detected and positively identified at concentrations estimated to be below 0.1g/kg.
- EA200: 'No' - No asbestos found at the reporting limit 0.1g/kg, by polarised light microscopy including dispersion staining.
- EP231: Stable isotope enriched internal standards are added to samples prior to extraction. Target compounds have a direct analogous internal standard with the exception of PFPeS, PFHpA, PFDS, PFTrDA and 10:2 FTS. These compounds use an internal standard that is chemically related and has a retention time close to that of the target compound. The DQO for internal standard response is 50-150% of that established at initial calibration. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS (Australian HEPA) and also conform to QSM 5.3 (US DoD) requirements.

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH11_0.2	BH11_1.5	BH13_0.3	BH13_1.5	BH10_0.3
			Sampling date / time	11-Feb-2022 00:00	11-Feb-2022 00:00	11-Feb-2022 00:00	11-Feb-2022 00:00	11-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2204812-001	ES2204812-002	ES2204812-003	ES2204812-004	ES2204812-005
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	26.2	16.4	11.1	26.8	10.5
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	No	----	No	----	No
Asbestos (Trace)	1332-21-4	5	Fibres	No	----	No	----	No
Asbestos Type	1332-21-4	-	--	-	----	-	----	-
Synthetic Mineral Fibre	----	0.1	g/kg	No	----	No	----	No
Organic Fibre	----	0.1	g/kg	No	----	No	----	No
Sample weight (dry)	----	0.01	g	67.0	----	90.6	----	75.0
APPROVED IDENTIFIER:	----	-	--	A. SMYLIE	----	A. SMYLIE	----	A. SMYLIE
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	16	<5	<5	6	5
Cadmium	7440-43-9	1	mg/kg	3	<1	3	3	<1
Chromium	7440-47-3	2	mg/kg	38	9	11	9	21
Copper	7440-50-8	5	mg/kg	318	57	123	127	29
Lead	7439-92-1	5	mg/kg	1200	197	2020	268	444
Nickel	7440-02-0	2	mg/kg	24	6	9	12	5
Zinc	7440-66-6	5	mg/kg	2580	445	1020	1450	121
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	0.4	0.2	0.2	0.7	0.8
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
^ Total Chlordane (sum)	----	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH11_0.2	BH11_1.5	BH13_0.3	BH13_1.5	BH10_0.3
			Sampling date / time	11-Feb-2022 00:00	11-Feb-2022 00:00	11-Feb-2022 00:00	11-Feb-2022 00:00	11-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2204812-001	ES2204812-002	ES2204812-003	ES2204812-004	ES2204812-005
				Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued								
Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
^ Endosulfan (sum)	115-29-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
EP068B: Organophosphorus Pesticides (OP)								
Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
EP074A: Monocyclic Aromatic Hydrocarbons								

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH11_0.2	BH11_1.5	BH13_0.3	BH13_1.5	BH10_0.3
			Sampling date / time	11-Feb-2022 00:00	11-Feb-2022 00:00	11-Feb-2022 00:00	11-Feb-2022 00:00	11-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2204812-001	ES2204812-002	ES2204812-003	ES2204812-004	ES2204812-005
				Result	Result	Result	Result	Result
EP074A: Monocyclic Aromatic Hydrocarbons - Continued								
Styrene	100-42-5	0.5	mg/kg	<0.5	----	<0.5	----	----
Isopropylbenzene	98-82-8	0.5	mg/kg	<0.5	----	<0.5	----	----
n-Propylbenzene	103-65-1	0.5	mg/kg	<0.5	----	<0.5	----	----
1.3.5-Trimethylbenzene	108-67-8	0.5	mg/kg	<0.5	----	<0.5	----	----
sec-Butylbenzene	135-98-8	0.5	mg/kg	<0.5	----	<0.5	----	----
1.2.4-Trimethylbenzene	95-63-6	0.5	mg/kg	<0.5	----	<0.5	----	----
tert-Butylbenzene	98-06-6	0.5	mg/kg	<0.5	----	<0.5	----	----
p-Isopropyltoluene	99-87-6	0.5	mg/kg	<0.5	----	<0.5	----	----
n-Butylbenzene	104-51-8	0.5	mg/kg	<0.5	----	<0.5	----	----
EP074B: Oxygenated Compounds								
Vinyl Acetate	108-05-4	5	mg/kg	<5	----	<5	----	----
2-Butanone (MEK)	78-93-3	5	mg/kg	<5	----	<5	----	----
4-Methyl-2-pentanone (MIBK)	108-10-1	5	mg/kg	<5	----	<5	----	----
2-Hexanone (MBK)	591-78-6	5	mg/kg	<5	----	<5	----	----
EP074C: Sulfonated Compounds								
Carbon disulfide	75-15-0	0.5	mg/kg	<0.5	----	<0.5	----	----
EP074D: Fumigants								
2.2-Dichloropropane	594-20-7	0.5	mg/kg	<0.5	----	<0.5	----	----
1.2-Dichloropropane	78-87-5	0.5	mg/kg	<0.5	----	<0.5	----	----
cis-1.3-Dichloropropylene	10061-01-5	0.5	mg/kg	<0.5	----	<0.5	----	----
trans-1.3-Dichloropropylene	10061-02-6	0.5	mg/kg	<0.5	----	<0.5	----	----
1.2-Dibromoethane (EDB)	106-93-4	0.5	mg/kg	<0.5	----	<0.5	----	----
EP074E: Halogenated Aliphatic Compounds								
Dichlorodifluoromethane	75-71-8	5	mg/kg	<5	----	<5	----	----
Chloromethane	74-87-3	5	mg/kg	<5	----	<5	----	----
Vinyl chloride	75-01-4	5	mg/kg	<5	----	<5	----	----
Bromomethane	74-83-9	5	mg/kg	<5	----	<5	----	----
Chloroethane	75-00-3	5	mg/kg	<5	----	<5	----	----
Trichlorofluoromethane	75-69-4	5	mg/kg	<5	----	<5	----	----
1.1-Dichloroethene	75-35-4	0.5	mg/kg	<0.5	----	<0.5	----	----
Iodomethane	74-88-4	0.5	mg/kg	<0.5	----	<0.5	----	----
trans-1.2-Dichloroethene	156-60-5	0.5	mg/kg	<0.5	----	<0.5	----	----
1.1-Dichloroethane	75-34-3	0.5	mg/kg	<0.5	----	<0.5	----	----
cis-1.2-Dichloroethene	156-59-2	0.5	mg/kg	<0.5	----	<0.5	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH11_0.2	BH11_1.5	BH13_0.3	BH13_1.5	BH10_0.3
			Sampling date / time	11-Feb-2022 00:00	11-Feb-2022 00:00	11-Feb-2022 00:00	11-Feb-2022 00:00	11-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2204812-001	ES2204812-002	ES2204812-003	ES2204812-004	ES2204812-005
				Result	Result	Result	Result	Result
EP074E: Halogenated Aliphatic Compounds - Continued								
1.1.1-Trichloroethane	71-55-6	0.5	mg/kg	<0.5	----	<0.5	----	----
1.1-Dichloropropylene	563-58-6	0.5	mg/kg	<0.5	----	<0.5	----	----
Carbon Tetrachloride	56-23-5	0.5	mg/kg	<0.5	----	<0.5	----	----
1.2-Dichloroethane	107-06-2	0.5	mg/kg	<0.5	----	<0.5	----	----
Trichloroethene	79-01-6	0.5	mg/kg	<0.5	----	<0.5	----	----
Dibromomethane	74-95-3	0.5	mg/kg	<0.5	----	<0.5	----	----
1.1.2-Trichloroethane	79-00-5	0.5	mg/kg	<0.5	----	<0.5	----	----
1.3-Dichloropropane	142-28-9	0.5	mg/kg	<0.5	----	<0.5	----	----
Tetrachloroethene	127-18-4	0.5	mg/kg	<0.5	----	<0.5	----	----
1.1.1.2-Tetrachloroethane	630-20-6	0.5	mg/kg	<0.5	----	<0.5	----	----
trans-1.4-Dichloro-2-butene	110-57-6	0.5	mg/kg	<0.5	----	<0.5	----	----
cis-1.4-Dichloro-2-butene	1476-11-5	0.5	mg/kg	<0.5	----	<0.5	----	----
1.1.2.2-Tetrachloroethane	79-34-5	0.5	mg/kg	<0.5	----	<0.5	----	----
1.2.3-Trichloropropane	96-18-4	0.5	mg/kg	<0.5	----	<0.5	----	----
Pentachloroethane	76-01-7	0.5	mg/kg	<0.5	----	<0.5	----	----
1.2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg	<0.5	----	<0.5	----	----
EP074F: Halogenated Aromatic Compounds								
Chlorobenzene	108-90-7	0.5	mg/kg	<0.5	----	<0.5	----	----
Bromobenzene	108-86-1	0.5	mg/kg	<0.5	----	<0.5	----	----
2-Chlorotoluene	95-49-8	0.5	mg/kg	<0.5	----	<0.5	----	----
4-Chlorotoluene	106-43-4	0.5	mg/kg	<0.5	----	<0.5	----	----
1.2.3-Trichlorobenzene	87-61-6	0.5	mg/kg	<0.5	----	<0.5	----	----
EP074G: Trihalomethanes								
Chloroform	67-66-3	0.5	mg/kg	<0.5	----	<0.5	----	----
Bromodichloromethane	75-27-4	0.5	mg/kg	<0.5	----	<0.5	----	----
Dibromochloromethane	124-48-1	0.5	mg/kg	<0.5	----	<0.5	----	----
Bromoform	75-25-2	0.5	mg/kg	<0.5	----	<0.5	----	----
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	<1	<1	<1
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH11_0.2	BH11_1.5	BH13_0.3	BH13_1.5	BH10_0.3
			Sampling date / time	11-Feb-2022 00:00	11-Feb-2022 00:00	11-Feb-2022 00:00	11-Feb-2022 00:00	11-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2204812-001	ES2204812-002	ES2204812-003	ES2204812-004	ES2204812-005
				Result	Result	Result	Result	Result
EP075(SIM)A: Phenolic Compounds - Continued								
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	<2	<2	<2
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	<0.5	**0.6**	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	**0.6**	<0.5	**0.8**	**2.5**	<0.5
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	<0.5	**0.8**	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	**2.1**	<0.5	**1.1**	**4.1**	<0.5
Pyrene	129-00-0	0.5	mg/kg	**2.0**	<0.5	**1.0**	**4.0**	**0.5**
Benz(a)anthracene	56-55-3	0.5	mg/kg	**1.1**	<0.5	**0.6**	**2.3**	**0.5**
Chrysene	218-01-9	0.5	mg/kg	**0.9**	<0.5	<0.5	**1.8**	<0.5
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	**1.7**	<0.5	**0.8**	**2.6**	**1.0**
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	**0.6**	<0.5	<0.5	**0.9**	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	**1.4**	<0.5	**0.7**	**2.2**	**0.7**
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	**1.0**	<0.5	<0.5	**1.1**	**0.6**
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	**0.9**	<0.5	**0.5**	**1.2**	**0.6**
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	**12.3**	<0.5	**5.5**	**24.1**	**3.9**
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	**1.8**	<0.5	**0.8**	**2.9**	**0.9**
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	**2.1**	**0.6**	**1.1**	**3.2**	**1.2**
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	**2.4**	**1.2**	**1.4**	**3.4**	**1.5**
EP075B: Polynuclear Aromatic Hydrocarbons								
2-Methylnaphthalene	91-57-6	0.5	mg/kg	<0.5	----	<0.5	----	----
2-Chloronaphthalene	91-58-7	0.5	mg/kg	<0.5	----	<0.5	----	----
N-2-Fluorenyl Acetamide	53-96-3	0.5	mg/kg	<0.5	----	<0.5	----	----
7.12-Dimethylbenz(a)anthracene	57-97-6	0.5	mg/kg	<0.5	----	<0.5	----	----
3-Methylcholanthrene	56-49-5	0.5	mg/kg	<0.5	----	<0.5	----	----
EP075C: Phthalate Esters								

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH11_0.2	BH11_1.5	BH13_0.3	BH13_1.5	BH10_0.3
			Sampling date / time	11-Feb-2022 00:00	11-Feb-2022 00:00	11-Feb-2022 00:00	11-Feb-2022 00:00	11-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2204812-001	ES2204812-002	ES2204812-003	ES2204812-004	ES2204812-005
				Result	Result	Result	Result	Result
EP075C: Phthalate Esters - Continued								
Dimethyl phthalate	131-11-3	0.5	mg/kg	<0.5	----	<0.5	----	----
Diethyl phthalate	84-66-2	0.5	mg/kg	<0.5	----	<0.5	----	----
Di-n-butyl phthalate	84-74-2	0.5	mg/kg	<0.5	----	<0.5	----	----
Butyl benzyl phthalate	85-68-7	0.5	mg/kg	<0.5	----	<0.5	----	----
bis(2-ethylhexyl) phthalate	117-81-7	5.0	mg/kg	<5.0	----	<5.0	----	----
Di-n-octylphthalate	117-84-0	0.5	mg/kg	<0.5	----	<0.5	----	----
EP075D: Nitrosamines								
N-Nitrosomethylethylamine	10595-95-6	0.5	mg/kg	<0.5	----	<0.5	----	----
N-Nitrosodiethylamine	55-18-5	0.5	mg/kg	<0.5	----	<0.5	----	----
N-Nitrosopyrrolidine	930-55-2	1.0	mg/kg	<1.0	----	<1.0	----	----
N-Nitrosomorpholine	59-89-2	0.5	mg/kg	<0.5	----	<0.5	----	----
N-Nitrosodi-n-propylamine	621-64-7	0.5	mg/kg	<0.5	----	<0.5	----	----
N-Nitrosopiperidine	100-75-4	0.5	mg/kg	<0.5	----	<0.5	----	----
N-Nitrosodibutylamine	924-16-3	0.5	mg/kg	<0.5	----	<0.5	----	----
N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	1.0	mg/kg	<1.0	----	<1.0	----	----
Methapyrilene	91-80-5	0.5	mg/kg	<0.5	----	<0.5	----	----
EP075E: Nitroaromatics and Ketones								
2-Picoline	109-06-8	0.5	mg/kg	<0.5	----	<0.5	----	----
Acetophenone	98-86-2	0.5	mg/kg	<0.5	----	<0.5	----	----
Nitrobenzene	98-95-3	0.5	mg/kg	<0.5	----	<0.5	----	----
Isophorone	78-59-1	0.5	mg/kg	<0.5	----	<0.5	----	----
2.6-Dinitrotoluene	606-20-2	1.0	mg/kg	<1.0	----	<1.0	----	----
2.4-Dinitrotoluene	121-14-2	1.0	mg/kg	<1.0	----	<1.0	----	----
1-Naphthylamine	134-32-7	0.5	mg/kg	<0.5	----	<0.5	----	----
4-Nitroquinoline-N-oxide	56-57-5	0.5	mg/kg	<0.5	----	<0.5	----	----
5-Nitro-o-toluidine	99-55-8	0.5	mg/kg	<0.5	----	<0.5	----	----
Azobenzene	103-33-3	1	mg/kg	<1	----	<1	----	----
1.3.5-Trinitrobenzene	99-35-4	0.5	mg/kg	<0.5	----	<0.5	----	----
Phenacetin	62-44-2	0.5	mg/kg	<0.5	----	<0.5	----	----
4-Aminobiphenyl	92-67-1	0.5	mg/kg	<0.5	----	<0.5	----	----
Pentachloronitrobenzene	82-68-8	0.5	mg/kg	<0.5	----	<0.5	----	----
Pronamide	23950-58-5	0.5	mg/kg	<0.5	----	<0.5	----	----
Dimethylaminoazobenzene	60-11-7	0.5	mg/kg	<0.5	----	<0.5	----	----
Chlorobenzilate	510-15-6	0.5	mg/kg	<0.5	----	<0.5	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH11_0.2	BH11_1.5	BH13_0.3	BH13_1.5	BH10_0.3
			Sampling date / time	11-Feb-2022 00:00	11-Feb-2022 00:00	11-Feb-2022 00:00	11-Feb-2022 00:00	11-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2204812-001	ES2204812-002	ES2204812-003	ES2204812-004	ES2204812-005
				Result	Result	Result	Result	Result
EP075E: Nitroaromatics and Ketones - Continued								
EP075F: Haloethers								
Bis(2-chloroethyl) ether	111-44-4	0.5	mg/kg	<0.5	----	<0.5	----	----
Bis(2-chloroethoxy) methane	111-91-1	0.5	mg/kg	<0.5	----	<0.5	----	----
4-Chlorophenyl phenyl ether	7005-72-3	0.5	mg/kg	<0.5	----	<0.5	----	----
4-Bromophenyl phenyl ether	101-55-3	0.5	mg/kg	<0.5	----	<0.5	----	----
EP075G: Chlorinated Hydrocarbons								
1.3-Dichlorobenzene	541-73-1	0.5	mg/kg	<0.5	----	<0.5	----	----
1.4-Dichlorobenzene	106-46-7	0.5	mg/kg	<0.5	----	<0.5	----	----
1.2-Dichlorobenzene	95-50-1	0.5	mg/kg	<0.5	----	<0.5	----	----
Hexachloroethane	67-72-1	0.5	mg/kg	<0.5	----	<0.5	----	----
1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg	<0.5	----	<0.5	----	----
Hexachloropropylene	1888-71-7	0.5	mg/kg	<0.5	----	<0.5	----	----
Hexachlorobutadiene	87-68-3	0.5	mg/kg	<0.5	----	<0.5	----	----
Hexachlorocyclopentadiene	77-47-4	2.5	mg/kg	<2.5	----	<2.5	----	----
Pentachlorobenzene	608-93-5	0.5	mg/kg	<0.5	----	<0.5	----	----
Hexachlorobenzene (HCB)	118-74-1	1.0	mg/kg	<1.0	----	<1.0	----	----
EP075H: Anilines and Benzidines								
Aniline	62-53-3	0.5	mg/kg	<0.5	----	<0.5	----	----
4-Chloroaniline	106-47-8	0.5	mg/kg	<0.5	----	<0.5	----	----
2-Nitroaniline	88-74-4	1.0	mg/kg	<1.0	----	<1.0	----	----
3-Nitroaniline	99-09-2	1.0	mg/kg	<1.0	----	<1.0	----	----
Dibenzofuran	132-64-9	0.5	mg/kg	<0.5	----	<0.5	----	----
4-Nitroaniline	100-01-6	0.5	mg/kg	<0.5	----	<0.5	----	----
Carbazole	86-74-8	0.5	mg/kg	<0.5	----	<0.5	----	----
3.3`-Dichlorobenzidine	91-94-1	0.5	mg/kg	<0.5	----	<0.5	----	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg	<100	<100	<100	**100**	<100
C29 - C36 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg	<50	<50	<50	**100**	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	<10	<10	<10

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH11_0.2	BH11_1.5	BH13_0.3	BH13_1.5	BH10_0.3
			Sampling date / time	11-Feb-2022 00:00	11-Feb-2022 00:00	11-Feb-2022 00:00	11-Feb-2022 00:00	11-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2204812-001	ES2204812-002	ES2204812-003	ES2204812-004	ES2204812-005
				Result	Result	Result	Result	Result
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued								
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg	**150**	<100	<100	**160**	<100
>C34 - C40 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	**150**	<50	<50	**160**	<50
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	<50	<50	<50	<50	<50
EP080: BTEXN								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1
EP231A: Perfluoroalkyl Sulfonic Acids								
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	----	<0.0002	----	<0.0002
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	----	<0.0002	----	<0.0002
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	<0.0002	----	<0.0002	----	<0.0002
EP231B: Perfluoroalkyl Carboxylic Acids								
Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	----	<0.001	----	<0.001
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	----	<0.0002	----	<0.0002
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	----	<0.0002	----	<0.0002
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	----	<0.0002	----	<0.0002
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	----	<0.0002	----	<0.0002
EP231D: (n:2) Fluorotelomer Sulfonic Acids								
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	----	<0.0005	----	<0.0005
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	----	<0.0005	----	<0.0005

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH11_0.2	BH11_1.5	BH13_0.3	BH13_1.5	BH10_0.3
			Sampling date / time	11-Feb-2022 00:00	11-Feb-2022 00:00	11-Feb-2022 00:00	11-Feb-2022 00:00	11-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2204812-001	ES2204812-002	ES2204812-003	ES2204812-004	ES2204812-005
				Result	Result	Result	Result	Result
EP231D: (n:2) Fluorotelomer Sulfonic Acids - Continued								
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	----	<0.0005	----	<0.0005
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	----	<0.0005	----	<0.0005
EP231P: PFAS Sums								
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg	<0.0002	----	<0.0002	----	<0.0002
Sum of PFAS (WA DER List)	----	0.0002	mg/kg	<0.0002	----	<0.0002	----	<0.0002
EP066S: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	107	105	114	112	119
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.05	%	96.1	108	101	104	131
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.05	%	121	75.4	99.3	136	118
EP074S: VOC Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.5	%	107	----	101	----	----
Toluene-D8	2037-26-5	0.5	%	114	----	110	----	----
4-Bromofluorobenzene	460-00-4	0.5	%	116	----	116	----	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	101	104	104	118	111
2-Chlorophenol-D4	93951-73-6	0.5	%	107	111	106	112	106
2.4.6-Tribromophenol	118-79-6	0.5	%	79.0	82.6	80.3	91.0	79.5
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.5	%	121	110	120	122	115
Anthracene-d10	1719-06-8	0.5	%	120	119	123	122	118
4-Terphenyl-d14	1718-51-0	0.5	%	107	99.9	98.3	99.9	94.9
EP075S: Acid Extractable Surrogates								
2-Fluorophenol	367-12-4	0.5	%	104	----	88.9	----	----
Phenol-d6	13127-88-3	0.5	%	89.6	----	102	----	----
2-Chlorophenol-D4	93951-73-6	0.5	%	95.8	----	103	----	----
2.4.6-Tribromophenol	118-79-6	0.5	%	96.3	----	95.4	----	----
EP075T: Base/Neutral Extractable Surrogates								
Nitrobenzene-D5	4165-60-0	0.5	%	94.9	----	101	----	----
1.2-Dichlorobenzene-D4	2199-69-1	0.5	%	97.0	----	88.0	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH11_0.2	BH11_1.5	BH13_0.3	BH13_1.5	BH10_0.3
			Sampling date / time	11-Feb-2022 00:00	11-Feb-2022 00:00	11-Feb-2022 00:00	11-Feb-2022 00:00	11-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2204812-001	ES2204812-002	ES2204812-003	ES2204812-004	ES2204812-005
				Result	Result	Result	Result	Result
EP075T: Base/Neutral Extractable Surrogates - Continued								
2-Fluorobiphenyl	321-60-8	0.5	%	115	----	109	----	----
Anthracene-d10	1719-06-8	0.5	%	125	----	123	----	----
4-Terphenyl-d14	1718-51-0	0.5	%	101	----	105	----	----
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.2	%	82.9	117	78.0	110	98.8
Toluene-D8	2037-26-5	0.2	%	91.2	121	87.5	111	100
4-Bromofluorobenzene	460-00-4	0.2	%	88.7	119	87.9	109	98.4
EP231S: PFAS Surrogate								
13C4-PFOS	----	0.0002	%	88.5	----	94.5	----	89.5
13C8-PFOA	----	0.0002	%	99.0	----	104	----	102

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH10_2.0	BH14_0.2	BH14_0.9	BH08_0.2	DUP03
			Sampling date / time	11-Feb-2022 00:00	11-Feb-2022 00:00	11-Feb-2022 00:00	11-Feb-2022 00:00	11-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2204812-006	ES2204812-007	ES2204812-008	ES2204812-009	ES2204812-011
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	0.1	%	----	----	----	----	10.4
Moisture Content	----	1.0	%	21.5	9.0	5.4	9.3	----
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	----	No	Yes	----	----
Asbestos (Trace)	1332-21-4	5	Fibres	----	No	No	----	----
Asbestos Type	1332-21-4	-	--	----	-	Ch	----	----
Synthetic Mineral Fibre	----	0.1	g/kg	----	No	No	----	----
Organic Fibre	----	0.1	g/kg	----	No	No	----	----
Sample weight (dry)	----	0.01	g	----	87.6	77.5	----	----
APPROVED IDENTIFIER:	----	-	--	----	A. SMYLIE	A. SMYLIE	----	----
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	<5	10	148	10	----
Cadmium	7440-43-9	1	mg/kg	<1	12	9	11	----
Chromium	7440-47-3	2	mg/kg	3	10	8	28	----
Copper	7440-50-8	5	mg/kg	6	99	281	130	----
Lead	7439-92-1	5	mg/kg	25	13000	207000	16500	----
Nickel	7440-02-0	2	mg/kg	<2	16	10	15	----
Zinc	7440-66-6	5	mg/kg	45	1260	1300	1650	----
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	0.6	0.6	0.5	----
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	----
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
^ Total Chlordane (sum)	----	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH10_2.0	BH14_0.2	BH14_0.9	BH08_0.2	DUP03
			Sampling date / time	11-Feb-2022 00:00	11-Feb-2022 00:00	11-Feb-2022 00:00	11-Feb-2022 00:00	11-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2204812-006	ES2204812-007	ES2204812-008	ES2204812-009	ES2204812-011
				Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued								
cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
^ Endosulfan (sum)	115-29-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	----
Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	----
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
EP068B: Organophosphorus Pesticides (OP)								
Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	----
Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	----
Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	----
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH10_2.0	BH14_0.2	BH14_0.9	BH08_0.2	DUP03
			Sampling date / time	11-Feb-2022 00:00	11-Feb-2022 00:00	11-Feb-2022 00:00	11-Feb-2022 00:00	11-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2204812-006	ES2204812-007	ES2204812-008	ES2204812-009	ES2204812-011
				Result	Result	Result	Result	Result
EP074A: Monocyclic Aromatic Hydrocarbons								
Styrene	100-42-5	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
Isopropylbenzene	98-82-8	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
n-Propylbenzene	103-65-1	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
1.3.5-Trimethylbenzene	108-67-8	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
sec-Butylbenzene	135-98-8	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
1.2.4-Trimethylbenzene	95-63-6	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
tert-Butylbenzene	98-06-6	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
p-Isopropyltoluene	99-87-6	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
n-Butylbenzene	104-51-8	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
EP074B: Oxygenated Compounds								
Vinyl Acetate	108-05-4	5	mg/kg	<5	----	<5	<5	----
2-Butanone (MEK)	78-93-3	5	mg/kg	<5	----	<5	<5	----
4-Methyl-2-pentanone (MIBK)	108-10-1	5	mg/kg	<5	----	<5	<5	----
2-Hexanone (MBK)	591-78-6	5	mg/kg	<5	----	<5	<5	----
EP074C: Sulfonated Compounds								
Carbon disulfide	75-15-0	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
EP074D: Fumigants								
2.2-Dichloropropane	594-20-7	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
1.2-Dichloropropane	78-87-5	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
cis-1.3-Dichloropropylene	10061-01-5	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
trans-1.3-Dichloropropylene	10061-02-6	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
1.2-Dibromoethane (EDB)	106-93-4	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
EP074E: Halogenated Aliphatic Compounds								
Dichlorodifluoromethane	75-71-8	5	mg/kg	<5	----	<5	<5	----
Chloromethane	74-87-3	5	mg/kg	<5	----	<5	<5	----
Vinyl chloride	75-01-4	5	mg/kg	<5	----	<5	<5	----
Bromomethane	74-83-9	5	mg/kg	<5	----	<5	<5	----
Chloroethane	75-00-3	5	mg/kg	<5	----	<5	<5	----
Trichlorofluoromethane	75-69-4	5	mg/kg	<5	----	<5	<5	----
1.1-Dichloroethene	75-35-4	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
Iodomethane	74-88-4	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
trans-1.2-Dichloroethene	156-60-5	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
1.1-Dichloroethane	75-34-3	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
cis-1.2-Dichloroethene	156-59-2	0.5	mg/kg	<0.5	----	<0.5	<0.5	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH10_2.0	BH14_0.2	BH14_0.9	BH08_0.2	DUP03
			Sampling date / time	11-Feb-2022 00:00	11-Feb-2022 00:00	11-Feb-2022 00:00	11-Feb-2022 00:00	11-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2204812-006	ES2204812-007	ES2204812-008	ES2204812-009	ES2204812-011
				Result	Result	Result	Result	Result
EP074E: Halogenated Aliphatic Compounds - Continued								
1.1.1-Trichloroethane	71-55-6	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
1.1-Dichloropropylene	563-58-6	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
Carbon Tetrachloride	56-23-5	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
1.2-Dichloroethane	107-06-2	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
Trichloroethene	79-01-6	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
Dibromomethane	74-95-3	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
1.1.2-Trichloroethane	79-00-5	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
1.3-Dichloropropane	142-28-9	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
Tetrachloroethene	127-18-4	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
1.1.1.2-Tetrachloroethane	630-20-6	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
trans-1.4-Dichloro-2-butene	110-57-6	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
cis-1.4-Dichloro-2-butene	1476-11-5	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
1.1.2.2-Tetrachloroethane	79-34-5	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
1.2.3-Trichloropropane	96-18-4	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
Pentachloroethane	76-01-7	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
1.2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
EP074F: Halogenated Aromatic Compounds								
Chlorobenzene	108-90-7	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
Bromobenzene	108-86-1	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
2-Chlorotoluene	95-49-8	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
4-Chlorotoluene	106-43-4	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
1.2.3-Trichlorobenzene	87-61-6	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
EP074G: Trihalomethanes								
Chloroform	67-66-3	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
Bromodichloromethane	75-27-4	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
Dibromochloromethane	124-48-1	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
Bromoform	75-25-2	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	<1	<1	----
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH10_2.0	BH14_0.2	BH14_0.9	BH08_0.2	DUP03
			Sampling date / time	11-Feb-2022 00:00	11-Feb-2022 00:00	11-Feb-2022 00:00	11-Feb-2022 00:00	11-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2204812-006	ES2204812-007	ES2204812-008	ES2204812-009	ES2204812-011
				Result	Result	Result	Result	Result
EP075(SIM)A: Phenolic Compounds - Continued								
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	<2	<2	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	**1.2**	<0.5	**1.3**	----
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	**2.1**	**0.7**	**2.8**	----
Pyrene	129-00-0	0.5	mg/kg	<0.5	**2.0**	**0.6**	**2.7**	----
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	**1.1**	<0.5	**1.6**	----
Chrysene	218-01-9	0.5	mg/kg	<0.5	**0.9**	<0.5	**1.3**	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	**1.5**	<0.5	**2.1**	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	<0.5	**0.9**	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	**1.2**	<0.5	**1.8**	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	**0.8**	<0.5	**1.1**	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	**0.8**	<0.5	**1.2**	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	**11.6**	**1.3**	**16.8**	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	**1.6**	<0.5	**2.4**	----
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	**0.6**	**1.8**	**0.6**	**2.6**	----
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	**1.2**	**2.1**	**1.2**	**2.9**	----
EP075B: Polynuclear Aromatic Hydrocarbons								
2-Methylnaphthalene	91-57-6	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
2-Chloronaphthalene	91-58-7	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
N-2-Fluorenyl Acetamide	53-96-3	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
7.12-Dimethylbenz(a)anthracene	57-97-6	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
3-Methylcholanthrene	56-49-5	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
EP075C: Phthalate Esters								

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH10_2.0	BH14_0.2	BH14_0.9	BH08_0.2	DUP03
			Sampling date / time	11-Feb-2022 00:00	11-Feb-2022 00:00	11-Feb-2022 00:00	11-Feb-2022 00:00	11-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2204812-006	ES2204812-007	ES2204812-008	ES2204812-009	ES2204812-011
				Result	Result	Result	Result	Result
EP075C: Phthalate Esters - Continued								
Dimethyl phthalate	131-11-3	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
Diethyl phthalate	84-66-2	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
Di-n-butyl phthalate	84-74-2	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
Butyl benzyl phthalate	85-68-7	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
bis(2-ethylhexyl) phthalate	117-81-7	5.0	mg/kg	<5.0	----	<5.0	<5.0	----
Di-n-octylphthalate	117-84-0	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
EP075D: Nitrosamines								
N-Nitrosomethylethylamine	10595-95-6	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
N-Nitrosodiethylamine	55-18-5	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
N-Nitrosopyrrolidine	930-55-2	1.0	mg/kg	<1.0	----	<1.0	<1.0	----
N-Nitrosomorpholine	59-89-2	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
N-Nitrosodi-n-propylamine	621-64-7	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
N-Nitrosopiperidine	100-75-4	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
N-Nitrosodibutylamine	924-16-3	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	1.0	mg/kg	<1.0	----	<1.0	<1.0	----
Methapyrilene	91-80-5	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
EP075E: Nitroaromatics and Ketones								
2-Picoline	109-06-8	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
Acetophenone	98-86-2	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
Nitrobenzene	98-95-3	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
Isophorone	78-59-1	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
2.6-Dinitrotoluene	606-20-2	1.0	mg/kg	<1.0	----	<1.0	<1.0	----
2.4-Dinitrotoluene	121-14-2	1.0	mg/kg	<1.0	----	<1.0	<1.0	----
1-Naphthylamine	134-32-7	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
4-Nitroquinoline-N-oxide	56-57-5	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
5-Nitro-o-toluidine	99-55-8	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
Azobenzene	103-33-3	1	mg/kg	<1	----	<1	<1	----
1.3.5-Trinitrobenzene	99-35-4	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
Phenacetin	62-44-2	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
4-Aminobiphenyl	92-67-1	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
Pentachloronitrobenzene	82-68-8	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
Pronamide	23950-58-5	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
Dimethylaminoazobenzene	60-11-7	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
Chlorobenzilate	510-15-6	0.5	mg/kg	<0.5	----	<0.5	<0.5	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH10_2.0	BH14_0.2	BH14_0.9	BH08_0.2	DUP03
			Sampling date / time	11-Feb-2022 00:00	11-Feb-2022 00:00	11-Feb-2022 00:00	11-Feb-2022 00:00	11-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2204812-006	ES2204812-007	ES2204812-008	ES2204812-009	ES2204812-011
				Result	Result	Result	Result	Result
EP075E: Nitroaromatics and Ketones - Continued								
EP075F: Haloethers								
Bis(2-chloroethyl) ether	111-44-4	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
Bis(2-chloroethoxy) methane	111-91-1	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
4-Chlorophenyl phenyl ether	7005-72-3	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
4-Bromophenyl phenyl ether	101-55-3	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
EP075G: Chlorinated Hydrocarbons								
1.3-Dichlorobenzene	541-73-1	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
1.4-Dichlorobenzene	106-46-7	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
1.2-Dichlorobenzene	95-50-1	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
Hexachloroethane	67-72-1	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
Hexachloropropylene	1888-71-7	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
Hexachlorobutadiene	87-68-3	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
Hexachlorocyclopentadiene	77-47-4	2.5	mg/kg	<2.5	----	<2.5	<2.5	----
Pentachlorobenzene	608-93-5	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
Hexachlorobenzene (HCB)	118-74-1	1.0	mg/kg	<1.0	----	<1.0	<1.0	----
EP075H: Anilines and Benzidines								
Aniline	62-53-3	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
4-Chloroaniline	106-47-8	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
2-Nitroaniline	88-74-4	1.0	mg/kg	<1.0	----	<1.0	<1.0	----
3-Nitroaniline	99-09-2	1.0	mg/kg	<1.0	----	<1.0	<1.0	----
Dibenzofuran	132-64-9	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
4-Nitroaniline	100-01-6	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
Carbazole	86-74-8	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
3.3`-Dichlorobenzidine	91-94-1	0.5	mg/kg	<0.5	----	<0.5	<0.5	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	----
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	----
C15 - C28 Fraction	----	100	mg/kg	<100	<100	<100	<100	----
C29 - C36 Fraction	----	100	mg/kg	<100	<100	<100	<100	----
^ C10 - C36 Fraction (sum)	----	50	mg/kg	<50	<50	<50	<50	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	<10	<10	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH10_2.0	BH14_0.2	BH14_0.9	BH08_0.2	DUP03
			Sampling date / time	11-Feb-2022 00:00	11-Feb-2022 00:00	11-Feb-2022 00:00	11-Feb-2022 00:00	11-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2204812-006	ES2204812-007	ES2204812-008	ES2204812-009	ES2204812-011
				Result	Result	Result	Result	Result
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued								
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	<10	<10	<10	<10	----
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	<50	<50	----
>C16 - C34 Fraction	----	100	mg/kg	<100	<100	<100	**130**	----
>C34 - C40 Fraction	----	100	mg/kg	<100	<100	<100	<100	----
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	<50	<50	**130**	----
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	<50	<50	<50	<50	----
EP080: BTEXN								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	----
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	----
^ Total Xylenes	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	----
EP231A: Perfluoroalkyl Sulfonic Acids								
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	----	<0.0002	----	----	<0.0002
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	----	<0.0002	----	----	<0.0002
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	----	**0.0003**	----	----	<0.0002
EP231B: Perfluoroalkyl Carboxylic Acids								
Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	----	<0.001	----	----	<0.001
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	----	<0.0002	----	----	<0.0002
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	----	<0.0002	----	----	<0.0002
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	----	<0.0002	----	----	<0.0002
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	----	<0.0002	----	----	<0.0002
EP231D: (n:2) Fluorotelomer Sulfonic Acids								
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	----	<0.0005	----	----	<0.0005
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	----	<0.0005	----	----	<0.0005

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH10_2.0	BH14_0.2	BH14_0.9	BH08_0.2	DUP03
			Sampling date / time	11-Feb-2022 00:00	11-Feb-2022 00:00	11-Feb-2022 00:00	11-Feb-2022 00:00	11-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2204812-006	ES2204812-007	ES2204812-008	ES2204812-009	ES2204812-011
				Result	Result	Result	Result	Result
EP231D: (n:2) Fluorotelomer Sulfonic Acids - Continued								
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	----	<0.0005	----	----	<0.0005
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	----	<0.0005	----	----	<0.0005
EP231P: PFAS Sums								
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg	----	0.0003	----	----	<0.0002
Sum of PFAS (WA DER List)	----	0.0002	mg/kg	----	0.0003	----	----	<0.0002
EP066S: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	102	108	125	103	----
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.05	%	98.6	101	117	93.9	----
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.05	%	71.2	116	112	110	----
EP074S: VOC Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.5	%	96.1	----	91.5	93.2	----
Toluene-D8	2037-26-5	0.5	%	119	----	110	111	----
4-Bromofluorobenzene	460-00-4	0.5	%	120	----	106	103	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	111	107	104	100.0	----
2-Chlorophenol-D4	93951-73-6	0.5	%	106	103	99.6	95.2	----
2.4.6-Tribromophenol	118-79-6	0.5	%	79.6	80.5	32.6	82.2	----
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.5	%	116	114	113	114	----
Anthracene-d10	1719-06-8	0.5	%	121	114	114	111	----
4-Terphenyl-d14	1718-51-0	0.5	%	96.5	94.3	92.6	97.5	----
EP075S: Acid Extractable Surrogates								
2-Fluorophenol	367-12-4	0.5	%	92.4	----	100	106	----
Phenol-d6	13127-88-3	0.5	%	96.5	----	100	93.3	----
2-Chlorophenol-D4	93951-73-6	0.5	%	99.5	----	100	97.8	----
2.4.6-Tribromophenol	118-79-6	0.5	%	87.6	----	40.5	94.6	----
EP075T: Base/Neutral Extractable Surrogates								
Nitrobenzene-D5	4165-60-0	0.5	%	86.3	----	97.9	99.6	----
1.2-Dichlorobenzene-D4	2199-69-1	0.5	%	96.3	----	97.4	89.6	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH10_2.0	BH14_0.2	BH14_0.9	BH08_0.2	DUP03
			Sampling date / time	11-Feb-2022 00:00	11-Feb-2022 00:00	11-Feb-2022 00:00	11-Feb-2022 00:00	11-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2204812-006	ES2204812-007	ES2204812-008	ES2204812-009	ES2204812-011
				Result	Result	Result	Result	Result
EP075T: Base/Neutral Extractable Surrogates - Continued								
2-Fluorobiphenyl	321-60-8	0.5	%	104	----	106	103	----
Anthracene-d10	1719-06-8	0.5	%	121	----	120	120	----
4-Terphenyl-d14	1718-51-0	0.5	%	100	----	105	105	----
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.2	%	86.8	101	82.4	83.9	----
Toluene-D8	2037-26-5	0.2	%	115	109	107	107	----
4-Bromofluorobenzene	460-00-4	0.2	%	118	106	105	102	----
EP231S: PFAS Surrogate								
13C4-PFOS	----	0.0002	%	----	92.0	----	----	98.0
13C8-PFOA	----	0.0002	%	----	110	----	----	103

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	DUP04	BH08_0.5	BH08_1.5	BH07_0.5	BH07_1.3
			Sampling date / time	11-Feb-2022 00:00	11-Feb-2022 00:00	11-Feb-2022 00:00	11-Feb-2022 00:00	11-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2204812-012	ES2204812-013	ES2204812-014	ES2204812-015	ES2204812-016
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	0.1	%	16.9	----	----	----	----
Moisture Content	----	1.0	%	----	7.3	17.2	20.7	15.6
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	----	No	----	No	----
Asbestos (Trace)	1332-21-4	5	Fibres	----	No	----	No	----
Asbestos Type	1332-21-4	-	--	----	-	----	-	----
Synthetic Mineral Fibre	----	0.1	g/kg	----	No	----	No	----
Organic Fibre	----	0.1	g/kg	----	No	----	No	----
Sample weight (dry)	----	0.01	g	----	94.7	----	89.7	----
APPROVED IDENTIFIER:	----	-	--	----	A. SMYLIE	----	A. SMYLIE	----
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	----	<5	10	<5	<5
Cadmium	7440-43-9	1	mg/kg	----	9	10	<1	<1
Chromium	7440-47-3	2	mg/kg	----	4	27	4	<2
Copper	7440-50-8	5	mg/kg	----	22	177	32	7
Lead	7439-92-1	5	mg/kg	----	1160	4920	145	216
Nickel	7440-02-0	2	mg/kg	----	2	8	2	<2
Zinc	7440-66-6	5	mg/kg	----	429	1690	98	61
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	----	0.2	1.9	0.3	<0.1
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.1	mg/kg	----	<0.1	<0.1	<0.1	<0.1
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05
beta-BHC	319-85-7	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05
gamma-BHC	58-89-9	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05
delta-BHC	319-86-8	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05
Heptachlor	76-44-8	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05
Aldrin	309-00-2	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05
Heptachlor epoxide	1024-57-3	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05
^ Total Chlordane (sum)	----	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05
trans-Chlordane	5103-74-2	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05
alpha-Endosulfan	959-98-8	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	DUP04	BH08_0.5	BH08_1.5	BH07_0.5	BH07_1.3
			Sampling date / time	11-Feb-2022 00:00	11-Feb-2022 00:00	11-Feb-2022 00:00	11-Feb-2022 00:00	11-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2204812-012	ES2204812-013	ES2204812-014	ES2204812-015	ES2204812-016
				Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued								
cis-Chlordane	5103-71-9	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05
Dieldrin	60-57-1	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05
4.4`-DDE	72-55-9	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05
Endrin	72-20-8	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05
beta-Endosulfan	33213-65-9	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05
^ Endosulfan (sum)	115-29-7	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05
4.4`-DDD	72-54-8	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05
Endrin aldehyde	7421-93-4	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05
Endosulfan sulfate	1031-07-8	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05
4.4`-DDT	50-29-3	0.2	mg/kg	----	<0.2	<0.2	<0.2	<0.2
Endrin ketone	53494-70-5	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05
Methoxychlor	72-43-5	0.2	mg/kg	----	<0.2	<0.2	<0.2	<0.2
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05
EP068B: Organophosphorus Pesticides (OP)								
Dichlorvos	62-73-7	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05
Demeton-S-methyl	919-86-8	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05
Monocrotophos	6923-22-4	0.2	mg/kg	----	<0.2	<0.2	<0.2	<0.2
Dimethoate	60-51-5	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05
Diazinon	333-41-5	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05
Parathion-methyl	298-00-0	0.2	mg/kg	----	<0.2	<0.2	<0.2	<0.2
Malathion	121-75-5	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05
Fenthion	55-38-9	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05
Chlorpyrifos	2921-88-2	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05
Parathion	56-38-2	0.2	mg/kg	----	<0.2	<0.2	<0.2	<0.2
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05
Chlorfenvinphos	470-90-6	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05
Bromophos-ethyl	4824-78-6	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05
Fenamiphos	22224-92-6	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05
Prothiofos	34643-46-4	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05
Ethion	563-12-2	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05
Carbophenothion	786-19-6	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05
Azinphos Methyl	86-50-0	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	DUP04	BH08_0.5	BH08_1.5	BH07_0.5	BH07_1.3
			Sampling date / time	11-Feb-2022 00:00	11-Feb-2022 00:00	11-Feb-2022 00:00	11-Feb-2022 00:00	11-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2204812-012	ES2204812-013	ES2204812-014	ES2204812-015	ES2204812-016
				Result	Result	Result	Result	Result
EP074A: Monocyclic Aromatic Hydrocarbons								
Styrene	100-42-5	0.5	mg/kg	----	----	----	<0.5	----
Isopropylbenzene	98-82-8	0.5	mg/kg	----	----	----	<0.5	----
n-Propylbenzene	103-65-1	0.5	mg/kg	----	----	----	<0.5	----
1.3.5-Trimethylbenzene	108-67-8	0.5	mg/kg	----	----	----	<0.5	----
sec-Butylbenzene	135-98-8	0.5	mg/kg	----	----	----	<0.5	----
1.2.4-Trimethylbenzene	95-63-6	0.5	mg/kg	----	----	----	<0.5	----
tert-Butylbenzene	98-06-6	0.5	mg/kg	----	----	----	<0.5	----
p-Isopropyltoluene	99-87-6	0.5	mg/kg	----	----	----	<0.5	----
n-Butylbenzene	104-51-8	0.5	mg/kg	----	----	----	<0.5	----
EP074B: Oxygenated Compounds								
Vinyl Acetate	108-05-4	5	mg/kg	----	----	----	<5	----
2-Butanone (MEK)	78-93-3	5	mg/kg	----	----	----	<5	----
4-Methyl-2-pentanone (MIBK)	108-10-1	5	mg/kg	----	----	----	<5	----
2-Hexanone (MBK)	591-78-6	5	mg/kg	----	----	----	<5	----
EP074C: Sulfonated Compounds								
Carbon disulfide	75-15-0	0.5	mg/kg	----	----	----	<0.5	----
EP074D: Fumigants								
2.2-Dichloropropane	594-20-7	0.5	mg/kg	----	----	----	<0.5	----
1.2-Dichloropropane	78-87-5	0.5	mg/kg	----	----	----	<0.5	----
cis-1.3-Dichloropropylene	10061-01-5	0.5	mg/kg	----	----	----	<0.5	----
trans-1.3-Dichloropropylene	10061-02-6	0.5	mg/kg	----	----	----	<0.5	----
1.2-Dibromoethane (EDB)	106-93-4	0.5	mg/kg	----	----	----	<0.5	----
EP074E: Halogenated Aliphatic Compounds								
Dichlorodifluoromethane	75-71-8	5	mg/kg	----	----	----	<5	----
Chloromethane	74-87-3	5	mg/kg	----	----	----	<5	----
Vinyl chloride	75-01-4	5	mg/kg	----	----	----	<5	----
Bromomethane	74-83-9	5	mg/kg	----	----	----	<5	----
Chloroethane	75-00-3	5	mg/kg	----	----	----	<5	----
Trichlorofluoromethane	75-69-4	5	mg/kg	----	----	----	<5	----
1.1-Dichloroethene	75-35-4	0.5	mg/kg	----	----	----	<0.5	----
Iodomethane	74-88-4	0.5	mg/kg	----	----	----	<0.5	----
trans-1.2-Dichloroethene	156-60-5	0.5	mg/kg	----	----	----	<0.5	----
1.1-Dichloroethane	75-34-3	0.5	mg/kg	----	----	----	<0.5	----
cis-1.2-Dichloroethene	156-59-2	0.5	mg/kg	----	----	----	<0.5	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	DUP04	BH08_0.5	BH08_1.5	BH07_0.5	BH07_1.3
			Sampling date / time	11-Feb-2022 00:00	11-Feb-2022 00:00	11-Feb-2022 00:00	11-Feb-2022 00:00	11-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2204812-012	ES2204812-013	ES2204812-014	ES2204812-015	ES2204812-016
				Result	Result	Result	Result	Result
EP074E: Halogenated Aliphatic Compounds - Continued								
1.1.1-Trichloroethane	71-55-6	0.5	mg/kg	----	----	----	<0.5	----
1.1-Dichloropropylene	563-58-6	0.5	mg/kg	----	----	----	<0.5	----
Carbon Tetrachloride	56-23-5	0.5	mg/kg	----	----	----	<0.5	----
1.2-Dichloroethane	107-06-2	0.5	mg/kg	----	----	----	<0.5	----
Trichloroethene	79-01-6	0.5	mg/kg	----	----	----	<0.5	----
Dibromomethane	74-95-3	0.5	mg/kg	----	----	----	<0.5	----
1.1.2-Trichloroethane	79-00-5	0.5	mg/kg	----	----	----	<0.5	----
1.3-Dichloropropane	142-28-9	0.5	mg/kg	----	----	----	<0.5	----
Tetrachloroethene	127-18-4	0.5	mg/kg	----	----	----	<0.5	----
1.1.1.2-Tetrachloroethane	630-20-6	0.5	mg/kg	----	----	----	<0.5	----
trans-1.4-Dichloro-2-butene	110-57-6	0.5	mg/kg	----	----	----	<0.5	----
cis-1.4-Dichloro-2-butene	1476-11-5	0.5	mg/kg	----	----	----	<0.5	----
1.1.2.2-Tetrachloroethane	79-34-5	0.5	mg/kg	----	----	----	<0.5	----
1.2.3-Trichloropropane	96-18-4	0.5	mg/kg	----	----	----	<0.5	----
Pentachloroethane	76-01-7	0.5	mg/kg	----	----	----	<0.5	----
1.2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg	----	----	----	<0.5	----
EP074F: Halogenated Aromatic Compounds								
Chlorobenzene	108-90-7	0.5	mg/kg	----	----	----	<0.5	----
Bromobenzene	108-86-1	0.5	mg/kg	----	----	----	<0.5	----
2-Chlorotoluene	95-49-8	0.5	mg/kg	----	----	----	<0.5	----
4-Chlorotoluene	106-43-4	0.5	mg/kg	----	----	----	<0.5	----
1.2.3-Trichlorobenzene	87-61-6	0.5	mg/kg	----	----	----	<0.5	----
EP074G: Trihalomethanes								
Chloroform	67-66-3	0.5	mg/kg	----	----	----	<0.5	----
Bromodichloromethane	75-27-4	0.5	mg/kg	----	----	----	<0.5	----
Dibromochloromethane	124-48-1	0.5	mg/kg	----	----	----	<0.5	----
Bromoform	75-25-2	0.5	mg/kg	----	----	----	<0.5	----
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	----	<0.5	<0.5	<0.5	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg	----	<0.5	<0.5	<0.5	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	----	<0.5	<0.5	<0.5	<0.5
3- & 4-Methylphenol	1319-77-3	1	mg/kg	----	<1	<1	<1	<1
2-Nitrophenol	88-75-5	0.5	mg/kg	----	<0.5	<0.5	<0.5	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	----	<0.5	<0.5	<0.5	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	DUP04	BH08_0.5	BH08_1.5	BH07_0.5	BH07_1.3
			Sampling date / time	11-Feb-2022 00:00	11-Feb-2022 00:00	11-Feb-2022 00:00	11-Feb-2022 00:00	11-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2204812-012	ES2204812-013	ES2204812-014	ES2204812-015	ES2204812-016
				Result	Result	Result	Result	Result
EP075(SIM)A: Phenolic Compounds - Continued								
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	----	<0.5	<0.5	<0.5	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	----	<0.5	<0.5	<0.5	<0.5
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	----	<0.5	<0.5	<0.5	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	----	<0.5	<0.5	<0.5	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	----	<0.5	<0.5	<0.5	<0.5
Pentachlorophenol	87-86-5	2	mg/kg	----	<2	<2	<2	<2
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	----	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	----	<0.5	**0.7**	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	----	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	----	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	----	**0.6**	**2.1**	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg	----	<0.5	**0.8**	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	----	**1.0**	**6.2**	**1.0**	<0.5
Pyrene	129-00-0	0.5	mg/kg	----	**1.0**	**6.1**	**1.0**	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg	----	<0.5	**3.6**	**0.6**	<0.5
Chrysene	218-01-9	0.5	mg/kg	----	<0.5	**3.0**	<0.5	<0.5
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	----	**0.5**	**4.6**	**0.8**	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	----	<0.5	**1.9**	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	----	**0.5**	**4.1**	**0.7**	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	----	<0.5	**2.3**	<0.5	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	----	<0.5	**0.6**	<0.5	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	----	<0.5	**2.5**	<0.5	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	----	**3.6**	**38.5**	**4.1**	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	----	**0.6**	**6.0**	**0.8**	<0.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	----	**0.9**	**6.0**	**1.1**	**0.6**
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	----	**1.2**	**6.0**	**1.4**	**1.2**
EP075B: Polynuclear Aromatic Hydrocarbons								
2-Methylnaphthalene	91-57-6	0.5	mg/kg	----	----	----	<0.5	----
2-Chloronaphthalene	91-58-7	0.5	mg/kg	----	----	----	<0.5	----
N-2-Fluorenyl Acetamide	53-96-3	0.5	mg/kg	----	----	----	<0.5	----
7.12-Dimethylbenz(a)anthracene	57-97-6	0.5	mg/kg	----	----	----	<0.5	----
3-Methylcholanthrene	56-49-5	0.5	mg/kg	----	----	----	<0.5	----
EP075C: Phthalate Esters								

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	DUP04	BH08_0.5	BH08_1.5	BH07_0.5	BH07_1.3
			Sampling date / time	11-Feb-2022 00:00	11-Feb-2022 00:00	11-Feb-2022 00:00	11-Feb-2022 00:00	11-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2204812-012	ES2204812-013	ES2204812-014	ES2204812-015	ES2204812-016
				Result	Result	Result	Result	Result
EP075C: Phthalate Esters - Continued								
Dimethyl phthalate	131-11-3	0.5	mg/kg	----	----	----	<0.5	----
Diethyl phthalate	84-66-2	0.5	mg/kg	----	----	----	<0.5	----
Di-n-butyl phthalate	84-74-2	0.5	mg/kg	----	----	----	<0.5	----
Butyl benzyl phthalate	85-68-7	0.5	mg/kg	----	----	----	<0.5	----
bis(2-ethylhexyl) phthalate	117-81-7	5.0	mg/kg	----	----	----	<5.0	----
Di-n-octylphthalate	117-84-0	0.5	mg/kg	----	----	----	<0.5	----
EP075D: Nitrosamines								
N-Nitrosomethylethylamine	10595-95-6	0.5	mg/kg	----	----	----	<0.5	----
N-Nitrosodiethylamine	55-18-5	0.5	mg/kg	----	----	----	<0.5	----
N-Nitrosopyrrolidine	930-55-2	1.0	mg/kg	----	----	----	<1.0	----
N-Nitrosomorpholine	59-89-2	0.5	mg/kg	----	----	----	<0.5	----
N-Nitrosodi-n-propylamine	621-64-7	0.5	mg/kg	----	----	----	<0.5	----
N-Nitrosopiperidine	100-75-4	0.5	mg/kg	----	----	----	<0.5	----
N-Nitrosodibutylamine	924-16-3	0.5	mg/kg	----	----	----	<0.5	----
N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	1.0	mg/kg	----	----	----	<1.0	----
Methapyrilene	91-80-5	0.5	mg/kg	----	----	----	<0.5	----
EP075E: Nitroaromatics and Ketones								
2-Picoline	109-06-8	0.5	mg/kg	----	----	----	<0.5	----
Acetophenone	98-86-2	0.5	mg/kg	----	----	----	<0.5	----
Nitrobenzene	98-95-3	0.5	mg/kg	----	----	----	<0.5	----
Isophorone	78-59-1	0.5	mg/kg	----	----	----	<0.5	----
2.6-Dinitrotoluene	606-20-2	1.0	mg/kg	----	----	----	<1.0	----
2.4-Dinitrotoluene	121-14-2	1.0	mg/kg	----	----	----	<1.0	----
1-Naphthylamine	134-32-7	0.5	mg/kg	----	----	----	<0.5	----
4-Nitroquinoline-N-oxide	56-57-5	0.5	mg/kg	----	----	----	<0.5	----
5-Nitro-o-toluidine	99-55-8	0.5	mg/kg	----	----	----	<0.5	----
Azobenzene	103-33-3	1	mg/kg	----	----	----	<1	----
1.3.5-Trinitrobenzene	99-35-4	0.5	mg/kg	----	----	----	<0.5	----
Phenacetin	62-44-2	0.5	mg/kg	----	----	----	<0.5	----
4-Aminobiphenyl	92-67-1	0.5	mg/kg	----	----	----	<0.5	----
Pentachloronitrobenzene	82-68-8	0.5	mg/kg	----	----	----	<0.5	----
Pronamide	23950-58-5	0.5	mg/kg	----	----	----	<0.5	----
Dimethylaminoazobenzene	60-11-7	0.5	mg/kg	----	----	----	<0.5	----
Chlorobenzilate	510-15-6	0.5	mg/kg	----	----	----	<0.5	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	DUP04	BH08_0.5	BH08_1.5	BH07_0.5	BH07_1.3
			Sampling date / time	11-Feb-2022 00:00	11-Feb-2022 00:00	11-Feb-2022 00:00	11-Feb-2022 00:00	11-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2204812-012	ES2204812-013	ES2204812-014	ES2204812-015	ES2204812-016
				Result	Result	Result	Result	Result
EP075E: Nitroaromatics and Ketones - Continued								
EP075F: Haloethers								
Bis(2-chloroethyl) ether	111-44-4	0.5	mg/kg	----	----	----	<0.5	----
Bis(2-chloroethoxy) methane	111-91-1	0.5	mg/kg	----	----	----	<0.5	----
4-Chlorophenyl phenyl ether	7005-72-3	0.5	mg/kg	----	----	----	<0.5	----
4-Bromophenyl phenyl ether	101-55-3	0.5	mg/kg	----	----	----	<0.5	----
EP075G: Chlorinated Hydrocarbons								
1.3-Dichlorobenzene	541-73-1	0.5	mg/kg	----	----	----	<0.5	----
1.4-Dichlorobenzene	106-46-7	0.5	mg/kg	----	----	----	<0.5	----
1.2-Dichlorobenzene	95-50-1	0.5	mg/kg	----	----	----	<0.5	----
Hexachloroethane	67-72-1	0.5	mg/kg	----	----	----	<0.5	----
1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg	----	----	----	<0.5	----
Hexachloropropylene	1888-71-7	0.5	mg/kg	----	----	----	<0.5	----
Hexachlorobutadiene	87-68-3	0.5	mg/kg	----	----	----	<0.5	----
Hexachlorocyclopentadiene	77-47-4	2.5	mg/kg	----	----	----	<2.5	----
Pentachlorobenzene	608-93-5	0.5	mg/kg	----	----	----	<0.5	----
Hexachlorobenzene (HCB)	118-74-1	1.0	mg/kg	----	----	----	<1.0	----
EP075H: Anilines and Benzidines								
Aniline	62-53-3	0.5	mg/kg	----	----	----	<0.5	----
4-Chloroaniline	106-47-8	0.5	mg/kg	----	----	----	<0.5	----
2-Nitroaniline	88-74-4	1.0	mg/kg	----	----	----	<1.0	----
3-Nitroaniline	99-09-2	1.0	mg/kg	----	----	----	<1.0	----
Dibenzofuran	132-64-9	0.5	mg/kg	----	----	----	<0.5	----
4-Nitroaniline	100-01-6	0.5	mg/kg	----	----	----	<0.5	----
Carbazole	86-74-8	0.5	mg/kg	----	----	----	<0.5	----
3.3`-Dichlorobenzidine	91-94-1	0.5	mg/kg	----	----	----	<0.5	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	----	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg	----	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg	----	<100	**140**	<100	<100
C29 - C36 Fraction	----	100	mg/kg	----	<100	**130**	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg	----	<50	**270**	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	10	mg/kg	----	<10	<10	<10	<10

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	DUP04	BH08_0.5	BH08_1.5	BH07_0.5	BH07_1.3
			Sampling date / time	11-Feb-2022 00:00	11-Feb-2022 00:00	11-Feb-2022 00:00	11-Feb-2022 00:00	11-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2204812-012	ES2204812-013	ES2204812-014	ES2204812-015	ES2204812-016
				Result	Result	Result	Result	Result
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued								
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	----	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg	----	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg	----	<100	**210**	<100	<100
>C34 - C40 Fraction	----	100	mg/kg	----	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	----	<50	**210**	<50	<50
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	----	<50	<50	<50	<50
EP080: BTEXN								
Benzene	71-43-2	0.2	mg/kg	----	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	----	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	----	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	----	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	----	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg	----	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	----	0.5	mg/kg	----	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	----	<1	<1	<1	<1
EP231A: Perfluoroalkyl Sulfonic Acids								
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	----	----	<0.0002	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	----	----	<0.0002	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	**0.0004**	----	----	<0.0002	----
EP231B: Perfluoroalkyl Carboxylic Acids								
Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	----	----	<0.001	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	----	----	<0.0002	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	----	----	<0.0002	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	----	----	<0.0002	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	----	----	<0.0002	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids								
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	----	----	<0.0005	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	----	----	<0.0005	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	DUP04	BH08_0.5	BH08_1.5	BH07_0.5	BH07_1.3
			Sampling date / time	11-Feb-2022 00:00	11-Feb-2022 00:00	11-Feb-2022 00:00	11-Feb-2022 00:00	11-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2204812-012	ES2204812-013	ES2204812-014	ES2204812-015	ES2204812-016
				Result	Result	Result	Result	Result
EP231D: (n:2) Fluorotelomer Sulfonic Acids - Continued								
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	----	----	<0.0005	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	----	----	<0.0005	----
EP231P: PFAS Sums								
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg	**0.0004**	----	----	<0.0002	----
Sum of PFAS (WA DER List)	----	0.0002	mg/kg	**0.0004**	----	----	<0.0002	----
EP066S: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	----	121	103	97.3	97.6
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.05	%	----	109	88.6	77.5	84.4
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.05	%	----	113	105	72.3	67.8
EP074S: VOC Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.5	%	----	----	----	108	----
Toluene-D8	2037-26-5	0.5	%	----	----	----	115	----
4-Bromofluorobenzene	460-00-4	0.5	%	----	----	----	118	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	----	108	111	104	105
2-Chlorophenol-D4	93951-73-6	0.5	%	----	107	110	98.3	103
2.4.6-Tribromophenol	118-79-6	0.5	%	----	85.6	81.6	87.4	93.0
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.5	%	----	116	118	116	118
Anthracene-d10	1719-06-8	0.5	%	----	121	124	117	117
4-Terphenyl-d14	1718-51-0	0.5	%	----	90.3	90.0	87.5	96.9
EP075S: Acid Extractable Surrogates								
2-Fluorophenol	367-12-4	0.5	%	----	----	----	106	----
Phenol-d6	13127-88-3	0.5	%	----	----	----	96.5	----
2-Chlorophenol-D4	93951-73-6	0.5	%	----	----	----	98.6	----
2.4.6-Tribromophenol	118-79-6	0.5	%	----	----	----	84.2	----
EP075T: Base/Neutral Extractable Surrogates								
Nitrobenzene-D5	4165-60-0	0.5	%	----	----	----	101	----
1.2-Dichlorobenzene-D4	2199-69-1	0.5	%	----	----	----	89.9	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	DUP04	BH08_0.5	BH08_1.5	BH07_0.5	BH07_1.3
			Sampling date / time	11-Feb-2022 00:00	11-Feb-2022 00:00	11-Feb-2022 00:00	11-Feb-2022 00:00	11-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2204812-012	ES2204812-013	ES2204812-014	ES2204812-015	ES2204812-016
				Result	Result	Result	Result	Result
EP075T: Base/Neutral Extractable Surrogates - Continued								
2-Fluorobiphenyl	321-60-8	0.5	%	----	----	----	87.1	----
Anthracene-d10	1719-06-8	0.5	%	----	----	----	118	----
4-Terphenyl-d14	1718-51-0	0.5	%	----	----	----	99.8	----
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.2	%	----	102	95.9	84.0	94.1
Toluene-D8	2037-26-5	0.2	%	----	105	99.1	91.6	95.6
4-Bromofluorobenzene	460-00-4	0.2	%	----	101	97.0	87.5	95.2
EP231S: PFAS Surrogate								
13C4-PFOS	----	0.0002	%	96.5	----	----	98.5	----
13C8-PFOA	----	0.0002	%	108	----	----	103	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	DUP06	----	----	----	----
			Sampling date / time	11-Feb-2022 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit	ES2204812-017	--------	--------	--------	--------
				Result	----	----	----	----
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	0.1	%	**20.6**	----	----	----	----
EP231A: Perfluoroalkyl Sulfonic Acids								
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	----	----	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	----	----	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	<0.0002	----	----	----	----
EP231B: Perfluoroalkyl Carboxylic Acids								
Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	----	----	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	----	----	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	----	----	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	----	----	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	----	----	----	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids								
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	----	----	----	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	----	----	----	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	----	----	----	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	----	----	----	----
EP231P: PFAS Sums								
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg	<0.0002	----	----	----	----
Sum of PFAS (WA DER List)	----	0.0002	mg/kg	<0.0002	----	----	----	----
EP231S: PFAS Surrogate								
13C4-PFOS	----	0.0002	%	**93.5**	----	----	----	----
13C8-PFOA	----	0.0002	%	**100**	----	----	----	----

Analytical Results

Descriptive Results

Sub-Matrix: **SOIL**

Method: Compound	*Sample ID - Sampling date / time*	*Analytical Results*
EA200: AS 4964 - 2004 Identification of Asbestos in Soils		
EA200: Description	BH11_0.2 - 11-Feb-2022 00:00	Soil sample.
EA200: Description	BH13_0.3 - 11-Feb-2022 00:00	Soil sample.
EA200: Description	BH10_0.3 - 11-Feb-2022 00:00	Soil sample.
EA200: Description	BH14_0.2 - 11-Feb-2022 00:00	Soil sample.
EA200: Description	BH14_0.9 - 11-Feb-2022 00:00	Soil sample containing many fragments of asbestos fibre board and loose asbestos fibre bundles.
EA200: Description	BH08_0.5 - 11-Feb-2022 00:00	Soil sample.
EA200: Description	BH07_0.5 - 11-Feb-2022 00:00	Soil sample.

Surrogate Control Limits

Sub-Matrix: SOIL		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP066S: PCB Surrogate			
Decachlorobiphenyl	2051-24-3	39	149
EP068S: Organochlorine Pesticide Surrogate			
Dibromo-DDE	21655-73-2	49	147
EP068T: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	35	143
EP074S: VOC Surrogates			
1.2-Dichloroethane-D4	17060-07-0	64	130
Toluene-D8	2037-26-5	66	136
4-Bromofluorobenzene	460-00-4	60	122
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	63	123
2-Chlorophenol-D4	93951-73-6	66	122
2.4.6-Tribromophenol	118-79-6	40	138
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	70	122
Anthracene-d10	1719-06-8	66	128
4-Terphenyl-d14	1718-51-0	65	129
EP075S: Acid Extractable Surrogates			
2-Fluorophenol	367-12-4	29	149
Phenol-d6	13127-88-3	32	128
2-Chlorophenol-D4	93951-73-6	32	128
2.4.6-Tribromophenol	118-79-6	13	121
EP075T: Base/Neutral Extractable Surrogates			
Nitrobenzene-D5	4165-60-0	33	125
1.2-Dichlorobenzene-D4	2199-69-1	34	108
2-Fluorobiphenyl	321-60-8	35	121
Anthracene-d10	1719-06-8	35	123
4-Terphenyl-d14	1718-51-0	33	125
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	73	133
Toluene-D8	2037-26-5	74	132
4-Bromofluorobenzene	460-00-4	72	130
EP231S: PFAS Surrogate			
13C4-PFOS	----	60	120
13C8-PFOA	----	60	120

Inter-Laboratory Testing

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

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

ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **ES2204958**	Page	: 1 of 52
Client	: **EP RISK MANAGEMENT**	Laboratory	: Environmental Division Sydney
Contact	: HARRISON BLAKE	Contact	: Tyler Anderson
Address	: Level 4 73 Walker St North Sydney 2060	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: +61 2 8784 8555
Project	: EP2515	Date Samples Received	: 14-Feb-2022 16:35
Order number	: ----	Date Analysis Commenced	: 15-Feb-2022
C-O-C number	: ----	Issue Date	: 18-Feb-2022 21:11
Sampler	: HARRISON BLAKE		
Site	: ----		
Quote number	: SY/497/20 Primary analysis only		
No. of samples received	: 21		
No. of samples analysed	: 16		

ilac-MRA NATA
Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Descriptive Results
- Surrogate Control Limits

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

Signatories

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

Signatories	*Position*	*Accreditation Category*
Alana Smylie	Team Leader - Asbestos	Newcastle - Asbestos, Mayfield West, NSW
Edwandy Fadjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Franco Lentini	LCMS Coordinator	Sydney Inorganics, Smithfield, NSW
Franco Lentini	LCMS Coordinator	Sydney Organics, Smithfield, NSW
Ivan Taylor	Analyst	Sydney Inorganics, Smithfield, NSW

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EP075 (SIM): Where reported, Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero.
- EP075: Where reported, Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero.
- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero, for 'TEQ 1/2LOR' are treated as half the reported LOR, and for 'TEQ LOR' are treated as being equal to the reported LOR. Note: TEQ 1/2LOR and TEQ LOR will calculate as 0.6mg/Kg and 1.2mg/Kg respectively for samples with non-detects for all of the eight TEQ PAHs.
- EP080: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EP068: Where reported, Total Chlordane (sum) is the sum of the reported concentrations of cis-Chlordane and trans-Chlordane at or above the LOR.
- EP068: Where reported, Total OCP is the sum of the reported concentrations of all Organochlorine Pesticides at or above LOR.
- EP074: Where reported, Total Trihalomethanes is the sum of the reported concentrations of all Trihalomethanes at or above the LOR.
- EP074: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EP074: Where reported, Sum of chlorinated hydrocarbons includes carbon tetrachloride, chlorobenzene, chloroform, 1,2-dichlorobenzene, 1,4-dichlorobenzene, 1,2-dichloroethane, 1,1-dichloroethene, cis-1,2-dichlorothene, trans-1,2-dichlorothene, 1,1,1,2-tetrachloroethane, 1,1,2,2-tetrachloroethane, 1,2,4-trichlorobenzene, 1,1,1-trichloroethane, 1,1,2-trichloroethane, trichloroethene, vinyl chloride, hexachlorobutadiene and methylene chloride.
- EP074: Where reported, Total Trimethylbenzenes is the sum of the reported concentrations of 1.2.3-Trimethylbenzene, 1.2.4-Trimethylbenzene and 1.3.5-Trimethylbenzene at or above the LOR.
- EP075(SIM): Where reported, Total Cresol is the sum of the reported concentrations of 2-Methylphenol and 3- & 4-Methylphenol at or above the LOR.
- EP080/EP074: Positive results for sample ES2204958-015 was confirmed by re-analysis
- EG035T:Positive Hg result has been confirm by redigestion and reanalysis.
- EP075(SIM): Surrogate recovery bias low due to sample matrix interferences.
- EP075: Where reported, 'Sum of PAH' is the sum of the USEPA 16 priority PAHs
- EA200 'Am' Amosite (brown asbestos)
- EA200 'Cr' Crocidolite (blue asbestos)
- EA200 'Trace' - Asbestos fibres ("Free Fibres") detected by trace analysis per AS4964. The result can be interpreted that the sample contains detectable 'respirable' asbestos fibres

- EA200: Asbestos Identification Samples were analysed by Polarised Light Microscopy including dispersion staining.
- EA200 Legend
- EA200 'Ch' Chrysotile (white asbestos)
- EA200: 'UMF' Unknown Mineral Fibres. "-" indicates fibres detected may or may not be asbestos fibres. Confirmation by alternative techniques is recommended.
- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero, for 'TEQ 1/2LOR' are treated as half the reported LOR, and for 'TEQ LOR' are treated as being equal to the reported LOR. Note: TEQ 1/2LOR and TEQ LOR will calculate as 0.6mg/Kg and 1.2mg/Kg respectively for samples with non-detects for all of the eight TEQ PAHs.
- EA200: For samples larger than 30g, the <2mm fraction may be sub-sampled prior to trace analysis as outlined in ISO23909:2008(E) Sect 6.3.2-2
- EA200: 'Yes' - Asbestos detected by polarised light microscopy including dispersion staining.
- EA200: 'No*' - No asbestos found, at the reporting limit of 0.1g/kg, by polarised light microscopy including dispersion staining. Asbestos material was detected and positively identified at concentrations estimated to be below 0.1g/kg.
- EA200: 'No' - No asbestos found at the reporting limit 0.1g/kg, by polarised light microscopy including dispersion staining.
- EP231: Stable isotope enriched internal standards are added to samples prior to extraction. Target compounds have a direct analogous internal standard with the exception of PFPeS, PFHpA, PFDS, PFTrDA and 10:2 FTS. These compounds use an internal standard that is chemically related and has a retention time close to that of the target compound. The DQO for internal standard response is 50-150% of that established at initial calibration. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS (Australian HEPA) and also conform to QSM 5.3 (US DoD) requirements.

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH09_0.3	BH09_1.0	BH15_0.4	BH15_1.5	BH17_0.4
			Sampling date / time	14-Feb-2022 00:00	14-Feb-2022 00:00	14-Feb-2022 00:00	14-Feb-2022 00:00	14-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2204958-001	ES2204958-002	ES2204958-003	ES2204958-004	ES2204958-006
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	16.1	7.5	7.6	13.4	8.2
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	No	----	No	----	No
Asbestos (Trace)	1332-21-4	5	Fibres	No	----	No	----	No
Asbestos Type	1332-21-4	-	--	-	----	-	----	-
Synthetic Mineral Fibre	----	0.1	g/kg	No	----	No	----	No
Organic Fibre	----	0.1	g/kg	No	----	No	----	Yes
Sample weight (dry)	----	0.01	g	90.7	----	122	----	142
APPROVED IDENTIFIER:	----	-	--	A. SMYLIE	----	A. SMYLIE	----	A. SMYLIE
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	12	<5	<5	<5	45
Cadmium	7440-43-9	1	mg/kg	2	<1	<1	<1	8
Chromium	7440-47-3	2	mg/kg	33	2	3	3	65
Copper	7440-50-8	5	mg/kg	670	16	194	<5	24800
Lead	7439-92-1	5	mg/kg	694	20	153	6	1380
Nickel	7440-02-0	2	mg/kg	38	<2	6	<2	89
Zinc	7440-66-6	5	mg/kg	1720	44	235	60	13000
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	0.3	<0.1	0.3	<0.1	1.1
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
^ Total Chlordane (sum)	----	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH09_0.3	BH09_1.0	BH15_0.4	BH15_1.5	BH17_0.4
			Sampling date / time	14-Feb-2022 00:00	14-Feb-2022 00:00	14-Feb-2022 00:00	14-Feb-2022 00:00	14-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2204958-001	ES2204958-002	ES2204958-003	ES2204958-004	ES2204958-006
				Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued								
Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
^ Endosulfan (sum)	115-29-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
EP068B: Organophosphorus Pesticides (OP)								
Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
EP074A: Monocyclic Aromatic Hydrocarbons								

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH09_0.3	BH09_1.0	BH15_0.4	BH15_1.5	BH17_0.4
			Sampling date / time	14-Feb-2022 00:00	14-Feb-2022 00:00	14-Feb-2022 00:00	14-Feb-2022 00:00	14-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2204958-001	ES2204958-002	ES2204958-003	ES2204958-004	ES2204958-006
				Result	Result	Result	Result	Result
EP074A: Monocyclic Aromatic Hydrocarbons - Continued								
Styrene	100-42-5	0.5	mg/kg	<0.5	----	<0.5	----	----
Isopropylbenzene	98-82-8	0.5	mg/kg	<0.5	----	<0.5	----	----
n-Propylbenzene	103-65-1	0.5	mg/kg	<0.5	----	<0.5	----	----
1.3.5-Trimethylbenzene	108-67-8	0.5	mg/kg	<0.5	----	<0.5	----	----
sec-Butylbenzene	135-98-8	0.5	mg/kg	<0.5	----	<0.5	----	----
1.2.4-Trimethylbenzene	95-63-6	0.5	mg/kg	<0.5	----	<0.5	----	----
tert-Butylbenzene	98-06-6	0.5	mg/kg	<0.5	----	<0.5	----	----
p-Isopropyltoluene	99-87-6	0.5	mg/kg	<0.5	----	<0.5	----	----
n-Butylbenzene	104-51-8	0.5	mg/kg	<0.5	----	<0.5	----	----
EP074B: Oxygenated Compounds								
Vinyl Acetate	108-05-4	5	mg/kg	<5	----	<5	----	----
2-Butanone (MEK)	78-93-3	5	mg/kg	<5	----	<5	----	----
4-Methyl-2-pentanone (MIBK)	108-10-1	5	mg/kg	<5	----	<5	----	----
2-Hexanone (MBK)	591-78-6	5	mg/kg	<5	----	<5	----	----
EP074C: Sulfonated Compounds								
Carbon disulfide	75-15-0	0.5	mg/kg	<0.5	----	<0.5	----	----
EP074D: Fumigants								
2.2-Dichloropropane	594-20-7	0.5	mg/kg	<0.5	----	<0.5	----	----
1.2-Dichloropropane	78-87-5	0.5	mg/kg	<0.5	----	<0.5	----	----
cis-1.3-Dichloropropylene	10061-01-5	0.5	mg/kg	<0.5	----	<0.5	----	----
trans-1.3-Dichloropropylene	10061-02-6	0.5	mg/kg	<0.5	----	<0.5	----	----
1.2-Dibromoethane (EDB)	106-93-4	0.5	mg/kg	<0.5	----	<0.5	----	----
EP074E: Halogenated Aliphatic Compounds								
Dichlorodifluoromethane	75-71-8	5	mg/kg	<5	----	<5	----	----
Chloromethane	74-87-3	5	mg/kg	<5	----	<5	----	----
Vinyl chloride	75-01-4	5	mg/kg	<5	----	<5	----	----
Bromomethane	74-83-9	5	mg/kg	<5	----	<5	----	----
Chloroethane	75-00-3	5	mg/kg	<5	----	<5	----	----
Trichlorofluoromethane	75-69-4	5	mg/kg	<5	----	<5	----	----
1.1-Dichloroethene	75-35-4	0.5	mg/kg	<0.5	----	<0.5	----	----
Iodomethane	74-88-4	0.5	mg/kg	<0.5	----	<0.5	----	----
trans-1.2-Dichloroethene	156-60-5	0.5	mg/kg	<0.5	----	<0.5	----	----
1.1-Dichloroethane	75-34-3	0.5	mg/kg	<0.5	----	<0.5	----	----
cis-1.2-Dichloroethene	156-59-2	0.5	mg/kg	<0.5	----	<0.5	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH09_0.3	BH09_1.0	BH15_0.4	BH15_1.5	BH17_0.4
			Sampling date / time	14-Feb-2022 00:00	14-Feb-2022 00:00	14-Feb-2022 00:00	14-Feb-2022 00:00	14-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2204958-001	ES2204958-002	ES2204958-003	ES2204958-004	ES2204958-006
				Result	Result	Result	Result	Result
EP074E: Halogenated Aliphatic Compounds - Continued								
1.1.1-Trichloroethane	71-55-6	0.5	mg/kg	<0.5	----	<0.5	----	----
1.1-Dichloropropylene	563-58-6	0.5	mg/kg	<0.5	----	<0.5	----	----
Carbon Tetrachloride	56-23-5	0.5	mg/kg	<0.5	----	<0.5	----	----
1.2-Dichloroethane	107-06-2	0.5	mg/kg	<0.5	----	<0.5	----	----
Trichloroethene	79-01-6	0.5	mg/kg	<0.5	----	<0.5	----	----
Dibromomethane	74-95-3	0.5	mg/kg	<0.5	----	<0.5	----	----
1.1.2-Trichloroethane	79-00-5	0.5	mg/kg	<0.5	----	**1.0**	----	----
1.3-Dichloropropane	142-28-9	0.5	mg/kg	<0.5	----	<0.5	----	----
Tetrachloroethene	127-18-4	0.5	mg/kg	<0.5	----	<0.5	----	----
1.1.1.2-Tetrachloroethane	630-20-6	0.5	mg/kg	<0.5	----	<0.5	----	----
trans-1.4-Dichloro-2-butene	110-57-6	0.5	mg/kg	<0.5	----	<0.5	----	----
cis-1.4-Dichloro-2-butene	1476-11-5	0.5	mg/kg	<0.5	----	<0.5	----	----
1.1.2.2-Tetrachloroethane	79-34-5	0.5	mg/kg	<0.5	----	<0.5	----	----
1.2.3-Trichloropropane	96-18-4	0.5	mg/kg	<0.5	----	<0.5	----	----
Pentachloroethane	76-01-7	0.5	mg/kg	<0.5	----	<0.5	----	----
1.2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg	<0.5	----	<0.5	----	----
EP074F: Halogenated Aromatic Compounds								
Chlorobenzene	108-90-7	0.5	mg/kg	<0.5	----	<0.5	----	----
Bromobenzene	108-86-1	0.5	mg/kg	<0.5	----	<0.5	----	----
2-Chlorotoluene	95-49-8	0.5	mg/kg	<0.5	----	<0.5	----	----
4-Chlorotoluene	106-43-4	0.5	mg/kg	<0.5	----	<0.5	----	----
1.2.3-Trichlorobenzene	87-61-6	0.5	mg/kg	<0.5	----	<0.5	----	----
EP074G: Trihalomethanes								
Chloroform	67-66-3	0.5	mg/kg	<0.5	----	<0.5	----	----
Bromodichloromethane	75-27-4	0.5	mg/kg	<0.5	----	<0.5	----	----
Dibromochloromethane	124-48-1	0.5	mg/kg	<0.5	----	<0.5	----	----
Bromoform	75-25-2	0.5	mg/kg	<0.5	----	<0.5	----	----
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	<1	<1	<1
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH09_0.3	BH09_1.0	BH15_0.4	BH15_1.5	BH17_0.4
			Sampling date / time	14-Feb-2022 00:00	14-Feb-2022 00:00	14-Feb-2022 00:00	14-Feb-2022 00:00	14-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2204958-001	ES2204958-002	ES2204958-003	ES2204958-004	ES2204958-006
				Result	Result	Result	Result	Result
EP075(SIM)A: Phenolic Compounds - Continued								
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	<2	<2	<2
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	**3.3**	<0.5	<0.5	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg	**0.7**	<0.5	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	**4.0**	<0.5	<0.5	<0.5	<0.5
Pyrene	129-00-0	0.5	mg/kg	**4.1**	<0.5	<0.5	<0.5	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg	**1.5**	<0.5	<0.5	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg	**1.4**	<0.5	<0.5	<0.5	<0.5
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	**1.6**	<0.5	<0.5	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	**0.5**	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	**1.2**	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	**0.6**	<0.5	<0.5	<0.5	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	**0.7**	<0.5	<0.5	<0.5	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	**19.6**	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	**1.6**	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	**1.9**	**0.6**	**0.6**	**0.6**	**0.6**
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	**2.1**	**1.2**	**1.2**	**1.2**	**1.2**
EP075A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	----	<0.5	----	----
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	----	<0.5	----	----
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	----	<0.5	----	----
3- & 4-Methylphenol	1319-77-3	0.5	mg/kg	<0.5	----	<0.5	----	----
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	----	<0.5	----	----
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	----	<0.5	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH09_0.3	BH09_1.0	BH15_0.4	BH15_1.5	BH17_0.4
			Sampling date / time	14-Feb-2022 00:00	14-Feb-2022 00:00	14-Feb-2022 00:00	14-Feb-2022 00:00	14-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2204958-001	ES2204958-002	ES2204958-003	ES2204958-004	ES2204958-006
				Result	Result	Result	Result	Result
EP075A: Phenolic Compounds - Continued								
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	----	<0.5	----	----
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	----	<0.5	----	----
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	----	<0.5	----	----
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	----	<0.5	----	----
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	----	<0.5	----	----
Pentachlorophenol	87-86-5	1	mg/kg	<1	----	<1	----	----
EP075B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	----	<0.5	----	----
2-Methylnaphthalene	91-57-6	0.5	mg/kg	<0.5	----	<0.5	----	----
2-Chloronaphthalene	91-58-7	0.5	mg/kg	<0.5	----	<0.5	----	----
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	----	<0.5	----	----
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	----	<0.5	----	----
Fluorene	86-73-7	0.5	mg/kg	<0.5	----	<0.5	----	----
Phenanthrene	85-01-8	0.5	mg/kg	**3.3**	----	<0.5	----	----
Anthracene	120-12-7	0.5	mg/kg	**0.6**	----	<0.5	----	----
Fluoranthene	206-44-0	0.5	mg/kg	**3.8**	----	<0.5	----	----
Pyrene	129-00-0	0.5	mg/kg	**3.7**	----	<0.5	----	----
N-2-Fluorenyl Acetamide	53-96-3	0.5	mg/kg	<0.5	----	<0.5	----	----
Benz(a)anthracene	56-55-3	0.5	mg/kg	**1.6**	----	<0.5	----	----
Chrysene	218-01-9	0.5	mg/kg	**1.4**	----	<0.5	----	----
Benzo(b+j) & Benzo(k)fluoranthene	205-99-2 207-08-9	1	mg/kg	**2**	----	<1	----	----
7.12-Dimethylbenz(a)anthracene	57-97-6	0.5	mg/kg	<0.5	----	<0.5	----	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg	**1.2**	----	<0.5	----	----
3-Methylcholanthrene	56-49-5	0.5	mg/kg	<0.5	----	<0.5	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	**0.5**	----	<0.5	----	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	----	<0.5	----	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	**0.6**	----	<0.5	----	----
^ Sum of PAHs	----	0.5	mg/kg	**18.7**	----	<0.5	----	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	**1.6**	----	<0.5	----	----
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	**1.9**	----	**0.6**	----	----
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	**2.1**	----	**1.2**	----	----
EP075C: Phthalate Esters								
Dimethyl phthalate	131-11-3	0.5	mg/kg	<0.5	----	<0.5	----	----
Diethyl phthalate	84-66-2	0.5	mg/kg	<0.5	----	<0.5	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH09_0.3	BH09_1.0	BH15_0.4	BH15_1.5	BH17_0.4
			Sampling date / time	14-Feb-2022 00:00	14-Feb-2022 00:00	14-Feb-2022 00:00	14-Feb-2022 00:00	14-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2204958-001	ES2204958-002	ES2204958-003	ES2204958-004	ES2204958-006
				Result	Result	Result	Result	Result
EP075C: Phthalate Esters - Continued								
Di-n-butyl phthalate	84-74-2	0.5	mg/kg	<0.5	----	<0.5	----	----
Butyl benzyl phthalate	85-68-7	0.5	mg/kg	<0.5	----	<0.5	----	----
bis(2-ethylhexyl) phthalate	117-81-7	5.0	mg/kg	<5.0	----	<5.0	----	----
Di-n-octylphthalate	117-84-0	0.5	mg/kg	<0.5	----	<0.5	----	----
EP075D: Nitrosamines								
N-Nitrosomethylethylamine	10595-95-6	0.5	mg/kg	<0.5	----	<0.5	----	----
N-Nitrosodiethylamine	55-18-5	0.5	mg/kg	<0.5	----	<0.5	----	----
N-Nitrosopyrrolidine	930-55-2	1.0	mg/kg	<1.0	----	<1.0	----	----
N-Nitrosomorpholine	59-89-2	0.5	mg/kg	<0.5	----	<0.5	----	----
N-Nitrosodi-n-propylamine	621-64-7	0.5	mg/kg	<0.5	----	<0.5	----	----
N-Nitrosopiperidine	100-75-4	0.5	mg/kg	<0.5	----	<0.5	----	----
N-Nitrosodibutylamine	924-16-3	0.5	mg/kg	<0.5	----	<0.5	----	----
N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	1.0	mg/kg	<1.0	----	<1.0	----	----
Methapyrilene	91-80-5	0.5	mg/kg	<0.5	----	<0.5	----	----
EP075E: Nitroaromatics and Ketones								
2-Picoline	109-06-8	0.5	mg/kg	<0.5	----	<0.5	----	----
Acetophenone	98-86-2	0.5	mg/kg	<0.5	----	<0.5	----	----
Nitrobenzene	98-95-3	0.5	mg/kg	<0.5	----	<0.5	----	----
Isophorone	78-59-1	0.5	mg/kg	<0.5	----	<0.5	----	----
2.6-Dinitrotoluene	606-20-2	1.0	mg/kg	<1.0	----	<1.0	----	----
2.4-Dinitrotoluene	121-14-2	1.0	mg/kg	<1.0	----	<1.0	----	----
1-Naphthylamine	134-32-7	0.5	mg/kg	<0.5	----	<0.5	----	----
4-Nitroquinoline-N-oxide	56-57-5	0.5	mg/kg	<0.5	----	<0.5	----	----
5-Nitro-o-toluidine	99-55-8	0.5	mg/kg	<0.5	----	<0.5	----	----
Azobenzene	103-33-3	1	mg/kg	<1	----	<1	----	----
1.3.5-Trinitrobenzene	99-35-4	0.5	mg/kg	<0.5	----	<0.5	----	----
Phenacetin	62-44-2	0.5	mg/kg	<0.5	----	<0.5	----	----
4-Aminobiphenyl	92-67-1	0.5	mg/kg	<0.5	----	<0.5	----	----
Pentachloronitrobenzene	82-68-8	0.5	mg/kg	<0.5	----	<0.5	----	----
Pronamide	23950-58-5	0.5	mg/kg	<0.5	----	<0.5	----	----
Dimethylaminoazobenzene	60-11-7	0.5	mg/kg	<0.5	----	<0.5	----	----
Chlorobenzilate	510-15-6	0.5	mg/kg	<0.5	----	<0.5	----	----
EP075F: Haloethers								

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH09_0.3	BH09_1.0	BH15_0.4	BH15_1.5	BH17_0.4
			Sampling date / time	14-Feb-2022 00:00	14-Feb-2022 00:00	14-Feb-2022 00:00	14-Feb-2022 00:00	14-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2204958-001	ES2204958-002	ES2204958-003	ES2204958-004	ES2204958-006
				Result	Result	Result	Result	Result
EP075F: Haloethers - Continued								
Bis(2-chloroethyl) ether	111-44-4	0.5	mg/kg	<0.5	----	<0.5	----	----
Bis(2-chloroethoxy) methane	111-91-1	0.5	mg/kg	<0.5	----	<0.5	----	----
4-Chlorophenyl phenyl ether	7005-72-3	0.5	mg/kg	<0.5	----	<0.5	----	----
4-Bromophenyl phenyl ether	101-55-3	0.5	mg/kg	<0.5	----	<0.5	----	----
EP075G: Chlorinated Hydrocarbons								
1.3-Dichlorobenzene	541-73-1	0.5	mg/kg	<0.5	----	<0.5	----	----
1.4-Dichlorobenzene	106-46-7	0.5	mg/kg	<0.5	----	<0.5	----	----
1.2-Dichlorobenzene	95-50-1	0.5	mg/kg	<0.5	----	<0.5	----	----
Hexachloroethane	67-72-1	0.5	mg/kg	<0.5	----	<0.5	----	----
1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg	<0.5	----	<0.5	----	----
Hexachloropropylene	1888-71-7	0.5	mg/kg	<0.5	----	<0.5	----	----
Hexachlorobutadiene	87-68-3	0.5	mg/kg	<0.5	----	<0.5	----	----
Hexachlorocyclopentadiene	77-47-4	2.5	mg/kg	<2.5	----	<2.5	----	----
Pentachlorobenzene	608-93-5	0.5	mg/kg	<0.5	----	<0.5	----	----
Hexachlorobenzene (HCB)	118-74-1	1.0	mg/kg	<1.0	----	<1.0	----	----
EP075H: Anilines and Benzidines								
Aniline	62-53-3	0.5	mg/kg	<0.5	----	<0.5	----	----
4-Chloroaniline	106-47-8	0.5	mg/kg	<0.5	----	<0.5	----	----
2-Nitroaniline	88-74-4	1.0	mg/kg	<1.0	----	<1.0	----	----
3-Nitroaniline	99-09-2	1.0	mg/kg	<1.0	----	<1.0	----	----
Dibenzofuran	132-64-9	0.5	mg/kg	<0.5	----	<0.5	----	----
4-Nitroaniline	100-01-6	0.5	mg/kg	<0.5	----	<0.5	----	----
Carbazole	86-74-8	0.5	mg/kg	<0.5	----	<0.5	----	----
3.3`-Dichlorobenzidine	91-94-1	0.5	mg/kg	<0.5	----	<0.5	----	----
EP075I: Organochlorine Pesticides								
alpha-BHC	319-84-6	0.5	mg/kg	<0.5	----	<0.5	----	----
beta-BHC	319-85-7	0.5	mg/kg	<0.5	----	<0.5	----	----
gamma-BHC	58-89-9	0.5	mg/kg	<0.5	----	<0.5	----	----
delta-BHC	319-86-8	0.5	mg/kg	<0.5	----	<0.5	----	----
Heptachlor	76-44-8	0.5	mg/kg	<0.5	----	<0.5	----	----
Aldrin	309-00-2	0.5	mg/kg	<0.5	----	<0.5	----	----
Heptachlor epoxide	1024-57-3	0.5	mg/kg	<0.5	----	<0.5	----	----
alpha-Endosulfan	959-98-8	0.5	mg/kg	<0.5	----	<0.5	----	----
4.4`-DDE	72-55-9	0.5	mg/kg	<0.5	----	<0.5	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH09_0.3	BH09_1.0	BH15_0.4	BH15_1.5	BH17_0.4
			Sampling date / time	14-Feb-2022 00:00	14-Feb-2022 00:00	14-Feb-2022 00:00	14-Feb-2022 00:00	14-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2204958-001	ES2204958-002	ES2204958-003	ES2204958-004	ES2204958-006
				Result	Result	Result	Result	Result
EP075I: Organochlorine Pesticides - Continued								
Dieldrin	60-57-1	0.5	mg/kg	<0.5	----	<0.5	----	----
Endrin	72-20-8	0.5	mg/kg	<0.5	----	<0.5	----	----
beta-Endosulfan	33213-65-9	0.5	mg/kg	<0.5	----	<0.5	----	----
4.4`-DDD	72-54-8	0.5	mg/kg	<0.5	----	<0.5	----	----
Endosulfan sulfate	1031-07-8	0.5	mg/kg	<0.5	----	<0.5	----	----
4.4`-DDT	50-29-3	1.0	mg/kg	<1.0	----	<1.0	----	----
EP075J: Organophosphorus Pesticides								
Dichlorvos	62-73-7	0.5	mg/kg	<0.5	----	<0.5	----	----
Dimethoate	60-51-5	0.5	mg/kg	<0.5	----	<0.5	----	----
Diazinon	333-41-5	0.5	mg/kg	<0.5	----	<0.5	----	----
Chlorpyrifos-methyl	5598-13-0	0.5	mg/kg	<0.5	----	<0.5	----	----
Malathion	121-75-5	0.5	mg/kg	<0.5	----	<0.5	----	----
Fenthion	55-38-9	0.5	mg/kg	<0.5	----	<0.5	----	----
Chlorpyrifos	2921-88-2	0.5	mg/kg	<0.5	----	<0.5	----	----
Pirimphos-ethyl	23505-41-1	0.5	mg/kg	<0.5	----	<0.5	----	----
Chlorfenvinphos	470-90-6	0.5	mg/kg	<0.5	----	<0.5	----	----
Prothiofos	34643-46-4	0.5	mg/kg	<0.5	----	<0.5	----	----
Ethion	563-12-2	0.5	mg/kg	<0.5	----	<0.5	----	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg	**490**	<100	<100	<100	**350**
C29 - C36 Fraction	----	100	mg/kg	**360**	<100	<100	<100	**140**
^ C10 - C36 Fraction (sum)	----	50	mg/kg	**850**	<50	<50	<50	**490**
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg	**770**	<100	<100	<100	**460**
>C34 - C40 Fraction	----	100	mg/kg	**150**	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	**920**	<50	<50	<50	**460**
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	<50	<50	<50	<50	<50

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH09_0.3	BH09_1.0	BH15_0.4	BH15_1.5	BH17_0.4
			Sampling date / time	14-Feb-2022 00:00	14-Feb-2022 00:00	14-Feb-2022 00:00	14-Feb-2022 00:00	14-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2204958-001	ES2204958-002	ES2204958-003	ES2204958-004	ES2204958-006
				Result	Result	Result	Result	Result
EP080: BTEXN								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1
EP231A: Perfluoroalkyl Sulfonic Acids								
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	----	<0.0002	----	<0.0002
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	----	<0.0002	----	<0.0002
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	<0.0002	----	<0.0002	----	<0.0002
EP231B: Perfluoroalkyl Carboxylic Acids								
Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	----	<0.001	----	<0.001
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	----	<0.0002	----	<0.0002
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	----	<0.0002	----	<0.0002
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	----	<0.0002	----	<0.0002
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	----	<0.0002	----	<0.0002
EP231D: (n:2) Fluorotelomer Sulfonic Acids								
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	----	<0.0005	----	<0.0005
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	----	<0.0005	----	<0.0005
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	----	<0.0005	----	<0.0005
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	----	<0.0005	----	<0.0005
EP231P: PFAS Sums								
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg	<0.0002	----	<0.0002	----	<0.0002
Sum of PFAS (WA DER List)	----	0.0002	mg/kg	<0.0002	----	<0.0002	----	<0.0002
EP066S: PCB Surrogate								

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH09_0.3	BH09_1.0	BH15_0.4	BH15_1.5	BH17_0.4
			Sampling date / time	14-Feb-2022 00:00	14-Feb-2022 00:00	14-Feb-2022 00:00	14-Feb-2022 00:00	14-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2204958-001	ES2204958-002	ES2204958-003	ES2204958-004	ES2204958-006
				Result	Result	Result	Result	Result
EP066S: PCB Surrogate - Continued								
Decachlorobiphenyl	2051-24-3	0.1	%	97.9	104	93.4	105	102
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.05	%	82.3	99.6	96.5	104	104
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.05	%	137	109	118	86.7	113
EP074S: VOC Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.5	%	83.7	----	91.0	----	----
Toluene-D8	2037-26-5	0.5	%	93.9	----	103	----	----
4-Bromofluorobenzene	460-00-4	0.5	%	92.2	----	101	----	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	80.6	82.8	80.8	79.9	76.8
2-Chlorophenol-D4	93951-73-6	0.5	%	88.4	86.5	87.2	84.4	82.5
2.4.6-Tribromophenol	118-79-6	0.5	%	70.4	80.0	79.0	75.4	68.8
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.5	%	102	101	101	100	97.8
Anthracene-d10	1719-06-8	0.5	%	102	104	105	104	102
4-Terphenyl-d14	1718-51-0	0.5	%	91.7	94.5	94.8	93.7	89.5
EP075S: Acid Extractable Surrogates								
2-Fluorophenol	367-12-4	0.5	%	99.0	----	105	----	----
Phenol-d6	13127-88-3	0.5	%	92.6	----	94.1	----	----
2-Chlorophenol-D4	93951-73-6	0.5	%	97.9	----	100	----	----
2.4.6-Tribromophenol	118-79-6	0.5	%	87.9	----	90.3	----	----
EP075T: Base/Neutral Extractable Surrogates								
Nitrobenzene-D5	4165-60-0	0.5	%	99.7	----	96.1	----	----
1.2-Dichlorobenzene-D4	2199-69-1	0.5	%	91.0	----	89.5	----	----
2-Fluorobiphenyl	321-60-8	0.5	%	106	----	108	----	----
Anthracene-d10	1719-06-8	0.5	%	115	----	120	----	----
4-Terphenyl-d14	1718-51-0	0.5	%	94.3	----	96.1	----	----
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.2	%	92.2	99.7	101	95.6	100.0
Toluene-D8	2037-26-5	0.2	%	90.0	98.7	99.3	89.8	98.5
4-Bromofluorobenzene	460-00-4	0.2	%	86.9	97.2	95.3	87.4	93.2
EP231S: PFAS Surrogate								
13C4-PFOS	----	0.0002	%	102	----	98.5	----	109

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH09_0.3	BH09_1.0	BH15_0.4	BH15_1.5	BH17_0.4
			Sampling date / time	14-Feb-2022 00:00	14-Feb-2022 00:00	14-Feb-2022 00:00	14-Feb-2022 00:00	14-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2204958-001	ES2204958-002	ES2204958-003	ES2204958-004	ES2204958-006
				Result	Result	Result	Result	Result
EP231S: PFAS Surrogate - Continued								
13C8-PFOA	----	0.0002	%	98.0	----	96.0	----	94.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH17_1.5	BH06_0.4	BH06_1.8	DUP08	DUP07
			Sampling date / time	14-Feb-2022 00:00	14-Feb-2022 00:00	14-Feb-2022 00:00	14-Feb-2022 00:00	14-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2204958-007	ES2204958-008	ES2204958-010	ES2204958-011	ES2204958-012
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	0.1	%	----	----	----	7.1	----
Moisture Content	----	1.0	%	6.2	7.8	13.2	----	10.3
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	----	No	----	----	----
Asbestos (Trace)	1332-21-4	5	Fibres	----	No	----	----	----
Asbestos Type	1332-21-4	-	--	----	-	----	----	----
Synthetic Mineral Fibre	----	0.1	g/kg	----	No	----	----	----
Organic Fibre	----	0.1	g/kg	----	No	----	----	----
Sample weight (dry)	----	0.01	g	----	80.3	----	----	----
APPROVED IDENTIFIER:	----	-	--	----	A. SMYLIE	----	----	----
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	<5	<5	<5	----	5
Cadmium	7440-43-9	1	mg/kg	2	<1	<1	----	<1
Chromium	7440-47-3	2	mg/kg	<2	4	<2	----	5
Copper	7440-50-8	5	mg/kg	112	101	<5	----	304
Lead	7439-92-1	5	mg/kg	19	58	<5	----	268
Nickel	7440-02-0	2	mg/kg	9	5	<2	----	10
Zinc	7440-66-6	5	mg/kg	395	77	25	----	377
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	----	0.3
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	<0.1	----	<0.1
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	<0.05	----	<0.05
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	<0.05	----	<0.05
beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	<0.05	----	<0.05
gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	<0.05	----	<0.05
delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	----	<0.05
Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	<0.05	----	<0.05
Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	<0.05	----	<0.05
Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	<0.05	----	<0.05
^ Total Chlordane (sum)	----	0.05	mg/kg	<0.05	<0.05	<0.05	----	<0.05
trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	<0.05	----	<0.05
alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	<0.05	----	<0.05

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH17_1.5	BH06_0.4	BH06_1.8	DUP08	DUP07
			Sampling date / time	14-Feb-2022 00:00	14-Feb-2022 00:00	14-Feb-2022 00:00	14-Feb-2022 00:00	14-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2204958-007	ES2204958-008	ES2204958-010	ES2204958-011	ES2204958-012
				Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued								
cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	<0.05	----	<0.05
Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	<0.05	----	<0.05
4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	<0.05	----	<0.05
Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	<0.05	----	<0.05
beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	<0.05	----	<0.05
^ Endosulfan (sum)	115-29-7	0.05	mg/kg	<0.05	<0.05	<0.05	----	<0.05
4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	<0.05	----	<0.05
Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	<0.05	----	<0.05
Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	<0.05	----	<0.05
4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	<0.2	----	<0.2
Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	<0.05	----	<0.05
Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	<0.2	----	<0.2
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	<0.05	<0.05	<0.05	----	<0.05
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.05	mg/kg	<0.05	<0.05	<0.05	----	<0.05
EP068B: Organophosphorus Pesticides (OP)								
Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	<0.05	----	<0.05
Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	----	<0.05
Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	<0.2	----	<0.2
Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	<0.05	----	<0.05
Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	<0.05	----	<0.05
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	<0.05	----	<0.05
Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	<0.2	----	<0.2
Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	<0.05	----	<0.05
Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	<0.05	----	<0.05
Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	<0.05	----	<0.05
Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	<0.2	----	<0.2
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	<0.05	----	<0.05
Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	<0.05	----	<0.05
Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	<0.05	----	<0.05
Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	<0.05	----	<0.05
Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	<0.05	----	<0.05
Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	<0.05	----	<0.05
Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	<0.05	----	<0.05
Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	<0.05	----	<0.05

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH17_1.5	BH06_0.4	BH06_1.8	DUP08	DUP07
			Sampling date / time	14-Feb-2022 00:00	14-Feb-2022 00:00	14-Feb-2022 00:00	14-Feb-2022 00:00	14-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2204958-007	ES2204958-008	ES2204958-010	ES2204958-011	ES2204958-012
				Result	Result	Result	Result	Result
EP074A: Monocyclic Aromatic Hydrocarbons								
Styrene	100-42-5	0.5	mg/kg	<0.5	----	<0.5	----	----
Isopropylbenzene	98-82-8	0.5	mg/kg	<0.5	----	<0.5	----	----
n-Propylbenzene	103-65-1	0.5	mg/kg	<0.5	----	<0.5	----	----
1.3.5-Trimethylbenzene	108-67-8	0.5	mg/kg	<0.5	----	<0.5	----	----
sec-Butylbenzene	135-98-8	0.5	mg/kg	<0.5	----	<0.5	----	----
1.2.4-Trimethylbenzene	95-63-6	0.5	mg/kg	<0.5	----	<0.5	----	----
tert-Butylbenzene	98-06-6	0.5	mg/kg	<0.5	----	<0.5	----	----
p-Isopropyltoluene	99-87-6	0.5	mg/kg	<0.5	----	<0.5	----	----
n-Butylbenzene	104-51-8	0.5	mg/kg	<0.5	----	<0.5	----	----
EP074B: Oxygenated Compounds								
Vinyl Acetate	108-05-4	5	mg/kg	<5	----	<5	----	----
2-Butanone (MEK)	78-93-3	5	mg/kg	<5	----	<5	----	----
4-Methyl-2-pentanone (MIBK)	108-10-1	5	mg/kg	<5	----	<5	----	----
2-Hexanone (MBK)	591-78-6	5	mg/kg	<5	----	<5	----	----
EP074C: Sulfonated Compounds								
Carbon disulfide	75-15-0	0.5	mg/kg	<0.5	----	<0.5	----	----
EP074D: Fumigants								
2.2-Dichloropropane	594-20-7	0.5	mg/kg	<0.5	----	<0.5	----	----
1.2-Dichloropropane	78-87-5	0.5	mg/kg	<0.5	----	<0.5	----	----
cis-1.3-Dichloropropylene	10061-01-5	0.5	mg/kg	<0.5	----	<0.5	----	----
trans-1.3-Dichloropropylene	10061-02-6	0.5	mg/kg	<0.5	----	<0.5	----	----
1.2-Dibromoethane (EDB)	106-93-4	0.5	mg/kg	<0.5	----	<0.5	----	----
EP074E: Halogenated Aliphatic Compounds								
Dichlorodifluoromethane	75-71-8	5	mg/kg	<5	----	<5	----	----
Chloromethane	74-87-3	5	mg/kg	<5	----	<5	----	----
Vinyl chloride	75-01-4	5	mg/kg	<5	----	<5	----	----
Bromomethane	74-83-9	5	mg/kg	<5	----	<5	----	----
Chloroethane	75-00-3	5	mg/kg	<5	----	<5	----	----
Trichlorofluoromethane	75-69-4	5	mg/kg	<5	----	<5	----	----
1.1-Dichloroethene	75-35-4	0.5	mg/kg	<0.5	----	<0.5	----	----
Iodomethane	74-88-4	0.5	mg/kg	<0.5	----	<0.5	----	----
trans-1.2-Dichloroethene	156-60-5	0.5	mg/kg	<0.5	----	<0.5	----	----
1.1-Dichloroethane	75-34-3	0.5	mg/kg	<0.5	----	<0.5	----	----
cis-1.2-Dichloroethene	156-59-2	0.5	mg/kg	<0.5	----	<0.5	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH17_1.5	BH06_0.4	BH06_1.8	DUP08	DUP07
			Sampling date / time	14-Feb-2022 00:00	14-Feb-2022 00:00	14-Feb-2022 00:00	14-Feb-2022 00:00	14-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2204958-007	ES2204958-008	ES2204958-010	ES2204958-011	ES2204958-012
				Result	Result	Result	Result	Result
EP074E: Halogenated Aliphatic Compounds - Continued								
1.1.1-Trichloroethane	71-55-6	0.5	mg/kg	<0.5	----	<0.5	----	----
1.1-Dichloropropylene	563-58-6	0.5	mg/kg	<0.5	----	<0.5	----	----
Carbon Tetrachloride	56-23-5	0.5	mg/kg	<0.5	----	<0.5	----	----
1.2-Dichloroethane	107-06-2	0.5	mg/kg	<0.5	----	<0.5	----	----
Trichloroethene	79-01-6	0.5	mg/kg	<0.5	----	<0.5	----	----
Dibromomethane	74-95-3	0.5	mg/kg	<0.5	----	<0.5	----	----
1.1.2-Trichloroethane	79-00-5	0.5	mg/kg	<0.5	----	<0.5	----	----
1.3-Dichloropropane	142-28-9	0.5	mg/kg	<0.5	----	<0.5	----	----
Tetrachloroethene	127-18-4	0.5	mg/kg	<0.5	----	<0.5	----	----
1.1.1.2-Tetrachloroethane	630-20-6	0.5	mg/kg	<0.5	----	<0.5	----	----
trans-1.4-Dichloro-2-butene	110-57-6	0.5	mg/kg	<0.5	----	<0.5	----	----
cis-1.4-Dichloro-2-butene	1476-11-5	0.5	mg/kg	<0.5	----	<0.5	----	----
1.1.2.2-Tetrachloroethane	79-34-5	0.5	mg/kg	<0.5	----	<0.5	----	----
1.2.3-Trichloropropane	96-18-4	0.5	mg/kg	<0.5	----	<0.5	----	----
Pentachloroethane	76-01-7	0.5	mg/kg	<0.5	----	<0.5	----	----
1.2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg	<0.5	----	<0.5	----	----
EP074F: Halogenated Aromatic Compounds								
Chlorobenzene	108-90-7	0.5	mg/kg	<0.5	----	<0.5	----	----
Bromobenzene	108-86-1	0.5	mg/kg	<0.5	----	<0.5	----	----
2-Chlorotoluene	95-49-8	0.5	mg/kg	<0.5	----	<0.5	----	----
4-Chlorotoluene	106-43-4	0.5	mg/kg	<0.5	----	<0.5	----	----
1.2.3-Trichlorobenzene	87-61-6	0.5	mg/kg	<0.5	----	<0.5	----	----
EP074G: Trihalomethanes								
Chloroform	67-66-3	0.5	mg/kg	<0.5	----	<0.5	----	----
Bromodichloromethane	75-27-4	0.5	mg/kg	<0.5	----	<0.5	----	----
Dibromochloromethane	124-48-1	0.5	mg/kg	<0.5	----	<0.5	----	----
Bromoform	75-25-2	0.5	mg/kg	<0.5	----	<0.5	----	----
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	<0.5	----	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	<0.5	----	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	<0.5	----	<0.5
3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	<1	----	<1
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	<0.5	----	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	<0.5	----	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH17_1.5	BH06_0.4	BH06_1.8	DUP08	DUP07
			Sampling date / time	14-Feb-2022 00:00	14-Feb-2022 00:00	14-Feb-2022 00:00	14-Feb-2022 00:00	14-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2204958-007	ES2204958-008	ES2204958-010	ES2204958-011	ES2204958-012
				Result	Result	Result	Result	Result
EP075(SIM)A: Phenolic Compounds - Continued								
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	<0.5	----	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	<0.5	----	<0.5
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	<0.5	----	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	<0.5	----	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	<0.5	----	<0.5
Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	<2	----	<2
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	----	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	<0.5	----	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	----	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	----	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	<0.5	----	<0.5
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	<0.5	----	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	<0.5	----	1.0
Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	<0.5	----	1.1
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	<0.5	----	0.6
Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	<0.5	----	0.6
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	<0.5	----	0.9
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	<0.5	----	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	<0.5	----	0.7
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	<0.5	----	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	<0.5	----	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	<0.5	----	0.6
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	<0.5	----	5.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	<0.5	----	0.9
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	0.6	0.6	0.6	----	1.2
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	1.2	1.2	1.2	----	1.5
EP075A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	----	<0.5	----	----
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	----	<0.5	----	----
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	----	<0.5	----	----
3- & 4-Methylphenol	1319-77-3	0.5	mg/kg	<0.5	----	<0.5	----	----
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	----	<0.5	----	----
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	----	<0.5	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH17_1.5	BH06_0.4	BH06_1.8	DUP08	DUP07
			Sampling date / time	14-Feb-2022 00:00	14-Feb-2022 00:00	14-Feb-2022 00:00	14-Feb-2022 00:00	14-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2204958-007	ES2204958-008	ES2204958-010	ES2204958-011	ES2204958-012
				Result	Result	Result	Result	Result
EP075A: Phenolic Compounds - Continued								
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	----	<0.5	----	----
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	----	<0.5	----	----
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	----	<0.5	----	----
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	----	<0.5	----	----
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	----	<0.5	----	----
Pentachlorophenol	87-86-5	1	mg/kg	<1	----	<1	----	----
EP075B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	----	<0.5	----	----
2-Methylnaphthalene	91-57-6	0.5	mg/kg	<0.5	----	<0.5	----	----
2-Chloronaphthalene	91-58-7	0.5	mg/kg	<0.5	----	<0.5	----	----
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	----	<0.5	----	----
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	----	<0.5	----	----
Fluorene	86-73-7	0.5	mg/kg	<0.5	----	<0.5	----	----
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	----	<0.5	----	----
Anthracene	120-12-7	0.5	mg/kg	<0.5	----	<0.5	----	----
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	----	<0.5	----	----
Pyrene	129-00-0	0.5	mg/kg	<0.5	----	<0.5	----	----
N-2-Fluorenyl Acetamide	53-96-3	0.5	mg/kg	<0.5	----	<0.5	----	----
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	----	<0.5	----	----
Chrysene	218-01-9	0.5	mg/kg	<0.5	----	<0.5	----	----
Benzo(b+j) & Benzo(k)fluoranthene	205-99-2 207-08-9	1	mg/kg	<1	----	<1	----	----
7.12-Dimethylbenz(a)anthracene	57-97-6	0.5	mg/kg	<0.5	----	<0.5	----	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	----	<0.5	----	----
3-Methylcholanthrene	56-49-5	0.5	mg/kg	<0.5	----	<0.5	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	----	<0.5	----	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	----	<0.5	----	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	----	<0.5	----	----
^ Sum of PAHs	----	0.5	mg/kg	<0.5	----	<0.5	----	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	----	<0.5	----	----
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	**0.6**	----	**0.6**	----	----
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	**1.2**	----	**1.2**	----	----
EP075C: Phthalate Esters								
Dimethyl phthalate	131-11-3	0.5	mg/kg	<0.5	----	<0.5	----	----
Diethyl phthalate	84-66-2	0.5	mg/kg	<0.5	----	<0.5	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH17_1.5	BH06_0.4	BH06_1.8	DUP08	DUP07
			Sampling date / time	14-Feb-2022 00:00	14-Feb-2022 00:00	14-Feb-2022 00:00	14-Feb-2022 00:00	14-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2204958-007	ES2204958-008	ES2204958-010	ES2204958-011	ES2204958-012
				Result	Result	Result	Result	Result
EP075C: Phthalate Esters - Continued								
Di-n-butyl phthalate	84-74-2	0.5	mg/kg	<0.5	----	<0.5	----	----
Butyl benzyl phthalate	85-68-7	0.5	mg/kg	<0.5	----	<0.5	----	----
bis(2-ethylhexyl) phthalate	117-81-7	5.0	mg/kg	<5.0	----	<5.0	----	----
Di-n-octylphthalate	117-84-0	0.5	mg/kg	<0.5	----	<0.5	----	----
EP075D: Nitrosamines								
N-Nitrosomethylethylamine	10595-95-6	0.5	mg/kg	<0.5	----	<0.5	----	----
N-Nitrosodiethylamine	55-18-5	0.5	mg/kg	<0.5	----	<0.5	----	----
N-Nitrosopyrrolidine	930-55-2	1.0	mg/kg	<1.0	----	<1.0	----	----
N-Nitrosomorpholine	59-89-2	0.5	mg/kg	<0.5	----	<0.5	----	----
N-Nitrosodi-n-propylamine	621-64-7	0.5	mg/kg	<0.5	----	<0.5	----	----
N-Nitrosopiperidine	100-75-4	0.5	mg/kg	<0.5	----	<0.5	----	----
N-Nitrosodibutylamine	924-16-3	0.5	mg/kg	<0.5	----	<0.5	----	----
N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	1.0	mg/kg	<1.0	----	<1.0	----	----
Methapyrilene	91-80-5	0.5	mg/kg	<0.5	----	<0.5	----	----
EP075E: Nitroaromatics and Ketones								
2-Picoline	109-06-8	0.5	mg/kg	<0.5	----	<0.5	----	----
Acetophenone	98-86-2	0.5	mg/kg	<0.5	----	<0.5	----	----
Nitrobenzene	98-95-3	0.5	mg/kg	<0.5	----	<0.5	----	----
Isophorone	78-59-1	0.5	mg/kg	<0.5	----	<0.5	----	----
2.6-Dinitrotoluene	606-20-2	1.0	mg/kg	<1.0	----	<1.0	----	----
2.4-Dinitrotoluene	121-14-2	1.0	mg/kg	<1.0	----	<1.0	----	----
1-Naphthylamine	134-32-7	0.5	mg/kg	<0.5	----	<0.5	----	----
4-Nitroquinoline-N-oxide	56-57-5	0.5	mg/kg	<0.5	----	<0.5	----	----
5-Nitro-o-toluidine	99-55-8	0.5	mg/kg	<0.5	----	<0.5	----	----
Azobenzene	103-33-3	1	mg/kg	<1	----	<1	----	----
1.3.5-Trinitrobenzene	99-35-4	0.5	mg/kg	<0.5	----	<0.5	----	----
Phenacetin	62-44-2	0.5	mg/kg	<0.5	----	<0.5	----	----
4-Aminobiphenyl	92-67-1	0.5	mg/kg	<0.5	----	<0.5	----	----
Pentachloronitrobenzene	82-68-8	0.5	mg/kg	<0.5	----	<0.5	----	----
Pronamide	23950-58-5	0.5	mg/kg	<0.5	----	<0.5	----	----
Dimethylaminoazobenzene	60-11-7	0.5	mg/kg	<0.5	----	<0.5	----	----
Chlorobenzilate	510-15-6	0.5	mg/kg	<0.5	----	<0.5	----	----
EP075F: Haloethers								

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH17_1.5	BH06_0.4	BH06_1.8	DUP08	DUP07
			Sampling date / time	14-Feb-2022 00:00	14-Feb-2022 00:00	14-Feb-2022 00:00	14-Feb-2022 00:00	14-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2204958-007	ES2204958-008	ES2204958-010	ES2204958-011	ES2204958-012
				Result	Result	Result	Result	Result
EP075F: Haloethers - Continued								
Bis(2-chloroethyl) ether	111-44-4	0.5	mg/kg	<0.5	----	<0.5	----	----
Bis(2-chloroethoxy) methane	111-91-1	0.5	mg/kg	<0.5	----	<0.5	----	----
4-Chlorophenyl phenyl ether	7005-72-3	0.5	mg/kg	<0.5	----	<0.5	----	----
4-Bromophenyl phenyl ether	101-55-3	0.5	mg/kg	<0.5	----	<0.5	----	----
EP075G: Chlorinated Hydrocarbons								
1.3-Dichlorobenzene	541-73-1	0.5	mg/kg	<0.5	----	<0.5	----	----
1.4-Dichlorobenzene	106-46-7	0.5	mg/kg	<0.5	----	<0.5	----	----
1.2-Dichlorobenzene	95-50-1	0.5	mg/kg	<0.5	----	<0.5	----	----
Hexachloroethane	67-72-1	0.5	mg/kg	<0.5	----	<0.5	----	----
1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg	<0.5	----	<0.5	----	----
Hexachloropropylene	1888-71-7	0.5	mg/kg	<0.5	----	<0.5	----	----
Hexachlorobutadiene	87-68-3	0.5	mg/kg	<0.5	----	<0.5	----	----
Hexachlorocyclopentadiene	77-47-4	2.5	mg/kg	<2.5	----	<2.5	----	----
Pentachlorobenzene	608-93-5	0.5	mg/kg	<0.5	----	<0.5	----	----
Hexachlorobenzene (HCB)	118-74-1	1.0	mg/kg	<1.0	----	<1.0	----	----
EP075H: Anilines and Benzidines								
Aniline	62-53-3	0.5	mg/kg	<0.5	----	<0.5	----	----
4-Chloroaniline	106-47-8	0.5	mg/kg	<0.5	----	<0.5	----	----
2-Nitroaniline	88-74-4	1.0	mg/kg	<1.0	----	<1.0	----	----
3-Nitroaniline	99-09-2	1.0	mg/kg	<1.0	----	<1.0	----	----
Dibenzofuran	132-64-9	0.5	mg/kg	<0.5	----	<0.5	----	----
4-Nitroaniline	100-01-6	0.5	mg/kg	<0.5	----	<0.5	----	----
Carbazole	86-74-8	0.5	mg/kg	<0.5	----	<0.5	----	----
3.3`-Dichlorobenzidine	91-94-1	0.5	mg/kg	<0.5	----	<0.5	----	----
EP075I: Organochlorine Pesticides								
alpha-BHC	319-84-6	0.5	mg/kg	<0.5	----	<0.5	----	----
beta-BHC	319-85-7	0.5	mg/kg	<0.5	----	<0.5	----	----
gamma-BHC	58-89-9	0.5	mg/kg	<0.5	----	<0.5	----	----
delta-BHC	319-86-8	0.5	mg/kg	<0.5	----	<0.5	----	----
Heptachlor	76-44-8	0.5	mg/kg	<0.5	----	<0.5	----	----
Aldrin	309-00-2	0.5	mg/kg	<0.5	----	<0.5	----	----
Heptachlor epoxide	1024-57-3	0.5	mg/kg	<0.5	----	<0.5	----	----
alpha-Endosulfan	959-98-8	0.5	mg/kg	<0.5	----	<0.5	----	----
4.4`-DDE	72-55-9	0.5	mg/kg	<0.5	----	<0.5	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH17_1.5	BH06_0.4	BH06_1.8	DUP08	DUP07
			Sampling date / time	14-Feb-2022 00:00	14-Feb-2022 00:00	14-Feb-2022 00:00	14-Feb-2022 00:00	14-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2204958-007	ES2204958-008	ES2204958-010	ES2204958-011	ES2204958-012
				Result	Result	Result	Result	Result
EP075I: Organochlorine Pesticides - Continued								
Dieldrin	60-57-1	0.5	mg/kg	<0.5	----	<0.5	----	----
Endrin	72-20-8	0.5	mg/kg	<0.5	----	<0.5	----	----
beta-Endosulfan	33213-65-9	0.5	mg/kg	<0.5	----	<0.5	----	----
4.4`-DDD	72-54-8	0.5	mg/kg	<0.5	----	<0.5	----	----
Endosulfan sulfate	1031-07-8	0.5	mg/kg	<0.5	----	<0.5	----	----
4.4`-DDT	50-29-3	1.0	mg/kg	<1.0	----	<1.0	----	----
EP075J: Organophosphorus Pesticides								
Dichlorvos	62-73-7	0.5	mg/kg	<0.5	----	<0.5	----	----
Dimethoate	60-51-5	0.5	mg/kg	<0.5	----	<0.5	----	----
Diazinon	333-41-5	0.5	mg/kg	<0.5	----	<0.5	----	----
Chlorpyrifos-methyl	5598-13-0	0.5	mg/kg	<0.5	----	<0.5	----	----
Malathion	121-75-5	0.5	mg/kg	<0.5	----	<0.5	----	----
Fenthion	55-38-9	0.5	mg/kg	<0.5	----	<0.5	----	----
Chlorpyrifos	2921-88-2	0.5	mg/kg	<0.5	----	<0.5	----	----
Pirimphos-ethyl	23505-41-1	0.5	mg/kg	<0.5	----	<0.5	----	----
Chlorfenvinphos	470-90-6	0.5	mg/kg	<0.5	----	<0.5	----	----
Prothiofos	34643-46-4	0.5	mg/kg	<0.5	----	<0.5	----	----
Ethion	563-12-2	0.5	mg/kg	<0.5	----	<0.5	----	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	----	<10
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	----	<50
C15 - C28 Fraction	----	100	mg/kg	<100	<100	<100	----	<100
C29 - C36 Fraction	----	100	mg/kg	<100	<100	<100	----	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg	<50	<50	<50	----	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	<10	----	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	<10	<10	<10	----	<10
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	<50	----	<50
>C16 - C34 Fraction	----	100	mg/kg	<100	<100	<100	----	<100
>C34 - C40 Fraction	----	100	mg/kg	<100	<100	<100	----	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	<50	<50	----	<50
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	<50	<50	<50	----	<50

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH17_1.5	BH06_0.4	BH06_1.8	DUP08	DUP07
			Sampling date / time	14-Feb-2022 00:00	14-Feb-2022 00:00	14-Feb-2022 00:00	14-Feb-2022 00:00	14-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2204958-007	ES2204958-008	ES2204958-010	ES2204958-011	ES2204958-012
				Result	Result	Result	Result	Result
EP080: BTEXN								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	----	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	----	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	----	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	----	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	----	<0.5
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	----	<0.2
^ Total Xylenes	----	0.5	mg/kg	<0.5	<0.5	<0.5	----	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	----	<1
EP231A: Perfluoroalkyl Sulfonic Acids								
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	----	<0.0002	----	<0.0002	<0.0002
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	----	<0.0002	----	<0.0002	<0.0002
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	----	<0.0002	----	**0.0004**	<0.0002
EP231B: Perfluoroalkyl Carboxylic Acids								
Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	----	<0.001	----	<0.001	<0.001
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	----	<0.0002	----	<0.0002	<0.0002
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	----	<0.0002	----	<0.0002	<0.0002
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	----	<0.0002	----	<0.0002	<0.0002
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	----	<0.0002	----	<0.0002	<0.0002
EP231D: (n:2) Fluorotelomer Sulfonic Acids								
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	----	<0.0005	----	<0.0005	<0.0005
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	----	<0.0005	----	<0.0005	<0.0005
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	----	<0.0005	----	<0.0005	<0.0005
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	----	<0.0005	----	<0.0005	<0.0005
EP231P: PFAS Sums								
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg	----	<0.0002	----	**0.0004**	<0.0002
Sum of PFAS (WA DER List)	----	0.0002	mg/kg	----	<0.0002	----	**0.0004**	<0.0002
EP066S: PCB Surrogate								

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH17_1.5	BH06_0.4	BH06_1.8	DUP08	DUP07
			Sampling date / time	14-Feb-2022 00:00	14-Feb-2022 00:00	14-Feb-2022 00:00	14-Feb-2022 00:00	14-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2204958-007	ES2204958-008	ES2204958-010	ES2204958-011	ES2204958-012
				Result	Result	Result	Result	Result
EP066S: PCB Surrogate - Continued								
Decachlorobiphenyl	2051-24-3	0.1	%	102	90.0	86.1	----	98.7
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.05	%	119	89.9	96.2	----	102
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.05	%	88.1	75.2	69.4	----	98.2
EP074S: VOC Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.5	%	92.6	----	80.2	----	----
Toluene-D8	2037-26-5	0.5	%	104	----	90.8	----	----
4-Bromofluorobenzene	460-00-4	0.5	%	101	----	90.9	----	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	79.4	83.2	74.8	----	82.0
2-Chlorophenol-D4	93951-73-6	0.5	%	87.0	73.2	77.5	----	82.7
2.4.6-Tribromophenol	118-79-6	0.5	%	71.0	Not Determined	67.0	----	72.2
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.5	%	100	109	98.5	----	101
Anthracene-d10	1719-06-8	0.5	%	106	112	100	----	104
4-Terphenyl-d14	1718-51-0	0.5	%	94.6	100	90.7	----	92.8
EP075S: Acid Extractable Surrogates								
2-Fluorophenol	367-12-4	0.5	%	104	----	109	----	----
Phenol-d6	13127-88-3	0.5	%	92.6	----	95.4	----	----
2-Chlorophenol-D4	93951-73-6	0.5	%	93.3	----	90.8	----	----
2.4.6-Tribromophenol	118-79-6	0.5	%	70.2	----	67.0	----	----
EP075T: Base/Neutral Extractable Surrogates								
Nitrobenzene-D5	4165-60-0	0.5	%	98.5	----	101	----	----
1.2-Dichlorobenzene-D4	2199-69-1	0.5	%	84.7	----	90.2	----	----
2-Fluorobiphenyl	321-60-8	0.5	%	104	----	118	----	----
Anthracene-d10	1719-06-8	0.5	%	115	----	114	----	----
4-Terphenyl-d14	1718-51-0	0.5	%	92.3	----	91.1	----	----
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.2	%	103	99.5	88.7	----	90.4
Toluene-D8	2037-26-5	0.2	%	100	95.8	87.5	----	88.6
4-Bromofluorobenzene	460-00-4	0.2	%	94.2	91.7	84.6	----	85.1
EP231S: PFAS Surrogate								
13C4-PFOS	----	0.0002	%	----	107	----	107	103

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH17_1.5	BH06_0.4	BH06_1.8	DUP08	DUP07
			Sampling date / time	14-Feb-2022 00:00	14-Feb-2022 00:00	14-Feb-2022 00:00	14-Feb-2022 00:00	14-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2204958-007	ES2204958-008	ES2204958-010	ES2204958-011	ES2204958-012
				Result	Result	Result	Result	Result
EP231S: PFAS Surrogate - Continued								
13C8-PFOA	----	0.0002	%	----	98.0	----	102	97.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH16_0.4	BH16_1.8	DUP09	TRP08	TRP09
			Sampling date / time	14-Feb-2022 00:00	14-Feb-2022 00:00	14-Feb-2022 00:00	14-Feb-2022 00:00	14-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2204958-013	ES2204958-014	ES2204958-018	ES2204958-019	ES2204958-020
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	0.1	%	----	----	----	6.6	----
Moisture Content	----	1.0	%	10.1	26.6	3.2	----	3.1
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	No	----	----	----	----
Asbestos (Trace)	1332-21-4	5	Fibres	No	----	----	----	----
Asbestos Type	1332-21-4	-	--	-	----	----	----	----
Synthetic Mineral Fibre	----	0.1	g/kg	No	----	----	----	----
Organic Fibre	----	0.1	g/kg	No	----	----	----	----
Sample weight (dry)	----	0.01	g	59.0	----	----	----	----
APPROVED IDENTIFIER:	----	-	--	A. SMYLIE	----	----	----	----
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	10	<5	<5	----	<5
Cadmium	7440-43-9	1	mg/kg	31	<1	<1	----	<1
Chromium	7440-47-3	2	mg/kg	7	<2	<2	----	<2
Copper	7440-50-8	5	mg/kg	59	<5	17	----	<5
Lead	7439-92-1	5	mg/kg	19600	495	12	----	<5
Nickel	7440-02-0	2	mg/kg	7	<2	<2	----	<2
Zinc	7440-66-6	5	mg/kg	1330	23	18	----	7
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	0.2	<0.1	<0.1	----	<0.1
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	<0.1	----	<0.1
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	<0.05	----	<0.05
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	<0.05	----	<0.05
beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	<0.05	----	<0.05
gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	<0.05	----	<0.05
delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	----	<0.05
Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	<0.05	----	<0.05
Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	<0.05	----	<0.05
Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	<0.05	----	<0.05
^ Total Chlordane (sum)	----	0.05	mg/kg	<0.05	<0.05	<0.05	----	<0.05
trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	<0.05	----	<0.05
alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	<0.05	----	<0.05

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH16_0.4	BH16_1.8	DUP09	TRP08	TRP09
			Sampling date / time	14-Feb-2022 00:00	14-Feb-2022 00:00	14-Feb-2022 00:00	14-Feb-2022 00:00	14-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2204958-013	ES2204958-014	ES2204958-018	ES2204958-019	ES2204958-020
				Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued								
cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	<0.05	----	<0.05
Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	<0.05	----	<0.05
4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	<0.05	----	<0.05
Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	<0.05	----	<0.05
beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	<0.05	----	<0.05
^ Endosulfan (sum)	115-29-7	0.05	mg/kg	<0.05	<0.05	<0.05	----	<0.05
4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	<0.05	----	<0.05
Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	<0.05	----	<0.05
Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	<0.05	----	<0.05
4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	<0.2	----	<0.2
Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	<0.05	----	<0.05
Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	<0.2	----	<0.2
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	<0.05	<0.05	<0.05	----	<0.05
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.05	mg/kg	<0.05	<0.05	<0.05	----	<0.05
EP068B: Organophosphorus Pesticides (OP)								
Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	<0.05	----	<0.05
Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	----	<0.05
Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	<0.2	----	<0.2
Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	<0.05	----	<0.05
Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	<0.05	----	<0.05
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	<0.05	----	<0.05
Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	<0.2	----	<0.2
Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	<0.05	----	<0.05
Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	<0.05	----	<0.05
Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	<0.05	----	<0.05
Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	<0.2	----	<0.2
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	<0.05	----	<0.05
Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	<0.05	----	<0.05
Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	<0.05	----	<0.05
Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	<0.05	----	<0.05
Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	<0.05	----	<0.05
Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	<0.05	----	<0.05
Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	<0.05	----	<0.05
Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	<0.05	----	<0.05

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH16_0.4	BH16_1.8	DUP09	TRP08	TRP09
			Sampling date / time	14-Feb-2022 00:00	14-Feb-2022 00:00	14-Feb-2022 00:00	14-Feb-2022 00:00	14-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2204958-013	ES2204958-014	ES2204958-018	ES2204958-019	ES2204958-020
				Result	Result	Result	Result	Result
EP074A: Monocyclic Aromatic Hydrocarbons								
Styrene	100-42-5	0.5	mg/kg	----	<0.5	----	----	----
Isopropylbenzene	98-82-8	0.5	mg/kg	----	<0.5	----	----	----
n-Propylbenzene	103-65-1	0.5	mg/kg	----	<0.5	----	----	----
1.3.5-Trimethylbenzene	108-67-8	0.5	mg/kg	----	<0.5	----	----	----
sec-Butylbenzene	135-98-8	0.5	mg/kg	----	<0.5	----	----	----
1.2.4-Trimethylbenzene	95-63-6	0.5	mg/kg	----	<0.5	----	----	----
tert-Butylbenzene	98-06-6	0.5	mg/kg	----	<0.5	----	----	----
p-Isopropyltoluene	99-87-6	0.5	mg/kg	----	<0.5	----	----	----
n-Butylbenzene	104-51-8	0.5	mg/kg	----	<0.5	----	----	----
EP074B: Oxygenated Compounds								
Vinyl Acetate	108-05-4	5	mg/kg	----	<5	----	----	----
2-Butanone (MEK)	78-93-3	5	mg/kg	----	<5	----	----	----
4-Methyl-2-pentanone (MIBK)	108-10-1	5	mg/kg	----	<5	----	----	----
2-Hexanone (MBK)	591-78-6	5	mg/kg	----	<5	----	----	----
EP074C: Sulfonated Compounds								
Carbon disulfide	75-15-0	0.5	mg/kg	----	<0.5	----	----	----
EP074D: Fumigants								
2.2-Dichloropropane	594-20-7	0.5	mg/kg	----	<0.5	----	----	----
1.2-Dichloropropane	78-87-5	0.5	mg/kg	----	<0.5	----	----	----
cis-1.3-Dichloropropylene	10061-01-5	0.5	mg/kg	----	<0.5	----	----	----
trans-1.3-Dichloropropylene	10061-02-6	0.5	mg/kg	----	<0.5	----	----	----
1.2-Dibromoethane (EDB)	106-93-4	0.5	mg/kg	----	<0.5	----	----	----
EP074E: Halogenated Aliphatic Compounds								
Dichlorodifluoromethane	75-71-8	5	mg/kg	----	<5	----	----	----
Chloromethane	74-87-3	5	mg/kg	----	<5	----	----	----
Vinyl chloride	75-01-4	5	mg/kg	----	<5	----	----	----
Bromomethane	74-83-9	5	mg/kg	----	<5	----	----	----
Chloroethane	75-00-3	5	mg/kg	----	<5	----	----	----
Trichlorofluoromethane	75-69-4	5	mg/kg	----	<5	----	----	----
1.1-Dichloroethene	75-35-4	0.5	mg/kg	----	<0.5	----	----	----
Iodomethane	74-88-4	0.5	mg/kg	----	<0.5	----	----	----
trans-1.2-Dichloroethene	156-60-5	0.5	mg/kg	----	<0.5	----	----	----
1.1-Dichloroethane	75-34-3	0.5	mg/kg	----	<0.5	----	----	----
cis-1.2-Dichloroethene	156-59-2	0.5	mg/kg	----	<0.5	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH16_0.4	BH16_1.8	DUP09	TRP08	TRP09
			Sampling date / time	14-Feb-2022 00:00	14-Feb-2022 00:00	14-Feb-2022 00:00	14-Feb-2022 00:00	14-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2204958-013	ES2204958-014	ES2204958-018	ES2204958-019	ES2204958-020
				Result	Result	Result	Result	Result
EP074E: Halogenated Aliphatic Compounds - Continued								
1.1.1-Trichloroethane	71-55-6	0.5	mg/kg	----	<0.5	----	----	----
1.1-Dichloropropylene	563-58-6	0.5	mg/kg	----	<0.5	----	----	----
Carbon Tetrachloride	56-23-5	0.5	mg/kg	----	<0.5	----	----	----
1.2-Dichloroethane	107-06-2	0.5	mg/kg	----	<0.5	----	----	----
Trichloroethene	79-01-6	0.5	mg/kg	----	<0.5	----	----	----
Dibromomethane	74-95-3	0.5	mg/kg	----	<0.5	----	----	----
1.1.2-Trichloroethane	79-00-5	0.5	mg/kg	----	<0.5	----	----	----
1.3-Dichloropropane	142-28-9	0.5	mg/kg	----	<0.5	----	----	----
Tetrachloroethene	127-18-4	0.5	mg/kg	----	<0.5	----	----	----
1.1.1.2-Tetrachloroethane	630-20-6	0.5	mg/kg	----	<0.5	----	----	----
trans-1.4-Dichloro-2-butene	110-57-6	0.5	mg/kg	----	<0.5	----	----	----
cis-1.4-Dichloro-2-butene	1476-11-5	0.5	mg/kg	----	<0.5	----	----	----
1.1.2.2-Tetrachloroethane	79-34-5	0.5	mg/kg	----	<0.5	----	----	----
1.2.3-Trichloropropane	96-18-4	0.5	mg/kg	----	<0.5	----	----	----
Pentachloroethane	76-01-7	0.5	mg/kg	----	<0.5	----	----	----
1.2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg	----	<0.5	----	----	----
EP074F: Halogenated Aromatic Compounds								
Chlorobenzene	108-90-7	0.5	mg/kg	----	<0.5	----	----	----
Bromobenzene	108-86-1	0.5	mg/kg	----	<0.5	----	----	----
2-Chlorotoluene	95-49-8	0.5	mg/kg	----	<0.5	----	----	----
4-Chlorotoluene	106-43-4	0.5	mg/kg	----	<0.5	----	----	----
1.2.3-Trichlorobenzene	87-61-6	0.5	mg/kg	----	<0.5	----	----	----
EP074G: Trihalomethanes								
Chloroform	67-66-3	0.5	mg/kg	----	<0.5	----	----	----
Bromodichloromethane	75-27-4	0.5	mg/kg	----	<0.5	----	----	----
Dibromochloromethane	124-48-1	0.5	mg/kg	----	<0.5	----	----	----
Bromoform	75-25-2	0.5	mg/kg	----	<0.5	----	----	----
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	<0.5	----	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	<0.5	----	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	<0.5	----	<0.5
3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	<1	----	<1
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	<0.5	----	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	<0.5	----	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH16_0.4	BH16_1.8	DUP09	TRP08	TRP09
			Sampling date / time	14-Feb-2022 00:00	14-Feb-2022 00:00	14-Feb-2022 00:00	14-Feb-2022 00:00	14-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2204958-013	ES2204958-014	ES2204958-018	ES2204958-019	ES2204958-020
				Result	Result	Result	Result	Result
EP075(SIM)A: Phenolic Compounds - Continued								
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	<0.5	----	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	<0.5	----	<0.5
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	<0.5	----	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	<0.5	----	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	<0.5	----	<0.5
Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	<2	----	<2
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	----	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	<0.5	----	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	----	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	----	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	<0.5	----	<0.5
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	<0.5	----	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	**0.5**	<0.5	<0.5	----	<0.5
Pyrene	129-00-0	0.5	mg/kg	**0.6**	<0.5	<0.5	----	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	<0.5	----	<0.5
Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	<0.5	----	<0.5
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	**0.8**	<0.5	<0.5	----	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	<0.5	----	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	**0.5**	<0.5	<0.5	----	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	**0.7**	<0.5	<0.5	----	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	<0.5	----	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	**0.9**	<0.5	<0.5	----	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	**4.0**	<0.5	<0.5	----	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	**0.6**	<0.5	<0.5	----	<0.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	**1.0**	**0.6**	**0.6**	----	**0.6**
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	**1.3**	**1.2**	**1.2**	----	**1.2**
EP075A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	----	<0.5	----	----	----
2-Chlorophenol	95-57-8	0.5	mg/kg	----	<0.5	----	----	----
2-Methylphenol	95-48-7	0.5	mg/kg	----	<0.5	----	----	----
3- & 4-Methylphenol	1319-77-3	0.5	mg/kg	----	<0.5	----	----	----
2-Nitrophenol	88-75-5	0.5	mg/kg	----	<0.5	----	----	----
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	----	<0.5	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH16_0.4	BH16_1.8	DUP09	TRP08	TRP09
			Sampling date / time	14-Feb-2022 00:00	14-Feb-2022 00:00	14-Feb-2022 00:00	14-Feb-2022 00:00	14-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2204958-013	ES2204958-014	ES2204958-018	ES2204958-019	ES2204958-020
				Result	Result	Result	Result	Result
EP075A: Phenolic Compounds - Continued								
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	----	<0.5	----	----	----
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	----	<0.5	----	----	----
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	----	<0.5	----	----	----
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	----	<0.5	----	----	----
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	----	<0.5	----	----	----
Pentachlorophenol	87-86-5	1	mg/kg	----	<1	----	----	----
EP075B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	----	<0.5	----	----	----
2-Methylnaphthalene	91-57-6	0.5	mg/kg	----	<0.5	----	----	----
2-Chloronaphthalene	91-58-7	0.5	mg/kg	----	<0.5	----	----	----
Acenaphthylene	208-96-8	0.5	mg/kg	----	<0.5	----	----	----
Acenaphthene	83-32-9	0.5	mg/kg	----	<0.5	----	----	----
Fluorene	86-73-7	0.5	mg/kg	----	<0.5	----	----	----
Phenanthrene	85-01-8	0.5	mg/kg	----	<0.5	----	----	----
Anthracene	120-12-7	0.5	mg/kg	----	<0.5	----	----	----
Fluoranthene	206-44-0	0.5	mg/kg	----	<0.5	----	----	----
Pyrene	129-00-0	0.5	mg/kg	----	<0.5	----	----	----
N-2-Fluorenyl Acetamide	53-96-3	0.5	mg/kg	----	<0.5	----	----	----
Benz(a)anthracene	56-55-3	0.5	mg/kg	----	<0.5	----	----	----
Chrysene	218-01-9	0.5	mg/kg	----	<0.5	----	----	----
Benzo(b+j) & Benzo(k)fluoranthene	205-99-2 207-08-9	1	mg/kg	----	<1	----	----	----
7.12-Dimethylbenz(a)anthracene	57-97-6	0.5	mg/kg	----	<0.5	----	----	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg	----	<0.5	----	----	----
3-Methylcholanthrene	56-49-5	0.5	mg/kg	----	<0.5	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	----	<0.5	----	----	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	----	<0.5	----	----	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	----	<0.5	----	----	----
^ Sum of PAHs	----	0.5	mg/kg	----	<0.5	----	----	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	----	<0.5	----	----	----
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	----	**0.6**	----	----	----
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	----	**1.2**	----	----	----
EP075C: Phthalate Esters								
Dimethyl phthalate	131-11-3	0.5	mg/kg	----	<0.5	----	----	----
Diethyl phthalate	84-66-2	0.5	mg/kg	----	<0.5	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH16_0.4	BH16_1.8	DUP09	TRP08	TRP09
			Sampling date / time	14-Feb-2022 00:00	14-Feb-2022 00:00	14-Feb-2022 00:00	14-Feb-2022 00:00	14-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2204958-013	ES2204958-014	ES2204958-018	ES2204958-019	ES2204958-020
				Result	Result	Result	Result	Result
EP075C: Phthalate Esters - Continued								
Di-n-butyl phthalate	84-74-2	0.5	mg/kg	----	<0.5	----	----	----
Butyl benzyl phthalate	85-68-7	0.5	mg/kg	----	<0.5	----	----	----
bis(2-ethylhexyl) phthalate	117-81-7	5.0	mg/kg	----	<5.0	----	----	----
Di-n-octylphthalate	117-84-0	0.5	mg/kg	----	<0.5	----	----	----
EP075D: Nitrosamines								
N-Nitrosomethylethylamine	10595-95-6	0.5	mg/kg	----	<0.5	----	----	----
N-Nitrosodiethylamine	55-18-5	0.5	mg/kg	----	<0.5	----	----	----
N-Nitrosopyrrolidine	930-55-2	1.0	mg/kg	----	<1.0	----	----	----
N-Nitrosomorpholine	59-89-2	0.5	mg/kg	----	<0.5	----	----	----
N-Nitrosodi-n-propylamine	621-64-7	0.5	mg/kg	----	<0.5	----	----	----
N-Nitrosopiperidine	100-75-4	0.5	mg/kg	----	<0.5	----	----	----
N-Nitrosodibutylamine	924-16-3	0.5	mg/kg	----	<0.5	----	----	----
N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	1.0	mg/kg	----	<1.0	----	----	----
Methapyrilene	91-80-5	0.5	mg/kg	----	<0.5	----	----	----
EP075E: Nitroaromatics and Ketones								
2-Picoline	109-06-8	0.5	mg/kg	----	<0.5	----	----	----
Acetophenone	98-86-2	0.5	mg/kg	----	<0.5	----	----	----
Nitrobenzene	98-95-3	0.5	mg/kg	----	<0.5	----	----	----
Isophorone	78-59-1	0.5	mg/kg	----	<0.5	----	----	----
2.6-Dinitrotoluene	606-20-2	1.0	mg/kg	----	<1.0	----	----	----
2.4-Dinitrotoluene	121-14-2	1.0	mg/kg	----	<1.0	----	----	----
1-Naphthylamine	134-32-7	0.5	mg/kg	----	<0.5	----	----	----
4-Nitroquinoline-N-oxide	56-57-5	0.5	mg/kg	----	<0.5	----	----	----
5-Nitro-o-toluidine	99-55-8	0.5	mg/kg	----	<0.5	----	----	----
Azobenzene	103-33-3	1	mg/kg	----	<1	----	----	----
1.3.5-Trinitrobenzene	99-35-4	0.5	mg/kg	----	<0.5	----	----	----
Phenacetin	62-44-2	0.5	mg/kg	----	<0.5	----	----	----
4-Aminobiphenyl	92-67-1	0.5	mg/kg	----	<0.5	----	----	----
Pentachloronitrobenzene	82-68-8	0.5	mg/kg	----	<0.5	----	----	----
Pronamide	23950-58-5	0.5	mg/kg	----	<0.5	----	----	----
Dimethylaminoazobenzene	60-11-7	0.5	mg/kg	----	<0.5	----	----	----
Chlorobenzilate	510-15-6	0.5	mg/kg	----	<0.5	----	----	----
EP075F: Haloethers								

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH16_0.4	BH16_1.8	DUP09	TRP08	TRP09
			Sampling date / time	14-Feb-2022 00:00	14-Feb-2022 00:00	14-Feb-2022 00:00	14-Feb-2022 00:00	14-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2204958-013	ES2204958-014	ES2204958-018	ES2204958-019	ES2204958-020
				Result	Result	Result	Result	Result
EP075F: Haloethers - Continued								
Bis(2-chloroethyl) ether	111-44-4	0.5	mg/kg	----	<0.5	----	----	----
Bis(2-chloroethoxy) methane	111-91-1	0.5	mg/kg	----	<0.5	----	----	----
4-Chlorophenyl phenyl ether	7005-72-3	0.5	mg/kg	----	<0.5	----	----	----
4-Bromophenyl phenyl ether	101-55-3	0.5	mg/kg	----	<0.5	----	----	----
EP075G: Chlorinated Hydrocarbons								
1.3-Dichlorobenzene	541-73-1	0.5	mg/kg	----	<0.5	----	----	----
1.4-Dichlorobenzene	106-46-7	0.5	mg/kg	----	<0.5	----	----	----
1.2-Dichlorobenzene	95-50-1	0.5	mg/kg	----	<0.5	----	----	----
Hexachloroethane	67-72-1	0.5	mg/kg	----	<0.5	----	----	----
1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg	----	<0.5	----	----	----
Hexachloropropylene	1888-71-7	0.5	mg/kg	----	<0.5	----	----	----
Hexachlorobutadiene	87-68-3	0.5	mg/kg	----	<0.5	----	----	----
Hexachlorocyclopentadiene	77-47-4	2.5	mg/kg	----	<2.5	----	----	----
Pentachlorobenzene	608-93-5	0.5	mg/kg	----	<0.5	----	----	----
Hexachlorobenzene (HCB)	118-74-1	1.0	mg/kg	----	<1.0	----	----	----
EP075H: Anilines and Benzidines								
Aniline	62-53-3	0.5	mg/kg	----	<0.5	----	----	----
4-Chloroaniline	106-47-8	0.5	mg/kg	----	<0.5	----	----	----
2-Nitroaniline	88-74-4	1.0	mg/kg	----	<1.0	----	----	----
3-Nitroaniline	99-09-2	1.0	mg/kg	----	<1.0	----	----	----
Dibenzofuran	132-64-9	0.5	mg/kg	----	<0.5	----	----	----
4-Nitroaniline	100-01-6	0.5	mg/kg	----	<0.5	----	----	----
Carbazole	86-74-8	0.5	mg/kg	----	<0.5	----	----	----
3.3`-Dichlorobenzidine	91-94-1	0.5	mg/kg	----	<0.5	----	----	----
EP075I: Organochlorine Pesticides								
alpha-BHC	319-84-6	0.5	mg/kg	----	<0.5	----	----	----
beta-BHC	319-85-7	0.5	mg/kg	----	<0.5	----	----	----
gamma-BHC	58-89-9	0.5	mg/kg	----	<0.5	----	----	----
delta-BHC	319-86-8	0.5	mg/kg	----	<0.5	----	----	----
Heptachlor	76-44-8	0.5	mg/kg	----	<0.5	----	----	----
Aldrin	309-00-2	0.5	mg/kg	----	<0.5	----	----	----
Heptachlor epoxide	1024-57-3	0.5	mg/kg	----	<0.5	----	----	----
alpha-Endosulfan	959-98-8	0.5	mg/kg	----	<0.5	----	----	----
4.4`-DDE	72-55-9	0.5	mg/kg	----	<0.5	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH16_0.4	BH16_1.8	DUP09	TRP08	TRP09
			Sampling date / time	14-Feb-2022 00:00	14-Feb-2022 00:00	14-Feb-2022 00:00	14-Feb-2022 00:00	14-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2204958-013	ES2204958-014	ES2204958-018	ES2204958-019	ES2204958-020
				Result	Result	Result	Result	Result
EP075I: Organochlorine Pesticides - Continued								
Dieldrin	60-57-1	0.5	mg/kg	----	<0.5	----	----	----
Endrin	72-20-8	0.5	mg/kg	----	<0.5	----	----	----
beta-Endosulfan	33213-65-9	0.5	mg/kg	----	<0.5	----	----	----
4.4`-DDD	72-54-8	0.5	mg/kg	----	<0.5	----	----	----
Endosulfan sulfate	1031-07-8	0.5	mg/kg	----	<0.5	----	----	----
4.4`-DDT	50-29-3	1.0	mg/kg	----	<1.0	----	----	----
EP075J: Organophosphorus Pesticides								
Dichlorvos	62-73-7	0.5	mg/kg	----	<0.5	----	----	----
Dimethoate	60-51-5	0.5	mg/kg	----	<0.5	----	----	----
Diazinon	333-41-5	0.5	mg/kg	----	<0.5	----	----	----
Chlorpyrifos-methyl	5598-13-0	0.5	mg/kg	----	<0.5	----	----	----
Malathion	121-75-5	0.5	mg/kg	----	<0.5	----	----	----
Fenthion	55-38-9	0.5	mg/kg	----	<0.5	----	----	----
Chlorpyrifos	2921-88-2	0.5	mg/kg	----	<0.5	----	----	----
Pirimphos-ethyl	23505-41-1	0.5	mg/kg	----	<0.5	----	----	----
Chlorfenvinphos	470-90-6	0.5	mg/kg	----	<0.5	----	----	----
Prothiofos	34643-46-4	0.5	mg/kg	----	<0.5	----	----	----
Ethion	563-12-2	0.5	mg/kg	----	<0.5	----	----	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	----	<10
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	----	<50
C15 - C28 Fraction	----	100	mg/kg	<100	<100	<100	----	<100
C29 - C36 Fraction	----	100	mg/kg	<100	<100	<100	----	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg	<50	<50	<50	----	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	<10	----	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	<10	<10	<10	----	<10
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	<50	----	<50
>C16 - C34 Fraction	----	100	mg/kg	<100	<100	<100	----	<100
>C34 - C40 Fraction	----	100	mg/kg	<100	<100	<100	----	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	<50	<50	----	<50
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	<50	<50	<50	----	<50

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH16_0.4	BH16_1.8	DUP09	TRP08	TRP09
			Sampling date / time	14-Feb-2022 00:00	14-Feb-2022 00:00	14-Feb-2022 00:00	14-Feb-2022 00:00	14-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2204958-013	ES2204958-014	ES2204958-018	ES2204958-019	ES2204958-020
				Result	Result	Result	Result	Result
EP080: BTEXN								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	----	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	----	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	----	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	----	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	----	<0.5
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	----	<0.2
^ Total Xylenes	----	0.5	mg/kg	<0.5	<0.5	<0.5	----	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	----	<1
EP231A: Perfluoroalkyl Sulfonic Acids								
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	----	----	<0.0002	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	----	----	<0.0002	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	**0.0004**	----	----	<0.0002	----
EP231B: Perfluoroalkyl Carboxylic Acids								
Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	----	----	<0.001	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	----	----	<0.0002	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	----	----	<0.0002	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	----	----	<0.0002	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	----	----	<0.0002	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids								
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	----	----	<0.0005	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	----	----	<0.0005	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	----	----	<0.0005	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	----	----	<0.0005	----
EP231P: PFAS Sums								
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg	**0.0004**	----	----	<0.0002	----
Sum of PFAS (WA DER List)	----	0.0002	mg/kg	**0.0004**	----	----	<0.0002	----
EP066S: PCB Surrogate								

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH16_0.4	BH16_1.8	DUP09	TRP08	TRP09
			Sampling date / time	14-Feb-2022 00:00	14-Feb-2022 00:00	14-Feb-2022 00:00	14-Feb-2022 00:00	14-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2204958-013	ES2204958-014	ES2204958-018	ES2204958-019	ES2204958-020
				Result	Result	Result	Result	Result
EP066S: PCB Surrogate - Continued								
Decachlorobiphenyl	2051-24-3	0.1	%	113	85.6	120	----	102
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.05	%	107	85.4	122	----	103
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.05	%	98.2	69.7	91.0	----	68.5
EP074S: VOC Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.5	%	----	82.3	----	----	----
Toluene-D8	2037-26-5	0.5	%	----	84.4	----	----	----
4-Bromofluorobenzene	460-00-4	0.5	%	----	84.4	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	76.6	80.6	77.5	----	79.9
2-Chlorophenol-D4	93951-73-6	0.5	%	74.3	78.5	73.5	----	76.1
2.4.6-Tribromophenol	118-79-6	0.5	%	57.7	74.0	31.7	----	29.7
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.5	%	112	99.0	99.2	----	102
Anthracene-d10	1719-06-8	0.5	%	102	103	102	----	105
4-Terphenyl-d14	1718-51-0	0.5	%	91.6	92.8	93.1	----	95.1
EP075S: Acid Extractable Surrogates								
2-Fluorophenol	367-12-4	0.5	%	----	108	----	----	----
Phenol-d6	13127-88-3	0.5	%	----	98.2	----	----	----
2-Chlorophenol-D4	93951-73-6	0.5	%	----	104	----	----	----
2.4.6-Tribromophenol	118-79-6	0.5	%	----	86.9	----	----	----
EP075T: Base/Neutral Extractable Surrogates								
Nitrobenzene-D5	4165-60-0	0.5	%	----	98.9	----	----	----
1.2-Dichlorobenzene-D4	2199-69-1	0.5	%	----	85.2	----	----	----
2-Fluorobiphenyl	321-60-8	0.5	%	----	110	----	----	----
Anthracene-d10	1719-06-8	0.5	%	----	115	----	----	----
4-Terphenyl-d14	1718-51-0	0.5	%	----	92.6	----	----	----
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.2	%	96.8	81.3	90.5	----	94.6
Toluene-D8	2037-26-5	0.2	%	96.0	81.5	87.7	----	92.2
4-Bromofluorobenzene	460-00-4	0.2	%	87.7	79.2	82.4	----	87.1
EP231S: PFAS Surrogate								
13C4-PFOS	----	0.0002	%	95.5	----	----	95.0	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH16_0.4	BH16_1.8	DUP09	TRP08	TRP09
			Sampling date / time	14-Feb-2022 00:00	14-Feb-2022 00:00	14-Feb-2022 00:00	14-Feb-2022 00:00	14-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2204958-013	ES2204958-014	ES2204958-018	ES2204958-019	ES2204958-020
				Result	Result	Result	Result	Result
EP231S: PFAS Surrogate - Continued								
13C8-PFOA	----	0.0002	%	**96.0**	**----**	**----**	**91.0**	**----**

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	Rinsate	----	----	----	----
			Sampling date / time	14-Feb-2022 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit	ES2204958-015	--------	--------	--------	--------
				Result	----	----	----	----
EG020T: Total Metals by ICP-MS								
Arsenic	7440-38-2	0.001	mg/L	<0.001	----	----	----	----
Cadmium	7440-43-9	0.0001	mg/L	<0.0001	----	----	----	----
Chromium	7440-47-3	0.001	mg/L	<0.001	----	----	----	----
Copper	7440-50-8	0.001	mg/L	<0.001	----	----	----	----
Nickel	7440-02-0	0.001	mg/L	<0.001	----	----	----	----
Lead	7439-92-1	0.001	mg/L	<0.001	----	----	----	----
Zinc	7440-66-6	0.005	mg/L	<0.005	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.0001	mg/L	<0.0001	----	----	----	----
EP066: Polychlorinated Biphenyls (PCB)								
^ Total Polychlorinated biphenyls	----	1	µg/L	<1	----	----	----	----
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.5	µg/L	<0.5	----	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.5	µg/L	<0.5	----	----	----	----
beta-BHC	319-85-7	0.5	µg/L	<0.5	----	----	----	----
gamma-BHC	58-89-9	0.5	µg/L	<0.5	----	----	----	----
delta-BHC	319-86-8	0.5	µg/L	<0.5	----	----	----	----
Heptachlor	76-44-8	0.5	µg/L	<0.5	----	----	----	----
Aldrin	309-00-2	0.5	µg/L	<0.5	----	----	----	----
Heptachlor epoxide	1024-57-3	0.5	µg/L	<0.5	----	----	----	----
trans-Chlordane	5103-74-2	0.5	µg/L	<0.5	----	----	----	----
alpha-Endosulfan	959-98-8	0.5	µg/L	<0.5	----	----	----	----
cis-Chlordane	5103-71-9	0.5	µg/L	<0.5	----	----	----	----
Dieldrin	60-57-1	0.5	µg/L	<0.5	----	----	----	----
4.4`-DDE	72-55-9	0.5	µg/L	<0.5	----	----	----	----
Endrin	72-20-8	0.5	µg/L	<0.5	----	----	----	----
beta-Endosulfan	33213-65-9	0.5	µg/L	<0.5	----	----	----	----
4.4`-DDD	72-54-8	0.5	µg/L	<0.5	----	----	----	----
Endrin aldehyde	7421-93-4	0.5	µg/L	<0.5	----	----	----	----
Endosulfan sulfate	1031-07-8	0.5	µg/L	<0.5	----	----	----	----
4.4`-DDT	50-29-3	2.0	µg/L	<2.0	----	----	----	----
Endrin ketone	53494-70-5	0.5	µg/L	<0.5	----	----	----	----
Methoxychlor	72-43-5	2.0	µg/L	<2.0	----	----	----	----
^ Total Chlordane (sum)	----	0.5	µg/L	<0.5	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	Rinsate	----	----	----	----
			Sampling date / time	14-Feb-2022 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit	ES2204958-015	--------	--------	--------	--------
				Result	----	----	----	----
EP068A: Organochlorine Pesticides (OC) - Continued								
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.5	µg/L	<0.5	----	----	----	----
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.5	µg/L	<0.5	----	----	----	----
EP068B: Organophosphorus Pesticides (OP)								
Dichlorvos	62-73-7	0.5	µg/L	<0.5	----	----	----	----
Demeton-S-methyl	919-86-8	0.5	µg/L	<0.5	----	----	----	----
Monocrotophos	6923-22-4	2.0	µg/L	<2.0	----	----	----	----
Dimethoate	60-51-5	0.5	µg/L	<0.5	----	----	----	----
Diazinon	333-41-5	0.5	µg/L	<0.5	----	----	----	----
Chlorpyrifos-methyl	5598-13-0	0.5	µg/L	<0.5	----	----	----	----
Parathion-methyl	298-00-0	2.0	µg/L	<2.0	----	----	----	----
Malathion	121-75-5	0.5	µg/L	<0.5	----	----	----	----
Fenthion	55-38-9	0.5	µg/L	<0.5	----	----	----	----
Chlorpyrifos	2921-88-2	0.5	µg/L	<0.5	----	----	----	----
Parathion	56-38-2	2.0	µg/L	<2.0	----	----	----	----
Pirimphos-ethyl	23505-41-1	0.5	µg/L	<0.5	----	----	----	----
Chlorfenvinphos	470-90-6	0.5	µg/L	<0.5	----	----	----	----
Bromophos-ethyl	4824-78-6	0.5	µg/L	<0.5	----	----	----	----
Fenamiphos	22224-92-6	0.5	µg/L	<0.5	----	----	----	----
Prothiofos	34643-46-4	0.5	µg/L	<0.5	----	----	----	----
Ethion	563-12-2	0.5	µg/L	<0.5	----	----	----	----
Carbophenothion	786-19-6	0.5	µg/L	<0.5	----	----	----	----
Azinphos Methyl	86-50-0	0.5	µg/L	<0.5	----	----	----	----
EP074A: Monocyclic Aromatic Hydrocarbons								
Styrene	100-42-5	5	µg/L	<5	----	----	----	----
Isopropylbenzene	98-82-8	5	µg/L	<5	----	----	----	----
n-Propylbenzene	103-65-1	5	µg/L	<5	----	----	----	----
1.3.5-Trimethylbenzene	108-67-8	5	µg/L	<5	----	----	----	----
sec-Butylbenzene	135-98-8	5	µg/L	<5	----	----	----	----
1.2.4-Trimethylbenzene	95-63-6	5	µg/L	<5	----	----	----	----
tert-Butylbenzene	98-06-6	5	µg/L	<5	----	----	----	----
p-Isopropyltoluene	99-87-6	5	µg/L	<5	----	----	----	----
n-Butylbenzene	104-51-8	5	µg/L	<5	----	----	----	----
EP074B: Oxygenated Compounds								

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	Rinsate	----	----	----	----
			Sampling date / time	14-Feb-2022 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit	ES2204958-015	--------	--------	--------	--------
				Result	----	----	----	----
EP074B: Oxygenated Compounds - Continued								
Vinyl Acetate	108-05-4	50	µg/L	<50	----	----	----	----
2-Butanone (MEK)	78-93-3	50	µg/L	<50	----	----	----	----
4-Methyl-2-pentanone (MIBK)	108-10-1	50	µg/L	<50	----	----	----	----
2-Hexanone (MBK)	591-78-6	50	µg/L	<50	----	----	----	----
EP074C: Sulfonated Compounds								
Carbon disulfide	75-15-0	5	µg/L	9	----	----	----	----
EP074D: Fumigants								
2.2-Dichloropropane	594-20-7	5	µg/L	<5	----	----	----	----
1.2-Dichloropropane	78-87-5	5	µg/L	<5	----	----	----	----
cis-1.3-Dichloropropylene	10061-01-5	5	µg/L	<5	----	----	----	----
trans-1.3-Dichloropropylene	10061-02-6	5	µg/L	<5	----	----	----	----
1.2-Dibromoethane (EDB)	106-93-4	5	µg/L	<5	----	----	----	----
EP074E: Halogenated Aliphatic Compounds								
Dichlorodifluoromethane	75-71-8	50	µg/L	<50	----	----	----	----
Chloromethane	74-87-3	50	µg/L	<50	----	----	----	----
Vinyl chloride	75-01-4	50	µg/L	<50	----	----	----	----
Bromomethane	74-83-9	50	µg/L	<50	----	----	----	----
Chloroethane	75-00-3	50	µg/L	<50	----	----	----	----
Trichlorofluoromethane	75-69-4	50	µg/L	<50	----	----	----	----
1.1-Dichloroethene	75-35-4	5	µg/L	<5	----	----	----	----
Iodomethane	74-88-4	5	µg/L	<5	----	----	----	----
trans-1.2-Dichloroethene	156-60-5	5	µg/L	<5	----	----	----	----
1.1-Dichloroethane	75-34-3	5	µg/L	<5	----	----	----	----
cis-1.2-Dichloroethene	156-59-2	5	µg/L	<5	----	----	----	----
1.1.1-Trichloroethane	71-55-6	5	µg/L	<5	----	----	----	----
1.1-Dichloropropylene	563-58-6	5	µg/L	<5	----	----	----	----
Carbon Tetrachloride	56-23-5	5	µg/L	<5	----	----	----	----
1.2-Dichloroethane	107-06-2	5	µg/L	<5	----	----	----	----
Trichloroethene	79-01-6	5	µg/L	<5	----	----	----	----
Dibromomethane	74-95-3	5	µg/L	<5	----	----	----	----
1.1.2-Trichloroethane	79-00-5	5	µg/L	<5	----	----	----	----
1.3-Dichloropropane	142-28-9	5	µg/L	<5	----	----	----	----
Tetrachloroethene	127-18-4	5	µg/L	<5	----	----	----	----
1.1.1.2-Tetrachloroethane	630-20-6	5	µg/L	<5	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	Rinsate	----	----	----	----
			Sampling date / time	14-Feb-2022 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit	ES2204958-015	--------	--------	--------	--------
				Result	----	----	----	----
EP074E: Halogenated Aliphatic Compounds - Continued								
trans-1.4-Dichloro-2-butene	110-57-6	5	µg/L	<5	----	----	----	----
cis-1.4-Dichloro-2-butene	1476-11-5	5	µg/L	<5	----	----	----	----
1.1.2.2-Tetrachloroethane	79-34-5	5	µg/L	<5	----	----	----	----
1.2.3-Trichloropropane	96-18-4	5	µg/L	<5	----	----	----	----
Pentachloroethane	76-01-7	5	µg/L	<5	----	----	----	----
1.2-Dibromo-3-chloropropane	96-12-8	5	µg/L	<5	----	----	----	----
EP074F: Halogenated Aromatic Compounds								
Chlorobenzene	108-90-7	5	µg/L	<5	----	----	----	----
Bromobenzene	108-86-1	5	µg/L	<5	----	----	----	----
2-Chlorotoluene	95-49-8	5	µg/L	<5	----	----	----	----
4-Chlorotoluene	106-43-4	5	µg/L	<5	----	----	----	----
1.2.3-Trichlorobenzene	87-61-6	5	µg/L	<5	----	----	----	----
EP074G: Trihalomethanes								
Chloroform	67-66-3	5	µg/L	<5	----	----	----	----
Bromodichloromethane	75-27-4	5	µg/L	<5	----	----	----	----
Dibromochloromethane	124-48-1	5	µg/L	<5	----	----	----	----
Bromoform	75-25-2	5	µg/L	<5	----	----	----	----
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	1.0	µg/L	<1.0	----	----	----	----
2-Chlorophenol	95-57-8	1.0	µg/L	<1.0	----	----	----	----
2-Methylphenol	95-48-7	1.0	µg/L	<1.0	----	----	----	----
3- & 4-Methylphenol	1319-77-3	2.0	µg/L	<2.0	----	----	----	----
2-Nitrophenol	88-75-5	1.0	µg/L	<1.0	----	----	----	----
2.4-Dimethylphenol	105-67-9	1.0	µg/L	<1.0	----	----	----	----
2.4-Dichlorophenol	120-83-2	1.0	µg/L	<1.0	----	----	----	----
2.6-Dichlorophenol	87-65-0	1.0	µg/L	<1.0	----	----	----	----
4-Chloro-3-methylphenol	59-50-7	1.0	µg/L	<1.0	----	----	----	----
2.4.6-Trichlorophenol	88-06-2	1.0	µg/L	<1.0	----	----	----	----
2.4.5-Trichlorophenol	95-95-4	1.0	µg/L	<1.0	----	----	----	----
Pentachlorophenol	87-86-5	2.0	µg/L	<2.0	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	1.0	µg/L	<1.0	----	----	----	----
Acenaphthylene	208-96-8	1.0	µg/L	<1.0	----	----	----	----
Acenaphthene	83-32-9	1.0	µg/L	<1.0	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	Rinsate	----	----	----	----
			Sampling date / time	14-Feb-2022 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit	ES2204958-015	--------	--------	--------	--------
				Result	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
Fluorene	86-73-7	1.0	µg/L	<1.0	----	----	----	----
Phenanthrene	85-01-8	1.0	µg/L	<1.0	----	----	----	----
Anthracene	120-12-7	1.0	µg/L	<1.0	----	----	----	----
Fluoranthene	206-44-0	1.0	µg/L	<1.0	----	----	----	----
Pyrene	129-00-0	1.0	µg/L	<1.0	----	----	----	----
Benz(a)anthracene	56-55-3	1.0	µg/L	<1.0	----	----	----	----
Chrysene	218-01-9	1.0	µg/L	<1.0	----	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L	<1.0	----	----	----	----
Benzo(k)fluoranthene	207-08-9	1.0	µg/L	<1.0	----	----	----	----
Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	----	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L	<1.0	----	----	----	----
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L	<1.0	----	----	----	----
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L	<1.0	----	----	----	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	µg/L	<0.5	----	----	----	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	µg/L	<0.5	----	----	----	----
EP075A: Phenolic Compounds								
Phenol	108-95-2	2	µg/L	<2	----	----	----	----
2-Chlorophenol	95-57-8	2	µg/L	<2	----	----	----	----
2-Methylphenol	95-48-7	2	µg/L	<2	----	----	----	----
3- & 4-Methylphenol	1319-77-3	4	µg/L	<4	----	----	----	----
2-Nitrophenol	88-75-5	2	µg/L	<2	----	----	----	----
2.4-Dimethylphenol	105-67-9	2	µg/L	<2	----	----	----	----
2.4-Dichlorophenol	120-83-2	2	µg/L	<2	----	----	----	----
2.6-Dichlorophenol	87-65-0	2	µg/L	<2	----	----	----	----
4-Chloro-3-methylphenol	59-50-7	2	µg/L	<2	----	----	----	----
2.4.6-Trichlorophenol	88-06-2	2	µg/L	<2	----	----	----	----
2.4.5-Trichlorophenol	95-95-4	2	µg/L	<2	----	----	----	----
Pentachlorophenol	87-86-5	4	µg/L	<4	----	----	----	----
EP075B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	2	µg/L	<2	----	----	----	----
2-Methylnaphthalene	91-57-6	2	µg/L	<2	----	----	----	----
2-Chloronaphthalene	91-58-7	2	µg/L	<2	----	----	----	----
Acenaphthylene	208-96-8	2	µg/L	<2	----	----	----	----
Acenaphthene	83-32-9	2	µg/L	<2	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	Rinsate	----	----	----	----
			Sampling date / time	14-Feb-2022 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit	ES2204958-015	--------	--------	--------	--------
				Result	----	----	----	----
EP075B: Polynuclear Aromatic Hydrocarbons - Continued								
Fluorene	86-73-7	2	µg/L	<2	----	----	----	----
Phenanthrene	85-01-8	2	µg/L	<2	----	----	----	----
Anthracene	120-12-7	2	µg/L	<2	----	----	----	----
Fluoranthene	206-44-0	2	µg/L	<2	----	----	----	----
Pyrene	129-00-0	2	µg/L	<2	----	----	----	----
N-2-Fluorenyl Acetamide	53-96-3	2	µg/L	<2	----	----	----	----
Benz(a)anthracene	56-55-3	2	µg/L	<2	----	----	----	----
Chrysene	218-01-9	2	µg/L	<2	----	----	----	----
Benzo(b+j) & Benzo(k)fluoranthene	205-99-2 207-08-9	4	µg/L	<4	----	----	----	----
7.12-Dimethylbenz(a)anthracene	57-97-6	2	µg/L	<2	----	----	----	----
Benzo(a)pyrene	50-32-8	2	µg/L	<2	----	----	----	----
3-Methylcholanthrene	56-49-5	2	µg/L	<2	----	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	2	µg/L	<2	----	----	----	----
Dibenz(a.h)anthracene	53-70-3	2	µg/L	<2	----	----	----	----
Benzo(g.h.i)perylene	191-24-2	2	µg/L	<2	----	----	----	----
^ Sum of PAHs	----	2	µg/L	<2	----	----	----	----
^ Benzo(a)pyrene TEQ (zero)	----	2	µg/L	<2	----	----	----	----
EP075C: Phthalate Esters								
Dimethyl phthalate	131-11-3	2	µg/L	<2	----	----	----	----
Diethyl phthalate	84-66-2	2	µg/L	<2	----	----	----	----
Di-n-butyl phthalate	84-74-2	2	µg/L	<2	----	----	----	----
Butyl benzyl phthalate	85-68-7	2	µg/L	<2	----	----	----	----
bis(2-ethylhexyl) phthalate	117-81-7	10	µg/L	<10	----	----	----	----
Di-n-octylphthalate	117-84-0	2	µg/L	<2	----	----	----	----
EP075D: Nitrosamines								
N-Nitrosomethylethylamine	10595-95-6	2	µg/L	<2	----	----	----	----
N-Nitrosodiethylamine	55-18-5	2	µg/L	<2	----	----	----	----
N-Nitrosopyrrolidine	930-55-2	4	µg/L	<4	----	----	----	----
N-Nitrosomorpholine	59-89-2	2	µg/L	<2	----	----	----	----
N-Nitrosodi-n-propylamine	621-64-7	2	µg/L	<2	----	----	----	----
N-Nitrosopiperidine	100-75-4	2	µg/L	<2	----	----	----	----
N-Nitrosodibutylamine	924-16-3	2	µg/L	<2	----	----	----	----
N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	4	µg/L	<4	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	Rinsate	----	----	----	----
			Sampling date / time	14-Feb-2022 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit	ES2204958-015	--------	--------	--------	--------
				Result	----	----	----	----
EP075D: Nitrosamines - Continued								
Methapyrilene	91-80-5	2	µg/L	<2	----	----	----	----
EP075E: Nitroaromatics and Ketones								
2-Picoline	109-06-8	2	µg/L	<2	----	----	----	----
Acetophenone	98-86-2	2	µg/L	<2	----	----	----	----
Nitrobenzene	98-95-3	2	µg/L	<2	----	----	----	----
Isophorone	78-59-1	2	µg/L	<2	----	----	----	----
2.6-Dinitrotoluene	606-20-2	4	µg/L	<4	----	----	----	----
2.4-Dinitrotoluene	121-14-2	4	µg/L	<4	----	----	----	----
1-Naphthylamine	134-32-7	2	µg/L	<2	----	----	----	----
4-Nitroquinoline-N-oxide	56-57-5	2	µg/L	<2	----	----	----	----
5-Nitro-o-toluidine	99-55-8	2	µg/L	<2	----	----	----	----
Azobenzene	103-33-3	2	µg/L	<2	----	----	----	----
1.3.5-Trinitrobenzene	99-35-4	2	µg/L	<2	----	----	----	----
Phenacetin	62-44-2	2	µg/L	<2	----	----	----	----
4-Aminobiphenyl	92-67-1	2	µg/L	<2	----	----	----	----
Pentachloronitrobenzene	82-68-8	2	µg/L	<2	----	----	----	----
Pronamide	23950-58-5	2	µg/L	<2	----	----	----	----
Dimethylaminoazobenzene	60-11-7	2	µg/L	<2	----	----	----	----
Chlorobenzilate	510-15-6	2	µg/L	<2	----	----	----	----
EP075F: Haloethers								
Bis(2-chloroethyl) ether	111-44-4	2	µg/L	<2	----	----	----	----
Bis(2-chloroethoxy) methane	111-91-1	2	µg/L	<2	----	----	----	----
4-Chlorophenyl phenyl ether	7005-72-3	2	µg/L	<2	----	----	----	----
4-Bromophenyl phenyl ether	101-55-3	2	µg/L	<2	----	----	----	----
EP075G: Chlorinated Hydrocarbons								
1.3-Dichlorobenzene	541-73-1	2	µg/L	<2	----	----	----	----
1.4-Dichlorobenzene	106-46-7	2	µg/L	<2	----	----	----	----
1.2-Dichlorobenzene	95-50-1	2	µg/L	<2	----	----	----	----
Hexachloroethane	67-72-1	2	µg/L	<2	----	----	----	----
1.2.4-Trichlorobenzene	120-82-1	2	µg/L	<2	----	----	----	----
Hexachloropropylene	1888-71-7	2	µg/L	<2	----	----	----	----
Hexachlorobutadiene	87-68-3	2	µg/L	<2	----	----	----	----
Hexachlorocyclopentadiene	77-47-4	10	µg/L	<10	----	----	----	----
Pentachlorobenzene	608-93-5	2	µg/L	<2	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	Rinsate	----	----	----	----
			Sampling date / time	14-Feb-2022 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit	ES2204958-015	--------	--------	--------	--------
				Result	----	----	----	----
EP075G: Chlorinated Hydrocarbons - Continued								
Hexachlorobenzene (HCB)	118-74-1	4	µg/L	<4	----	----	----	----
EP075H: Anilines and Benzidines								
Aniline	62-53-3	2	µg/L	<2	----	----	----	----
4-Chloroaniline	106-47-8	2	µg/L	<2	----	----	----	----
2-Nitroaniline	88-74-4	4	µg/L	<4	----	----	----	----
3-Nitroaniline	99-09-2	4	µg/L	<4	----	----	----	----
Dibenzofuran	132-64-9	2	µg/L	<2	----	----	----	----
4-Nitroaniline	100-01-6	2	µg/L	<2	----	----	----	----
Carbazole	86-74-8	2	µg/L	<2	----	----	----	----
3.3`-Dichlorobenzidine	91-94-1	2	µg/L	<2	----	----	----	----
EP075I: Organochlorine Pesticides								
alpha-BHC	319-84-6	2	µg/L	<2	----	----	----	----
beta-BHC	319-85-7	2	µg/L	<2	----	----	----	----
gamma-BHC	58-89-9	2	µg/L	<2	----	----	----	----
delta-BHC	319-86-8	2	µg/L	<2	----	----	----	----
Heptachlor	76-44-8	2	µg/L	<2	----	----	----	----
Aldrin	309-00-2	2	µg/L	<2	----	----	----	----
Heptachlor epoxide	1024-57-3	2	µg/L	<2	----	----	----	----
alpha-Endosulfan	959-98-8	2	µg/L	<2	----	----	----	----
4.4`-DDE	72-55-9	2	µg/L	<2	----	----	----	----
Dieldrin	60-57-1	2	µg/L	<2	----	----	----	----
Endrin	72-20-8	2	µg/L	<2	----	----	----	----
beta-Endosulfan	33213-65-9	2	µg/L	<2	----	----	----	----
4.4`-DDD	72-54-8	2	µg/L	<2	----	----	----	----
Endosulfan sulfate	1031-07-8	2	µg/L	<2	----	----	----	----
4.4`-DDT	50-29-3	4	µg/L	<4	----	----	----	----
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	4	µg/L	<4	----	----	----	----
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	4	µg/L	<4	----	----	----	----
EP075J: Organophosphorus Pesticides								
Dichlorvos	62-73-7	2	µg/L	<2	----	----	----	----
Dimethoate	60-51-5	2	µg/L	<2	----	----	----	----
Diazinon	333-41-5	2	µg/L	<2	----	----	----	----
Chlorpyrifos-methyl	5598-13-0	2	µg/L	<2	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	Rinsate	----	----	----	----
			Sampling date / time	14-Feb-2022 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit	ES2204958-015	--------	--------	--------	--------
				Result	----	----	----	----
EP075J: Organophosphorus Pesticides - Continued								
Malathion	121-75-5	2	µg/L	<2	----	----	----	----
Fenthion	55-38-9	2	µg/L	<2	----	----	----	----
Chlorpyrifos	2921-88-2	2	µg/L	<2	----	----	----	----
Pirimphos-ethyl	23505-41-1	2	µg/L	<2	----	----	----	----
Chlorfenvinphos	470-90-6	2	µg/L	<2	----	----	----	----
Prothiofos	34643-46-4	2	µg/L	<2	----	----	----	----
Ethion	563-12-2	2	µg/L	<2	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	20	µg/L	<20	----	----	----	----
C10 - C14 Fraction	----	50	µg/L	<50	----	----	----	----
C15 - C28 Fraction	----	100	µg/L	<100	----	----	----	----
C29 - C36 Fraction	----	50	µg/L	<50	----	----	----	----
^ C10 - C36 Fraction (sum)	----	50	µg/L	<50	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	20	µg/L	<20	----	----	----	----
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	20	µg/L	<20	----	----	----	----
>C10 - C16 Fraction	----	100	µg/L	<100	----	----	----	----
>C16 - C34 Fraction	----	100	µg/L	<100	----	----	----	----
>C34 - C40 Fraction	----	100	µg/L	<100	----	----	----	----
^ >C10 - C40 Fraction (sum)	----	100	µg/L	<100	----	----	----	----
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	100	µg/L	<100	----	----	----	----
EP080: BTEXN								
Benzene	71-43-2	1	µg/L	<1	----	----	----	----
Toluene	108-88-3	2	µg/L	<2	----	----	----	----
Ethylbenzene	100-41-4	2	µg/L	<2	----	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	----	----	----	----
ortho-Xylene	95-47-6	2	µg/L	<2	----	----	----	----
^ Total Xylenes	----	2	µg/L	<2	----	----	----	----
^ Sum of BTEX	----	1	µg/L	<1	----	----	----	----
Naphthalene	91-20-3	5	µg/L	<5	----	----	----	----
EP066S: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	1	%	**76.1**	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	Rinsate	----	----	----	----
			Sampling date / time	14-Feb-2022 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit	ES2204958-015	--------	--------	--------	--------
				Result	----	----	----	----
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.5	%	77.8	----	----	----	----
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.5	%	73.3	----	----	----	----
EP074S: VOC Surrogates								
1.2-Dichloroethane-D4	17060-07-0	5	%	93.1	----	----	----	----
Toluene-D8	2037-26-5	5	%	118	----	----	----	----
4-Bromofluorobenzene	460-00-4	5	%	114	----	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	1.0	%	29.2	----	----	----	----
2-Chlorophenol-D4	93951-73-6	1.0	%	58.6	----	----	----	----
2.4.6-Tribromophenol	118-79-6	1.0	%	66.5	----	----	----	----
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	1.0	%	70.6	----	----	----	----
Anthracene-d10	1719-06-8	1.0	%	82.0	----	----	----	----
4-Terphenyl-d14	1718-51-0	1.0	%	83.3	----	----	----	----
EP075S: Acid Extractable Surrogates								
2-Fluorophenol	367-12-4	2	%	39.9	----	----	----	----
Phenol-d6	13127-88-3	2	%	30.2	----	----	----	----
2-Chlorophenol-D4	93951-73-6	2	%	59.1	----	----	----	----
2.4.6-Tribromophenol	118-79-6	2	%	69.0	----	----	----	----
EP075T: Base/Neutral Extractable Surrogates								
Nitrobenzene-D5	4165-60-0	2	%	61.5	----	----	----	----
1.2-Dichlorobenzene-D4	2199-69-1	2	%	57.2	----	----	----	----
2-Fluorobiphenyl	321-60-8	2	%	95.6	----	----	----	----
Anthracene-d10	1719-06-8	2	%	95.8	----	----	----	----
4-Terphenyl-d14	1718-51-0	2	%	82.7	----	----	----	----
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	2	%	107	----	----	----	----
Toluene-D8	2037-26-5	2	%	113	----	----	----	----
4-Bromofluorobenzene	460-00-4	2	%	108	----	----	----	----

Analytical Results

Descriptive Results

Sub-Matrix: **SOIL**

Method: Compound	Sample ID - Sampling date / time	Analytical Results
EA200: AS 4964 - 2004 Identification of Asbestos in Soils		
EA200: Description	BH09_0.3 - 14-Feb-2022 00:00	Soil sample.
EA200: Description	BH15_0.4 - 14-Feb-2022 00:00	Soil sample.
EA200: Description	BH17_0.4 - 14-Feb-2022 00:00	Soil sample.
EA200: Description	BH06_0.4 - 14-Feb-2022 00:00	Soil sample.
EA200: Description	BH16_0.4 - 14-Feb-2022 00:00	Soil sample.

Surrogate Control Limits

Sub-Matrix: SOIL		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP066S: PCB Surrogate			
Decachlorobiphenyl	2051-24-3	39	149
EP068S: Organochlorine Pesticide Surrogate			
Dibromo-DDE	21655-73-2	49	147
EP068T: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	35	143
EP074S: VOC Surrogates			
1.2-Dichloroethane-D4	17060-07-0	64	130
Toluene-D8	2037-26-5	66	136
4-Bromofluorobenzene	460-00-4	60	122
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	63	123
2-Chlorophenol-D4	93951-73-6	66	122
2.4.6-Tribromophenol	118-79-6	40	138
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	70	122
Anthracene-d10	1719-06-8	66	128
4-Terphenyl-d14	1718-51-0	65	129
EP075S: Acid Extractable Surrogates			
2-Fluorophenol	367-12-4	29	149
Phenol-d6	13127-88-3	32	128
2-Chlorophenol-D4	93951-73-6	32	128
2.4.6-Tribromophenol	118-79-6	13	121
EP075T: Base/Neutral Extractable Surrogates			
Nitrobenzene-D5	4165-60-0	33	125
1.2-Dichlorobenzene-D4	2199-69-1	34	108
2-Fluorobiphenyl	321-60-8	35	121
Anthracene-d10	1719-06-8	35	123
4-Terphenyl-d14	1718-51-0	33	125
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	73	133
Toluene-D8	2037-26-5	74	132
4-Bromofluorobenzene	460-00-4	72	130
EP231S: PFAS Surrogate			
13C4-PFOS	----	60	120
13C8-PFOA	----	60	120

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

Sub-Matrix: WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP066S: PCB Surrogate			
Decachlorobiphenyl	2051-24-3	45	134
EP068S: Organochlorine Pesticide Surrogate			
Dibromo-DDE	21655-73-2	67	111
EP068T: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	67	111
EP074S: VOC Surrogates			
1.2-Dichloroethane-D4	17060-07-0	78	133
Toluene-D8	2037-26-5	79	129
4-Bromofluorobenzene	460-00-4	81	124
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	10	44
2-Chlorophenol-D4	93951-73-6	14	94
2.4.6-Tribromophenol	118-79-6	17	125
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	20	104
Anthracene-d10	1719-06-8	27	113
4-Terphenyl-d14	1718-51-0	32	112
EP075S: Acid Extractable Surrogates			
2-Fluorophenol	367-12-4	10	117
Phenol-d6	13127-88-3	10	69
2-Chlorophenol-D4	93951-73-6	21	130
2.4.6-Tribromophenol	118-79-6	10	151
EP075T: Base/Neutral Extractable Surrogates			
Nitrobenzene-D5	4165-60-0	29	142
1.2-Dichlorobenzene-D4	2199-69-1	24	121
2-Fluorobiphenyl	321-60-8	27	135
Anthracene-d10	1719-06-8	27	113
4-Terphenyl-d14	1718-51-0	21	123
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	71	137
Toluene-D8	2037-26-5	79	131
4-Bromofluorobenzene	460-00-4	70	128

Inter-Laboratory Testing

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

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

ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **ES2205426**	Page	: 1 of 9
Client	: **EP RISK MANAGEMENT**	Laboratory	: Environmental Division Sydney
Contact	: HARRISON BLAKE	Contact	: Tyler Anderson
Address	: Level 4 73 Walker St North Sydney 2060	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: +61 2 8784 8555
Project	: EP2515	Date Samples Received	: 17-Feb-2022 11:45
Order number	: ----	Date Analysis Commenced	: 22-Feb-2022
C-O-C number	: ----	Issue Date	: 28-Feb-2022 17:23
Sampler	: HARRISON BLAKE		
Site	: ----		
Quote number	: SY/497/20 Primary analysis only		
No. of samples received	: 13		
No. of samples analysed	: 13		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

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

Signatories

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

Signatories	*Position*	*Accreditation Category*
Edwandy Fadjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Ivan Taylor	Analyst	Sydney Inorganics, Smithfield, NSW

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EP075 (SIM): Where reported, Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero.
- EP075(SIM): Where reported, Total Cresol is the sum of the reported concentrations of 2-Methylphenol and 3- & 4-Methylphenol at or above the LOR.
- EN33: Where leachable PFAS analysis is requested, centrifugation rather than pressure filtration is used as the default approach for removal of particulates, in line with AS 4439.3.

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH01_0.2	BH07_0.5	BH07_1.3	BH08_0.2	BH08_0.5
			Sampling date / time	08-Feb-2022 00:00	11-Feb-2022 00:00	11-Feb-2022 00:00	11-Feb-2022 00:00	11-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2205426-001	ES2205426-002	ES2205426-003	ES2205426-004	ES2205426-005
				Result	Result	Result	Result	Result
EN33: TCLP Leach - Inorganics/Non-Volatile Organics (Glass Vessel)								
Initial pH	----	0.1	pH Unit	9.2	----	----	9.2	8.6
After HCl pH	----	0.1	pH Unit	1.4	----	----	1.5	1.3
Extraction Fluid Number	----	1	-	1	----	----	1	1
Final pH	----	0.1	pH Unit	5.2	----	----	5.5	5.1
EN33: TCLP Leach - Inorganics/PFAS (Plastic Vessel)								
Initial pH	----	0.1	pH Unit	----	7.1	6.8	----	----
After HCl pH	----	0.1	pH Unit	----	1.4	1.3	----	----
Extraction Fluid Number	----	1	-	----	1	1	----	----
Final pH	----	0.1	pH Unit	----	5.1	5.0	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH08_1.5	BH10_0.3	BH11_0.2	BH11_1.5	BH13_0.3
			Sampling date / time	11-Feb-2022 00:00	11-Feb-2022 00:00	11-Feb-2022 00:00	11-Feb-2022 00:00	11-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2205426-006	ES2205426-007	ES2205426-008	ES2205426-009	ES2205426-010
				Result	Result	Result	Result	Result
EN33: TCLP Leach - Inorganics/Non-Volatile Organics (Glass Vessel)								
Initial pH	----	0.1	pH Unit	**----**	**----**	**9.2**	**----**	**----**
After HCl pH	----	0.1	pH Unit	**----**	**----**	**5.0**	**----**	**----**
Extraction Fluid Number	----	1	-	**----**	**----**	**2**	**----**	**----**
Final pH	----	0.1	pH Unit	**----**	**----**	**4.8**	**----**	**----**
EN33: TCLP Leach - Inorganics/PFAS (Plastic Vessel)								
Initial pH	----	0.1	pH Unit	**9.0**	**9.2**	**----**	**7.6**	**5.7**
After HCl pH	----	0.1	pH Unit	**1.4**	**1.3**	**----**	**1.5**	**1.4**
Extraction Fluid Number	----	1	-	**1**	**1**	**----**	**1**	**1**
Final pH	----	0.1	pH Unit	**5.4**	**5.1**	**----**	**5.2**	**5.1**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH13_1.5	BH14_0.2	BH14_0.9	----	----
			Sampling date / time	11-Feb-2022 00:00	11-Feb-2022 00:00	11-Feb-2022 00:00	----	----
Compound	CAS Number	LOR	Unit	ES2205426-011	ES2205426-012	ES2205426-013	--------	--------
				Result	Result	Result	----	----
EN33: TCLP Leach - Inorganics/Non-Volatile Organics (Glass Vessel)								
Initial pH	----	0.1	pH Unit	7.5	9.0	----	----	----
After HCl pH	----	0.1	pH Unit	1.5	1.4	----	----	----
Extraction Fluid Number	----	1	-	1	1	----	----	----
Final pH	----	0.1	pH Unit	5.1	5.2	----	----	----
EN33: TCLP Leach - Inorganics/PFAS (Plastic Vessel)								
Initial pH	----	0.1	pH Unit	----	----	8.9	----	----
After HCl pH	----	0.1	pH Unit	----	----	1.6	----	----
Extraction Fluid Number	----	1	-	----	----	1	----	----
Final pH	----	0.1	pH Unit	----	----	5.7	----	----

Analytical Results

Sub-Matrix: TCLP LEACHATE (Matrix: WATER)			Sample ID	BH01_0.2	BH07_0.5	BH07_1.3	BH08_0.2	BH08_0.5
			Sampling date / time	08-Feb-2022 00:00	11-Feb-2022 00:00	11-Feb-2022 00:00	11-Feb-2022 00:00	11-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2205426-001	ES2205426-002	ES2205426-003	ES2205426-004	ES2205426-005
				Result	Result	Result	Result	Result
EG005(ED093)C: Leachable Metals by ICPAES								
Lead	7439-92-1	0.1	mg/L	**0.6**	**0.1**	**0.2**	**275**	**23.7**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	----	----	<0.5	<0.5
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	1.0	%	**17.2**	----	----	**18.7**	**19.0**
2-Chlorophenol-D4	93951-73-6	1.0	%	**38.6**	----	----	**36.4**	**38.6**
2.4.6-Tribromophenol	118-79-6	1.0	%	**43.8**	----	----	**59.5**	**42.2**
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	1.0	%	**52.6**	----	----	**49.6**	**50.4**
Anthracene-d10	1719-06-8	1.0	%	**73.5**	----	----	**68.9**	**63.8**
4-Terphenyl-d14	1718-51-0	1.0	%	**84.1**	----	----	**63.3**	**81.9**

Analytical Results

Sub-Matrix: TCLP LEACHATE (Matrix: WATER)			Sample ID	BH08_1.5	BH10_0.3	BH11_0.2	BH11_1.5	BH13_0.3
			Sampling date / time	11-Feb-2022 00:00	11-Feb-2022 00:00	11-Feb-2022 00:00	11-Feb-2022 00:00	11-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2205426-006	ES2205426-007	ES2205426-008	ES2205426-009	ES2205426-010
				Result	Result	Result	Result	Result
EG005(ED093)C: Leachable Metals by ICPAES								
Lead	7439-92-1	0.1	mg/L	**65.3**	**1.6**	**0.6**	**0.2**	**207**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Benzo(a)pyrene	50-32-8	0.5	µg/L	----	----	<0.5	----	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	1.0	%	----	----	**16.7**	----	----
2-Chlorophenol-D4	93951-73-6	1.0	%	----	----	**34.6**	----	----
2.4.6-Tribromophenol	118-79-6	1.0	%	----	----	**67.4**	----	----
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	1.0	%	----	----	**55.3**	----	----
Anthracene-d10	1719-06-8	1.0	%	----	----	**64.8**	----	----
4-Terphenyl-d14	1718-51-0	1.0	%	----	----	**76.5**	----	----

Analytical Results

Sub-Matrix: TCLP LEACHATE (Matrix: WATER)			Sample ID	BH13_1.5	BH14_0.2	BH14_0.9	----	----
			Sampling date / time	11-Feb-2022 00:00	11-Feb-2022 00:00	11-Feb-2022 00:00	----	----
Compound	CAS Number	LOR	Unit	ES2205426-011	ES2205426-012	ES2205426-013	--------	--------
				Result	Result	Result	----	----
EG005(ED093)C: Leachable Metals by ICPAES								
Arsenic	7440-38-2	0.1	mg/L	**----**	**----**	**0.4**	**----**	**----**
Lead	7439-92-1	0.1	mg/L	**0.2**	**250**	**2190**	**----**	**----**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	<0.5	**----**	**----**	**----**
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	1.0	%	**19.5**	**16.6**	**----**	**----**	**----**
2-Chlorophenol-D4	93951-73-6	1.0	%	**33.1**	**35.0**	**----**	**----**	**----**
2.4.6-Tribromophenol	118-79-6	1.0	%	**63.8**	**65.1**	**----**	**----**	**----**
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	1.0	%	**50.5**	**52.0**	**----**	**----**	**----**
Anthracene-d10	1719-06-8	1.0	%	**69.0**	**76.6**	**----**	**----**	**----**
4-Terphenyl-d14	1718-51-0	1.0	%	**69.8**	**76.7**	**----**	**----**	**----**

Surrogate Control Limits

Sub-Matrix: **TCLP LEACHATE**		Recovery Limits (%)	
Compound	*CAS Number*	*Low*	*High*
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	10	44
2-Chlorophenol-D4	93951-73-6	14	94
2.4.6-Tribromophenol	118-79-6	17	125
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	20	104
Anthracene-d10	1719-06-8	27	113
4-Terphenyl-d14	1718-51-0	32	112

ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **ES2206121**	Page	: 1 of 21
Client	: **EP RISK MANAGEMENT**	Laboratory	: Environmental Division Sydney
Contact	: HARRISON BLAKE	Contact	: Tyler Anderson
Address	: Level 4 73 Walker St North Sydney 2060	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: +61 2 8784 8555
Project	: EP2515	Date Samples Received	: 22-Feb-2022 18:50
Order number	: ----	Date Analysis Commenced	: 23-Feb-2022
C-O-C number	: ----	Issue Date	: 24-Feb-2022 20:02
Sampler	: HARRISON BLAKE		
Site	: ----		
Quote number	: SY/497/20 Primary analysis only		
No. of samples received	: 9		
No. of samples analysed	: 9		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

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

Signatories

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

Signatories	*Position*	*Accreditation Category*
Edwandy Fadjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Franco Lentini	LCMS Coordinator	Sydney Organics, Smithfield, NSW
Ivan Taylor	Analyst	Sydney Inorganics, Smithfield, NSW
Wisam Marassa	Inorganics Coordinator	Sydney Inorganics, Smithfield, NSW

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EP075 (SIM): Where reported, Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero.
- EP075: Where reported, Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero.
- EP231X - Per- and Polyfluoroalkyl Substances (PFAS): Samples received in 20ml or 125ml bottles have been tested in accordance with the QSM5.3 compliant, NATA accredited method. 60mL or 250mL bottles have been tested to the legacy QSM 5.1 aligned, NATA accredited method.
- EP068: Where reported, Total Chlordane (sum) is the sum of the reported concentrations of cis-Chlordane and trans-Chlordane at or above the LOR.
- EP080: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EP074: Where reported, Total Trihalomethanes is the sum of the reported concentrations of all Trihalomethanes at or above the LOR.
- EP074: Where reported, Total Trimethylbenzenes is the sum of the reported concentrations of 1.2.3-Trimethylbenzene, 1.2.4-Trimethylbenzene and 1.3.5-Trimethylbenzene at or above the LOR.
- EP075(SIM): Where reported, Total Cresol is the sum of the reported concentrations of 2-Methylphenol and 3- & 4-Methylphenol at or above the LOR.
- EP231X: PFAS results for sample #6 (TRIP) confirmed by re-extraction and re-analysis.
- EP080: Sample TRIP SPIKE contains volatile compounds spiked into the sample containers prior to dispatch from the laboratory. BTEXN compounds spiked at 20 ug/L.
- EP075: Where reported, 'Sum of PAH' is the sum of the USEPA 16 priority PAHs
- EP231: Stable isotope enriched internal standards are added to samples prior to extraction. Target compounds have a direct analogous internal standard with the exception of PFPeS, PFHpA, PFDS, PFTrDA and 10:2 FTS. These compounds use an internal standard that is chemically related and has a retention time close to that of the target compound. The DQO for internal standard response is 50-150% of that established at initial calibration. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS (Australian HEPA) and also conform to QSM 5.3 (US DoD) requirements.

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	MW01	MW02	MW03	MW04	DUP
			Sampling date / time	21-Feb-2022 00:00	21-Feb-2022 00:00	21-Feb-2022 00:00	21-Feb-2022 00:00	21-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2206121-001	ES2206121-002	ES2206121-003	ES2206121-004	ES2206121-005
				Result	Result	Result	Result	Result
EG020F: Dissolved Metals by ICP-MS								
Arsenic	7440-38-2	0.001	mg/L	**0.006**	**0.008**	**0.001**	**0.005**	**0.001**
Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Chromium	7440-47-3	0.001	mg/L	**0.001**	<0.001	<0.001	<0.001	<0.001
Copper	7440-50-8	0.001	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Nickel	7440-02-0	0.001	mg/L	**0.067**	**0.073**	**0.055**	**0.086**	**0.056**
Lead	7439-92-1	0.001	mg/L	<0.001	**0.001**	<0.001	<0.001	<0.001
Zinc	7440-66-6	0.005	mg/L	**0.068**	**0.035**	**0.022**	**0.054**	**0.022**
EG035F: Dissolved Mercury by FIMS								
Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
EP066: Polychlorinated Biphenyls (PCB)								
^ Total Polychlorinated biphenyls	----	1	µg/L	<1	<1	<1	<1	<1
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Hexachlorobenzene (HCB)	118-74-1	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
beta-BHC	319-85-7	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
gamma-BHC	58-89-9	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
delta-BHC	319-86-8	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Heptachlor	76-44-8	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Aldrin	309-00-2	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Heptachlor epoxide	1024-57-3	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
trans-Chlordane	5103-74-2	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
alpha-Endosulfan	959-98-8	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
cis-Chlordane	5103-71-9	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Dieldrin	60-57-1	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
4.4`-DDE	72-55-9	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Endrin	72-20-8	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
beta-Endosulfan	33213-65-9	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
4.4`-DDD	72-54-8	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Endrin aldehyde	7421-93-4	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Endosulfan sulfate	1031-07-8	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
4.4`-DDT	50-29-3	2.0	µg/L	<2.0	<2.0	<2.0	<2.0	<2.0
Endrin ketone	53494-70-5	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Methoxychlor	72-43-5	2.0	µg/L	<2.0	<2.0	<2.0	<2.0	<2.0
^ Total Chlordane (sum)	----	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	MW01	MW02	MW03	MW04	DUP
			Sampling date / time	21-Feb-2022 00:00	21-Feb-2022 00:00	21-Feb-2022 00:00	21-Feb-2022 00:00	21-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2206121-001	ES2206121-002	ES2206121-003	ES2206121-004	ES2206121-005
				Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued								
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
EP068B: Organophosphorus Pesticides (OP)								
Dichlorvos	62-73-7	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Demeton-S-methyl	919-86-8	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Monocrotophos	6923-22-4	2.0	µg/L	<2.0	<2.0	<2.0	<2.0	<2.0
Dimethoate	60-51-5	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Diazinon	333-41-5	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Chlorpyrifos-methyl	5598-13-0	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Parathion-methyl	298-00-0	2.0	µg/L	<2.0	<2.0	<2.0	<2.0	<2.0
Malathion	121-75-5	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Fenthion	55-38-9	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Chlorpyrifos	2921-88-2	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Parathion	56-38-2	2.0	µg/L	<2.0	<2.0	<2.0	<2.0	<2.0
Pirimphos-ethyl	23505-41-1	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Chlorfenvinphos	470-90-6	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Bromophos-ethyl	4824-78-6	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Fenamiphos	22224-92-6	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Prothiofos	34643-46-4	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Ethion	563-12-2	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Carbophenothion	786-19-6	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Azinphos Methyl	86-50-0	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
EP074A: Monocyclic Aromatic Hydrocarbons								
Benzene	71-43-2	1	µg/L	<1	<1	<1	<1	----
Toluene	108-88-3	2	µg/L	<2	<2	<2	<2	----
Ethylbenzene	100-41-4	2	µg/L	<2	<2	<2	<2	----
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	<2	<2	----
Styrene	100-42-5	5	µg/L	<5	<5	<5	<5	----
ortho-Xylene	95-47-6	2	µg/L	<2	<2	<2	<2	----
Isopropylbenzene	98-82-8	5	µg/L	<5	<5	<5	<5	----
n-Propylbenzene	103-65-1	5	µg/L	<5	<5	<5	<5	----
1.3.5-Trimethylbenzene	108-67-8	5	µg/L	<5	<5	<5	<5	----
sec-Butylbenzene	135-98-8	5	µg/L	<5	<5	<5	<5	----
1.2.4-Trimethylbenzene	95-63-6	5	µg/L	<5	<5	<5	<5	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	MW01	MW02	MW03	MW04	DUP
			Sampling date / time	21-Feb-2022 00:00	21-Feb-2022 00:00	21-Feb-2022 00:00	21-Feb-2022 00:00	21-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2206121-001	ES2206121-002	ES2206121-003	ES2206121-004	ES2206121-005
				Result	Result	Result	Result	Result
EP074A: Monocyclic Aromatic Hydrocarbons - Continued								
tert-Butylbenzene	98-06-6	5	µg/L	<5	<5	<5	<5	----
p-Isopropyltoluene	99-87-6	5	µg/L	<5	<5	<5	<5	----
n-Butylbenzene	104-51-8	5	µg/L	<5	<5	<5	<5	----
EP074B: Oxygenated Compounds								
Vinyl Acetate	108-05-4	50	µg/L	<50	<50	<50	<50	----
2-Butanone (MEK)	78-93-3	50	µg/L	<50	<50	<50	<50	----
4-Methyl-2-pentanone (MIBK)	108-10-1	50	µg/L	<50	<50	<50	<50	----
2-Hexanone (MBK)	591-78-6	50	µg/L	<50	<50	<50	<50	----
EP074C: Sulfonated Compounds								
Carbon disulfide	75-15-0	5	µg/L	<5	<5	<5	<5	----
EP074D: Fumigants								
2.2-Dichloropropane	594-20-7	5	µg/L	<5	<5	<5	<5	----
1.2-Dichloropropane	78-87-5	5	µg/L	<5	<5	<5	<5	----
cis-1.3-Dichloropropylene	10061-01-5	5	µg/L	<5	<5	<5	<5	----
trans-1.3-Dichloropropylene	10061-02-6	5	µg/L	<5	<5	<5	<5	----
1.2-Dibromoethane (EDB)	106-93-4	5	µg/L	<5	<5	<5	<5	----
EP074E: Halogenated Aliphatic Compounds								
Dichlorodifluoromethane	75-71-8	50	µg/L	<50	<50	<50	<50	----
Chloromethane	74-87-3	50	µg/L	<50	<50	<50	<50	----
Vinyl chloride	75-01-4	50	µg/L	<50	<50	<50	<50	----
Bromomethane	74-83-9	50	µg/L	<50	<50	<50	<50	----
Chloroethane	75-00-3	50	µg/L	<50	<50	<50	<50	----
Trichlorofluoromethane	75-69-4	50	µg/L	<50	<50	<50	<50	----
1.1-Dichloroethene	75-35-4	5	µg/L	<5	<5	<5	<5	----
Iodomethane	74-88-4	5	µg/L	<5	<5	<5	<5	----
trans-1.2-Dichloroethene	156-60-5	5	µg/L	<5	<5	<5	<5	----
1.1-Dichloroethane	75-34-3	5	µg/L	<5	<5	<5	<5	----
cis-1.2-Dichloroethene	156-59-2	5	µg/L	<5	<5	<5	<5	----
1.1.1-Trichloroethane	71-55-6	5	µg/L	<5	<5	<5	<5	----
1.1-Dichloropropylene	563-58-6	5	µg/L	<5	<5	<5	<5	----
Carbon Tetrachloride	56-23-5	5	µg/L	<5	<5	<5	<5	----
1.2-Dichloroethane	107-06-2	5	µg/L	<5	<5	<5	<5	----
Trichloroethene	79-01-6	5	µg/L	<5	<5	<5	<5	----
Dibromomethane	74-95-3	5	µg/L	<5	<5	<5	<5	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	MW01	MW02	MW03	MW04	DUP
			Sampling date / time	21-Feb-2022 00:00	21-Feb-2022 00:00	21-Feb-2022 00:00	21-Feb-2022 00:00	21-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2206121-001	ES2206121-002	ES2206121-003	ES2206121-004	ES2206121-005
				Result	Result	Result	Result	Result
EP074E: Halogenated Aliphatic Compounds - Continued								
1.1.2-Trichloroethane	79-00-5	5	µg/L	<5	<5	<5	<5	----
1.3-Dichloropropane	142-28-9	5	µg/L	<5	<5	<5	<5	----
Tetrachloroethene	127-18-4	5	µg/L	<5	<5	<5	<5	----
1.1.1.2-Tetrachloroethane	630-20-6	5	µg/L	<5	<5	<5	<5	----
trans-1.4-Dichloro-2-butene	110-57-6	5	µg/L	<5	<5	<5	<5	----
cis-1.4-Dichloro-2-butene	1476-11-5	5	µg/L	<5	<5	<5	<5	----
1.1.2.2-Tetrachloroethane	79-34-5	5	µg/L	<5	<5	<5	<5	----
1.2.3-Trichloropropane	96-18-4	5	µg/L	<5	<5	<5	<5	----
Pentachloroethane	76-01-7	5	µg/L	<5	<5	<5	<5	----
1.2-Dibromo-3-chloropropane	96-12-8	5	µg/L	<5	<5	<5	<5	----
EP074F: Halogenated Aromatic Compounds								
Chlorobenzene	108-90-7	5	µg/L	<5	<5	<5	<5	----
Bromobenzene	108-86-1	5	µg/L	<5	<5	<5	<5	----
2-Chlorotoluene	95-49-8	5	µg/L	<5	<5	<5	<5	----
4-Chlorotoluene	106-43-4	5	µg/L	<5	<5	<5	<5	----
1.2.3-Trichlorobenzene	87-61-6	5	µg/L	<5	<5	<5	<5	----
EP074G: Trihalomethanes								
Chloroform	67-66-3	5	µg/L	<5	<5	<5	<5	----
Bromodichloromethane	75-27-4	5	µg/L	<5	<5	<5	<5	----
Dibromochloromethane	124-48-1	5	µg/L	<5	<5	<5	<5	----
Bromoform	75-25-2	5	µg/L	<5	<5	<5	<5	----
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
2-Chlorophenol	95-57-8	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
2-Methylphenol	95-48-7	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
3- & 4-Methylphenol	1319-77-3	2.0	µg/L	<2.0	<2.0	<2.0	<2.0	<2.0
2-Nitrophenol	88-75-5	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
2.4-Dimethylphenol	105-67-9	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
2.4-Dichlorophenol	120-83-2	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
2.6-Dichlorophenol	87-65-0	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
4-Chloro-3-methylphenol	59-50-7	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
2.4.6-Trichlorophenol	88-06-2	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
2.4.5-Trichlorophenol	95-95-4	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Pentachlorophenol	87-86-5	2.0	µg/L	<2.0	<2.0	<2.0	<2.0	<2.0

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	MW01	MW02	MW03	MW04	DUP
			Sampling date / time	21-Feb-2022 00:00	21-Feb-2022 00:00	21-Feb-2022 00:00	21-Feb-2022 00:00	21-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2206121-001	ES2206121-002	ES2206121-003	ES2206121-004	ES2206121-005
				Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Acenaphthylene	208-96-8	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Acenaphthene	83-32-9	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Fluorene	86-73-7	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Phenanthrene	85-01-8	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Anthracene	120-12-7	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Fluoranthene	206-44-0	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Pyrene	129-00-0	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Benz(a)anthracene	56-55-3	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Chrysene	218-01-9	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(k)fluoranthene	207-08-9	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
EP075A: Phenolic Compounds								
Phenol	108-95-2	2	µg/L	<2	<2	<2	<2	----
2-Chlorophenol	95-57-8	2	µg/L	<2	<2	<2	<2	----
2-Methylphenol	95-48-7	2	µg/L	<2	<2	<2	<2	----
3- & 4-Methylphenol	1319-77-3	4	µg/L	<4	<4	<4	<4	----
2-Nitrophenol	88-75-5	2	µg/L	<2	<2	<2	<2	----
2.4-Dimethylphenol	105-67-9	2	µg/L	<2	<2	<2	<2	----
2.4-Dichlorophenol	120-83-2	2	µg/L	<2	<2	<2	<2	----
2.6-Dichlorophenol	87-65-0	2	µg/L	<2	<2	<2	<2	----
4-Chloro-3-methylphenol	59-50-7	2	µg/L	<2	<2	<2	<2	----
2.4.6-Trichlorophenol	88-06-2	2	µg/L	<2	<2	<2	<2	----
2.4.5-Trichlorophenol	95-95-4	2	µg/L	<2	<2	<2	<2	----
Pentachlorophenol	87-86-5	4	µg/L	<4	<4	<4	<4	----
EP075B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	2	µg/L	<2	<2	<2	<2	----
2-Methylnaphthalene	91-57-6	2	µg/L	<2	<2	<2	<2	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	MW01	MW02	MW03	MW04	DUP
			Sampling date / time	21-Feb-2022 00:00	21-Feb-2022 00:00	21-Feb-2022 00:00	21-Feb-2022 00:00	21-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2206121-001	ES2206121-002	ES2206121-003	ES2206121-004	ES2206121-005
				Result	Result	Result	Result	Result
EP075B: Polynuclear Aromatic Hydrocarbons - Continued								
2-Chloronaphthalene	91-58-7	2	µg/L	<2	<2	<2	<2	----
Acenaphthylene	208-96-8	2	µg/L	<2	<2	<2	<2	----
Acenaphthene	83-32-9	2	µg/L	<2	<2	<2	<2	----
Fluorene	86-73-7	2	µg/L	<2	<2	<2	<2	----
Phenanthrene	85-01-8	2	µg/L	<2	<2	<2	<2	----
Anthracene	120-12-7	2	µg/L	<2	<2	<2	<2	----
Fluoranthene	206-44-0	2	µg/L	<2	<2	<2	<2	----
Pyrene	129-00-0	2	µg/L	<2	<2	<2	<2	----
N-2-Fluorenyl Acetamide	53-96-3	2	µg/L	<2	<2	<2	<2	----
Benz(a)anthracene	56-55-3	2	µg/L	<2	<2	<2	<2	----
Chrysene	218-01-9	2	µg/L	<2	<2	<2	<2	----
Benzo(b+j) & Benzo(k)fluoranthene	205-99-2 207-08-9	4	µg/L	<4	<4	<4	<4	----
7.12-Dimethylbenz(a)anthracene	57-97-6	2	µg/L	<2	<2	<2	<2	----
Benzo(a)pyrene	50-32-8	2	µg/L	<2	<2	<2	<2	----
3-Methylcholanthrene	56-49-5	2	µg/L	<2	<2	<2	<2	----
Indeno(1.2.3.cd)pyrene	193-39-5	2	µg/L	<2	<2	<2	<2	----
Dibenz(a.h)anthracene	53-70-3	2	µg/L	<2	<2	<2	<2	----
Benzo(g.h.i)perylene	191-24-2	2	µg/L	<2	<2	<2	<2	----
^ Sum of PAHs	----	2	µg/L	<2	<2	<2	<2	----
^ Benzo(a)pyrene TEQ (zero)	----	2	µg/L	<2	<2	<2	<2	----
EP075C: Phthalate Esters								
Dimethyl phthalate	131-11-3	2	µg/L	<2	<2	<2	<2	----
Diethyl phthalate	84-66-2	2	µg/L	<2	<2	<2	<2	----
Di-n-butyl phthalate	84-74-2	2	µg/L	<2	<2	<2	<2	----
Butyl benzyl phthalate	85-68-7	2	µg/L	<2	<2	<2	<2	----
bis(2-ethylhexyl) phthalate	117-81-7	10	µg/L	<10	<10	<10	<10	----
Di-n-octylphthalate	117-84-0	2	µg/L	<2	<2	<2	<2	----
EP075D: Nitrosamines								
N-Nitrosomethylethylamine	10595-95-6	2	µg/L	<2	<2	<2	<2	----
N-Nitrosodiethylamine	55-18-5	2	µg/L	<2	<2	<2	<2	----
N-Nitrosopyrrolidine	930-55-2	4	µg/L	<4	<4	<4	<4	----
N-Nitrosomorpholine	59-89-2	2	µg/L	<2	<2	<2	<2	----
N-Nitrosodi-n-propylamine	621-64-7	2	µg/L	<2	<2	<2	<2	----
N-Nitrosopiperidine	100-75-4	2	µg/L	<2	<2	<2	<2	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	MW01	MW02	MW03	MW04	DUP
			Sampling date / time	21-Feb-2022 00:00	21-Feb-2022 00:00	21-Feb-2022 00:00	21-Feb-2022 00:00	21-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2206121-001	ES2206121-002	ES2206121-003	ES2206121-004	ES2206121-005
				Result	Result	Result	Result	Result
EP075D: Nitrosamines - Continued								
N-Nitrosodibutylamine	924-16-3	2	µg/L	<2	<2	<2	<2	----
N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	4	µg/L	<4	<4	<4	<4	----
Methapyrilene	91-80-5	2	µg/L	<2	<2	<2	<2	----
EP075E: Nitroaromatics and Ketones								
2-Picoline	109-06-8	2	µg/L	<2	<2	<2	<2	----
Acetophenone	98-86-2	2	µg/L	<2	<2	<2	<2	----
Nitrobenzene	98-95-3	2	µg/L	<2	<2	<2	<2	----
Isophorone	78-59-1	2	µg/L	<2	<2	<2	<2	----
2.6-Dinitrotoluene	606-20-2	4	µg/L	<4	<4	<4	<4	----
2.4-Dinitrotoluene	121-14-2	4	µg/L	<4	<4	<4	<4	----
1-Naphthylamine	134-32-7	2	µg/L	<2	<2	<2	<2	----
4-Nitroquinoline-N-oxide	56-57-5	2	µg/L	<2	<2	<2	<2	----
5-Nitro-o-toluidine	99-55-8	2	µg/L	<2	<2	<2	<2	----
Azobenzene	103-33-3	2	µg/L	<2	<2	<2	<2	----
1.3.5-Trinitrobenzene	99-35-4	2	µg/L	<2	<2	<2	<2	----
Phenacetin	62-44-2	2	µg/L	<2	<2	<2	<2	----
4-Aminobiphenyl	92-67-1	2	µg/L	<2	<2	<2	<2	----
Pentachloronitrobenzene	82-68-8	2	µg/L	<2	<2	<2	<2	----
Pronamide	23950-58-5	2	µg/L	<2	<2	<2	<2	----
Dimethylaminoazobenzene	60-11-7	2	µg/L	<2	<2	<2	<2	----
Chlorobenzilate	510-15-6	2	µg/L	<2	<2	<2	<2	----
EP075F: Haloethers								
Bis(2-chloroethyl) ether	111-44-4	2	µg/L	<2	<2	<2	<2	----
Bis(2-chloroethoxy) methane	111-91-1	2	µg/L	<2	<2	<2	<2	----
4-Chlorophenyl phenyl ether	7005-72-3	2	µg/L	<2	<2	<2	<2	----
4-Bromophenyl phenyl ether	101-55-3	2	µg/L	<2	<2	<2	<2	----
EP075G: Chlorinated Hydrocarbons								
1.3-Dichlorobenzene	541-73-1	2	µg/L	<2	<2	<2	<2	----
1.4-Dichlorobenzene	106-46-7	2	µg/L	<2	<2	<2	<2	----
1.2-Dichlorobenzene	95-50-1	2	µg/L	<2	<2	<2	<2	----
Hexachloroethane	67-72-1	2	µg/L	<2	<2	<2	<2	----
1.2.4-Trichlorobenzene	120-82-1	2	µg/L	<2	<2	<2	<2	----
Hexachloropropylene	1888-71-7	2	µg/L	<2	<2	<2	<2	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	MW01	MW02	MW03	MW04	DUP
			Sampling date / time	21-Feb-2022 00:00	21-Feb-2022 00:00	21-Feb-2022 00:00	21-Feb-2022 00:00	21-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2206121-001	ES2206121-002	ES2206121-003	ES2206121-004	ES2206121-005
				Result	Result	Result	Result	Result
EP075G: Chlorinated Hydrocarbons - Continued								
Hexachlorobutadiene	87-68-3	2	µg/L	<2	<2	<2	<2	----
Hexachlorocyclopentadiene	77-47-4	10	µg/L	<10	<10	<10	<10	----
Pentachlorobenzene	608-93-5	2	µg/L	<2	<2	<2	<2	----
Hexachlorobenzene (HCB)	118-74-1	4	µg/L	<4	<4	<4	<4	----
EP075H: Anilines and Benzidines								
Aniline	62-53-3	2	µg/L	<2	<2	<2	<2	----
4-Chloroaniline	106-47-8	2	µg/L	<2	<2	<2	<2	----
2-Nitroaniline	88-74-4	4	µg/L	<4	<4	<4	<4	----
3-Nitroaniline	99-09-2	4	µg/L	<4	<4	<4	<4	----
Dibenzofuran	132-64-9	2	µg/L	<2	<2	<2	<2	----
4-Nitroaniline	100-01-6	2	µg/L	<2	<2	<2	<2	----
Carbazole	86-74-8	2	µg/L	<2	<2	<2	<2	----
3.3`-Dichlorobenzidine	91-94-1	2	µg/L	<2	<2	<2	<2	----
EP075I: Organochlorine Pesticides								
alpha-BHC	319-84-6	2	µg/L	<2	<2	<2	<2	----
beta-BHC	319-85-7	2	µg/L	<2	<2	<2	<2	----
gamma-BHC	58-89-9	2	µg/L	<2	<2	<2	<2	----
delta-BHC	319-86-8	2	µg/L	<2	<2	<2	<2	----
Heptachlor	76-44-8	2	µg/L	<2	<2	<2	<2	----
Aldrin	309-00-2	2	µg/L	<2	<2	<2	<2	----
Heptachlor epoxide	1024-57-3	2	µg/L	<2	<2	<2	<2	----
alpha-Endosulfan	959-98-8	2	µg/L	<2	<2	<2	<2	----
4.4`-DDE	72-55-9	2	µg/L	<2	<2	<2	<2	----
Dieldrin	60-57-1	2	µg/L	<2	<2	<2	<2	----
Endrin	72-20-8	2	µg/L	<2	<2	<2	<2	----
beta-Endosulfan	33213-65-9	2	µg/L	<2	<2	<2	<2	----
4.4`-DDD	72-54-8	2	µg/L	<2	<2	<2	<2	----
Endosulfan sulfate	1031-07-8	2	µg/L	<2	<2	<2	<2	----
4.4`-DDT	50-29-3	4	µg/L	<4	<4	<4	<4	----
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	4	µg/L	<4	<4	<4	<4	----
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	4	µg/L	<4	<4	<4	<4	----
EP075J: Organophosphorus Pesticides								
Dichlorvos	62-73-7	2	µg/L	<2	<2	<2	<2	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	MW01	MW02	MW03	MW04	DUP
			Sampling date / time	21-Feb-2022 00:00	21-Feb-2022 00:00	21-Feb-2022 00:00	21-Feb-2022 00:00	21-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2206121-001	ES2206121-002	ES2206121-003	ES2206121-004	ES2206121-005
				Result	Result	Result	Result	Result
EP075J: Organophosphorus Pesticides - Continued								
Dimethoate	60-51-5	2	µg/L	<2	<2	<2	<2	----
Diazinon	333-41-5	2	µg/L	<2	<2	<2	<2	----
Chlorpyrifos-methyl	5598-13-0	2	µg/L	<2	<2	<2	<2	----
Malathion	121-75-5	2	µg/L	<2	<2	<2	<2	----
Fenthion	55-38-9	2	µg/L	<2	<2	<2	<2	----
Chlorpyrifos	2921-88-2	2	µg/L	<2	<2	<2	<2	----
Pirimphos-ethyl	23505-41-1	2	µg/L	<2	<2	<2	<2	----
Chlorfenvinphos	470-90-6	2	µg/L	<2	<2	<2	<2	----
Prothiofos	34643-46-4	2	µg/L	<2	<2	<2	<2	----
Ethion	563-12-2	2	µg/L	<2	<2	<2	<2	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	20	µg/L	<20	<20	<20	<20	<20
C10 - C14 Fraction	----	50	µg/L	<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	µg/L	<100	<100	<100	<100	<100
C29 - C36 Fraction	----	50	µg/L	<50	<50	<50	<50	<50
^ C10 - C36 Fraction (sum)	----	50	µg/L	<50	<50	<50	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	<20	<20	<20
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	20	µg/L	<20	<20	<20	<20	<20
>C10 - C16 Fraction	----	100	µg/L	<100	<100	<100	<100	<100
>C16 - C34 Fraction	----	100	µg/L	<100	<100	<100	<100	<100
>C34 - C40 Fraction	----	100	µg/L	<100	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	100	µg/L	<100	<100	<100	<100	<100
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	100	µg/L	<100	<100	<100	<100	<100
EP080: BTEXN								
Benzene	71-43-2	1	µg/L	<1	<1	<1	<1	<1
Toluene	108-88-3	2	µg/L	<2	<2	<2	<2	<2
Ethylbenzene	100-41-4	2	µg/L	<2	<2	<2	<2	<2
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	<2	<2	<2
ortho-Xylene	95-47-6	2	µg/L	<2	<2	<2	<2	<2
^ Total Xylenes	----	2	µg/L	<2	<2	<2	<2	<2
^ Sum of BTEX	----	1	µg/L	<1	<1	<1	<1	<1
Naphthalene	91-20-3	5	µg/L	<5	<5	<5	<5	<5

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	MW01	MW02	MW03	MW04	DUP
			Sampling date / time	21-Feb-2022 00:00	21-Feb-2022 00:00	21-Feb-2022 00:00	21-Feb-2022 00:00	21-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2206121-001	ES2206121-002	ES2206121-003	ES2206121-004	ES2206121-005
				Result	Result	Result	Result	Result
EP080: BTEXN - Continued								
EP231A: Perfluoroalkyl Sulfonic Acids								
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	**0.04**	<0.02	**0.03**	<0.02
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	**0.02**	**0.04**	<0.01	**0.03**	<0.01
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	**0.02**	**0.02**	<0.01	**0.01**
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
EP231B: Perfluoroalkyl Carboxylic Acids								
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	**0.05**	**0.04**	<0.02	**0.04**	<0.02
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	**0.04**	**0.04**	<0.02	**0.03**	<0.02
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	**0.01**	**0.02**	<0.01	**0.02**	<0.01
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	**0.03**	<0.02
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05
EP231C: Perfluoroalkyl Sulfonamides								
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	MW01	MW02	MW03	MW04	DUP
			Sampling date / time	21-Feb-2022 00:00	21-Feb-2022 00:00	21-Feb-2022 00:00	21-Feb-2022 00:00	21-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2206121-001	ES2206121-002	ES2206121-003	ES2206121-004	ES2206121-005
				Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued								
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids								
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	**0.08**	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums								
Sum of PFAS	----	0.01	µg/L	**0.12**	**0.20**	**0.10**	**0.18**	**0.01**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	**0.02**	**0.06**	**0.02**	**0.03**	**0.01**
Sum of PFAS (WA DER List)	----	0.01	µg/L	**0.12**	**0.20**	**0.10**	**0.15**	**0.01**
EP066S: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	1	%	**118**	**97.8**	**112**	**97.7**	**90.1**
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.5	%	**110**	**93.1**	**114**	**91.9**	**87.5**
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.5	%	**115**	**98.2**	**117**	**97.4**	**95.7**
EP074S: VOC Surrogates								
1.2-Dichloroethane-D4	17060-07-0	5	%	**108**	**129**	**105**	**125**	**----**
Toluene-D8	2037-26-5	5	%	**124**	**122**	**102**	**119**	**----**

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	MW01	MW02	MW03	MW04	DUP
			Sampling date / time	21-Feb-2022 00:00	21-Feb-2022 00:00	21-Feb-2022 00:00	21-Feb-2022 00:00	21-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2206121-001	ES2206121-002	ES2206121-003	ES2206121-004	ES2206121-005
				Result	Result	Result	Result	Result
EP074S: VOC Surrogates - Continued								
4-Bromofluorobenzene	460-00-4	5	%	115	112	95.4	111	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	1.0	%	25.7	24.4	19.0	25.8	20.0
2-Chlorophenol-D4	93951-73-6	1.0	%	47.0	53.3	54.3	47.1	39.8
2.4.6-Tribromophenol	118-79-6	1.0	%	33.7	56.2	55.2	35.0	28.8
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	1.0	%	89.2	82.9	54.0	77.4	83.4
Anthracene-d10	1719-06-8	1.0	%	96.0	69.5	85.6	81.1	81.4
4-Terphenyl-d14	1718-51-0	1.0	%	98.3	80.2	96.0	85.3	66.1
EP075S: Acid Extractable Surrogates								
2-Fluorophenol	367-12-4	2	%	27.3	30.2	36.3	37.6	----
Phenol-d6	13127-88-3	2	%	31.9	33.1	27.5	30.3	----
2-Chlorophenol-D4	93951-73-6	2	%	62.5	66.2	47.2	61.1	----
2.4.6-Tribromophenol	118-79-6	2	%	79.8	66.6	41.9	65.4	----
EP075T: Base/Neutral Extractable Surrogates								
Nitrobenzene-D5	4165-60-0	2	%	67.7	76.7	49.0	57.6	----
1.2-Dichlorobenzene-D4	2199-69-1	2	%	57.7	55.1	45.6	50.0	----
2-Fluorobiphenyl	321-60-8	2	%	59.3	86.9	69.0	79.5	----
Anthracene-d10	1719-06-8	2	%	108	92.7	87.2	88.9	----
4-Terphenyl-d14	1718-51-0	2	%	94.4	76.9	65.8	78.6	----
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	2	%	123	127	119	123	128
Toluene-D8	2037-26-5	2	%	104	120	91.8	116	99.6
4-Bromofluorobenzene	460-00-4	2	%	107	111	96.9	110	104
EP231S: PFAS Surrogate								
13C4-PFOS	----	0.02	%	102	99.1	93.1	86.5	93.5
13C8-PFOA	----	0.02	%	87.1	91.0	87.6	88.8	89.4

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	TRIP	Rinsate	Trip blank	Trip Spike	----
			Sampling date / time	21-Feb-2022 00:00	21-Feb-2022 00:00	09-Feb-2022 00:00	07-Feb-2022 00:00	----
Compound	CAS Number	LOR	Unit	ES2206121-006	ES2206121-007	ES2206121-008	ES2206121-009	--------
				Result	Result	Result	Result	----
EG020F: Dissolved Metals by ICP-MS								
Arsenic	7440-38-2	0.001	mg/L	**0.001**	<0.001	----	----	----
Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	----	----	----
Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	----	----	----
Copper	7440-50-8	0.001	mg/L	<0.001	<0.001	----	----	----
Nickel	7440-02-0	0.001	mg/L	**0.057**	<0.001	----	----	----
Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	----	----	----
Zinc	7440-66-6	0.005	mg/L	**0.022**	<0.005	----	----	----
EG035F: Dissolved Mercury by FIMS								
Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	----	----	----
EP066: Polychlorinated Biphenyls (PCB)								
^ Total Polychlorinated biphenyls	----	1	µg/L	<1	<1	----	----	----
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.5	µg/L	<0.5	<0.5	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.5	µg/L	<0.5	<0.5	----	----	----
beta-BHC	319-85-7	0.5	µg/L	<0.5	<0.5	----	----	----
gamma-BHC	58-89-9	0.5	µg/L	<0.5	<0.5	----	----	----
delta-BHC	319-86-8	0.5	µg/L	<0.5	<0.5	----	----	----
Heptachlor	76-44-8	0.5	µg/L	<0.5	<0.5	----	----	----
Aldrin	309-00-2	0.5	µg/L	<0.5	<0.5	----	----	----
Heptachlor epoxide	1024-57-3	0.5	µg/L	<0.5	<0.5	----	----	----
trans-Chlordane	5103-74-2	0.5	µg/L	<0.5	<0.5	----	----	----
alpha-Endosulfan	959-98-8	0.5	µg/L	<0.5	<0.5	----	----	----
cis-Chlordane	5103-71-9	0.5	µg/L	<0.5	<0.5	----	----	----
Dieldrin	60-57-1	0.5	µg/L	<0.5	<0.5	----	----	----
4.4`-DDE	72-55-9	0.5	µg/L	<0.5	<0.5	----	----	----
Endrin	72-20-8	0.5	µg/L	<0.5	<0.5	----	----	----
beta-Endosulfan	33213-65-9	0.5	µg/L	<0.5	<0.5	----	----	----
4.4`-DDD	72-54-8	0.5	µg/L	<0.5	<0.5	----	----	----
Endrin aldehyde	7421-93-4	0.5	µg/L	<0.5	<0.5	----	----	----
Endosulfan sulfate	1031-07-8	0.5	µg/L	<0.5	<0.5	----	----	----
4.4`-DDT	50-29-3	2.0	µg/L	<2.0	<2.0	----	----	----
Endrin ketone	53494-70-5	0.5	µg/L	<0.5	<0.5	----	----	----
Methoxychlor	72-43-5	2.0	µg/L	<2.0	<2.0	----	----	----
^ Total Chlordane (sum)	----	0.5	µg/L	<0.5	<0.5	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	TRIP	Rinsate	Trip blank	Trip Spike	----
			Sampling date / time	21-Feb-2022 00:00	21-Feb-2022 00:00	09-Feb-2022 00:00	07-Feb-2022 00:00	----
Compound	CAS Number	LOR	Unit	ES2206121-006	ES2206121-007	ES2206121-008	ES2206121-009	--------
				Result	Result	Result	Result	----
EP068A: Organochlorine Pesticides (OC) - Continued								
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.5	µg/L	<0.5	<0.5	----	----	----
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.5	µg/L	<0.5	<0.5	----	----	----
EP068B: Organophosphorus Pesticides (OP)								
Dichlorvos	62-73-7	0.5	µg/L	<0.5	<0.5	----	----	----
Demeton-S-methyl	919-86-8	0.5	µg/L	<0.5	<0.5	----	----	----
Monocrotophos	6923-22-4	2.0	µg/L	<2.0	<2.0	----	----	----
Dimethoate	60-51-5	0.5	µg/L	<0.5	<0.5	----	----	----
Diazinon	333-41-5	0.5	µg/L	<0.5	<0.5	----	----	----
Chlorpyrifos-methyl	5598-13-0	0.5	µg/L	<0.5	<0.5	----	----	----
Parathion-methyl	298-00-0	2.0	µg/L	<2.0	<2.0	----	----	----
Malathion	121-75-5	0.5	µg/L	<0.5	<0.5	----	----	----
Fenthion	55-38-9	0.5	µg/L	<0.5	<0.5	----	----	----
Chlorpyrifos	2921-88-2	0.5	µg/L	<0.5	<0.5	----	----	----
Parathion	56-38-2	2.0	µg/L	<2.0	<2.0	----	----	----
Pirimphos-ethyl	23505-41-1	0.5	µg/L	<0.5	<0.5	----	----	----
Chlorfenvinphos	470-90-6	0.5	µg/L	<0.5	<0.5	----	----	----
Bromophos-ethyl	4824-78-6	0.5	µg/L	<0.5	<0.5	----	----	----
Fenamiphos	22224-92-6	0.5	µg/L	<0.5	<0.5	----	----	----
Prothiofos	34643-46-4	0.5	µg/L	<0.5	<0.5	----	----	----
Ethion	563-12-2	0.5	µg/L	<0.5	<0.5	----	----	----
Carbophenothion	786-19-6	0.5	µg/L	<0.5	<0.5	----	----	----
Azinphos Methyl	86-50-0	0.5	µg/L	<0.5	<0.5	----	----	----
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	1.0	µg/L	<1.0	<1.0	----	----	----
2-Chlorophenol	95-57-8	1.0	µg/L	<1.0	<1.0	----	----	----
2-Methylphenol	95-48-7	1.0	µg/L	<1.0	<1.0	----	----	----
3- & 4-Methylphenol	1319-77-3	2.0	µg/L	<2.0	<2.0	----	----	----
2-Nitrophenol	88-75-5	1.0	µg/L	<1.0	<1.0	----	----	----
2.4-Dimethylphenol	105-67-9	1.0	µg/L	<1.0	<1.0	----	----	----
2.4-Dichlorophenol	120-83-2	1.0	µg/L	<1.0	<1.0	----	----	----
2.6-Dichlorophenol	87-65-0	1.0	µg/L	<1.0	<1.0	----	----	----
4-Chloro-3-methylphenol	59-50-7	1.0	µg/L	<1.0	<1.0	----	----	----
2.4.6-Trichlorophenol	88-06-2	1.0	µg/L	<1.0	<1.0	----	----	----
2.4.5-Trichlorophenol	95-95-4	1.0	µg/L	<1.0	<1.0	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	TRIP	Rinsate	Trip blank	Trip Spike	----
			Sampling date / time	21-Feb-2022 00:00	21-Feb-2022 00:00	09-Feb-2022 00:00	07-Feb-2022 00:00	----
Compound	CAS Number	LOR	Unit	ES2206121-006	ES2206121-007	ES2206121-008	ES2206121-009	--------
				Result	Result	Result	Result	----
EP075(SIM)A: Phenolic Compounds - Continued								
Pentachlorophenol	87-86-5	2.0	µg/L	<2.0	<2.0	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	1.0	µg/L	<1.0	<1.0	----	----	----
Acenaphthylene	208-96-8	1.0	µg/L	<1.0	<1.0	----	----	----
Acenaphthene	83-32-9	1.0	µg/L	<1.0	<1.0	----	----	----
Fluorene	86-73-7	1.0	µg/L	<1.0	<1.0	----	----	----
Phenanthrene	85-01-8	1.0	µg/L	<1.0	<1.0	----	----	----
Anthracene	120-12-7	1.0	µg/L	<1.0	<1.0	----	----	----
Fluoranthene	206-44-0	1.0	µg/L	<1.0	<1.0	----	----	----
Pyrene	129-00-0	1.0	µg/L	<1.0	<1.0	----	----	----
Benz(a)anthracene	56-55-3	1.0	µg/L	<1.0	<1.0	----	----	----
Chrysene	218-01-9	1.0	µg/L	<1.0	<1.0	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L	<1.0	<1.0	----	----	----
Benzo(k)fluoranthene	207-08-9	1.0	µg/L	<1.0	<1.0	----	----	----
Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	<0.5	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L	<1.0	<1.0	----	----	----
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L	<1.0	<1.0	----	----	----
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L	<1.0	<1.0	----	----	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	µg/L	<0.5	<0.5	----	----	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	µg/L	<0.5	<0.5	----	----	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	20	µg/L	<20	<20	<20	----	----
C10 - C14 Fraction	----	50	µg/L	<50	<50	----	----	----
C15 - C28 Fraction	----	100	µg/L	<100	<100	----	----	----
C29 - C36 Fraction	----	50	µg/L	<50	<50	----	----	----
^ C10 - C36 Fraction (sum)	----	50	µg/L	<50	<50	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	<20	----	----
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	20	µg/L	<20	<20	<20	----	----
>C10 - C16 Fraction	----	100	µg/L	<100	<100	----	----	----
>C16 - C34 Fraction	----	100	µg/L	<100	<100	----	----	----
>C34 - C40 Fraction	----	100	µg/L	<100	<100	----	----	----
^ >C10 - C40 Fraction (sum)	----	100	µg/L	<100	<100	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	TRIP	Rinsate	Trip blank	Trip Spike	----
			Sampling date / time	21-Feb-2022 00:00	21-Feb-2022 00:00	09-Feb-2022 00:00	07-Feb-2022 00:00	----
Compound	CAS Number	LOR	Unit	ES2206121-006	ES2206121-007	ES2206121-008	ES2206121-009	--------
				Result	Result	Result	Result	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued								
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	100	µg/L	<100	<100	----	----	----
EP080: BTEXN								
Benzene	71-43-2	1	µg/L	<1	<1	<1	**18**	----
Toluene	108-88-3	2	µg/L	<2	<2	<2	**16**	----
Ethylbenzene	100-41-4	2	µg/L	<2	<2	<2	**15**	----
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	<2	**14**	----
ortho-Xylene	95-47-6	2	µg/L	<2	<2	<2	**16**	----
^ Total Xylenes	----	2	µg/L	<2	<2	<2	**30**	----
^ Sum of BTEX	----	1	µg/L	<1	<1	<1	**79**	----
Naphthalene	91-20-3	5	µg/L	<5	<5	<5	**16**	----
EP231A: Perfluoroalkyl Sulfonic Acids								
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	----	----	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	----	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	**0.01**	<0.01	----	----	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	----	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	**0.02**	<0.01	----	----	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	----	----	----
EP231B: Perfluoroalkyl Carboxylic Acids								
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	----	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	----	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	----	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	----	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	----	----	----
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	----	----	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	----	----	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	TRIP	Rinsate	Trip blank	Trip Spike	----
			Sampling date / time	21-Feb-2022 00:00	21-Feb-2022 00:00	09-Feb-2022 00:00	07-Feb-2022 00:00	----
Compound	CAS Number	LOR	Unit	ES2206121-006	ES2206121-007	ES2206121-008	ES2206121-009	--------
				Result	Result	Result	Result	----
EP231B: Perfluoroalkyl Carboxylic Acids - Continued								
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	----	----	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	----	----	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	----	----	----
EP231C: Perfluoroalkyl Sulfonamides								
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	----	----	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	----	----	----
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	----	----	----
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	----	----	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	----	----	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	----	----	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	----	----	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids								
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	----	----	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	----	----	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	----	----	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	----	----	----
EP231P: PFAS Sums								
Sum of PFAS	----	0.01	µg/L	**0.03**	<0.01	----	----	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	**0.03**	<0.01	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	TRIP	Rinsate	Trip blank	Trip Spike	----
			Sampling date / time	21-Feb-2022 00:00	21-Feb-2022 00:00	09-Feb-2022 00:00	07-Feb-2022 00:00	----
Compound	CAS Number	LOR	Unit	ES2206121-006	ES2206121-007	ES2206121-008	ES2206121-009	--------
				Result	Result	Result	Result	----
EP231P: PFAS Sums - Continued								
Sum of PFAS (WA DER List)	----	0.01	µg/L	0.03	<0.01	----	----	----
EP066S: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	1	%	75.0	116	----	----	----
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.5	%	73.0	120	----	----	----
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.5	%	75.8	124	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	1.0	%	22.9	22.9	----	----	----
2-Chlorophenol-D4	93951-73-6	1.0	%	40.2	46.7	----	----	----
2.4.6-Tribromophenol	118-79-6	1.0	%	27.7	27.1	----	----	----
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	1.0	%	56.4	67.6	----	----	----
Anthracene-d10	1719-06-8	1.0	%	69.7	97.4	----	----	----
4-Terphenyl-d14	1718-51-0	1.0	%	70.2	94.6	----	----	----
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	2	%	131	123	124	128	----
Toluene-D8	2037-26-5	2	%	96.8	93.6	98.8	98.0	----
4-Bromofluorobenzene	460-00-4	2	%	101	94.8	104	102	----
EP231S: PFAS Surrogate								
13C4-PFOS	----	0.02	%	92.2	99.7	----	----	----
13C8-PFOA	----	0.02	%	91.4	90.3	----	----	----

Surrogate Control Limits

Sub-Matrix: WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP066S: PCB Surrogate			
Decachlorobiphenyl	2051-24-3	45	134
EP068S: Organochlorine Pesticide Surrogate			
Dibromo-DDE	21655-73-2	67	111
EP068T: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	67	111
EP074S: VOC Surrogates			
1.2-Dichloroethane-D4	17060-07-0	78	133
Toluene-D8	2037-26-5	79	129
4-Bromofluorobenzene	460-00-4	81	124
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	10	44
2-Chlorophenol-D4	93951-73-6	14	94
2.4.6-Tribromophenol	118-79-6	17	125
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	20	104
Anthracene-d10	1719-06-8	27	113
4-Terphenyl-d14	1718-51-0	32	112
EP075S: Acid Extractable Surrogates			
2-Fluorophenol	367-12-4	10	117
Phenol-d6	13127-88-3	10	69
2-Chlorophenol-D4	93951-73-6	21	130
2.4.6-Tribromophenol	118-79-6	10	151
EP075T: Base/Neutral Extractable Surrogates			
Nitrobenzene-D5	4165-60-0	29	142
1.2-Dichlorobenzene-D4	2199-69-1	24	121
2-Fluorobiphenyl	321-60-8	27	135
Anthracene-d10	1719-06-8	27	113
4-Terphenyl-d14	1718-51-0	21	123
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	71	137
Toluene-D8	2037-26-5	79	131
4-Bromofluorobenzene	460-00-4	70	128
EP231S: PFAS Surrogate			
13C4-PFOS	----	60	120
13C8-PFOA	----	60	120

ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **ES2207127**	Page	: 1 of 5
Client	: **EP RISK MANAGEMENT**	Laboratory	: Environmental Division Sydney
Contact	: HARRISON BLAKE	Contact	: Tyler Anderson
Address	: Level 4 73 Walker St North Sydney 2060	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: +61 2 8784 8555
Project	: EP2515	Date Samples Received	: 01-Mar-2022 11:30
Order number	: ----	Date Analysis Commenced	: 01-Mar-2022
C-O-C number	: ----	Issue Date	: 03-Mar-2022 17:34
Sampler	: ----		
Site	: ----		
Quote number	: SYBQ/401/21		
No. of samples received	: 5		
No. of samples analysed	: 5		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

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

Signatories

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

Signatories	*Position*	*Accreditation Category*
Edwandy Fadjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Wisam Marassa	Inorganics Coordinator	Sydney Inorganics, Smithfield, NSW

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EP075 (SIM): Where reported, Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero.
- EP075(SIM): Where reported, Total Cresol is the sum of the reported concentrations of 2-Methylphenol and 3- & 4-Methylphenol at or above the LOR.

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH02_0.1	BH02_1.0	BH08_1.5	BH15_0.4	BH17_0.4
			Sampling date / time	09-Feb-2022 00:00	09-Feb-2022 00:00	11-Feb-2022 00:00	14-Feb-2022 00:00	14-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2207127-001	ES2207127-002	ES2207127-003	ES2207127-004	ES2207127-005
				Result	Result	Result	Result	Result
EN33: TCLP Leach - Inorganics/Non-Volatile Organics (Glass Vessel)								
Initial pH	----	0.1	pH Unit	**10.00**	**8.00**	**9.20**	**7.00**	**8.10**
After HCl pH	----	0.1	pH Unit	**5.02**	**1.77**	**1.97**	**1.71**	**1.73**
Extraction Fluid Number	----	1	-	**2**	**1**	**1**	**1**	**1**
Final pH	----	0.1	pH Unit	**4.60**	**5.60**	**5.30**	**5.00**	**5.70**

Analytical Results

Sub-Matrix: TCLP LEACHATE (Matrix: WATER)			Sample ID	BH02_0.1	BH02_1.0	BH08_1.5	BH15_0.4	BH17_0.4
			Sampling date / time	09-Feb-2022 00:00	09-Feb-2022 00:00	11-Feb-2022 00:00	14-Feb-2022 00:00	14-Feb-2022 00:00
Compound	CAS Number	LOR	Unit	ES2207127-001	ES2207127-002	ES2207127-003	ES2207127-004	ES2207127-005
				Result	Result	Result	Result	Result
EG005(ED093)C: Leachable Metals by ICPAES								
Lead	7439-92-1	0.1	mg/L	**1.0**	**0.1**	**----**	**0.5**	**0.2**
Nickel	7440-02-0	0.1	mg/L	**0.5**	**----**	**----**	**----**	**0.4**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Benzo(a)pyrene	50-32-8	0.5	µg/L	**----**	**----**	<0.5	**----**	**----**
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	1.0	%	**----**	**----**	**25.4**	**----**	**----**
2-Chlorophenol-D4	93951-73-6	1.0	%	**----**	**----**	**53.9**	**----**	**----**
2.4.6-Tribromophenol	118-79-6	1.0	%	**----**	**----**	**68.5**	**----**	**----**
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	1.0	%	**----**	**----**	**71.7**	**----**	**----**
Anthracene-d10	1719-06-8	1.0	%	**----**	**----**	**75.3**	**----**	**----**
4-Terphenyl-d14	1718-51-0	1.0	%	**----**	**----**	**72.2**	**----**	**----**

Surrogate Control Limits

Sub-Matrix: **TCLP LEACHATE**		Recovery Limits (%)	
Compound	*CAS Number*	*Low*	*High*
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	10	44
2-Chlorophenol-D4	93951-73-6	14	94
2.4.6-Tribromophenol	118-79-6	17	125
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	20	104
Anthracene-d10	1719-06-8	27	113
4-Terphenyl-d14	1718-51-0	32	112