REPORT TO

HALCYON HOTELS PTY LTD

ON

DETAILED SITE INVESTIGATION

FOR

PROPOSED MIXED USE DEVELOPMENT

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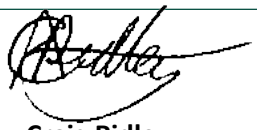
THE MALTINGS, 2 COLO STREET, MITTAGONG, NSW

Date: 2 June 2022
Ref: E33051BRrptRev1

JKEnvironments
www.jkenvironments.com.au

T: +61 2 9888 5000
JK Environments Pty Ltd
ABN 90 633 911 403

Report prepared by:



Craig Ridley
Senior Environmental Scientist

Report reviewed by:



Vittal Boggaram
Principal Associate | Environmental Scientist

For and on behalf of
JKE
PO BOX 976
NORTH RYDE BC NSW 1670

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Executive Summary

Halcyon Hotels Pty Ltd ('the client') commissioned JK Environments (JKE) to undertake a Detailed Site Investigation (DSI) for the proposed development at The Maltings, 2 Colo Street, Mittagong, NSW. The site location is shown on Figure 1 and the investigation was confined to the site boundaries as shown on Figure 2 attached in the appendices.

This report has been prepared to address the draft development consent condition DC1 in relation to development application DA20/1400 lodged with Wingecarribee Shire Council and Contention (1e) of the Statement of Facts and Contentions (SOFAC) filed with the Land and Environment Court of NSW (LEC NSW) on 17 February 2022 (Case number: 2021/00228053). The DSI will be audited by Rowena Salmon (Ramboll Australia Pty Ltd), NSW EPA accredited site auditor with regards to the Contaminated Land Management (CLM) Act (1997). This DSI is not an expert witness report. This report has been revised to address the auditor's comments as outlined in the Interim Audit Advice (IAA) letter prepared by Ramboll Australia Pty Ltd in March 2022.

A Stage 1 Preliminary Site Investigation (PSI) has previously been prepared for the site by JKE in 2020. A summary of this information has been included in Section 2. This report should be read in conjunction with the PSI report.

JKE understand that the proposed development will be staged. Stage 1 includes:

- Alterations and additions to Malthouses M1 and M2, including demolition works and construction of a new shed to the north-east of Malthouse M2;
- Adaptive re-use of Malthouses M1 and M2 for a range of uses including: a function centre; information and education facility; pub; and indoor recreation facility;
- Alterations to and refurbishment of Malthouse M3, including demolition works;
- Construction of a new Malthouse M4 to the south of Malthouse M3;
- Use of Malthouses M3 and M4 as a hotel containing 40 rooms, one private suite, restaurant, bar and other ancillary uses;
- Demolition of the Maltster's Cottage and construction of a one-storey multi-purpose space;
- Vehicular access routes to various areas of the site; and
- Associated site works including: earthworks; landscaping; and construction of pedestrian bridges and a vehicular access bridge over the Nattai River.

The Stage 2 development works are conceptual at the time of reporting. The conceptual plan includes:

- Construction of new Malthouses M5 and M6, comprised of seven 3-4 storey buildings. The buildings will be used for residential accommodation, tourist and visitor accommodation and/or seniors housing development, with 47 rooms in each building; and
- A semi-basement level carpark incorporating the at-grade carpark to the east of Malthouses M3 and M4 proposed within the Stage 1 development.

The primary aim of the DSI was to characterise the soil, surface water and groundwater contamination conditions in order to establish whether remediation is required. A secondary aim was to provide preliminary waste classification data for off-site disposal of soil waste which may be generated during the development works. The objectives of the DSI were to:

- Supplement to the PSI data by completing the DSI including soil, surface water and groundwater investigation;
- Assess the potential risks posed by contamination to the receptors identified in the Conceptual Site Model (CSM);
- Provide a preliminary waste classification for the in-situ soil;
- Assess whether the site is suitable or can be made suitable for the proposed development (from a contamination viewpoint); and
- Assess whether further intrusive investigation and/or remediation is required.

The scope of work for the DSI included a review of the PSI, a site walkover inspection, soil sampling from 60 in-situ sampling locations, sampling from seven fill stockpiles, groundwater sampling from eight monitoring wells and surface

water sampling from three locations along the Nattai River. The sampling plan for the DSI initially included soil sampling from 82 in-situ sampling locations, however a number of locations were not accessible at the time of the investigation due to potential heritage concerns and/or dense vegetation cover. The soil sampling was generally undertaken on a grid-based sampling pattern, though it is noted that some locations were targeted to potential sources of contamination/areas of environmental concern (AEC). It is acknowledged that the sampling plan did not target all identified potential sources of contamination (including timber power poles, bridges and supporting structures, and current and former building footprints). These locations were largely inaccessible during the investigation. This has been identified as a data gap and is discussed further in Section 10.3.

Groundwater monitoring wells were installed in eight boreholes drilled for the soil sampling. The monitoring well locations are shown on Figure 2. The wells were positioned to establish a baseline of the groundwater conditions. The surface water sampling locations were targeted to the up-gradient, intermediate and down-gradient areas of the site based on the observed direction of flow.

A selection of soil, surface water and groundwater samples were analysed for a range of contaminants of potential concern (CoPC) identified in the CSM. The laboratory results were assessed against the site assessment criteria (SAC) presented in Section 7.

With the exception of asbestos, lead, polycyclic aromatic hydrocarbons (PAH) and polychlorinated biphenyls (PCB), all of the soil results were below the human health SAC. With the exception of chromium, copper, lead, nickel, zinc and total recoverable hydrocarbons (TRH) F3 fraction, all of the soil results were below the ecological SAC. Elevations above the SAC are shown on Figure 4a, 4b and 5 attached in the appendices.

Friable asbestos was identified in sub-surface fill soils at concentrations above the SAC in two in-situ sampling locations. Fibre-cement fragments (FCF) were encountered in surficial soils at concentrations above the SAC in eight in-situ soil locations, and in the majority of the stockpiles. FCF was also observed at the site surface in the vicinity of the existing buildings. Several representative FCF collected from the surface, the surficial and sub-surface soils and the stockpiles, were analysed for the presence of asbestos. Most of the samples were confirmed to contain asbestos (i.e. asbestos containing material – ACM). On this basis, JKE considered the asbestos impacts to be widespread. As asbestos was identified at the surface and in the surficial soils, which will likely be disturbed during the redevelopment, complete source-pathway-receptor (SPR) linkages exist and the presence of asbestos is considered to pose a risk to human health.

Lead concentrations exceeded the human health SAC in fill soils in 12 in-situ locations, and in three fill soil stockpiles. A concentration of lead in fill in one in-situ location, a concentration of chromium in fill in one in-situ location, a concentration of nickel in natural soil/bedrock in one in-situ location, copper concentrations in fill soils in two in-situ locations and one fill soil stockpile, and zinc concentrations in fill soils in eight in-situ locations and three fill soil stockpiles exceeded the ecological SAC. Following consideration of the relevant SPR linkages, the lead concentrations were considered to pose a risk to human health, and the chromium, copper and zinc concentrations were considered to pose risks to ecological receptors.

PAH concentrations in fill soils in two in-situ locations and four fill soil stockpiles, and PCB concentrations in fill soils in two in-situ locations were detected above the human health SAC. TRH F3 concentrations in fill soils in three fill soil stockpiles were detected above the ecological SAC. Following consideration of the relevant SPR linkages, the PAH and PCB concentrations were considered to pose risks to human health, and the TRH F3 concentrations in the fill soil stockpiles were considered to pose risk to ecological receptors.

The DSI identified concentrations of cadmium and nickel in groundwater above the human health SAC in one monitoring well located within an up-gradient area of the site. The source of the cadmium and/or nickel was not identified and was considered possibly associated with an off-site source. Cadmium, mercury, nickel, zinc and perfluorooctanesulfonic acid (PFOS) were detected in surface water and in groundwater at concentrations above the ecological SAC. JKE note that groundwater sampling was conducted during a period of heavy and prolonged rainfall. Further investigation of the groundwater is required to characterise the groundwater conditions and assess the potential risks to human health and the environment. The SAC exceedances are shown on Figure 4c attached in the appendices.

Based on the findings of the DSI, the fill soils and stockpiles at the site have been assigned a preliminary classification of General Solid Waste (non-putrescible) containing Special Waste (asbestos). Due to the PCB concentrations detected in the fill soils in BH6 and TP8, fill in the vicinity of these locations is required to be managed in accordance with the NSW

EPA Polychlorinated Biphenyls (PCB) Chemical Control Order 1997. The residual silty clay and the extremely weathered sandstone in the vicinity of TP67 is assigned a preliminary classification of general solid waste (non-putrescible). JKE is of the opinion that the natural soils/bedrock outside these areas will likely meet the definition of virgin excavated natural material (VENM). Further assessment is required to confirm these classifications.

Based on the findings of the DSI, JKE is of the opinion that the site can be made suitable for the proposed development. The following is recommended:

- Prepare an asbestos management plan (AMP) to address the risks associated with friable and bonded asbestos encountered at the site. As part of the AMP, a SafeWork NSW Class A licensed contractor should be engaged to carry out an 'emu pick' to remove all visible FCF from the site surface. A surface clearance certificate should be obtained by a SafeWork NSW Licensed Asbestos Assessor;
- Undertake a data gap investigation (DGI) to address the data gaps outlined in Section 10.3 of this report;
- Prepare a remediation action plan (RAP) to address the contamination issues identified at the site. This will include an unexpected-finds protocol (UFP); and
- Undertake a site validation assessment documenting the remediation works undertaken during the proposed development works.

The conclusions and recommendations should be read in conjunction with the limitations presented in the body of this report.

Table of Contents

1 INTRODUCTION 1

1.1 Proposed Development Details 1
1.2 Aims and Objectives 2
1.3 Scope of Work 2

2 SITE INFORMATION 4

2.1 Background 4
2.2 Site Identification 5
2.3 Site Location and Regional Setting 5
2.4 Topography 5
2.5 Site Inspection 6
2.6 Drainage and Services 7
2.7 Underground Services 8
2.8 Local Meteorology 8

3 GEOLOGY AND HYDROGEOLOGY 9

3.1 Regional Geology 9
3.2 Acid Sulfate Soil (ASS) Risk and Planning 9
3.3 Hydrogeology 9
3.4 Receiving Water Bodies 9

4 SUMMARY OF SITE HISTORY INFORMATION 10

5 CONCEPTUAL SITE MODEL 11

5.1 Potential Contamination Sources/AEC and CoPC 11
5.2 Mechanism for Contamination, Affected Media, Receptors and Exposure Pathways 13

6 SAMPLING, ANALYSIS AND QUALITY PLAN 15

6.1 Data Quality Objectives (DQO) 15
6.2 Soil Sampling Plan and Methodology 17
6.3 Groundwater Sampling Plan and Methodology 19
6.4 Surface water Sampling Plan and Methodology 21
6.5 Analytical Schedule 21
6.6 Deviations from the SAQP 22

7 SITE ASSESSMENT CRITERIA (SAC) 25

7.1 Soil 25
7.2 Surface Water and Groundwater 28

8 RESULTS 30

8.1 Summary of Data (QA/QC) Evaluation 30
8.2 Subsurface Conditions 30
8.3 Field Screening 31
8.4 In-situ Soil Laboratory Results 32
8.5 Stockpile Soil Laboratory Results 39
8.6 Surface Water and Groundwater Laboratory Results 44

9 WASTE CLASSIFICATION ASSESSMENT 47

9.1 PRELIMINARY CLASSIFICATION OF FILL 47
9.2 PRELIMINARY CLASSIFICATION OF NATURAL SOIL AND BEDROCK 47
9.3 PRELIMINARY CLASSIFICATION OF STOCKPILES 47
10 DISCUSSION 48
10.1 TIER 1 RISK ASSESSMENT AND REVIEW OF CSM 48
10.2 DECISION STATEMENTS 53
10.3 DATA GAPS 54
11 REMEDIATION OPTIONS 56
11.1 SOIL REMEDIATION 56
11.2 GROUNDWATER REMEDIATION 58
12 CONCLUSIONS AND RECOMMENDATIONS 59
13 LIMITATIONS 61

List of Tables

Table 2-1: Site Identification	5
Table 4-1: Summary of Historical Land Uses / Activities	10
Table 5-1: Potential (and/or known) Contamination Sources/AEC and Contaminants of Potential Concern	11
Table 5-2: Conceptual Site Model	13
Table 6-1: Soil Sampling Plan and Methodology	17
Table 6-2: Groundwater Sampling Plan and Methodology	20
Table 6-3: Surface Water Sampling Plan and Methodology	21
Table 6-4: Laboratory Details	22
Table 7-1: Details for Asbestos SAC	25
Table 7-2: Waste Categories	26
Table 7-3: GAIs	27
Table 8-1: Summary of Subsurface Conditions	30
Table 8-2: Summary of Field Screening	31
Table 8-3: Summary of Soil Laboratory Results – Human Health and Environmental (Ecological)	32
Table 8-4: Summary of Soil Laboratory Results Compared to CT and SCC Criteria	36
Table 8-5: Summary of Soil Laboratory Results Compared to TCLP Criteria	39
Table 8-6: Summary of Stockpile Soil Laboratory Results – Human Health and Environmental (Ecological)	40
Table 8-7: Summary of Stockpile Soil Laboratory Results Compared to CT and SCC Criteria	42
Table 8-8: Summary of Stockpile Soil Laboratory Results Compared to TCLP Criteria	43
Table 8-9: Summary of Groundwater and Surface Water Laboratory Results – Human Health and Environmental (Ecological)	44
Table 10-1: Data Gap Assessment	54
Table 11-1: Consideration of Soil Remediation Options	57

Attachments

Appendix A: Report Figures
Appendix B: Site Information
Appendix C: Laboratory Results Summary Tables
Appendix D: Borehole and Test Pit Logs
Appendix E: Laboratory Reports & COC Documents
Appendix F: Report Explanatory Notes
Appendix G: Data (QA/QC) Evaluation
Appendix H: Field Work Documents
Appendix I: Equipment Calibration Records
Appendix J: Guidelines and Reference Documents

Abbreviations

Asbestos Fines/Fibrous Asbestos	**AF/FA**
Ambient Background Concentrations	**ABC**
Added Contaminant Limits	**ACL**
Asbestos Containing Material	**ACM**
Australian Drinking Water Guidelines	**ADWG**
Area of Environmental Concern	**AEC**
Australian Height Datum	**AHD**
Acid Sulfate Soil	**ASS**
Above-Ground Storage Tank	**AST**
Below Ground Level	**BGL**
Benzo(a)pyrene Toxicity Equivalent Factor	**BaP TEQ**
Bureau of Meteorology	**BOM**
Benzene, Toluene, Ethylbenzene, Xylene	**BTEX**
Cation Exchange Capacity	**CEC**
Contaminated Land Management	**CLM**
Contaminant(s) of Potential Concern	**CoPC**
Chain of Custody	**COC**
Conceptual Site Model	**CSM**
Development Application	**DA**
Dial Before You Dig	**DBYD**
Data Quality Indicator	**DQI**
Data Quality Objective	**DQO**
Detailed Site Investigation	**DSI**
Ecological Investigation Level	**EIL**
Ecological Screening Level	**ESL**
Environmental Management Plan	**EMP**
Excavated Natural Material	**ENM**
Environment Protection Authority	**EPA**
Environmental Site Assessment	**ESA**
Ecological Screening Level	**ESL**
Fibre Cement Fragment(s)	**FCF**
General Approval of Immobilisation	**GAI**
Health Investigation Level	**HILs**
Hardness Modified Trigger Values	**HMTV**
Health Screening Level	**HSL**
Health Screening Level-Site Specific Assessment	**HSL-SSA**
International Organisation of Standardisation	**ISO**
JK Environments	**JKE**
Lab Control Spike	**LCS**
Light Non-Aqueous Phase Liquid	**LNAPL**
Map Grid of Australia	**MGA**
National Association of Testing Authorities	**NATA**
National Environmental Protection Measure	**NEPM**
Organochlorine Pesticides	**OCP**
Organophosphate Pesticides	**OPP**
Polycyclic Aromatic Hydrocarbons	**PAH**
Potential ASS	**PASS**
Polychlorinated Biphenyls	**PCBs**
Per-and Polyfluoroalkyl Substances	**PFAS**
Photo-ionisation Detector	**PID**
Protection of the Environment Operations	**POEO**
Practical Quantitation Limit	**PQL**
Quality Assurance	**QA**

Quality Control	**QC**
Remediation Action Plan	**RAP**
Relative Percentage Difference	**RPD**
Site Assessment Criteria	**SAC**
Sampling, Analysis and Quality Plan	**SAQP**
Site Audit Statement	**SAS**
Site Audit Report	**SAR**
Site Specific Assessment	**SSA**
Source, Pathway, Receptor	**SPR**
Specific Contamination Concentration	**SCC**
Standard Penetration Test	**SPT**
Standing Water Level	**SWL**
Trip Blank	**TB**
Toxicity Characteristic Leaching Procedure	**TCLP**
Total Recoverable Hydrocarbons	**TRH**
Trip Spike	**TS**
Upper Confidence Limit	**UCL**
United States Environmental Protection Agency	**USEPA**
Underground Storage Tank	**UST**
Virgin Excavated Natural Material	**VENM**
Volatile Organic Compounds	**VOC**
World Health Organisation	**WHO**
Work Health and Safety	**WHS**

Units

Litres	**L**
Metres BGL	**mBGL**
Metres	**m**
Millivolts	**mV**
Millilitres	**ml or mL**
Milliequivalents	**meq**
micro Siemens per Centimetre	**µS/cm**
Micrograms per Kilogram	**µg/kg**
Micrograms per Litre	**µg/L**
Milligrams per Kilogram	**mg/kg**
Milligrams per Litre	**mg/L**
Parts Per Million	**ppm**
Percentage	**%**

1 INTRODUCTION

Halcyon Hotels Pty Ltd ('the client') commissioned JK Environments (JKE) to undertake a Detailed Site Investigation (DSI) for the proposed development at The Maltings, 2 Colo Street, Mittagong, NSW. The site location is shown on Figure 1 and the investigation was confined to the site boundaries as shown on Figure 2 attached in the appendices.

This report has been prepared to address the draft development consent condition DC1 in relation to development application DA20/1400 lodged with Wingecarribee Shire Council and Contention (1e) of the Statement of Facts and Contentions (SOFAC) filed with the Land and Environment Court of NSW (LEC NSW) on 17 February 2022 (Case number: 2021/00228053). The DSI will be audited by Rowena Salmon (Ramboll Australia Pty Ltd), NSW EPA accredited site auditor with regards to the Contaminated Land Management (CLM) Act (1997)[1]. This DSI is not an expert witness report.

This report has been revised to address the auditor's comments presented in the Interim Audit Advice No. 1 (IAA1) prepared by Ramboll Australia Pty Ltd in March 2022[2].

A Stage 1 Preliminary Site Investigation (PSI) has previously been prepared for the site by JKE in 2020[3]. A summary of this information has been included in Section 2. This report should be read in conjunction with the PSI report.

1.1 Proposed Development Details

JKE understand that the proposed development will be staged as outlined in the following sub-sections. Selected development plans issued to JKE are attached in the appendices.

1.1.1 Stage 1: Detailed Proposal

The Stage 1 development includes:

- Alterations and additions to Malthouses M1 and M2, including demolition works and construction of a new shed to the north-east of Malthouse M2;
- Adaptive re-use of Malthouses M1 and M2 for a range of uses including: a function centre; information and education facility; pub; and indoor recreation facility;
- Alterations to and refurbishment of Malthouse M3, including demolition works;
- Construction of a new Malthouse M4 to the south of Malthouse M3;
- Use of Malthouses M3 and M4 as a hotel containing 40 rooms, one private suite, restaurant, bar and other ancillary uses;
- Demolition of the Maltster's Cottage and construction of a one-storey multi-purpose space;
- Vehicular access routes to various areas of the site; and

[1] Contaminated Land Management Act 1997 (NSW) (referred to as CLM Act 1997)

[2] Ramboll Australia Pty Ltd, (2022). *Re: Interim Audit Advice Letter No. 1 – Review of Preliminary Site Investigation and Detailed Site Investigation, The Maltings: 2 Colo Street, Mittagong (Ref: 318001397, Audit No.: RS 149, dated 24 March 2022)*

[3] JKE, (2020). *Report to Halcyon Hotels Pty Ltd on Stage 1 Preliminary Site Investigation for Proposed Mixed-Use Development at The Maltings, 2 Colo Street, Mittagong, NSW* (Ref: E33051Brpt, dated 17 April 2020). (referred to as JKE PSI)

- Associated site works including: earthworks; landscaping; and construction of pedestrian bridges and a vehicular access bridge over the Nattai River.

1.1.2 Stage 2: Concept Proposal

The Stage 2 development works are conceptual at the time of reporting. The conceptual plan includes:

- Construction of new Malthouses M5 and M6, comprised of seven 3-4 storey buildings. The buildings will be used for residential accommodation, tourist and visitor accommodation and/or seniors housing development, with 47 rooms in each building; and
- A semi-basement level carpark incorporating the at-grade carpark to the east of Malthouses M3 and M4 proposed within the Stage 1 development.

1.2 Aims and Objectives

The primary aim of the DSI was to characterise the soil, surface water and groundwater contamination conditions in order to establish whether remediation is required. A secondary aim was to provide preliminary waste classification data for off-site disposal of soil waste which may be generated during the development works.

The objectives of the DSI were to:

- Supplement to the PSI data by completing the DSI including soil, surface water and groundwater investigation;
- Assess the potential risks posed by contamination to the receptors identified in the Conceptual Site Model (CSM);
- Provide a preliminary waste classification for the in-situ soil;
- Assess whether the site is suitable or can be made suitable for the proposed development (from a contamination viewpoint); and
- Assess whether further intrusive investigation and/or remediation is required.

1.3 Scope of Work

The investigation was undertaken generally in accordance with a JKE proposal (Ref: EP55852BRrev1) of 11 February 2022 and written acceptance from the client of 14 February 2022. The scope of work included the following:

- Review of site information, including information presented in the JKE PSI;
- Update and refine of the CSM;
- Implementation of a sampling, analysis and quality plan (SAQP) prepared by JKE in 2022[4];
- Interpretation of the analytical results against the adopted Site Assessment Criteria (SAC);
- Data Quality Assessment; and
- Preparation of a report including a Tier 1 risk assessment.

[4] JKE, (2022a). *To Halcyon Hotels Pty Ltd on Sampling, Analysis and Quality Plan (SAQP) for Detailed Site Investigation at The Maltings, 2 Colo Street, Mittagong, NSW*. (Ref: E33051BRrpt2-SAQP, dated 16 February 2022). (referred to as JKE SAQP)

The scope of works was modified to exclude intrusive investigation in areas mapped as containing potential archaeological deposits' (PADs) and/or archaeologically sensitive landforms identified at the site (see Section 2.1.2). These areas are shown on Figure 2. JKE understand that these areas will be subject to intrusive investigation when access becomes available.

The scope of work was undertaken with reference to the National Environmental Protection (Assessment of Site Contamination) Measure 1999 as amended (2013)[5], other guidelines made under or with regards to the Contaminated Land Management Act (1997)[6] and State Environmental Planning Policy (Resilience and Hazards) 2021[7].

A list of reference documents/guidelines is included in the appendices.

[5] National Environment Protection Council (NEPC), (2013). *National Environmental Protection (Assessment of Site Contamination) Measure 1999 (as amended 2013).* (referred to as NEPM 2013)

[6] Contaminated Land Management Act 1997 (NSW) (referred to as CLM Act 1997)

[7] *State Environmental Planning Policy (Resilence and Hazards) 2021*(NSW) (referred to as Resilience and Hazards SEPP)

2 SITE INFORMATION

2.1 Background

2.1.1 Stage 1 Preliminary Site Investigation

The JKE PSI included a review of historical information and a site walkover inspection. Based on the scope of work undertaken, JKE identified that the site was historically used for agricultural purposes (grazing, dairy) until circa c1920s. From the early 1910s to 1980, the site was used for industrial purposes (malt production), after which the site was not used for any discernible purpose.

JKE identified several potential sources of contamination/areas of environmental concern (AEC) within the site, including:

- Historic filling for site levelling purposes;
- Fly-tipped materials;
- Historic railway operations;
- Historic use of the site for industrial purposes (malt production);
- Historic use of the site for agricultural purposes;
- Use of pesticides;
- Surficial fibre cement fragments (FCF) impacts across the site;
- Hazardous building materials present within existing structures; and
- Potential use of Per- and Polyfluoroalkyl Substances (PFAS)-containing fire-fighting foams.

JKE also identified historic and current service stations and a former dry-cleaning business which may present potential off-site sources of contamination.

Based on the findings of the PSI, JKE recommended the following:

- A DSI should be undertaken to characterise the site contamination conditions;
- A remediation action plan (RAP) should be prepared on completion of the DSI to address potential contamination issues including the surficial FCF impacts across the site;
- A hazardous building materials survey should be undertaken prior to refurbishment of the buildings. Following refurbishment of the buildings, an asbestos clearance certificate should be provided; and
- An asbestos management plan (AMP) should be prepared for the proposed development.

2.1.2 Aboriginal Archaeological Survey Report

An aboriginal archaeological survey report was prepared for the site by Kayandel Archaeological Services in 2020[8].

The aboriginal archaeological survey report was provided to JKE prior to preparing the SAQP. JKE was subsequently informed that soil disturbance was not permitted within the areas mapped as containing PADs and/or archaeologically sensitive landforms without a valid Aboriginal Heritage Impact Permit (AHIP).

[8] Kayandel Archaeological Services, (2020). *Proposed Hotel Development, part 2 Colo Street (Part Lot 21 DP1029384) and Lot 22 DP1029384, Colo Street, Mittagong, Wingecarribee Shire LGA, NSW. Aboriginal Archaeological Survey Report. Prepared for Elton Consulting on behalf of Halcyon Hotels Pty Ltd* (dated May 2020).

Sampling within these areas was excluded for the DSI. This has been identified as a data gap and is discussed further in Section 10.3. JKE understand that these areas will be subject to intrusive investigation when access becomes available.

2.2 Site Identification

Table 2-1: Site Identification

Current Site Owner:	Halcyon Hotels Pty Ltd
Site Address:	2 Colo Street, Mittagong, NSW
Lot & Deposited Plan:	Lot 21 in DP1029384
Current Land Use:	Former Industrial – the site is derelict/abandoned
Proposed Land Use:	Mixed use (commercial and residential)
Local Government Authority:	Wingecarribee Shire Council
Current Zoning:	R2: Low-density Residential
Site Area (Ha) (approx.):	6.441
RL (AHD in m) (approx.):	620-638
Geographical Location (decimal degrees) (approx.):	Latitude: -34.448176 Longitude: 150.458705
Site Location and Site Features Plan:	Figure 1
Sample Location Plan:	Figure 2
Other Supporting Plans:	Appendix A

2.3 Site Location and Regional Setting

The site is located in a predominantly residential area of Mittagong and is bound by the Southern Highlands rail line and Ferguson Crescent to the north, Southey Street to the east and south-east, and Colo Street to the south-west as shown on Figure 1. Nattai River dissects the site in a general north-east/south-west direction.

2.4 Topography

The regional topography is characterised by undulating terrain to rolling hills, generally falling towards the north-east. The site itself is located within the gully and floodplain of two hillsides that slope towards Nattai River, which dissects the site in a north-east/south-west direction.

The land to the east of Nattai River slopes down to the north-west at approximately 6°, decreasing to a slope of approximately 2-3° to the west of Maltings 3. The land west of Nattai River slopes down to the east at approximately 1-2°. Parts of the site appear to have been levelled to account for the slope and accommodate the existing development.

2.5 Site Inspection

A walkover inspection of the site was undertaken by JKE for the DSI on 18 February 2022. The inspection was limited to accessible areas of the site and immediate surrounds. An internal inspection of buildings was undertaken (except for the Maltster's Residence), though was restricted to the ground-floor only. All staircases had been removed which prohibited access to the upper floors. Selected site photographs obtained during the inspection are attached in the appendices.

At the time of the inspection, multiple large (Malthouses 1, 2 and associated sheds, and Malthouse 3) and a few smaller derelict buildings (Maltster's residence, pump house, former workshop) occupied the central areas of the site, with vacant grass land within the east and south-east of the site. Several stockpiles of soil, demolition waste and green (vegetation) were encountered in the south-west of the site. Signage observed on the façade of Malthouse 3 (Tooth and Co Ltd, 1914) suggested that the building was constructed early in the 20th century.

An asphaltic concrete (AC) seal driveway and hardstand area extended from Ferguson Crescent to the western edge of the sheds adjacent to Maltings 1. The surface appeared in poor condition, with notable heaving/settlement, cracks and missing sections. An earth-formed driveway extended from Colo Street and joined the AC hardstand. A driveway also extended westerly from Southey Street, comprising recovered aggregate (brick, concrete and tile), grading into an earthen track. The recovered aggregate was inspected for the presence of FCF and suspected asbestos containing material (ACM). No FCF or ACM was observed within the recovered aggregate driveway.

Two timber bridges provided access across Nattai River. The eastern bridge (pedestrian bridge) comprised timber planks across concrete piers, with steel guardrails. Large steel sheets were laid (unsecured) upon the planks. The western bridge (vehicular bridge) comprised timber planks across concrete piers, with timber guard rails and included new sections of rail line. JKE note that the western bridge was damaged during the river overflow on 7 March 2022.

The site was fenced on all boundaries with chain-link fencing with barbed wire strand extensions. The fence continued down the riverbanks on both sides, though did not extend across the waterway. Soil erosion was observed along the riverbanks, with sandstone bedrock exposed at the base of the western riverbank.

FCF were observed upon the surface of the soils throughout the site. FCF were observed generally in proximity to the built structures and/or areas of previous ground disturbance (such as filling and former building footprints), and within the existing buildings. Seven representative samples of FCF (FCF1 surface to FCF6 surface) were collected and the laboratory confirmed the presence of asbestos. A fragment of render (FCF8 surface) appeared visually similar to the FCF and was also submitted for laboratory analysis, though this did not contain asbestos. Refer to Figure 2 attached in the appendices for locations.

A concrete underground storage tank (UST) was located to the west of the pump house. The contents of the tank were not inspected, though based on discussions with the property caretaker (Mr Simon Vibert), the UST contained water. No information was available regarding the filling/recharging of the UST.

Large portions of the site appeared to have been historically subject to cut/fill operations. A large retaining wall to the east of Malthouse 3 and battered slopes to the north and west, indicated a large cut/fill pad, extending northerly beyond the former tennis court (towards the Maltster's residence) and westerly beyond the former grain storage shed west of Malthouse 3. Evidence of historic cut/fill operations were also observed in the vicinity of Malthouses 1 and 2 and the associated former structures, and in the vicinity of the Maltster's residence.

Several stockpiles of soil typically comprised of silty clay and/or silty clayey sand and building debris (concrete, brick, glass, road-base gravel and timber) were observed to the west of Malthouse 1 sheds. The stockpiles ranged in size from approximately 1.5 in height to greater than 4m. The inspection identified FCF upon the surface of most of the stockpiles.

At least six timber power poles were observed across the site. It is considered likely that the power poles were treated to preserve the timber. Close inspection of the power poles to assess their condition was not undertaken at this stage. This has been identified as a data gap and is discussed further in Section 10.3.

The vegetation within the site comprised mature native trees, exotic plants, grass cover, and weeds. The vegetation appeared to be generally in good health, with no visible evidence of stress or die-back. The grass cover was generally consistent, with minor bare-earth patches, which were considered likely related to ground disturbance.

The Nattai River dissected the site in a north-east/south-west direction. A wildlife corridor was also observed within the western portion of the site, along with a sign-posted 'Basa Hawk' habitat. These features were considered to be sensitive environments.

During the site inspection, JKE observed the following land uses in the immediate surrounds:

- North-east – Fitzroy Inn Historic Guest House, and residential housing;
- North-west – Main southern railway line, and residential and parkland beyond;
- South-east – Southey Street and residential housing; and
- South-west – Residential and Colo Street, with Frensham (private girls' school) beyond.

JKE are of the opinion that the adjacent main southern rail line to the north and north-west of the site is a potential contamination source as the rail corridor is adjacent to the site boundary and is up-gradient. JKE note that the site historically included two rail sidings, therefore, rail operations are also considered to have been conducted on-site.

2.6 Drainage and Services

A sewer main crosses beneath the site to the south-east of Nattai River. The sewer main entered the site from the pumping station along Colo Street, and appeared to follow the alignment of Nattai River until the vehicular bridge within the site. The sewer main then crossed the grassed area to the west of Malthouse 3

and continued off-site. Stormwater pits (both in use and redundant) were also observed throughout the site. A redundant discharge pipe was observed extending from a stormwater pit to the east of Malthouse 2 and discharged into Nattai River. JKE assumed the other stormwater pits also discharged into Nattai River.

2.7 Underground Services

The 'Dial Before You Dig' (DBYD) plans were reviewed for the investigation in order to establish whether any major underground services exist at the site or in the immediate vicinity that could act as a preferential pathway for contamination migration. A sewer main extended through the central portion of the site, to the south-east of Nattai River. The approximate alignment of the main is shown on Figure 2. The sewer main is understood to be at a depth of approximately 1.25m below ground level (BGL) to 2.84mBGL. The sewer main did not extend through any properties within the vicinity of the site which present a potential off-site contamination source.

2.8 Local Meteorology

Key meteorological data for Moss Vale weather station available on the Bureau of Meteorology (BOM)[9] website has been reviewed and JKE note the following:

- The highest mean rainfall occurs in February, with a total of 104.6mm;
- The lowest mean rainfall occurs in September, with a total of 36.4mm;
- In the week lead up to the JKE site inspection, approximately 15mm of rainfall was recorded;
- In the week lead up to the JKE groundwater sampling, approximately 170mm of rainfall was recorded; and
- Approximately 150mm of rainfall was recorded during the days of groundwater sampling (7 and 8 March 2022).

Heavy rainfall was recorded in the lead-up to, and during groundwater sampling. Approximately 150mm of rainfall was recorded during groundwater sampling. Due to the heavy rainfall recorded in the lead up and during groundwater sampling, parts of the site were inundated with surface water run-off. The heavy rainfall likely influenced the standing water levels (SWL) and groundwater quality recorded in the monitoring wells. On this basis, there is uncertainty regarding the SWL of the perched groundwater aquifer and contaminant conditions. This has been identified as a data gap and is discussed further in Section 10.3.

[9] http://www.bom.gov.au/climate/dwo/IDCJDW2086.latest.shtml visited on 18 March 2022

3 GEOLOGY AND HYDROGEOLOGY

3.1 Regional Geology

Regional geological information reviewed for the JKE PSI indicated that the site is underlain by the interface of two geological formations: Hawkesbury Sandstone, which typically consists of quartzose sandstone with interbedded shale, and conglomerate horizons at the base; and Wianamatta Group mudrocks and interbedded lithic sandstone. The interface appeared to generally follow the alignment of Nattai River, with Hawkesbury Sandstone likely to be encountered to the north-west of the river, and Wianamatta Group mudrocks and lithic sandstone to the south-east of the river. A summary of the subsurface conditions encountered during the DSI is presented in Section 8.2.

3.2 Acid Sulfate Soil (ASS) Risk and Planning

ASS information presented in the JKE PSI indicated the site is not located in an ASS risk area.

3.3 Hydrogeology

Hydrogeological information reviewed for the JKE PSI indicated that the regional aquifer on-site and in the areas immediately surrounding the site includes porous, extensive aquifers of low to moderate productivity, with extensive aquifers of high productivity within 1km of the site. There was a total of 49 registered bores within 2km of the site. In summary:

- The nearest registered bore was located approximately 230m south of the site. This was utilised for domestic and stock purposes;
- The majority of the bores were registered for domestic and stock purposes; and
- The drillers log information from the closest registered bores typically identified fill and/or clay soil to depths of 2-6m, underlain by shale and sandstone bedrock. Standing water levels (SWLs) in the bores ranged from 13mBGL to 38mBGL.

The subsurface conditions at the site are likely to consist of relatively low permeability (residual) soils overlying shallow bedrock. There is potential for viable groundwater abstraction and use of groundwater within the vicinity, demonstrated by the quantity of extractive bores within the surrounds. There is a reticulated water supply in the area and consumption of groundwater is not expected to occur within the site. Use of groundwater is not proposed as part of the development.

Considering the local topography and surrounding land features, JKE would generally expect groundwater to flow towards the north within the east of the site, and easterly within the west of the site, in sympathy with the local topography. The Nattai River would likely influence the groundwater conditions along the banks within the site.

3.4 Receiving Water Bodies

The site location and regional topography indicates that excess surface water flows would likely enter Nattai River, which dissects the site. This water body is a potential receptor.

4 SUMMARY OF SITE HISTORY INFORMATION

A time line summary of the historical land uses and activities is presented in the table below. The information presented in the table is based on a weight of evidence assessment of the site history documentation and observations made by JKE during the PSI and DSI.

Table 4-1: Summary of Historical Land Uses / Activities

Year(s)	On-site - Potential Land Use / Activities	Off-site - Potential Land Use / Activities
1882 – 1920s	Grazing and dairy	Agricultural (grazing) and horticultural (market gardens)
1899 – 1980	Malt production and rail transport	
1980 – current	Malt production ceased and the site was not actively used for any purposes. The site was abandoned and became derelict.	Residential land use (detached dwellings and townhouse complexes)
1994 – 2016	Fly-tipping of soil and waste occurred at the site.	

5 CONCEPTUAL SITE MODEL

NEPM (2013) defines a CSM as a representation of site related information regarding contamination sources, receptors and exposure pathways between those sources and receptors. The CSM for the site is presented in the following sub-sections and is based on the site information (including the site inspection information) and the review of site history information presented in the JKE PSI. Reference should also be made to the figures attached in the appendices.

A review of the CSM in relation to source, pathway and receptor (SPR) linkages has been undertaken as part of the Tier 1 risk assessment process, as outlined in Section 10.

5.1 Potential Contamination Sources/AEC and CoPC

The potential contamination sources/AEC and CoPC are presented in the following table:

Table 5-1: Potential (and/or known) Contamination Sources/AEC and Contaminants of Potential Concern

Source / AEC	CoPC
Fill material – The site appears to have been historically filled to achieve the existing levels. The fill may have been imported from various sources and could be contaminated. Fill was encountered at the site during the DSI investigation and ranged in depth from approximately 0.05mBGL to 1.4mBGL as summarised in Section 8.2.	Heavy metals (arsenic, cadmium, chromium, copper, lead, mercury, nickel and zinc), petroleum hydrocarbons (referred to as total recoverable hydrocarbons – TRHs), benzene, toluene, ethylbenzene and xylene (BTEX), polycyclic aromatic hydrocarbons (PAHs), organochlorine pesticides (OCPs), organophosphate pesticides (OPPs), polychlorinated biphenyls (PCBs) and asbestos.
Fly-tipped materials – various waste materials, including steel, concrete, brick, glass, road-base gravel, FCF and soil were observed in multiple stockpiles between the sheds of Maltings 1 and the access gate along Colo Street. A stockpile of vegetation waste was observed adjacent the boundary with Colo Street, and a stockpile of tree stumps/branches was located to the south-east of the Maltster's Residence.	Heavy metals, TRH, BTEX, PAH, and asbestos.
Fuel/oil storage – Council records indicate that the site historically stored and used diesel fuels and oils for their operations. It is possible that spills and releases of fluids may have occurred, and may have contaminated the site.	Heavy metals, TRH, BTEX, PAHs and PCBs
Coke-fired ovens – Council records indicate that the ovens used in the Maltings were coke-fired. It is possible that the soils surrounding the buildings could be contaminated by the air deposition from the coke-fired ovens, and possibly from disposal activities of waste ash and coal, if this was buried on-site.	Heavy metals, mid to heavy fraction TRH and PAHs
Electrical transformers – Council records indicate that electrical transformers were used within the site. Given the age of the buildings and the period of last known use, it is possible that the transformers may have contained PCBs, which may have leaked into the surrounding soils.	PCBs

Source / AEC	CoPC
JKE note the locations of the electrical transformers were not identified in the records. JKE assume the transformers were located in the vicinity of the buildings.	
Power Poles and Bridges – Six timber power poles were observed throughout the site and two bridges. The power poles and bridge supports were likely treated to preserve the timber and the treatment may have included copper chrome arsenate (CCA) or creosote treatment. It is possible that these treatments may have leached into the surrounding soils.	Heavy metals, TRH, PAHs, OCPs, phenols and creosotes
Equipment storage shed – The westernmost shed of Maltings 1 is currently used to store various machinery used for the upkeep of the site (tractor, slashing blades, utility vehicles, spraying equipment, etc). It is possible that minor maintenance of equipment is undertaken within the site, and spills may occur during refilling or servicing equipment.	Heavy metals, TRH, naphthalene and BTEX
Historical agricultural use – The site history information presented in the PSI indicated that the site had historically been used for grazing and dairy purposes. This could have resulted in contamination across the site via use of machinery, application of pesticides and building/ demolition of various structures. Irrigation pipes made from asbestos cement may also be associated with this AEC.	Heavy metals, TRH, PAHs, OCPs, PCBs and asbestos JKE note that OCPs only became commercially available in the 1940s. Prior to this time pesticides were predominantly heavy metal compounds.
Historic rail operations – Two rail sidings formerly existed within the site, servicing the Malthouses. The rail sidings were used to transport grain and malt to and from the site. It is possible that fuels, oils and fluids may have leaked/spilled from locomotives and carriages operating within the sidings, as well as pesticides (including arsenic and cresol) may have been used to preserve the rail infrastructure.	Heavy metals, TRH, BTEX, PAH, OCP, OPP, PCBs, phenols and asbestos.
Use of pesticides – Pesticides may have been used beneath the buildings and/or around the site.	Heavy metals and OCPs
Hazardous building material – Hazardous building materials may be present as a result of former building and demolition activities. These materials may also be present in the existing buildings/ structures on site. The approximate locations of former structures are shown on Figure 2.	Asbestos, lead and PCBs
Use of fire-fighting foams – The buildings within the site have historically been damaged by fire, which may have been controlled/extinguished with aqueous film-forming foams (AFFF). Fires were recorded at the site in 1942, 1969, 1980 and 2016.	PFAS (including perfluorooctanesulfonic acid - PFOS, perfluorooctanoic acid - PFOA and perfluorohexanesulfonic acid -PFHxS).

Source / AEC	CoPC
	JKE note that PFAS containing aqueous film-forming foams (AFFF) were extensively used by NSW Fire and Rescue from about the 1970s and were progressively replaced with AFFF that did not contain PFAS from about 2014.
Off-site area 1 – current and former service station sites are located up-gradient of the site and are considered to be potential sources of contamination.	Heavy metals (lead), TRH and BTEX
Off-site area 2 – A dry-cleaning business historically operated from premises on Main Street, Mittagong, and is presumed to be located up-gradient of the site. This could have resulted in contamination across the site via spills and releases off-site entering the groundwater and migrating beneath the site. JKE is of the opinion that the dry-cleaning business was likely located to the west of the site, however the exact location of the historical dry-cleaning business could not be determined.	TRHs and volatile organic compounds (VOCs), including PCE (also known as tetrachloroethene) and the breakdown products: trichloroethene (TCE), cis-1,2-dichloroethene (cis-DCE) and vinyl chloride (VC).

JKE note that herbicides have not been included as CoPC as herbicides are not commonly found at residual concentrations likely to pose a risk to human health or the environment (NSW DEC 2005, *Guidelines for Assessing Former Orchards and Market Gardens*).

5.2 Mechanism for Contamination, Affected Media, Receptors and Exposure Pathways

The mechanisms for contamination, affected media, receptors and exposure pathways relevant to the potential contamination sources/AEC are outlined in the following CSM table:

Table 5-2: Conceptual Site Model

Potential mechanism for contamination	The potential mechanisms for contamination are most likely to include 'top-down' impacts and spills. There is a potential for sub-surface releases to have occurred if deep fill (or other buried industrial infrastructure) is present, although this is considered to be the least likely mechanism for contamination. The mechanisms for contamination from off-site sources could have occurred via 'top down' impacts and spills, or sub-surface release. Impacts to the site could occur via the migration of contaminated groundwater.
Affected media	For the DSI, soil, surface water and groundwater have been identified as potentially affected media.
Receptor identification	Human receptors include current and future site occupants/users (including adults and children), construction workers and intrusive maintenance workers. Off-site human receptors include adjacent land users, groundwater users and recreational water users within Nattai River and down-gradient water bodies. Ecological receptors include terrestrial organisms and plants within unpaved areas (including the proposed landscaped areas), and freshwater ecology in Nattai River and down-gradient water bodies.

Potential exposure pathways	Potential exposure pathways relevant to the human receptors include ingestion, dermal absorption and inhalation of dust (all contaminants) and vapours (VOCs, volatile TRH, naphthalene and BTEX). The potential for exposure would typically be associated with the construction and excavation works, and future use of the site. Potential exposure pathways for ecological receptors include primary contact and ingestion. Exposure during future site use could occur via direct contact with soil in unpaved areas such as gardens, inhalation of airborne asbestos fibres during soil disturbance, or inhalation of vapours within enclosed spaces such as buildings and basements.
Potential exposure mechanisms	The following have been identified as potential exposure mechanisms for site contamination: • Vapour intrusion into the proposed basement and/or building (either from soil contamination or volatilisation of contaminants from groundwater); • Contact (dermal, ingestion or inhalation) with exposed soils in landscaped areas and/or unpaved areas; • Migration of surface water into Nattai River; • Migration of groundwater into Nattai River, which includes aquatic ecosystems and off-site recreation uses; and • Migration of groundwater off-site into areas where groundwater is being utilised as a resource (i.e. for stock use).
Presence of preferential pathways for contaminant movement	The sewer main and local underground services such as stormwater have the potential to act as preferential pathways for contaminant migration at the site. The approximate alignment of the sewer is shown on Figure 2.

6 SAMPLING, ANALYSIS AND QUALITY PLAN

A summary of the JKE SAQP prepared for the DSI is provided in the following sub-sections. Reference should also be made to the JKE SAQP.

6.1 Data Quality Objectives (DQO)

Data Quality Objectives (DQOs) were developed to define the type and quality of data required to achieve the project objectives outlined in Section 1.2. The DQOs were prepared with reference to the process outlined in Schedule B2 of NEPM (2013). The seven-step DQO approach for this project is outlined in the following sub-sections.

The DQO process is validated in part by the Data Quality Assurance/Quality Control (QA/QC) Evaluation. The Data (QA/QC) Evaluation is summarised in Section 8.1 and the detailed evaluation is provided in the appendices.

6.1.1 Step 1 - State the Problem

The CSM identified potential sources of contamination/AEC at the site that may pose a risk to human health and the environment. Investigation data is required to characterise the site, assess the potential risks posed by the contaminants in the context of the proposed development/intended land use, and assess whether remediation is required. This information will be considered by the project team in the design and delivery of the project as well as by the consent authority in exercising its planning functions in relation to the approval of the development consent and issue of construction/occupancy certificates.

A waste classification is required prior to off-site disposal of excavated soil/bedrock.

6.1.2 Step 2 - Identify the Decisions of the Study

The objectives of the investigation are outlined in Section 1.2. The decisions to be made reflect these objectives and are as follows:

- Are any results above the SAC?
- Do potential risks associated with contamination exist, and if so, what are they?
- Is remediation required?
- Is the site characterisation sufficient to provide adequate confidence in the above decisions?
- Is the site suitable for the proposed development, or can the site be made suitable subject to further characterisation and/or remediation?

6.1.3 Step 3 - Identify Information Inputs

The primary information inputs required to address the decisions outlined in Step 2 include the following:

- Existing site information from the PSI, including the PSI site observations and site history documentation;
- Sampling of potentially affected media, including soil, surface water, groundwater and FCF;
- Observations of sub-surface variables such as soil type, photo-ionisation detector (PID) concentrations, odours and staining, and groundwater physiochemical parameters;

- Laboratory analysis of soils, FCF, surface water and groundwater for the CoPC identified in the CSM; and
- Field and laboratory QA/QC data.

6.1.4 Step 4 - Define the Study Boundary

The sampling was confined to the site boundaries as shown in Figure 2 and was limited vertically to a depth of 6mBGL (spatial boundary). The soil sampling was completed between 17 and 25 February 2022 and most of the groundwater sampling was completed between 7 and 8 March 2022. Surface water sampling and groundwater sampling from MW46 was completed on 18 March 2022 (temporal boundary).

Sampling was not undertaken within the PADs and mapped areas of sensitive archaeological landforms shown on Figure 2. This has been identified as a data gap and is discussed further in Section 10.3.

Limited sampling was undertaken within the footprints of selected buildings. This constraint has been identified as a data gap and is discussed further in Section 10.3.

6.1.5 Step 5 - Develop an Analytical Approach (or Decision Rule)

6.1.5.1 Tier 1 Screening Criteria

The laboratory data will be assessed against relevant Tier 1 screening criteria (referred to as SAC), as outlined in Section 7. Exceedances of the SAC do not necessarily indicate a requirement for remediation or a risk to human health and/or the environment. Exceedances are considered in the context of the CSM and valid SPR-linkages.

Where appropriate, data are assessed against valid statistical parameters to characterise the data population. This may include calculation and application of mean values and/or 95% upper confidence limit (UCL) values for the data set, with regards to the NEPM (2013) framework and other relevant guidelines made under the CLM Act 1997. UCLs are considered acceptable where the UCL is below the SAC, the standard deviation of the data is less than 50% of the SAC and none of the individual concentrations are more than 250% of the SAC.

6.1.5.2 Field and Laboratory QA/QC

Field QA/QC included analysis of inter-laboratory duplicates, intra-laboratory duplicates, trip spike, trip blank and rinsate samples. Further details regarding the sampling and analysis undertaken, and the acceptable limits adopted, is provided in the Data Quality (QA/QC) Evaluation in the appendices.

The suitability of the laboratory data is assessed against the laboratory QA/QC criteria which is outlined in the attached laboratory reports. These criteria were developed and implemented in accordance with the laboratory's National Association of Testing Authorities, Australia (NATA) accreditation and align with the acceptable limits for QA/QC samples as outlined in NEPM (2013) and other relevant guidelines.

In the event that acceptable limits are not met by the laboratory analysis, other lines of evidence are reviewed (e.g. field observations of samples, preservation, handling etc) and, where required, consultation

with the laboratory is undertaken in an effort to establish the cause of the non-conformance. Where uncertainty exists, JKE typically adopt the most conservative concentration reported (or in some cases, consider the data from the affected sample as an estimate).

6.1.5.3 Appropriateness of Practical Quantitation Limits (PQLs)

The PQLs of the analytical methods are considered in relation to the SAC to confirm that the PQLs are less than the SAC. In cases where the PQLs are greater than the SAC, a discussion of this is provided.

6.1.6 Step 6 – Specify Limits on Decision Errors

To limit the potential for decision errors, a range of quality assurance processes are adopted. A quantitative assessment of the potential for false positives and false negatives in the analytical results is undertaken with reference to Schedule B(3) of NEPM (2013) using the data quality assurance information collected.

Decision errors can be controlled through the use of hypothesis testing. The test can be used to show either that the baseline condition is false or that there is insufficient evidence to indicate that the baseline condition is false. The null hypothesis is an assumption that is assumed to be true in the absence of contrary evidence. For this investigation, the null hypothesis has been adopted which is that, there is considered to be a complete SPR linkage for the CoPC identified in the CSM unless this linkage can be proven not to (or unlikely to) exist.

6.1.7 Step 7 - Optimise the Design for Obtaining Data

The most resource-effective design will be used in an optimum manner to achieve the investigation objectives. Adjustment of the investigation design can occur following consultation or feedback from project stakeholders. For this investigation, the design was optimised via consideration of the various lines of evidence used to select the sample locations, the media being sampled, and also by the way in which the data were collected.

The sampling plan and methodology are outlined in the following sub-sections.

6.2 Soil Sampling Plan and Methodology

The soil sampling plan and methodology adopted for this investigation is outlined in the table below:

Table 6-1: Soil Sampling Plan and Methodology

Aspect	Input
Sampling Density	In-situ soil samples for the DSI were collected from 60 locations as shown on Figure 2 attached in the appendices. This number of locations meets than the minimum sampling density for hotspot identification as outlined in the NSW EPA Contaminated Sites Sampling Design Guidelines (1995)[10]. Based on the accessible site area (approximately 50,000m^2), the number of locations corresponds to a sampling density of approximately one sample per 830m^2.

[10] NSW EPA, (1995). *Contaminated Sites Sampling Design Guidelines.* (referred to as EPA Sampling Design Guidelines 1995)

Aspect	Input
	10 stockpiles of soil and/or demolition waste and/or vegetation matter (SPV and SP1 to SP9) were encountered in the south-west of the site. The stockpile locations are shown on Figure 3. The stockpiles were estimated to be approximately 130m^3 to approximately 1,200m^3 in volume. Three sampling locations were excavated within each stockpile. This sampling density did not meet the minimum stockpile sampling density recommended in NEPM (2013), though was considered adequate to provide a preliminary screening of the stockpiles. This has been identified as a data gap and discussed further in Section 10.3. No sampling was undertaken within SP1 and SPV as these stockpiles were located within the PADs. No sampling was undertaken within SP9 due to access constraints. This has been identified as a data gap and discussed further in Section 10.3.
Sampling Plan	The locations were generally placed on a grid-based sampling pattern as shown on Figure 2 attached in the appendices. However, the following locations were targeted to potential sources of contamination/AEC: • BH/TP7 to BH/TP10, TP20, TP40, TP52, TP60 and TP61: targeted the suspected former alignment of the railway sidings; • BH19 and BH83: targeted accessible soils within Malthouse 1 and 3, which were previously damaged by fire; and • And boreholes BH6, BH10, BH46 and BH59 were targeted to allow for monitoring well installation targeting the Malthouses and Maltster's residence, as the buildings were historically damaged by fire. Though the above locations were targeted, they were generally aligned to the grid-based sampling pattern. JKE consider the locations are suitably spaced to provide spatial coverage of the site. The sampling locations were generally limited to approximately 0.5-1m into natural soils. Eight boreholes were extended to depths of approximately 6mBGL (or prior auger refusal) for the installation of groundwater monitoring wells. Stockpile samples were collected from accessible locations across the faces of the stockpiles. The samples were collected from depths of up to approximately 2m below the exposed face of the stockpiles.
Set-out and Sampling Equipment	Sampling locations were set out using hand-held GPS unit (with an accuracy of ±5m) and taped measurements, as required. Sampling locations were checked for underground services by an external contractor prior to sampling. Samples were collected using either a hand auger, drill rig equipped with spiral flight augers or a 6-tonne excavator. Soil samples from the drill rig were obtained from a Standard Penetration Test (SPT) split-spoon sampler, and/or directly from the auger as required. Samples from the excavator were obtained from the test pit walls or directly from the bucket by hand. Where sampling occurred from the bucket, JKE collected samples from the central portion of large soil clods, or from material that was unlikely to have come into contact with the bucket.
Sample Collection and Field QA/QC	All locations were logged to an appropriate standard in accordance with NEPM (2013) and all samples were documented on the logs.

Aspect	Input
	Contamination samples (except for PFAS analysis) were placed in glass jars with plastic caps and Teflon seals with minimal headspace. Samples for PFAS analysis were placed in laboratory provided plastic jars with plastic caps (no Teflon). Samples for asbestos analysis were placed in zip-lock plastic bags. During sampling, soil at selected depths were split into primary and duplicate samples for field QA/QC analysis. The splitting procedure includes alternate filling of the jars with soil. Homogenisation of duplicate samples did not occur to minimise the potential for the release of volatile organic compounds.
Field Screening	A portable PID fitted with a 10.6mV lamp was used to screen the samples for the presence of VOCs. This was undertaken on soil samples using the soil sample headspace method (i.e. from partly filled zip-lock plastic bags following equilibration of the headspace gases). PID calibration records were maintained throughout the project. The field screening for asbestos quantification from the boreholes included the following: • A representative bulk sample (approximately 10L sample, to the extent achievable based on sample return) was collected from fill at approximately 1m intervals, or from each distinct fill profile. The bulk sample intervals were recorded on the borehole and test pit logs; • Each bulk sample was weighed using an electronic scale; • Each bulk sample was passed through a sieve with a 7.1mm aperture and inspected for the presence of FCF. Any soil clumps/nodules were disaggregated. Where cohesive soils (i.e. stiff clays) were encountered, the bulk sample wase placed on a contrasting support (i.e. blue tarpaulin) and inspected for the presence of FCF; • The condition of FCF or any other suspected asbestos materials was noted on the field records; and • Any FCF observed in the bulk sample were collected, placed in a zip-lock bag and assigned a unique identifier. Calculations for asbestos content were undertaken based on the requirements outlined in Schedule B1 of NEPM (2013).
Decontami-nation and Sample Preservation	Sampling personnel used disposable nitrile gloves during sampling activities. Re-usable sampling equipment was decontaminated using potable water (with rags and scrubbing brush), followed by a rinse with potable water. Detergents (such as Decon90) were not utilised during the decontamination process as they may result in interference during PFAS analysis. Soil samples will be preserved by immediate storage in an insulated sample container with ice. On completion of the fieldwork, the samples were stored temporarily in fridges under the control of JKE field staff before being delivered in the insulated sample container to a NATA registered laboratory for analysis under standard chain of custody (COC) procedures.

6.3 Groundwater Sampling Plan and Methodology

The groundwater sampling plan and methodology is outlined in the table below:

Table 6-2: Groundwater Sampling Plan and Methodology

Aspect	Input
Sampling Plan	Eight groundwater wells were installed in BH6 (MW6), BH10 (MW10), BH28 (MW28), BH37 (MW37), BH41 (MW41), BH46, (MW46), BH59 (MW59), and BH82 (MW82), as shown on Figure 2. The wells were positioned to establish baseline conditions of groundwater. Considering the topography and that the Nattai River dissects the site, MW6, MW10, MW28, and MW82 were considered to be in the up-gradient of the site and were expected to provide an indication of groundwater flowing onto (beneath) the site. MW37 and MW41 were considered to be in the down-gradient of the site and were expected to provide an indication of groundwater flowing off-site. MW46 and MW59 are targeted to the Maltster's residence, and Malthouse 3, as anecdotal evidence suggests both of these structures had been damaged by fire since the 1980s.
Monitoring Well Installation Procedure	The monitoring well construction details were documented on the corresponding borehole log. The wells will be installed to maximum depth of approximately 6mBGL and generally constructed as follows: • 50mm diameter Class 18 PVC (machine slotted screen) installed in the lower section of the well to intersect groundwater; • 50mm diameter Class 18 PVC casing installed in the upper section of the well (screw fixed) extending to at least 1mBGL; • A 2mm sand filter pack around the screen section for groundwater infiltration; • A hydrated bentonite seal/plug on top of the sand pack to seal the well; and • A gatic cover installed at the surface with a concrete plug to limit the inflow of surface water. MW6, MW28, MW41, MW59 and MW82 were finished as standpipes extending approximately 0.6m to 0.7m above ground level at the request of the site's caretaker. In JKE's experience, the rubber 'O-rings' located within the screw-fixed joints of the PVC casing and screen can result in interference when analysing collected samples for PFAS. The rubber 'O-rings' in the screw-fixed joints were removed prior to installation. The well construction was considered to be appropriate for screening purposes to assess general aquifer conditions with regards to the recommended monitoring well installation requirements in Schedule B2 of NEPM 2013.
Monitoring Well Development	The monitoring wells were developed using a submersible electrical pump with single-use tubing. A calibrated water quality meter was used to measure pH, EC, DO, Eh and temperature. As the groundwater in-flow was relatively slow, the development continued until the wells were effectively dry.
Groundwater Sampling	Prior to sampling, the monitoring wells were checked for the presence of Light Non-Aqueous Phase Liquids (LNAPL) using an inter-phase probe electronic dip meter and dedicated disposable bailers. The monitoring well head space was also checked for VOCs using a calibrated PID unit. Samples were obtained using a peristaltic pump, after purging to achieve steady state conditions. Where steady state conditions could not be achieved, the wells were sampled whilst the SWL is in drawdown. Groundwater samples were obtained directly from the single use tubing and placed in the sample containers. Duplicate samples were obtained by alternate filling of sample containers. This technique was adopted to minimise disturbance of the samples and loss of volatile contaminants associated with mixing of liquids in secondary containers, etc. Groundwater removed from the wells during development and sampling was transported to JKE in jerry cans and stored in holding drums prior to collection by a licensed wastewater contractor for off-site disposal.

Aspect	Input
Decontaminant and Sample Preservation	The inter-phase probe electronic dip meter was decontaminated between monitoring wells using potable water (with rags and scrubbing brush), followed by a rinse with potable water. Detergents (such as Decon90) were not utilised during the decontamination process as they may result in interference during PFAS analysis. The groundwater sampling process utilises a peristaltic pump and single-use tubing, therefore no decontamination procedure for the sampling was considered necessary. The samples were preserved with reference to the analytical requirements and placed in an insulated container with ice. On completion of the fieldwork, the samples were temporarily stored in a fridge at JKE warehouse, before being delivered in the insulated sample container to a NATA registered laboratory for analysis under standard COC procedures.

6.4 Surface water Sampling Plan and Methodology

The surface water sampling plan and methodology is outlined in the table below:

Table 6-3: Surface Water Sampling Plan and Methodology

Aspect	Input
Sampling Plan	Surface water samples were collected from three locations (SW1 to SW3) along the length of the Nattai River, within the site boundaries, as shown on Figure 2. The locations were positioned to establish baseline conditions of surface water within the river. Considering the direction of water flow, SW1 is considered to be in the down-gradient of the site, SW2 is considered to be in the intermediate area of the site and SW3 is considered to be in the up-gradient of the site.
Surface Water Sampling	Surface water samples were obtained as grab samples from the surface water. Where access permits, the surface water samples will be obtained directly from the flowing waters. Duplicate samples were obtained by alternate filling of sample containers. This technique will be adopted to minimise disturbance of the samples and loss of volatile contaminants associated with mixing of liquids in secondary containers, etc. Where direct access is not available, a bulk water sample will be collected in a clean bucket from an accessible point, and decanted into the laboratory supplied containers.
Decontaminant and Sample Preservation	The samples were preserved with reference to the analytical requirements and placed in an insulated container with ice. On completion of the fieldwork, the samples were delivered in the insulated sample container to a NATA registered laboratory for analysis under standard COC procedures.

6.5 Analytical Schedule

The soil analysis generally targeted the fill soils and the first contact of natural soils. Some deeper samples were also analysed based on the results of the shallow soils and site observations (including PID screening results). A staged approach to analysis was undertaken to allow for targeting areas based on the results of the initial analysis round.

Soil samples analysed for CoPC such as heavy metals, TRH, BTEX and PAH were selected to provide spatial coverage of the site and representation of the varying soil profiles and targeting AEC such as general filling, fly-tipping, waste from coke-fire ovens and others. The second round of soil analysis were targeted to fill

and/or natural profiles below soil profiles with elevated analyte concentrations or apparent anomalies. The selection process for analysing asbestos concentrations in soil included providing spatial coverage of the site, whilst targeting profiles where anthropogenic inclusions were encountered.

The analysis of soil samples for PFAS generally targeted locations in the vicinity of the buildings (based on the CSM). Selected fill soil samples were also be analysed based on site observations (i.e inclusions within the fill) and to provide spatial coverage of the site. The analysis of soil samples for phenols generally targeted the former rail sidings and suspected alignment of the former railway (based on the CSM).

Soil samples analysed for physiochemical parameters (for the calculation of site-specific EILs for metals) were selected based on the exceedances identified based on the results of the initial analysis round.

All groundwater samples were analysed for the full suite of identified CoPC.

6.5.1 Laboratory Analysis

Samples were analysed by an appropriate, NATA Accredited laboratory using the analytical methods detailed in Schedule B(3) of NEPM 2013. Reference should be made to the laboratory reports attached in the appendices for further details.

Table 6-4: Laboratory Details

Samples	Laboratory	Report Reference
All primary samples and field QA/QC samples including (intra-laboratory duplicates, trip blanks, trip spikes and field rinsate samples)	Envirolab Services Pty Ltd NSW, NATA Accreditation Number – 2901 (ISO/IEC 17025 compliance)	289269, 289269-A, 289658, 289658-A, 290249, 290249-A, 290257, 290257-A, 290513, and 290597 Surface water analytical report to be included in final report.
Inter-laboratory duplicates	Envirolab Services Pty Ltd WA, NATA Accreditation Number – 2901 (ISO/IEC 17025 compliance)	277347 and 277524 Surface water analytical report to be included in final report.
Inter-laboratory duplicates	Envirolab Services Pty Ltd VIC, NATA Accreditation Number – 2901 (ISO/IEC 17025 compliance)	30301, 30302 and 30360 Surface water analytical report to be included in final report.

6.6 Deviations from the SAQP

The DSI was undertaken generally in accordance with the SAQP, however some deviations were recorded. The deviations are discussed in the following sub-sections.

6.6.1 Deviation from DQO Step 5 – Develop and Analytical Approach

The JKE SAQP (Section 4.1.5.1.1) outlined the soil SAC for the DSI. The SAC was derived based on the proposed land uses outlined below:

- Landscaped areas: The Health Investigation Levels (HILs) and Health Screening Levels (HSLs) were to be based on land use Type C which is applicable to 'public open space' exposure scenarios;
- Malthouses 1 to 4 and Maltster's Residence development areas: The HILs were to be based on land use type B which is applicable to 'residential with minimal opportunities for soil access' exposure scenarios. The HSLs were based on land use Type A-B which is applicable to 'low-high density residential' exposure scenarios; and
- Malthouses 5 & 6 Development Area: The HILs were to be based on land use type A which is applicable to 'residential land use with garden/accessible soils' exposure scenario. The HSLs were based on land use Type A-B which is applicable to 'low-high density residential' exposure scenarios. Conservative screening criteria has been selected given the proposed type of development in this area has not been determined.

However, based on discussions with the site auditor and project team, a more conservative approach was applied across the site to allow for any changes required to the proposed development. On this basis, the HILs for the most conservative land use type A applicable to 'residential land use with garden/accessible soils' exposure scenario was adopted for the DSI. The HSLs for Type A-B applicable to 'low-high density residential' exposure scenario was adopted for the DSI. The SAC outlined in Section 7.1.1 of this report has been updated to include this change.

6.6.2 Deviation from Soil Sampling Plan and Methodology

The JKE SAQP (Section 4.2) stated that soil sampling would be undertaken from 82 locations generally arranged on a grid-based sampling with some locations targeted to known or suspected sources of potential contamination. Due to access constraints relating to the PADs and the archaeologically sensitive landforms, the sampling plan was adjusted to exclude these areas. Additionally, a small portion in the north-east of the site was inaccessible due to heavy vegetation cover. The revised sampling plan resulted in 60 in-situ soil sampling locations generally arranged on a grid-based sampling pattern, including an additional targeted location (BH83) which was not included in the SAQP. The grid size remained unchanged as this was considered appropriate to allow for in-fill sampling in excluded areas once access becomes available. The following locations were targeted to potential sources of contamination/AEC:

- BH/TP7 to BH/TP10, TP20, TP40, TP52, TP60 and TP61: targeted the suspected former alignment of the railway sidings;
- BH19 and BH83: targeted accessible soils within Malthouse 1 and 3, which were previously damaged by fire; and
- And boreholes BH6, BH10, BH46 and BH59 were targeted to allow for monitoring well installation targeting the Malthouses and Maltster's residence, as the buildings were historically damaged by fire.

Though the above locations were targeted, they were generally aligned to the grid-based sampling pattern. The sampling density met the requirements of the EPA Sampling Design Guidelines 1995 for the identification of hotspots. JKE consider the locations are suitably spaced to provide spatial coverage of the site.

The JKE SAQP (Section 4.2) stated that stockpile samples would be collected from a depth of approximately 0.5m below the surface of the stockpile. The excavator was utilised to continue sampling at regular intervals through the stockpile to a maximum depth of approximately 2m below the surface.

The soil sampling plan and methodology outlined in Section 6.2 of this report was updated to reflect the adjusted soil sampling plan.

6.6.3 Deviation from Groundwater Sampling Plan and Methodology

The JKE SAQP (Section 4.3) stated that the monitoring wells would be installed to maximum depth of approximately 6mBGL and would be completed with a gatic cover at the surface with a concrete plug to limit inflow of surface water.

Due to the shallow bedrock encountered during the DSI, the boreholes were terminated at the TC bit refusal depth on good quality bedrock. The installation depths for the groundwater monitoring wells ranged from approximately 2.3mBGL (MW10) to 6mBGL (MW46 and MW82). The construction of the wells included at least 1m of solid cased PVC from the surface and all screened intervals were targeted to the natural soils and bedrock. JKE are of the opinion that the depths achieved is adequate to assess groundwater quality of the perched aquifer.

At the request of the site's caretaker, MW6, MW28, MW41, MW59 and MW82 were completed as standpipes, extending approximately 0.6m to 0.7m above the ground surface. A concrete plug was installed at the surface surrounding the standpipe to limit inflow of surface water. MW10, MW37 and MW46 were completed with a gatic cover at the surface.

At the time of groundwater sampling between 7 and 8 March 2022, MW46 could not be sampled as the site surface was inundated with stormwater run-off. Sampling of MW46 was undertaken on 18 March 2022 in conjunction with the surface water sampling.

The groundwater sampling plan and methodology outlined in Section 6.3 of this report was updated to reflect the additional monitoring event.

7 SITE ASSESSMENT CRITERIA (SAC)

The SAC were derived from the NEPM 2013 and other guidelines as discussed in the following sub-sections. The guideline values for individual contaminants are presented in the attached report tables and further explanation of the various criteria adopted is provided in the appendices.

7.1 Soil

Soil data were compared to relevant Tier 1 screening criteria in accordance with NEPM (2013) as outlined below. Reference should be made to Section 6.6.1 for further information on the SAC selection.

7.1.1 Human Health

- HILs for a 'residential land use with garden/accessible soils' exposure scenario (HIL-A);
- HSLs for a 'low-high density residential' exposure scenario (HSL-A/B). HSLs were calculated based on conservative assumptions including a 'sand' type and a depth interval of 0m to 1m;
- HIL-A criteria were adopted for PFAS assessment based on Table 2 in the PFAS National Environmental Management Plan (NEMP) Version 2.0 2020[11];
- HSLs for direct contact presented in the CRC Care Technical Report No. 10 – Health screening levels for hydrocarbons in soil and groundwater Part 1: Technical development document (2011)[12]; and
- Asbestos was assessed against the HSL-A criteria. A summary of the asbestos criteria is provided in the table below:

Table 7-1: Details for Asbestos SAC

Guideline	Applicability
Asbestos in Soil	The HSL-A criteria were adopted for the assessment of asbestos in soil. The SAC adopted for asbestos were derived from the NEPM 2013 and are based on Guidelines for the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia (2021)[13]. The SAC include the following: • No visible asbestos at the surface/in the top 10cm of soil; • <0.01% w/w bonded asbestos containing material (ACM) in soil; and • <0.001% w/w asbestos fines/fibrous asbestos (AF/FA) in soil. Concentrations for bonded ACM concentrations in soil are based on the following equation which is presented in Schedule B1 of NEPM (2013): $$\textbf{\% w/w asbestos in soil} = \frac{\textbf{\% asbestos content x bonded ACM (kg)}}{\text{Soil volume (L) x soil density (kg/L)}}$$ However, we are of the opinion that the actual soil volume in a 10L bucket varies considerably due to the presence of voids, particularly when assessing cohesive soils. Therefore, each bucket sample was weighed using electronic scales and the above equation was adjusted as follows (we note that the units have also converted to grams):

[11] Heads of EPAs Australia and New Zealand (HEPA). PFAS National Environmental Management Plan Version 2.0 - January 2020 (referred to as NEMP 2020)

[12] Cooperative Research Centre for Contamination Assessment and Remediation of the Environment (CRC Care), (2011). Technical Report No. 10 - *Health screening levels for hydrocarbons in soil and groundwater Part 1: Technical development document*

[13] Western Australian (WA) Department of Health (DoH), (2021). *Guidelines for the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia*. (referred to as WA DoH 2021)

Guideline	Applicability
	% w/w asbestos in soil = $\frac{\text{**% asbestos content x bonded ACM (g)**}}{\text{Soil weight (g)}}$

7.1.2 Environment (Ecological – terrestrial ecosystems)

- Ecological Investigation Levels (EILs) and Ecological Screening Levels (ESLs) for a 'urban residential, public open space' (URPOS) exposure scenario. In accordance with the recommendations of the NEPM (2013), the EILs and ESLs were only applied to the top 2m of soil. The criterion for benzo(a)pyrene has been increased from the value presented in NEPM (2013) based on the Canadian Soil Quality Guidelines[14];
- ESLs were adopted based on the soil type;
- The ecological (direct exposure) guidelines for soil were adopted for PFAS assessment based on Table 3 in NEMP 2020; and
- As an initial screen, EILs for selected metals were calculated based on the most conservative added contaminant limit (ACL) values presented in Schedule B(1) of NEPM (2013) and published ambient background concentration (ABC) values presented in the document titled Trace Element Concentrations in Soils from Rural and Urban Areas of Australia (1995)[15]. Where the initial screen identified EIL exceedances, selected samples were analysed for pH, cation exchange capacity (CEC), total organic carbon (TOC) and/or clay content as appropriate to establish soil-specific EILs. The lowest value for each parameter (for the corresponding soil type) was adopted (unless the individual sample was analysed, in which case that analysis took precedence). This method is considered to be adequate for the Tier 1 Screening.

7.1.3 Management Limits for Petroleum Hydrocarbons

Management limits for petroleum hydrocarbons (as presented in Schedule B1 of NEPM 2013) were considered.

7.1.4 Waste Classification

Data for the waste classification assessment were assessed in accordance with the Waste Classification Guidelines, Part 1: Classifying Waste (2014)[16] as outlined in the following table:

Table 7-2: Waste Categories

Category	Description
General Solid Waste (non-putrescible)	• If Specific Contaminant Concentration (SCC) ≤ Contaminant Threshold (CT1) then Toxicity Characteristics Leaching Procedure (TCLP) not needed to classify the soil as general solid waste; and • If TCLP ≤ TCLP1 and SCC ≤ SCC1 then treat as general solid waste.

[14] Canadian Council of Ministers of the Environment, (1999). *Canadian soil quality guidelines for the protection of environmental and human health: Benzo(a)Pyrene (1997)* (referred to as the Canadian Soil Quality Guidelines)

[15] Olszowy, H., Torr, P., and Imray, P., (1995), *Trace Element Concentrations in Soils from Rural and Urban Areas of Australia. Contaminated Sites Monograph Series No. 4*. Department of Human Services and Health, Environment Protection Agency, and South Australian Health Commission

[16] NSW EPA, (2014). *Waste Classification Guidelines, Part 1: Classifying Waste.* (referred to as Waste Classification Guidelines 2014)

Category	Description
Restricted Solid Waste (non-putrescible)	• If SCC ≤ CT2 then TCLP not needed to classify the soil as restricted solid waste; and • If TCLP ≤ TCLP2 and SCC ≤ SCC2 then treat as restricted solid waste.
Hazardous Waste	• If SCC > CT2 then TCLP not needed to classify the soil as hazardous waste; and • If TCLP > TCLP2 and/or SCC > SCC2 then treat as hazardous waste.
Virgin Excavated Natural Material (VENM)	Natural material (such as clay, gravel, sand, soil or rock fines) that meet the following: • That has been excavated or quarried from areas that are not contaminated with manufactured chemicals, or with process residues, as a result of industrial, commercial mining or agricultural activities; • That does not contain sulfidic ores or other waste; and • Includes excavated natural material that meets such criteria for virgin excavated natural material as may be approved from time to time by a notice published in the NSW Government Gazette.

The PFAS data were assessed against the NSW EPA Addendum to the Waste Classification Guidelines (2014) – Part 1: classifying waste[17].

7.1.4.1 General Approvals of Immobilisation (GAI)

Waste classified as 'hazardous' in accordance with the Waste Classification Guidelines 2014 due to high levels of contaminants is generally not suitable for disposal to a landfill in NSW without treatment. However, if the contaminants are 'immobilised' so that they will not be released into the landfill leachate at levels of concern, then the EPA may grant an immobilisation approval to enable the waste to be landfilled. The immobilisation approvals are issued by the EPA under the Protection of the Environment Operations (Waste) Regulation 2014. A list of the GAI can be found on the NSW EPA website.

Significant amounts of waste ash and gravely slag were available in the late nineteenth and early twentieth centuries as a result of the use of coal for industrial and domestic heating purposes. Widespread use of ash waste (either as ash or mixed with other soil and waste materials) as fill material was common in the suburbs of Sydney at this time. To account for the presence of ash and slag, the NSW EPA has published the following:

Table 7-3: GAIs

Approval Number	Waste Stream	Contaminants	Waste Assessment Requirements
1999/05	Ash, Ash-contaminated natural excavated materials or coal-contaminated natural excavated material.	Polycyclic Aromatic Hydrocarbons (PAHs) including benzo(a)pyrene.	The SCC limits for PAHs and benzo(a)pyrene outlined in the Waste Classification Guidelines 2014 do not apply for the assessment of this waste stream. The material can be classified according to the leachable concentration (TCLP) value of benzo(a)pyrene alone. Disposal restrictions apply for material classified under this GAI.

[17] NSW EPA, (2016). *Addendum to the Waste Classification Guidelines (2014) – Part 1: classifying waste*

Approval Number	Waste Stream	Contaminants	Waste Assessment Requirements
2009/07	Metallurgical furnace slag or metallurgical furnace slag contaminated natural excavated materials.	Beryllium, Chromium (VI), lead, nickel, PAHs and benzo(a)pyrene.	The SCC limits for these contaminants outlined in the Waste Classification Guidelines 2014 do not apply for the assessment of this waste stream. The material can be classified according to their leachable concentrations (TCLP) values alone.

7.2 Surface Water and Groundwater

Surface water and Groundwater data were compared to relevant Tier 1 screening criteria in accordance with NEPM (2013), following an assessment of environmental values in accordance with the Guidelines for the Assessment and Management of Groundwater Contamination (2007)[18]. Environmental values for this investigation include aquatic ecosystems, human uses and human-health risks in non-use scenarios.

7.2.1 Human Health

- HSLs for a 'low-high density residential' exposure scenario (HSL-A/B). HSLs were calculated based on the soil type and the observed depth to groundwater;
- The NEPM (2013) HSLs were not applicable for most locations as the groundwater was recorded at depths shallower than 2m. On this basis, JKE have undertaken a site-specific assessment (SSA) for the Tier 1 screening of human health risks posed by volatile contaminants in groundwater. The assessment included selection of alternative Tier 1 criteria that were considered suitably protective of human health. These criteria are based on drinking water guidelines and have been referred to as HSL-SSA. As a conservative approach, all samples were also assessed against the HSL-SSA. The criteria were based on the following (as shown in the attached report tables):
    - Australian Drinking Water Guidelines 2011 (updated 2018)[19] for BTEX compounds and selected VOCs;
    - World Health Organisation (WHO) document titled Petroleum Products in Drinking-water, Background document for the development of WHO Guidelines for Drinking Water Quality (2008)[20] for petroleum hydrocarbons;
    - USEPA Region 9 screening levels for naphthalene (threshold value for tap water); and
    - The use of the laboratory PQLs for other contaminants where there were no Australian guidelines.
- The ADWG 2018 were multiplied by a factor of 10 to assess potential risks associated with incidental/recreational-type exposure to groundwater (e.g. within on-site and down-gradient water bodies, or during monitoring activities). These have been deemed as 'recreational' SAC; and
- The recreational water quality guideline value was adopted for PFAS assessment based on Table 1 in NEMP 2020.

[18] NSW Department of Environment and Conservation, (2007). *Guidelines for the Assessment and Management of Groundwater Contamination.*

[19] National Health and Medical Research Council (NHMRC), (2018). *National Water Quality Management Strategy, Australian Drinking Water Guidelines 2011* (referred to as ADWG 2018)

[20] World Health Organisation (WHO), (2008). *Petroleum Products in Drinking-water, Background document for the development of WHO Guidelines for Drinking Water Quality* (referred to as WHO 2008)

7.2.2 Environment (Ecological - aquatic ecosystems)

Groundwater Investigation Levels (GILs) and for 95% protection of freshwater species were adopted based on the Default Guideline Values in the Australian and New Zealand Guidelines for Fresh and Marine Water Quality (2018)[21]. The 99% trigger values were adopted where required to account for bioaccumulation. Low and moderate reliability trigger values were also adopted for some contaminants where high-reliability trigger values don't exist.

The ecological (freshwater) water quality guidelines were adopted for PFAS assessment based on NEMP 2020, based on 99% protection to account for bioaccumulation in slightly to moderately disturbed systems.

[21] Australian and New Zealand Governments (ANZG), (2018). *Australian and New Zealand Guidelines for Fresh and Marine Water Quality.* Australian and New Zealand Governments and Australian state and territory governments, Canberra ACT, Australia (referred to as ANZG 2018)

8 RESULTS

8.1 Summary of Data (QA/QC) Evaluation

The data evaluation is presented in the appendices. In summary, JKE are of the opinion that the data are adequately precise, accurate, representative, comparable and complete to serve as a basis for interpretation to achieve the investigation objectives.

8.2 Subsurface Conditions

A summary of the subsurface conditions encountered during the investigation is presented in the following table. Reference should be made to the borehole and test pit logs attached in the appendices for further details.

Table 8-1: Summary of Subsurface Conditions

Profile	Description
Fill	Fill was encountered at the surface in all boreholes and test pits and extended to depths of approximately 0.05mBGL (TP67, TP68 and BH82) to 1.5mBGL (TP49). The fill typically comprised silty and/or gravelly clay and silty, gravelly and/or clayey sand, with inclusions of igneous, ironstone, quartz, sandstone and siltstone gravel and cobbles, ash, slag, roots and root fibres, and building rubble (brick, ceramic, concrete, glass, metal and plastic and timber fragments). Spent railway ballast was also encountered in fill in TP40. FCF was encountered in fill in TP21 to TP23, BH41, TP49, TP58 and TP67. FCF was also observed on the surface in the vicinity of TP68, though was not encountered in the bulk screening samples. Stained and/or odorous fill soils were not encountered.
Natural Soil	Alluvial silty and/or clayey sand and silty and/or sandy clay was encountered beneath the fill in approximately one third of the boreholes and test pits (TP4, TP5, TP7, TP13 to TP16, TP20 to TP21, BH28, TP/BH34 to TP/BH37, TP/BH39 to TP/BH43, TP48 and TP49) at depths of approximately 0.1mBGL (BH41) to 1.5mBGL (TP49). These locations were typically in the low-lying areas of the site near the Nattai River. Organic odours (assessed to be strong by JKE field staff) were encountered in the alluvial silty clay and silty sand in TP14 to TP16 and in TP49 during sampling activities. Residual silty and/or sandy clay was encountered beneath the fill in the remaining boreholes and test pits at depths of approximately 0.05mBGL (TP67, TP68 and BH82) to 1.4mBGL (TP48). No odorous residual soils were encountered during the investigation.
Bedrock	Siltstone/sandstone bedrock was encountered beneath the fill in TP8, TP67 and TP68, beneath the alluvial clayey sand in BH28, and beneath the residual silty and/or sandy clay in BH6, BH10, BH41, BH46, BH59 and BH82 at depths of approximately 0.05mBGL (TP67 and TP68) to 3.2mBGL (BH59).
Groundwater	Groundwater seepage was encountered in the boreholes and test pits TP/BH3 to TP/BH6, BH10, TP15, TP21, TP23, TP24, BH28, TP/BH35 to TP/BH37, TP40, BH46, TP51 and TP61 at depths of approximately 1.1mBGL to 5.6mBGL. The remaining boreholes and test pits were dry during and a short time after completion of drilling and/or excavation.

Profile	Description
Stockpiles	Several soil/waste stockpiles were observed during the site inspection. The stockpiles generally comprised of silty clay sand and/or silty sandy clay fill with inclusions of igneous, ironstone, quartz and sandstone gravel, ash, slag, organic matter, and building rubble (brick, ceramic, concrete, glass, metal, plastic, PVC, tile fragments). FCF was encountered in most of the stockpiles. SP1 was covered in vegetative matter and could not be inspected.

8.3 Field Screening

A summary of the field screening results are presented in the following table:

Table 8-2: Summary of Field Screening

Aspect	Details
PID Screening of Soil Samples for VOCs	PID soil sample headspace readings are presented in attached report tables and the COC documents attached in the appendices. The results ranged from 0ppm to 90.4ppm isobutylene equivalents. The majority of the results were below 5ppm indicating very low PID readings. Three soil samples obtained from TP54 encountered PID values greater than 30ppm indicating PID detectable VOCs. The samples with the highest PID values per soil profile were analysed for TRH and BTEX.
Bulk Screening for Asbestos (in-situ)	The bulk field screening results are summarised in the attached report tables and the SAC exceedances are presented on Figure 4A attached in the appendices. ACM was identified at concentrations exceeding the SAC in seven bulk screening samples collected from TP22, TP23, BH41, TP50, TP58 and TP67. FCF was also visually identified in the top 100mm at seven locations (TP21 to TP23, BH41, TP50, TP58 and TP67). The presence of ACM in the initial 100mm from surface is also considered an exceedance of the SAC. All AF/FA asbestos results were below the SAC. AF/FA asbestos was not identified in the screened samples. Several FCF were observed upon the site surface. Seven representative FCF were collected and confirmed to contain asbestos. This is discussed further in Section 10.1.
Bulk Screening for Asbestos (stockpiles)	The bulk field screening results are summarised in the attached report tables and the SAC exceedances are presented on Figure 5 attached in the appendices. ACM was identified at concentrations exceeding the SAC in 10 bulk screening samples collected from stockpiles SP3, SP4, SP5, SP6 and SP7. All AF/FA asbestos results were below the SAC. AF/FA asbestos was not identified in the screened samples.
Groundwater Depth & Flow	SWL measured during development of the monitoring wells installed at the site ranged from approximately 0.73mBGL (MW10) to 3mBGL (MW82). JKE note that the SWL obtained during development were considered to be more representative of site conditions rather than the SWL obtained during sampling. Due to the heavy rainfall recorded during groundwater sampling, there was potential for surface water seepage to impact the SWL. The surface RLs of the monitoring wells were interpolated from spot heights and contours presented on the provided survey prepared by Veris Australia (Ref: 201968, dated 2.12.2019) and are approximate. Groundwater RLs calculated on these measurements ranged from approximately 622mAHD to 632.5mAHD.

Aspect	Details
	A contour plot was prepared for the groundwater levels as shown on Figure 6. Groundwater flow generally occurs in a down-gradient direction perpendicular to the groundwater elevation contours. The contour plot indicates that groundwater generally flows towards the Nattai River, which dissects the site.
Groundwater Field Parameters	Field measurements recorded during sampling were as follows: - pH ranged from 4.53 to 6.55; - EC ranged from 72.1µS/cm to 6893µS/cm; - Eh ranged from -8.7mV to 30.1mV; and - DO ranged from 0.9ppm to 5ppm.
Surface Water Field Parameters	Field measurements recorded during sampling were as follows: - pH ranged from 6.85 to 7.21; - EC ranged from 154.7µS/cm to 162.9µS/cm; - Eh ranged from -5.7mV to 4.4mV; and - DO ranged from 6.8ppm to 8ppm.
LNAPL petroleum hydrocarbons	Phase separated product (i.e. LNAPL) were not detected using the interphase probe during groundwater sampling. No sheens were visibly observed using dedicated bailers.

8.4 In-situ Soil Laboratory Results

The soil laboratory results were assessed against the SAC presented in Section 7.1. Individual SAC are shown in the report tables attached in the appendices. Duplicate and triplicate results issued by the laboratory (where relevant) from the analytical laboratory's internal QA processes have been included within the report tables for completeness. These samples have been identified as 'Laboratory Duplicate' and 'Laboratory Triplicate' in the report tables and the data are shown in the QA sections of the laboratory certificates of analysis.

A summary of the results is presented below:

8.4.1 Human Health and Environmental (Ecological) Assessment

Table 8-3: Summary of Soil Laboratory Results – Human Health and Environmental (Ecological)

Analyte	N	Max. (mg/kg)	N> Human Health SAC	N> Ecological SAC	Comments
Arsenic	161	34	0	NSL	-
Beryllium	3	<PQL	0	NSL	-
Boron	3	<PQL	0	NSL	-
Cadmium	161	3	0	NSL	-
Chromium (total)	161	390	1	1	Total chromium concentrations exceeded the human health SAC (100mg/kg) and ecological SAC

Analyte	N	Max. (mg/kg)	N> Human Health SAC	N> Ecological SAC	Comments
					(200mg/kg) in one soil sample collected from TP40 (0-0.1m). JKE note that total chromium results were used as an initial screen, as the human health and ecological SAC are relevant to hexavalent chromium and chromium^{3+} respectively. The sample with the elevation was re-analysed for Cr VI as summarised below.
Chromium (Cr VI)	1	<PQL	0	NSL	The soil sample collected from TP40 (0-0.1m) was analysed for hexavalent chromium. The result was below the human health SAC.
Cobalt	3	13	0	NSL	-
Copper	161	410	0	2	Copper concentrations exceeded the ecological SAC in two soil samples collected from TP42 (0-0.1m) and TP67 (0-0.05m).
Lead	161	1400	17	1	Lead concentrations exceeded the human health SAC (300mg/kg) in 17 soil samples collected from TP8 (0-0.1m), TP9 (0-0.1m), TP15 (0.3-0.5m), BH19 (0-0.1m) TP21 (0-0.1m and laboratory duplicate sample), TP22 (0-0.1m), BH37 (0-0.1m and laboratory duplicate sample), TP38 (0-0.1m and laboratory duplicate and triplicate samples and 0.6-0.8m), TP45 (0-0.1m), BH46 (0-0.1m) and TP61 (field duplicate sample of 0-0.1m). The lead concentration in the soil sample collected from BH19 (0-0.1m) also exceeded the ecological SAC (1200mg/kg).
Manganese	161	1500	0	NSL	-
Mercury	161	1.9	0	NSL	-
Nickel	161	42	0	1	The nickel concentration in the soil sample collected from TP67 (0.2-0.4m) exceeded the ecological SAC (35mg/kg).

Analyte	N	Max. (mg/kg)	N> Human Health SAC	N> Ecological SAC	Comments
Selenium	3	<PQL	0	NSL	-
Zinc	161	1200	0	8	Zinc concentrations exceeded the ecological SAC in eight soil samples collected from TP8 (0-0.1m), TP9 (0-0.1m), TP15 (0.3-0.5m), TP38 (0-0.1m and laboratory triplicate sample), TP56 (0-0.1m), TP61 (0-0.1m) and TP67 (0-0.05m).
Total PAHs	158	81	0	NSL	-
Benzo(a)pyrene	158	9.7	NSL	0	-
Carcinogenic PAHs (as BaP TEQ)	158	14	4	NSL	Carcinogenic PAHs concentrations exceeded the human health SAC (3m/kg) in four soil samples collected from BH59 (0-0.1m and laboratory duplicate sample) and TP60 (0-0.1m and 0.1-0.3m).
Naphthalene	157	<PQL	0	NSL	-
DDT+DDE+DDD	57	0.2	0	NSL	-
DDT	57	<PQL	NSL	0	-
Aldrin and dieldrin	57	<PQL	0	NSL	-
Chlordane	57	<PQL	0	NSL	-
Heptachlor	57	<PQL	0	NSL	-
Total PCBs	59	4.9	3	NSL	Total PCB concentrations exceeded the human health SAC (1mg/kg) in three soil samples collected from BH6 (0-0.1m and laboratory duplicate) and TP8 (0-0.1m).
Chlorpyrifos	57	<PQL	0	0	-
TRH F1	157	<PQL	0	0	-
TRH F2	157	98	0	0	-
TRH F3	157	430	0	3	TRH F3 concentrations exceeded the ecological SAC (300mg/kg) in three soil samples collected from TP3 (0-0.1m), TP16 (0.2-0.5m) and TP60 (0.1-0.3m).

Analyte	N	Max. (mg/kg)	N> Human Health SAC	N> Ecological SAC	Comments
TRH F3 (Silica Gel)	3	<PQL	0	0	The three soil samples with TRH F3 concentrations above the ecological SAC were re-analysed following silica-gel clean-up of the samples to remove interference from non-petroleum sources. All TRH F3 (silica gel) results were below the PQL.
TRH F4	157	180	0	0	-
Benzene	157	<PQL	0	0	-
Toluene	157	<PQL	0	0	-
Ethylbenzene	157	<PQL	0	0	-
Xylenes	157	<PQL	0	0	-
Total Phenols	32	<PQL	0	NSL	-
PFOS	47	1.5µg/kg	NSL	0	-
PFOS + PFHxS	47	1.8µg/kg	0	NSL	-
PFOA	47	0.5µg/kg	0	0	-
Asbestos in soil (500mL)	94	ACM >7mm 0.4852%w/w AF/FA 0.0342%w/w	2 2	NSL NSL	AF/FA asbestos concentrations exceeded the human health SAC (0.001%w/w) in two soil samples collected from TP18 (0.3-0.5m) and TP54 (0.1-0.3m). The laboratory analysis also identified ACM in two samples collected from TP34 (0-0.1m) and TP49 (0-0.1m). It is noted that the HSL criteria for the ACM is not applicable, as the ACM was identified in the 500mL sample. On this basis, the results are considered in terms of presence/absence. As the ACM was identified in the top 100mm in TP34 and TP49, the results are considered as SAC exceedances.
Asbestos in fibre cement	16	-	13	NSL	FCF was encountered in boreholes and test pits across the site. Eight representative samples were selected for analysis of which six FCF were confirmed to contain asbestos. The positive asbestos results were recorded

Analyte	N	Max. (mg/kg)	N> Human Health SAC	N> Ecological SAC	Comments
					in the following FCF samples: TP21-FCF1 (0-0.1m), TP21-FCF3 (0.1-0.6m), TP22-FCF1 (0-0.1m), BH41-FCF1 (0-0.1m), TP58-FCF1 (0-0.15m) and TP67-FCF1 (0-0.05m) FCF was encountered at the site surface in the vicinity of the former and existing buildings. Eight representative FCF samples were analysed of which seven were confirmed to contain asbestos.

Notes:

N: Total number (primary, duplicate and laboratory QA/QC samples)

NSL: No set limit

NL: Not limiting

8.4.2 Management Limits

All TRH results were below the management limits.

8.4.3 Waste Classification Assessment

The laboratory results were assessed against the criteria presented in Section 7.1.4. The results are presented in the report tables attached in the appendices. A summary of the results is presented in the following table:

The waste classification assessment results summary and discussion will be included in the Final Report.

Table 8-4: Summary of Soil Laboratory Results Compared to CT and SCC Criteria

Analyte	N	N > CT Criteria	N > SCC Criteria	Comments
Arsenic	161	0	0	-
Beryllium	3	0	0	-
Cadmium	161	0	0	-
Chromium (Total)	161	2	0	Total chromium concentrations exceeded the CT1 criterion for hexavalent chromium (100mg/kg) in two samples collected from TP40 (0-0.1m and field duplicate). JKE note that total Chromium concentrations are used as an initial screening for hexavalent chromium.

Analyte	N	N > CT Criteria	N > SCC Criteria	Comments
Chromium (Cr VI)	1	0	0	The soil sample collected from TP40 (0-0.1m) was analysed for hexavalent chromium. The result was below the laboratory PQL.
Copper	161	NSL	NSL	-
Lead	161	47	0	Lead concentrations exceeded the CT2 criterion (400mg/kg) in 15 soil samples collected from TP8 (0-0.1m), TP9 (0-0.1m), TP15 (0.3-0.5m), TP21 (0-0.1m), TP22 (0-0.1m and field duplicate sample), BH37 (0-0.1m and laboratory duplicate sample), TP38 (0-0.1m, and laboratory duplicate and triplicate samples, and 0.6-0.8m), BH46 (0-0.1m), TP61 (field duplicate sample of 0-0.1m) and TP67 (0-0.05m). Lead concentrations exceeded the CT1 criterion (100mg/kg) in an additional 32 soil samples collected from TP3 (0-0.1m, and field and laboratory duplicate samples), TP4 (0-0.1m and 0.65-0.85m), BH6 (0-0.1m and field duplicate sample), TP7 (0-0.1m, and field duplicate sample), TP16 (0.2-0.5m), TP17 (0-0.1m and laboratory duplicate and triplicate samples, and 0.5-0.7m), TP18 (0.3-0.5m), TP21 (laboratory duplicate of 0-0.1m), TP22 (0.5-0.7m), TP34 (0-0.1m), TP39 (0-0.1m), TP40 (0.2-0.4m), TP42 (0-0.1m), TP45 (0-0.1m), BH46 (field duplicate sample of 0-0.1m), TP48 (0-0.1m), TP50 (field duplicate sample of 0-0.1m), TP56 (0-0.1m), TP60 (0-0.1m and 0.1-0.3m), TP61 (0-0.1m), TP68 (0-0.05m), and BH83 (0-0.05m and laboratory duplicate sample).
Mercury	161	0	0	-
Nickel	161	1	0	A concentration of nickel exceeding the CT1 criterion (40mg/kg) was detected in one sample collected from TP67. The sample was collected from the extremely weathered sandstone bedrock.
Selenium	3	0	0	-
Zinc	161	NSL	NSL	-
TRH (C_6-C_9)	157	0	0	-
TRH (C_{10}-C_{36})	157	0	0	-
BTEX	157	0	0	-

Analyte	N	N > CT Criteria	N > SCC Criteria	Comments
Total PAHs	158	0	0	-
Benzo(a)pyrene	158	4	0	Benzo(a)pyrene concentrations exceeded the CT2 criterion (3.2mg/kg) in two samples collected from TP60 (0-0.1m and 0.1-0.3m). Benzo(a)pyrene concentrations exceeded the CT1 criterion (0.8mg/kg) in an additional two samples collected from BH59 (0-0.1m and laboratory duplicate sample).
OCPs & OPPs	57	0	0	-
PCBs	59	0	0	The NSW EPA Polychlorinated Biphenyl (PCB) Chemical Control Order 1997[22] defines waste containing PCBs at concentrations greater than 2mg/kg as PCB waste. Total PCBs were detected at concentrations greater than 2mg/kg in three soil samples collected from BH6 (0-0.1m and laboratory duplicate) and TP8 (0-0.1m).
Total Phenols	32	0	0	-
PFOS + PFHxS	47	NSL	0	-
PFOA	47	NSL	0	-
Asbestos	94 (soil) 16 (FCF)	-	-	Asbestos (in the form of ACM and/or AF/FA) were detected in five fill soil samples collected from TP18 (0.3-0.5m), TP34 (0-0.1m), TP49 (0-0.1m) TP50 (0.2-0.4m) and TP54 (0-0.1m). ACM was also visually detected in nine bulk field screen samples collected from TP21 (0-0.1m and 0.1-0.6m), TP22 (0-0.1m and 0.1-0.5m), TP23 (0-0.1m), BH41 (0-0.1m), TP50 (0-0.1m), TP58 (0-0.15m), and TP67 (0-0.05m). FCF was encountered at the site surface in the vicinity of the former and existing buildings. Eight representative FCF samples were analysed of which seven were confirmed to contain asbestos. Due to the presence of asbestos in and/or on the soils, the fill soils are classified as Special Waste (asbestos).

N: Total number (primary, duplicate and laboratory QA/QC samples)

NSL: No set limit

[22] NSW EPA, (1997). *Polychlorinated Biphenyl (PCB) Chemical Control Order 1997* (referred to as PCB CCO 1997)

Table 8-5: Summary of Soil Laboratory Results Compared to TCLP Criteria

Analyte	N	N > TCLP Criteria	Comments
Lead	14	0	14 soil samples with elevated lead concentrations were selected for analysis of TCLP Lead. The selection criteria considered the lead concentration, the soil type and the location of the sample within the site, to provide adequate coverage of the soil types and spatial coverage of the data. All TCLP lead results were below the TCLP1 criterion (5mg/L).
Nickel	1	0	The soil sample with the nickel concentration above the CT1 criterion was analysed for TCLP nickel. The TCLP nickel result was below the TCLP1 criterion (2mg/L).
Benzo(a)pyrene	2	0	The two primary soil samples with benzo(a)pyrene concentrations above the CT criteria were analysed for TCLP benzo(a)pyrene. All TCLP benzo(a)pyrene results were below the laboratory PQL.
PFOS + PFHxS	13	0	13 soil samples with detectable concentrations of PFAS were analysed for analysis of TCLP PFOS + PFHxS. The samples were selected based on the detected concentrations and to provide spatial coverage of the site. All TCLP PFOS + PFHxS were below the TCLP1 criterion (0.05mg/L).
PFOA	13	0	13 soil samples with detectable concentrations of PFAS were analysed for analysis of TCLP PFOA. The samples were selected based on the detected concentrations and to provide spatial coverage of the site. All TCLP PFOA were below the TCLP1 criterion (0.5mg/L).

N: Total number (primary, duplicate and laboratory QA/QC samples)

8.5 Stockpile Soil Laboratory Results

The soil laboratory results were assessed against the SAC presented in Section 7.1. Individual SAC are shown in the report tables attached in the appendices. Duplicate and triplicate results issued by the laboratory (where relevant) from the analytical laboratory's internal QA processes have been included within the report tables. These samples have been identified as 'Laboratory Duplicate' and 'Laboratory Triplicate' in the report tables and the data are shown in the QA sections of the laboratory certificates of analysis.

A summary of the results is presented below:

8.5.1 Human Health and Environmental (Ecological) Assessment

Table 8-6: Summary of Stockpile Soil Laboratory Results – Human Health and Environmental (Ecological)

Analyte	N	Max. (mg/kg)	N> Human Health SAC	N> Ecological SAC	Comments
Arsenic	28	11	0	NSL	-
Cadmium	28	0.8	0	NSL	-
Chromium (total)	28	73	0	0	-
Copper	28	260	0	4	Copper concentrations exceeded the ecological SAC (80mg/kg) in four samples collected from two stockpiles (SP5 and SP8).
Lead	28	1,100	9	0	Lead concentrations exceeded the human health SAC (300mg/kg) in nine soil samples collected from three stockpiles (SP3, SP5 and SP8).
Mercury	28	0.3	0	NSL	-
Nickel	28	19	0	0	-
Zinc	28	640	0	11	Zinc concentrations exceeded the ecological SAC (150mg/kg) in 11 soil samples collected from four stockpiles (SP3, SP5, SP7 and SP8).
Total PAHs	27	120	0	NSL	-
Benzo(a)pyrene	27	14	NSL	0	-
Carcinogenic PAHs (as BaP TEQ)	27	21	8	NSL	Carcinogenic PAH concentrations exceeded the human health SAC (3mg/kg) in eight samples collected from four stockpiles (SP4, SP5, SP6 and SP8).
Naphthalene	26	<PQL	0	NSL	-
DDT+DDE+DDD	9	<PQL	0	NSL	-
DDT	9	<PQL	NSL	0	-
Aldrin and dieldrin	9	<PQL	0	NSL	-
Chlordane	9	<PQL	0	NSL	-
Heptachlor	9	<PQL	0	NSL	-

Analyte	N	Max. (mg/kg)	N> Human Health SAC	N> Ecological SAC	Comments
PCBs	10	0.7	0	NSL	-
Chlorpyrifos	9	<PQL	0	0	-
TRH F1	26	<PQL	0	0	-
TRH F2	26	60	0	0	-
TRH F3	26	1,200	0	6	TRH F3 concentrations exceeded the ecological SAC (300mg/kg) in six soil samples collected from three stockpiles (SP4, SP6 and SP8).
TRH F4	26	460	0	0	-
Benzene	26	<PQL	0	0	-
Toluene	26	<PQL	0	0	-
Ethylbenzene	26	<PQL	0	0	-
Xylenes	26	<PQL	0	0	-
PFOS	8	0.8µg/kg	NSL	0	-
PFOS + PFHxS	8	0.8µg/kg	0	NSL	-
PFOA	8	0.1µg/kg	0	0	-
Asbestos in soil (500mL)	8	ACM >7mm AF/FA	1 0	NSL	The laboratory analysis identified ACM in two samples collected from SP3 (SP3-1 0-0.5m) and SP5 (SP5-1 0.8-1.0m). It is noted that the HSL criteria for ACM is not applicable, as the ACM was identified in the 500mL sample (The NEPM assesses ACM in a 10L bulk sample). On this basis, the results are considered in terms of presence/absence. As ACM was identified at the surface in SP3 (the sample interval was from surface to 500mm), this is considered an SAC exceedance. All AF/FA results were below the SAC.
Asbestos in fibre cement	9	Detected	7	NSL	Several FCF were observed upon the surface and within the stockpiles. Representative FCF samples were analysed from stockpiles SP3 to SP8.

Analyte	N	Max. (mg/kg)	N> Human Health SAC	N> Ecological SAC	Comments
					With the exception of FCF collected from SP7 (SP7-2 FCF1 and SP7-3 FCF1 spoil), laboratory analysis confirmed the FCF contained asbestos. As the FCF were observed on the surface of the stockpiles (i.e. within the top 100mm), the results are considered as SAC exceedances

Notes:

N: Total number (primary, duplicate and laboratory QA/QC samples)

NSL: No set limit

NL: Not limiting

8.5.2 Management Limits

All TRH results were below the management limits.

8.5.3 Waste Classification Assessment

The laboratory results were assessed against the criteria presented in Section 7.1.4. The results are presented in the report tables attached in the appendices. A summary of the results is presented in the following table:

Table 8-7: Summary of Stockpile Soil Laboratory Results Compared to CT and SCC Criteria

Analyte	N	N > CT Criteria	N > SCC Criteria	Comments
Arsenic	28	0	0	-
Cadmium	28	0	0	-
Chromium (Total)	28	0	0	-
Copper	28	NSL	NSL	-
Lead	28	17	0	Lead concentrations exceeded the CT2 criterion (400mg/kg) in seven soil samples collected from three stockpiles (SP3, SP5 and SP8). Lead concentrations exceeded the CT1 criterion (100mg/kg) in an additional 10 soil samples collected from five stockpiles (SP3 and SP5 to SP8).
Mercury	28	0	0	-
Nickel	28	0	0	-
Zinc	28	NSL	NSL	-

Analyte	N	N > CT Criteria	N > SCC Criteria	Comments
TRH (C_6-C_9)	26	0	0	-
TRH (C_{10}-C_{36})	26	0	0	-
BTEX	26	0	0	-
Total PAHs	27	0	0	-
Benzo(a)pyrene	27	6	3	Benzo(a)pyrene concentrations exceeded the SCC1 criterion (10mg/kg) in three soil samples collected from two stockpiles (SP4 and SP8). Benzo(a)pyrene concentrations exceeded the CT2 criterion (3.2mg/kg) in an additional four soil samples collected from three stockpiles (SP4, SP5 and SP6). Benzo(a)pyrene concentrations exceeded the CT1 criterion (0.8mg/kg) in an additional two soil samples collected from two stockpiles (SP4 and SP8).
OCPs & OPPs	9	0	0	-
PCBs	10	0	0	-
PFOS + PFHxS	8	NSL	0	-
PFOA	8	NSL	0	-
Asbestos	16	-	-	Several FCF were observed upon the surface and within the stockpiles. Representative FCF samples were analysed from stockpiles SP3 to SP8. With the exception of FCF collected from SP7 (SP7-3 FCF1 spoil), laboratory analysis confirmed the FCF contained asbestos. Asbestos (in the form of ACM) were also recorded in two soil samples collected from stockpiles SP3 (SP3-1 0.3-0.5m) and SP5 (SP5-1 0.8-1.0m). Due to the widespread occurrence of FCF, JKE is of the opinion that asbestos is likely present in all stockpiles. On this basis, the stockpiles are classified as special waste (asbestos).

N: Total number (primary, duplicate and laboratory QA/QC samples)

NSL: No set limit

Table 8-8: Summary of Stockpile Soil Laboratory Results Compared to TCLP Criteria

Analyte	N	N > TCLP Criteria	Comments
Lead	7	0	All TCLP lead results were below the TCLP1 criterion (5mg/L). The maximum TCLP lead result was 0.34mg/L (SP8-1).
Benzo(a)pyrene	3	0	All TCLP benzo(a)pyrene results were below the PQL.

Analyte	N	N > TCLP Criteria	Comments
PFOS + PFHxS	3	0	All TCLP PFAS results were below the PQL.
PFOA	3	0	All TCLP PFAS results were below the PQL.

N: Total number (primary, duplicate and laboratory QA/QC samples)

8.6 Surface Water and Groundwater Laboratory Results

The surface water and groundwater laboratory results were assessed against the SAC presented in Section 7.2. Individual SAC are shown in the report tables attached in the appendices. For completeness, duplicate results issued by the laboratory (where relevant) from the analytical laboratory's internal QA processes have been included within the report tables. These samples have been identified as 'Laboratory Duplicate' in the report tables and the data are shown in the QA sections of the laboratory certificates of analysis.

A summary of the results is presented below:

Table 8-9: Summary of Groundwater and Surface Water Laboratory Results – Human Health and Environmental (Ecological)

Analyte	N	Max. (µg/L)	N> Human Health SAC	N> Ecological SAC	Comments
Arsenic	17	2	0	0	-
Cadmium	10	47	1	1	Cadmium concentrations exceeded the human health and ecological SAC (and 20µg/L and 0.2µg/L respectively) in one sample collected from MW82 (and field duplicate).
Chromium (total)	17	2	0	0	-
Copper	17	17	0	2	Copper concentrations exceeded the ecological SAC (1.4µg/L) in two samples collected from MW10 and MW82 (and field duplicate).
Lead	17	<PQL	0	0	-
Mercury (Total)	18	2	0	1	Mercury concentrations exceeded the ecological SAC (0.06µg/L) in one sample collected from MW28 (field duplicate).
Nickel	17	1,500	1	3	Nickel concentrations exceeded the human health SAC (200µg/L) in one sample collected from MW82 (and field duplicate) and exceeded the ecological SAC (11µg/L) in three samples collected from MW28 (field duplicate), MW59 and MW82 (and field duplicate).
Zinc	17	5,800	0	6	Zinc concentrations exceeded the ecological SAC (8µg/L) in five samples

Analyte	N	Max. (µg/L)	N> Human Health SAC	N> Ecological SAC	Comments
					collected from MW6 (and field duplicate), MW28, MW21, MW46 and MW59 and MW82 (and field duplicate).
Total PAHs	16	<PQL	0	0	-
Benzo(a)pyrene	16	<PQL	0	0	-
Carcinogenic PAHs (as BaP TEQ)	16	<PQL	0	0	-
TRH F1	18	<PQL	0	-	-
TRH F2	15	<PQL	0	-	-
TRH F3	16	<PQL	NSL	-	-
TRH F4	16	<PQL	NSL	-	-
Benzene	16	<PQL	0	0	-
Toluene	16	<PQL	0	0	-
Ethylbenzene	16	2	0	0	-
m+p-Xylene	16	<PQL	0	0	-
o-Xylene	16	<PQL	0	0	-
Total Xylenes	16	<PQL	0	0	-
PFOS	15	0.018	NSL	9	-PFOS concentrations exceeded the ecological SAC (0.00023µg/L) in nine samples collected from MW6 (and laboratory duplicate), MW10, MW28 (and field duplicate), MW37, MW41, MW46, SW1 (and laboratory duplicate), SW2 and SW3.
PFOS + PFHxS	15	0.025	0	NSL	-
PFOA	15	0.024	0	0	-
pH	13	pH 7.6 (Max) pH 5.2 (Min)	NSL	4	Four samples collected from MW28, MW41, MW59 and MW82 below the lower criterion (i.e. outside acceptable range) of pH 6.5. All other readings were within the acceptable range of pH 6.5 to pH 8.5.

Analyte	N	Max. (µg/L)	N> Human Health SAC	N> Ecological SAC	Comments
EC	13	8,200 us/cm	0	NSL	The EC results ranged from 94µS/cm to 8,200µS/cm.
Trihalomethanes[a]	18	<PQL	0	0	-
Other VOCs	18	<PQL	0	0	-

Notes:

N: Total number (primary, duplicate and laboratory QA/QC samples)

NSL: No set limit

NL: Not limiting

A: Sum of chloroform, bromodichloromethane, dibromochloromethane and bromoform.

9 WASTE CLASSIFICATION ASSESSMENT

9.1 Preliminary Classification of Fill

Based on the scope of work undertaken for this investigation, and at the time of reporting, the fill is assigned a preliminary classification of **General Solid Waste (non-putrescible) containing Special Waste (asbestos)**. This preliminary classification considers the results of the DSI, the widespread surficial ACM impacts across the site, the asbestos detections in soil, and the results of limited TCLP analysis. Further assessment is required to confirm this classification prior to off-site disposal of the waste. The anticipated waste quantities should also be confirmed at that time and documented in the report.

Due to the PCB concentrations detected in fill in the vicinity of BH6 and TP8, fill in the vicinity of these locations is required to be managed in accordance with the PCB CCO 1997.

9.2 Preliminary Classification of Natural Soil and Bedrock

Based on the scope of work undertaken for this investigation, and at the time of reporting, the residual silty clay in the vicinity of TP60 and the extremely weathered sandstone in the vicinity of TP67 are assigned a preliminary classification of **General Solid Waste (non-putrescible)**. JKE is of the opinion that natural soils and bedrock at the site, with the exception of the above-mentioned areas, will likely meet the definition of **VENM** for off-site disposal or re-use purposes. Further assessment is required to confirm this classification and delineate the vertical and lateral extents of PAH impacted natural soils in the vicinity of TP60, and nickel impacted bedrock in the vicinity of TP67.

It is noted that minor elevations of TRH concentrations were recorded in silty sandy clay in the vicinity of TP25. JKE is of the opinion that the detected concentrations were likely associated with interference from organic material. Further assessment is required to confirm this assumption.

9.3 Preliminary Classification of Stockpiles

Based on the scope of work undertaken for this investigation, and at the time of reporting, the soil stockpiles are assigned a preliminary classification of **General Solid Waste (non-putrescible) containing Special Waste (asbestos).** This preliminary classification considers the results of the DSI, the conditions of the GAIs outlined in Section 7.1.4.1, the widespread ACM impacts identified in the majority of the stockpiles, and the results of limited TCLP analysis.

Further assessment is required to confirm this classification prior to off-site disposal of the waste. The anticipated waste quantities should also be confirmed at that time and documented in the report.

10 DISCUSSION

10.1 Tier 1 Risk Assessment and Review of CSM

For a contaminant to represent a risk to a receptor, the following three conditions must be present:

1. Source – The presence of a contaminant;
2. Pathway – A mechanism or action by which a receptor can become exposed to the contaminant; and
3. Receptor – The human or ecological entity which may be adversely impacted following exposure to contamination.

If one of the above components is missing, the potential for adverse risks is relatively low.

10.1.1 Soil

10.1.1.1 Asbestos

Friable asbestos in the form of AF/FA was detected at concentrations exceeding the human health SAC in two soil samples collected from TP18 (0.3-0.5m) and TP54 (0.1-0.3m). TP18 was located adjacent to Malthouse 1 in the north of the site and TP54 was located within the south-west of the site, near the Nattai River, as shown on Figure 2. The source of the asbestos was considered to be associated with the weathering of existing buildings, including historic fire damage (TP18) and imported fill, including fly-tipped materials (TP54). It is possible that the asbestos impacts in the vicinity of TP54 may also be associated with the demolition of former dairy buildings in this area, though the location of the former buildings has not been verified by JKE. This has been identified as a data gap and is discussed further in Section 10.3. TP18 was sealed with a thin layer of AC pavement (which was in poor condition), and TP54 was covered with vegetation matter. Based on the AF/FA asbestos concentrations, and that soil disturbance is likely to occur for the redevelopment of the site, a complete SPR linkage exists and the AF/FA asbestos is considered to pose a risk to human receptors.

ACM was identified by JKE in the surficial soils (0-100mm) in TP21 to TP23 and BH41 in the west of the site (to the south of Malthouse 1 Sheds), in TP50 near the pump house on the eastern bank of the Nattai River, and in TP58 and TP67 in the east of the site (adjacent to Malthouse 3). ACM was also identified in the shallow sub-surface soils (100-500mm) in TP22 in the west of the site. Several FCF were also observed on the surface in the vicinity of the Malthouses and the Maltster's residence. Asbestos was confirmed in seven representative FCF collected from the site surface analysed by the laboratory (FCF1-surface to FCF7-surface). The laboratory analysis of soil samples also identified ACM in surficial soil samples collected from TP34 (0-0.1m) and TP49 (0-0.1m). TP34 was located in the north of the site (to the east of the Malthouse 2) and TP49 was located on the eastern bank of the Nattai River, near the north-eastern pedestrian bridge. Refer to Figure 2 attached in the appendices for locations.

The source of the surficial FCF was considered associated with the deterioration of the existing buildings and/or historically imported fill. The FCF were assessed to be bonded by JKE field personnel (i.e. considered as ACM). Given the extent of ACM impacts identified, and as the impacts were identified at the surface, in surficial soils and the shallow sub-surface soils (100-500mm), which will likely be disturbed during the redevelopment, a complete SPR linkage exists and the ACM is considered to poses a risk to human receptors.

JKE recommended preparing an Asbestos Management Plan (AMP) to outline the management strategy for addressing the risks posed by AF/FA and ACM.

10.1.1.2 Heavy Metals

Lead concentrations exceeding the human health SAC were detected in fill in TP8, TP9, TP15, BH19, TP21, TP22, BH37, TP38, TP45 and TP67. Though BH19 was located within the footprint of Malthouse 1, the surface soils were exposed. All other locations were also unsealed/exposed soils. The source/s of the lead concentrations were considered likely associated with former use of the site as a malthouse and rail sidings, and imported fill soils. The elevated concentrations were spread across the site indicating potential widespread impact. As the concentrations were encountered in the surficial fill soils, and the surface soils were generally exposed, there is considered potential for a complete SPR linkage to occur. Some of the elevations were above 250% of the SAC. On this basis, the lead concentrations in fill were considered to pose risk to human receptors. It is noted that the concentration of lead detected in fill in BH19 also exceeded the ecological SAC, however as BH19 was located within the building footprint of Malthouse 1, and Malthouse 1 is to be retained in the proposed development, this exceedance was not considered relevant to ecological receptors. All other lead concentrations were below the ecological SAC.

A total chromium concentration exceeding the human health and ecological SAC was detected in fill in TP40. TP40 was located in the central portion of the site, to the south of Malthouse 1 Sheds and was located in an unsealed portion of the site. Further testing was undertaken to assess the hexavalent chromium concentration (relevant to human health). The hexavalent chromium concentration was below the laboratory PQL. Therefore, the chromium concentration was not considered to pose risk to human health. It is noted however that chromium^{3+} is the relevant valency for ecological risk. As no hexavalent chromium was detected, the total chromium concentration was considered to represent chromium^{3+}. On this basis, the chromium concentration in fill in TP40 was considered to pose a potential risk to ecological receptors.

Zinc concentrations exceeding the ecological SAC were detected in fill in TP8, TP9, TP15, TP38, TP56, TP61 and TP67. Copper concentrations exceeding the ecological SAC were detected in fill in TP40, TP42 and TP67.

With the exception of the zinc exceedance in TP61, all of the zinc concentrations and the copper concentration in fill in TP67 exceeding the ecological SAC were co-located with lead concentrations exceeding the human health SAC, and remediation is required due to the potential for risk to human receptors.

TP40, TP42 and TP67 were located in unsealed areas of the site. TP40 and TP42 were located to the south and south-west of Malthouse 1 Sheds, and TP67 was located adjacent to the east of Malthouse 3. As these locations were in unsealed portions of the site, and outside of the proposed building footprints, a complete SPR linkage may exist. On this basis, the copper concentrations in fill in TP40 and TP42, and the zinc concentration in fill in TP61 were considered to pose potential risks to ecological receptors.

A nickel concentration exceeding the ecological SAC was detected in extremely weathered sandstone in TP67, however it is noted that EILs do not apply to bedrock, and that the SAC were adopted as a conservative screening tool. On this basis, the nickel concentration in the extremely weathered sandstone was considered unlikely to pose a potential risk to ecological receptors.

JKE recommended preparing a Remediation Action Plan (RAP) to outline the remediation and/or management strategy for addressing the risks posed by heavy metals.

JKE note that the lead concentration detected in fill in BH19 was below the HIL-D criteria for a commercial/industrial exposure setting. The adoption of SAC for alternative land use exposure settings (i.e. HIL-D criteria for building footprints and hardstand areas) should be considered during the preparation of the RAP and identifying the extent of remediation.

10.1.1.3 Hydrocarbons

Carcinogenic PAHs exceeding the human health SAC were detected in fill samples obtained from BH59 and TP60. BH59 and TP60 were located in the central portion of the site to the north-west/west of Malthouse 3. BH59 and TP60 were in unsealed portions of the site and the source of the carcinogenic PAHs was considered to be associated with the imported fill and possibly the railway siding historically in this area. The carcinogenic PAHs were encountered in the surficial soils. As this portion of the site is unsealed, and the carcinogenic PAH impacts were in the surficial fill soils, a complete SPR linkage may exist. On this basis, the carcinogenic PAHs were considered to pose a potential risk to human receptors.

TRH F3 concentrations exceeding the ecological SAC were detected in fill in TP3, TP16 and TP60. The elevated concentrations were encountered within the surficial and near-surface soils. TP3 was located in the north of the site (to the north-east of Malthouse 2), TP16 was located adjacent to the south of Malthouse 2, and TP60 was located in the centre of the site, to the west of Malthouse 3. TP3 and TP60 were in unsealed areas, whilst TP16 was sealed with a thin layer of AC pavement.

The samples were reanalysed following silica-gel clean-up methods to remove interference from non-petroleum-based sources (i.e organic sources). Following the reanalysis, all TRH results were below the laboratory PQL. On this basis, the TRH F3 concentrations are not considered to pose risk to ecological receptors.

10.1.1.4 Total PCBs

Total PCB concentrations exceeding the human health SAC in fill samples obtained from BH6 and TP8. BH6 and TP8 were located to the west of Malthouse 2 and targeted the former railway siding and the soils in this area were unsealed. The former railway activity was considered the likely source of PCB impacted soils.

As the surface of these locations were unsealed (i.e. accessible soils), and elevated concentrations of PCB were recorded, there is potential for a complete SPR linkage to exist and the PCB impacted fill is considered to pose a potential risk to human receptors.

Due to the concentrations of PCBs detected (i.e greater than 2m/kg), the impacted fill is considered as PCB contaminated soils and is to be managed in accordance with PCB CCO.

10.1.2 Stockpiles

Limited soil sampling was conducted from the stockpiles to provide a preliminary assessment of the contaminant conditions. JKE note that samples were not collected from stockpiles SP1, SP9 and SPV. This has been identified as a data gap and is discussed further in Section 10.3.

10.1.2.1 Asbestos

Asbestos, in the form of FCF was detected within the field screening samples and/or laboratory analysed samples from stockpiles SP3 to SP8. The FCF were assessed to be bonded (i.e ACM). The source of the FCF was considered to be the imported (fly-tipped) fill soils. The stockpiles were located in the south-west of the site and were accessible to site users as shown on Figure 3. On this basis, a complete SPR linkage may exist.

No AF/FA asbestos was detected above the SAC. All AF/FA asbestos results were below the laboratory PQL. However, considering the inclusions detected in the stockpiles and the presence of ACM, JKE are of the opinion that AF/FA can be expected in the stockpiles.

Given the varying compositions of the stockpiles and the limited analysis undertaken, JKE is of the opinion that all stockpiles (i.e. SP1 to SP9, and SPV) represent a potential risk to human receptors. Remediation is required to address these potential risks. The interim management strategy for the stockpiles is to be outlined within the AMP.

10.1.2.2 Heavy Metals

Lead concentrations exceeding the human health SAC were detected in soil samples collected from stockpiles SP3, SP5 and SP7. Copper and zinc concentrations exceeding the ecological SAC were detected in soil samples collected from stockpiles SP3, SP5, SP7 and/or SP8. The source of the heavy metals was considered to be the imported (fly-tipped) fill soils. The stockpiles were located in the south-west of the site and were accessible to site users and ecological receptors. On this basis, a complete SPR linkage may exist.

Given the varying compositions of the stockpiles and the limited analysis undertaken, JKE is of the opinion that all stockpiles (i.e. SP1 to SP9, and SPV) may represent a potential risk to human and ecological receptors. Remediation is required to address these potential risks.

10.1.2.3 Hydrocarbons

Carcinogenic PAHs concentrations above the human health SAC were detected in soil samples collected from stockpiles SP4, SP5, SP6 and SP8. TRH F3 concentrations above the ecological SAC were detected in soil samples collected from stockpiles SP4, SP6 and SP8. The source of the carcinogenic PAHs and TRH F3 was considered associated with historically imported (fly-tipped) materials. The TRH F3 concentrations may also be attributable (in part) to spills/leaks of fuels during site maintenance activities (i.e. vegetation clearing).

The TRH F3 concentrations were generally encountered in the surficial stockpiled soils (0.3-0.5m) whilst the carcinogenic PAHs were encountered throughout the stockpiles. As the stockpiles were accessible to site users and ecological receptors, a complete SPR linkage may exist.

10.1.3 Groundwater

10.1.3.1 Heavy metals

Cadmium and nickel concentrations exceeding the human health SAC were recorded in groundwater samples collected from MW82. MW82 was located on the south-eastern corner of the site and was considered representative of groundwater conditions up-gradient of the site. The source of the elevated cadmium and nickel concentrations was not identified and could be an off-site source. JKE note that the elevated concentrations of cadmium and nickel were not repeated in the other monitoring wells onsite. Further investigation is required to assess the potential risks to human receptors associated with the elevated cadmium and nickel concentrations.

Cadmium, copper, mercury, nickel and zinc concentrations exceeding the ecological SAC were recorded in the groundwater. The concentrations of heavy metals recorded within the soils at the monitoring well locations were generally low, indicating that the site is not likely to be the source of heavy metals within the groundwater. Further investigation is required to characterise the groundwater contaminant conditions.

10.1.3.2 PFAS

PFOS concentrations exceeding the ecological SAC were recorded in groundwater samples collected from MW6, MW10, MW28, MW37, MW41, and MW46. The highest concentrations were recorded in groundwater samples collected from MW6, MW37 and MW41. MW6, MW10, MW37 and MW41 were located in the north of the site, in the vicinity of Malthouses 1 and 2, MW28 was located in the south-west of the site and MW46 was located in the east of the site near the Maltster's residence. As the highest concentrations of PFOS were recorded in the vicinity of Malthouses 1 and 2, the source of the PFAS was considered to be possibly associated with former site activities, including fire-fighting, and firewater run-off/seepage.

Based on the shallow depths to groundwater encountered, the inclusion of densely vegetated areas, and the proximity to the Nattai River, JKE is of the opinion that complete SPR linkage/s may exist for ecological receptors. JKE note that considerable rainfall occurred in the lead up to and during groundwater sampling. On this basis, there is uncertainty regarding the contaminant conditions of the groundwater. Further investigation of the groundwater is required to better assess the potential risks to the environment.

All other PFAS results were below the ecological SAC. All PFAS results were below the human health SAC.

10.1.3.3 Physical Parameters

The PH results for groundwater samples collected from MW28, MW41, MW59 and MW82 were outside (i.e. below the lower threshold) of the ecological SAC. All other pH results met the ecological SAC. JKE were of the opinion that the pH of the groundwater was likely a regional issue.

10.1.4 Surface Water

10.1.4.1 Heavy Metals

Mercury was detected above the ecological SAC in the surface water sample collected from SW1. SW1 was located in the northern portion of the Nattai River, and is considered to be the down-gradient area based on the flow direction of the river.

The site was not considered to be the source of the mercury impact, as elevated mercury concentrations were not recorded in the soil samples analysed, and mercury was only detected in one groundwater sample collected from MW28, in the south-western section of the site. On this basis, the source of the mercury concentration was likely an off-site source.

All other heavy metal concentrations were below the human health and ecological SAC. Further investigation is required to characterise the surface water conditions.

10.1.4.2 PFAS

PFOS concentrations exceeding the ecological SAC were recorded in all surface water samples. The surface water samples were collected from three locations, targeting the up-gradient, intermediate, and down-gradient areas of the river (based on the observed flow direction) within the site. The PFOS concentrations were consistent between the surface samples and JKE note the concentrations detected were marginally higher than the PFOS concentrations detected in the groundwater samples. On this basis, the source of the PFOS was not identified.

All other PFAS concentrations were below the human health and ecological SAC. Further investigation is required to characterise the surface water conditions.

10.2 Decision Statements

The decision statements are addressed below:

Are any results above the SAC?

Yes, as discussed in Section 8.

Do potential risks associated with contamination exist, and if so, what are they?

Yes, as discussed in Section 10.1.

Is remediation required?

Remediation is required for fill impacted by asbestos, carcinogenic PAHs, chromium, lead, zinc and/or PCBs.

Further assessment of the potential risks posed by heavy metals and PFAS in groundwater is required.

Is the site characterisation sufficient to provide adequate confidence in the above decisions?

Yes. However, intrusive investigation of the heritage areas and other inaccessible areas (i.e. thickly vegetated, building footprints) is required.

Is the site suitable for the proposed development, or can the site be made suitable subject to further characterisation and/or remediation?

JKE is of the opinion that the site can be made suitable for the proposed development subject to the implementation of a RAP and an AMP.

10.3 Data Gaps

An assessment of data gaps is provided in the following table:

Table 10-1: Data Gap Assessment

Data Gap	Assessment
Stockpile sampling density below minimum guideline density	Sampling of the stockpiles was limited and below the minimum sampling density outlined in the NEPM (2013) based on the approximate volumes of the stockpiles. It is also noted that three stockpiles (SP1, SP9 and SPV) were not sampled due to access constraints. The available data indicates that widespread contamination of heavy metals, carcinogenic PAHs and asbestos is present within the stockpiles and on this basis, they are not considered suitable for re-use within the proposed development. Further soil testing of the stockpiles is recommended to confirm the waste classification for off-site disposal of the stockpiles. In the event, the stockpiles are to be retained on-site, additional testing is required to meet the minimum sampling density outlined in the NEPM (2013) to assess its suitability for retention.
Stockpile footprints not assessed	The investigation identified that the stockpiles in the south-west of the site were impacted by heavy metals, carcinogenic PAHs and asbestos. No investigation has been conducted within the footprint of the stockpiles. Further soil testing is recommended after removal of the stockpiles to address this data gap.
Former dairy building footprints not assessed	The auditor was advised by the site caretaker that dairy buildings were historically located in the south-west of the site, in the vicinity of the stockpiles. JKE was not aware of the presence of the former dairy buildings and the footprints of the former structures were not able to be discerned from existing site data. JKE is of the opinion that the grid-based sampling conducted to date, in conjunction with the proposed stockpile footprint validation and in-fill soil sampling of inaccessible areas (when access is possible), will adequately assess potential contamination associated with the former dairy buildings. Additional work to address this data gap is not recommended.

Data Gap	Assessment
Assessment of building footprints limited in scope	Sampling was limited to two locations (BH19 and BH83) within the existing Malthouses (M1 and M3). Elevated concentrations of heavy metals were detected in the fill samples, indicating a potential for soil contamination to exist within the building footprint. Further soil testing within the building footprints is recommended to address this data gap.
Aboriginal heritage areas not assessed	Given the widespread filling across the site and the results of the DSI, there is considered to be potential for contamination to exist within the PADs and archaeologically sensitive landforms as shown on Figure 2 attached in the appendices. Additional soil testing within these areas is recommended to address this data gap.
Potential point source of contamination not assessed	Timber power poles and other structures, such as bridge supports, were observed throughout the site. No soil testing was undertaken in the immediate vicinity of these structures. There is considered potential for chemical treatments of the timber to leach into the surrounding environment. Additional soil testing adjacent to the timber structures is recommended to address this data gap.
Backfill material behind retaining wall not assessed	A retaining wall up to approximately 1.8m high was observed to the east of Malthouse 3. There is considered potential for impacted fill to have been placed as backfill behind the retaining wall. No soil disturbance was undertaken within the backfill as the retaining wall was in close proximity to the mapped archaeologically sensitive landform area in the east of the site. Additional soil testing targeting the retaining wall backfill soils is recommended to address this data gap.
Uncertainty relating to groundwater contaminant condition	It is noted that heavy rainfall was recorded in the lead up to and during the groundwater sampling events. The SWL measured in the wells were considerably shallower than during well development. It is likely that surface water infiltration of rainfall in unsealed areas of the site influenced the groundwater levels and contaminant conditions. An additional round of groundwater testing is recommended to address this data gap.
Potential contamination associated with sewer overflow not assessed	The auditor was advised by the site caretaker that during the rainfall/flooding events in March 2022, the surface seals of the existing sewer line were breached, and sewer overflows were noted. The worst-affected areas were apparently to the north of Malthouse 3. The auditor considered there was potential for biological contamination to have occurred. JKE is of the opinion that the sewerage overflow event would be unlikely to result in significant and/or persistent biological contamination of the site. Nevertheless, additional sampling and testing of soils to the north of Malthouse 3, and groundwater and surface water sampling and testing, is recommended to address this data gap. The samples are to be analysed for Escherichia coli (E. coli), faecal coliforms, total coliforms and ammonia as an indication of sewer-related contamination.

11 REMEDIATION OPTIONS

A RAP will be required for the proposed development. A summary of potential remediation options and feasibility in the context of the proposed development is provided in the following sub-sections. Reference should be made to the RAP once available.

11.1 Soil Remediation

The NSW EPA follows the hierarchy set out in NEPM 2013 for the remediation of contaminated sites. The preferred order for soil remediation and management is as follows:

1. On-site treatment of soil so that the contaminant is either destroyed or the associated hazard is reduced to an acceptable level;
2. Off-site treatment of excavated material so that the contaminant is either destroyed or the associated hazard is reduced to an acceptable level, after which the soil is returned to the site;

Or if the above are not practicable:

3. Consolidation and isolation of the soil by on-site containment within a properly designed barrier; and
4. Removal of contaminated material to an approved site or facility, followed where necessary by replacement with clean material; or
5. Where the assessment indicates that remediation would have no net environmental benefit or would have a net adverse environmental effect, implementation of an appropriate management strategy.

For simplicity herein, the above hierarchy are respectively referred to as Option 1, Option 2, Option 3 etc.

The NEPM 2013 and WA DoH 2009 guidance prefer the following asbestos remediation hierarchy:

1. Minimisation of public risk;
2. Minimisation of contaminated soil disturbance; and
3. Minimisation of contaminated material/soil moved to landfill.

The NSW EPA Contaminated Land Management Guidelines for the NSW Site Auditor Scheme (3rd Edition) (2017)[23] provides the following additional requirements to be taken into consideration:

- Remediation should not proceed in the event that it is likely to cause a greater adverse effect than leaving the site undisturbed; and
- Where there are large quantities of soil with low levels of contamination, alternative strategies should be considered or developed.

The table below discusses and assesses a range of soil remediation options:

[23] NSW EPA, (2017). *Contaminated land Management, Guidelines for the NSW Site Auditor Scheme (3rd ed.).* (referred to as Site Auditor Guidelines 2017)

Table 11-1: Consideration of Soil Remediation Options

Option	Discussion	Assessment/Applicability
<u>Option 1</u> **On-site treatment of contaminated soil**	On-site treatment can provide a mechanism to reuse the processed material, and in some instances, avoid the need for large scale earthworks. Treatment options are contaminant-specific and can include bio-remediation, soil washing, air sparging and soil vapour extraction, thermal desorption and physical removal of bonded ACM fragments. Depending on the treatment option, licences may be necessary for specific individual waste streams due to the potential for air pollution and the formation of harmful by-products during incineration processes. Licences for re-use of treated material/waste may also be required.	Physical removal of surficial bonded ACM fragments is technically feasible and economically viable. This is the preferred method for remediation of the surficial bonded ACM. Treatment of other CoPC (other than physical removal of ACM) is not considered to be feasible due to the following: heritage status of the site and the surrounding land uses; CoPC such as lead, chromium, carcinogenic PAHs, AF/FA asbestos are difficult to treat; the requirement for expensive treatment options; and not sustainable.
<u>Option 2</u> **Off-site treatment of contaminated soil**	Contaminated soils are excavated, transported to an approved/licensed treatment facility, treated to remove/stabilise the contaminants then returned to the subject site, transported to an alternative site or disposed to an approved landfill facility. This option is also contaminant-specific. The cost per tonne for transport to and from the site and for treatment is considered to be relatively high. The material would also have to be assessed in terms of suitability for reuse as part of the proposed development works under the waste and resource recovery regulatory framework.	Not feasible option for the contaminants of concern.
<u>Option 3</u> **Consolidation and isolation of impacted soil by cap and containment**	This would include the consolidation of asbestos-impacted and/or hydrocarbon impacted and/or PCB impacted soil within an appropriately designed cell, followed by the placement of an appropriate barrier over the material to reduce the potential for future disturbance. The capping and/or containment must be appropriate for the specific contaminants of concern. Depending on the concentrations of contaminants being encapsulated, an ongoing environmental management plan (EMP) will be required and will need to be publicly notified and made to be legally enforceable (e.g. via listings in the Section 10.7 planning certificate and on the land title).	This option is feasible for the remediation of impacted fill within the proposed hardstand areas and the existing building footprints as bulk excavation within the buildings is not proposed. This option is the most applicable option for remediation in the vicinity of tree protection zones (TPZ), though the capping details will need to considered by the appointed arborist to assess potential adverse impacts to root zones. Ongoing liabilities associated with complying with the EMP would need to be considered.

Option	Discussion	Assessment/Applicability
		JKE note that the soil stockpiles in the south-west of the site are asbestos-impacted and were fly-tipped. On this basis, the stockpiles are considered as waste, and licences and approvals would be required to consolidate and contained the stockpiled soils within containment cells. This option is not considered feasible for the management of the stockpiled soils.
Option 4 **Removal of contaminated material to an appropriate facility and reinstatement with clean material**	Contaminated soils would be classified in accordance with NSW EPA guidelines for waste disposal, excavated and disposed of off-site to a licensed landfill. The material would have to meet the requirements for landfill disposal. Landfill gate fees (which may be significant) would apply in addition to transport costs.	This option is the most applicable for the remediation of the impacted fill (outside of building footprints) and the stockpiled soils in the south-west. Physical removal of bonded ACM is considered viable under this option.
Option 5 **Implementation of management strategy**	Contaminated soils would be managed in such a way to reduce risks to the receptors and monitor the conditions over time so that there is an on-going minimisation of risk. This may occur via the implementation of monitoring programs.	This option is feasible for the remediation of impacted fill within the proposed hardstand areas and the existing building footprints as bulk excavation within the buildings is not proposed. Ongoing liabilities associated with complying with the EMP would need to be considered.

11.2 Groundwater Remediation

Based on the DSI results, active remediation of groundwater is not considered necessary at this stage. However, in the event the proposed development will require deep excavations and/or dewatering, treatment of heavy metals and other CoPC in groundwater may be necessary prior to off-site disposal.

A further assessment of the need for remediation of CoPC in groundwater will be undertaken following additional investigation of the groundwater. An assessment of remediation options (if required) will be presented in the RAP.

12 CONCLUSIONS AND RECOMMENDATIONS

The investigation included a review of historical information presented in the JKE PSI, soil sampling from 60 in-situ locations, groundwater sampling from eight monitoring wells installed at the site, surface water sampling from three locations and sampling from eight stockpiles of soil/demolition waste. The site was historically used for agricultural purposes (grazing, dairy) until circa c1920s. From the early 1910s to 1980, the site was used for industrial purposes (malt production), after which the site was not used for any discernible purpose.

Potential contamination sources identified at the site and the immediate surrounds included:

- Historic filling for site levelling purposes;
- Fly-tippled materials;
- Historic railway operations;
- Historic use of the site for industrial purposes (malt production);
- Historic use of the site for agricultural purposes;
- Timber power poles across the site;
- Use of pesticides;
- Surficial FCF impacts across the site;
- Hazardous building materials within the existing and former buildings;
- Potential use of PFAS containing AFFF;
- Historic and current service stations located up-gradient of the site; and
- A former dry cleaner business located up-gradient of the site.

Based on the findings of the investigation, JKE are of the opinion that the site can be made suitable for the proposed development described in Section 1.1. The following is recommended:

- Prepare an AMP to address the risks associated with friable and bonded asbestos encountered at the site. As part of the AMP, a SafeWork NSW Class A licensed contractor should be engaged to carry out an 'emu pick' to remove all visible FCF from the site surface. A surface clearance certificate should be obtained by a SafeWork NSW Licensed Asbestos Assessor;
- Undertake a data gap investigation (DGI) to address the data gaps outlined in Section 10.3;
- Prepare a RAP to address the contamination issues identified at the site. This will include an unexpected-finds protocol (UFP); and
- Undertake a site validation assessment documenting the remediation works undertaken during the proposed development works.

It is acknowledged that the additional investigation within the PADs and the archaeologically sensitive landforms is to be undertaken following an intrusive aboriginal heritage survey, and that an approved AHIP issued by the NSW DPIE is required prior to the aboriginal heritage survey. JKE understand the AHIP approval process can be in the order of 3-4 months to be assessed. JKE recommend that the process of obtaining an AHIP should be commenced as soon as possible.

JKE has considered the findings of the DSI with regards to the NSW EPA Guidelines on the Duty to Report Contamination under Section 60 of the CLM Act 1997 (2015)[24]. Though individual concentrations of lead, carcinogenic PAHs and PCB were detected at concentrations greater than 250% of the SAC, and AF/FA asbestos was detected above the SAC, it is noted that the site is secured (fenced) to limit the potential for unauthorised access, site personnel are limited (caretaker, security) and no widespread soil disturbance is proposed in the immediate future, the potential for foreseeable exposure to the contaminants is considered low. On this basis, JKE is of the opinion that provided the recommendations outlined in the DSI are implements, there is no requirement to notify the NSW EPA under the Duty to Report Contamination. This requirement should be reassessed following the completion of each stage of works outlined above.

JKE consider that the report objectives outlined in Section 1.2 have been addressed.

[24] NSW EPA, (2015). *Guidelines on the Duty to Report Contamination under Section 60 of the CLM Act 1997* (referred to as Duty to Report Contamination)

13 LIMITATIONS

The report limitations are outlined below:

- JKE accepts no responsibility for any unidentified contamination issues at the site. Any unexpected problems/subsurface features that may be encountered during development works should be inspected by an environmental consultant as soon as possible;
- Previous use of this site may have involved excavation for the foundations of buildings, services, and similar facilities. In addition, unrecorded excavation and burial of material may have occurred on the site. Backfilling of excavations could have been undertaken with potentially contaminated material that may be discovered in discrete, isolated locations across the site during construction work;
- This report has been prepared based on site conditions which existed at the time of the investigation; scope of work and limitation outlined in the JKE proposal; and terms of contract between JKE and the client (as applicable);
- The conclusions presented in this report are based on investigation of conditions at specific locations, chosen to be as representative as possible under the given circumstances, visual observations of the site and immediate surrounds and documents reviewed as described in the report;
- Subsurface soil and rock conditions encountered between investigation locations may be found to be different from those expected. Groundwater conditions may also vary, especially after climatic changes;
- The investigation and preparation of this report have been undertaken in accordance with accepted practice for environmental consultants, with reference to applicable environmental regulatory authority and industry standards, guidelines and the assessment criteria outlined in the report;
- Where information has been provided by third parties, JKE has not undertaken any verification process, except where specifically stated in the report;
- JKE has not undertaken any assessment of off-site areas that may be potential contamination sources or may have been impacted by site contamination, except where specifically stated in the report;
- JKE accept no responsibility for potentially asbestos containing materials that may exist at the site. These materials may be associated with demolition of pre-1990 constructed buildings or fill material at the site;
- JKE have not and will not make any determination regarding finances associated with the site;
- Additional investigation work may be required in the event of changes to the proposed development or land use. JKE should be contacted immediately in such circumstances;
- Material considered to be suitable from a geotechnical point of view may be unsatisfactory from a soil contamination viewpoint, and vice versa; and
- This report has been prepared for the particular project described and no responsibility is accepted for the use of any part of this report in any other context or for any other purpose.

Important Information About This Report

These notes have been prepared by JKE to assist with the assessment and interpretation of this report.

The Report is based on a Unique Set of Project Specific Factors
This report has been prepared in response to specific project requirements as stated in the JKE proposal document which may have been limited by instructions from the client. This report should be reviewed, and if necessary, revised if any of the following occur:

- The proposed land use is altered;
- The defined subject site is increased or sub-divided;
- The proposed development details including size, configuration, location, orientation of the structures or landscaped areas are modified;
- The proposed development levels are altered, eg addition of basement levels; or
- Ownership of the site changes.

JKE will not accept any responsibility whatsoever for situations where one or more of the above factors have changed since completion of the investigation. If the subject site is sold, ownership of the investigation report should be transferred by JKE to the new site owners who will be informed of the conditions and limitations under which the investigation was undertaken. No person should apply an investigation for any purpose other than that originally intended without first conferring with the consultant.

Changes in Subsurface Conditions
Subsurface conditions are influenced by natural geological and hydrogeological process and human activities. Groundwater conditions are likely to vary over time with changes in climatic conditions and human activities within the catchment (e.g. water extraction for irrigation or industrial uses, subsurface waste water disposal, construction related dewatering). Soil and groundwater contaminant concentrations may also vary over time through contaminant migration, natural attenuation of organic contaminants, ongoing contaminating activities and placement or removal of fill material. The conclusions of an investigation report may have been affected by the above factors if a significant period of time has elapsed prior to commencement of the proposed development.

This Report is based on Professional Interpretations of Factual Data
Site investigations identify actual subsurface conditions at the actual sampling locations at the time of the investigation. Data obtained from the sampling and subsequent laboratory analyses, available site history information and published regional information is interpreted by geologists, engineers or environmental scientists and opinions are drawn about the overall subsurface conditions, the nature and extent of contamination, the likely impact on the proposed development and appropriate remediation measures.

Actual conditions may differ from those inferred, because no professional, no matter how qualified, and no subsurface exploration program, no matter how comprehensive, can reveal what is hidden by earth, rock and time. The actual interface between materials may be far more gradual or abrupt than an investigation indicates. Actual conditions in areas not sampled may differ from predictions. Nothing can be done to prevent the unanticipated, but steps can be taken to help minimise the impact. For this reason, site owners should retain the services of their consultants throughout the development stage of the project, to identify variances, conduct additional tests which may be needed, and to recommend solutions to problems encountered on site.

Investigation Limitations
Although information provided by a site investigation can reduce exposure to the risk of the presence of contamination, no environmental site investigation can eliminate the risk. Even a rigorous professional investigation may not detect all contamination on a site. Contaminants may be present in areas that were not surveyed or sampled, or may migrate to areas which showed no signs of contamination when sampled. Contaminant analysis cannot possibly cover every type of contaminant which may occur; only the most likely contaminants are screened.

Misinterpretation of Site Investigations by Design Professionals

Costly problems can occur when other design professionals develop plans based on misinterpretation of an investigation report. To minimise problems associated with misinterpretations, the environmental consultant should be retained to work with appropriate professionals to explain relevant findings and to review the adequacy of plans and specifications relevant to contamination issues.

Logs Should not be Separated from the Investigation Report

Borehole and test pit logs are prepared by environmental scientists, engineers or geologists based upon interpretation of field conditions and laboratory evaluation of field samples. Logs are normally provided in our reports and these should not be re-drawn for inclusion in site remediation or other design drawings, as subtle but significant drafting errors or omissions may occur in the transfer process. Photographic reproduction can eliminate this problem, however contractors can still misinterpret the logs during bid preparation if separated from the text of the investigation. If this occurs, delays, disputes and unanticipated costs may result. In all cases it is necessary to refer to the rest of the report to obtain a proper understanding of the investigation. Please note that logs with the 'Environmental Log' header are not suitable for geotechnical purposes as they have not been peer reviewed by a Senior Geotechnical Engineer.

To reduce the likelihood of borehole and test pit log misinterpretation, the complete investigation should be available to persons or organisations involved in the project, such as contractors, for their use. Denial of such access and disclaiming responsibility for the accuracy of subsurface information does not insulate an owner from the attendant liability. It is critical that the site owner provides all available site information to persons and organisations such as contractors.

Read Responsibility Clauses Closely

Because an environmental site investigation is based extensively on judgement and opinion, it is necessarily less exact than other disciplines. This situation has resulted in wholly unwarranted claims being lodged against consultants. To help prevent this problem, model clauses have been developed for use in written transmittals. These are definitive clauses designed to indicate consultant responsibility. Their use helps all parties involved recognise individual responsibilities and formulate appropriate action. Some of these definitive clauses are likely to appear in the environmental site investigation, and you are encouraged to read them closely. Your consultant will be pleased to give full and frank answers to any questions.

Appendix A: Report Figures

DSI Figures



AERIAL IMAGE SOURCE: MAPS.AU.NEARMAP.COM

This plan should be read in conjunction with the Environmental report.

Title: **SITE LOCATION PLAN**

Location: THE MALTINGS, 2 COLO STREET, MITTAGONG, NSW

Project No: E33051BR

Figure: 1

JKEnvironments

PLOT DATE: 23/09/2020 4:01:44 PM DWG FILE: Z:\5 EIS\5C- EIS \JOBS\33000\SIE33051B MITTAGONG\CAD\E33051B.DWG

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TP3 (1.0)
TP4 (1.35)
TP5 (1.1)
SW1
TP13 (0.4)
FCF4
BH/MW6 (0.8)
FCF3
TP14 (0.6)
TP45 (0.5)
TP7 (0.3)
TP15 (0.7)
TP34 (0.7)
FCF2
BH/MW46 (0.7)
TP8 (0.4)
TP16 (0.7)
FCF7
FCF8
FCF6
TP35 (0.8)
FCF1
TP56 (0.4)
TP9 (0.3)
TP17 (0.8)
TP36 (0.8)
BH47 (0.8)
TP48 (1.4)
TP57 (0.2)
BH/MW10 (0.5)
TP18 (0.75)
BH/MW37 (0.9)
TP49 (1.5)
TP58 (0.45)
BH19 (0.3)
TP38 (1.2)
BH83 (0.05)
TP20 (0.5)
FCF5
TP50 (0.8)
BH/MW59 (0.1)
TP39 (1.4)
TP51 (1.1)
SW2
TP21 (0.6)
TP60 (0.3)
TP67 (0.05)
TP40 (1.4)
TP52 (0.1)
TP61 (0.25)
TP22 (0.7)
BH/MW41 (0.1)
TP68 (0.05)
TP23 (0.6)
TP69 (0.1)
TP42 (0.6)
TP76 (0.4)
TP24 (0.9)
TP43 (0.6)
BH53 (0.1)
BH/MW82 (0.05)
TP25 (0.6)
TP44 (0.3)
TP54 (0.9)
TP26 (0.35)
SW3
TP27 (0.5)
BH/MW28 (0.4)
TP29 (0.4)
TP30 (0.4)
TP31 (0.3)

LEGEND

▲	PROPOSED SURFACE WATER SAMPLING LOCATIONS
✕ FCF	FIBRE CEMENT FRAGMENT LOCATION, NUMBER
● BH(Fill Depth)	TEST PIT LOCATION, NUMBER AND DEPTH OF FILL (m)
TP(Fill Depth)	BOREHOLE LOCATION, NUMBER AND DEPTH OF FILL (m)
BH/MW(Fill Depth)	BOREHOLE AND GROUNDWATER MONITORING WELL LOCATION, NUMBER AND DEPTH OF FILL (m)
▬	PROPOSED BUILDING FOOTPRINTS
▬	APPROXIMATE ALIGNMENT OF SEWER MAIN
▬	ARCHEOLOGICALLY SENSITIVE LANDFORMS (MODERATE) LANDFORM
▬	POTENTIAL ARCHEOLOGICAL DEPOSIT AREAS
○	POWER POLES

0 20 40 60 80 100
SCALE 1:2000 @A3 METRES

This plan should be read in conjunction with the Environmental report.

Title: **DSI SAMPLING PLAN**

Location: THE MALTINGS, 2 COLO STREET, MITTAGONG, NSW

Project No: E33051BR

Figure: 2

JKEnvironments

PLOT DATE: 17/05/2022 11:24:58 AM DWG FILE: S:\S EIS\SC EIS \JOBS\33000\SIE33051B MITTAGONG\E33051B PSI\CAD\E33051BR.DWG

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FCF4
FCF3
FCF2
FCF1
FCF7
FCF8
FCF6
FCF5
SP5
SP7
SP6
SP8
SP9
SP4
SP2
SP3
SPV
SP1

LEGEND

✕ FCF	FIBRE CEMENT FRAGMENT LOCATION, NUMBER
	PROPOSED BUILDING FOOTPRINTS
	APPROXIMATE ALIGNMENT OF SEWER MAIN
	STOCKPILE
	ARCHEOLOGICALLY SENSITIVE LANDFORMS (MODERATE) LANDFORM
	POTENTIAL ARCHEOLOGICAL DEPOSIT AREAS
o	POWER POLES

0 20 40 60 80 100
SCALE 1:2000 @A3 METRES

This plan should be read in conjunction with the Environmental report.

Title: **STOCKPILE SAMPLING LOCATION PLAN**

Location: THE MALTINGS, 2 COLO STREET, MITTAGONG, NSW

Project No: E33051BR

Figure: 3

JKEnvironments

PLOT DATE: 22/03/2022 11:58:56 AM DWG FILE: S:\5 EIS\5C EIS JOBS\33000'S\E33051B MITTAGONG\E33051B PSI\CADE33051BR.DWG

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FCF1-Surface	
Asbestos	Detected
FCF2-Surface	
Asbestos	Detected
FCF3-Surface	
Asbestos	Detected
FCF4-Surface	
Asbestos	Detected
FCF5-Surface	
Asbestos	Detected
FCF6-Surface	
Asbestos	Detected
FCF7-Surface	
Asbestos	Detected

BH6 (0-0.1)	
Total PCBs	4.9mg/kg

TP8 (0-0.1)	
Lead	630mg/kg
Total PCBs	2.8mg/kg

TP9 (0-0.1)	
Lead	560mg/kg

TP38 (0-0.1)	
Lead	1,200mg/kg
TP38-[LAB_TRIPLICATE] (0.6-0.8)	
Lead	1,200mg/kg

TP18 (0.3-0.5)	
FA and AF	0.0115%w/w

BH19 (0-0.1)	
Lead	1,400mg/kg

TP22 (0-0.1)	
ACM	0.0252%w/w
Lead	690mg/kg
TP22 (0.1-0.5)	
ACM	0.0676%w/w
TP22-FCF1 (0-0.1)	
Asbestos	Detected

BH41 (0-0.1)	
ACM	0.0633%w/w
BH41-FCF1 (0-0.1)	
Asbestos	Detected

TP21 (0-0.1)	
Lead	580mg/kg
TP21-FCF (0-0.1)	
Asbestos	Detected

TP23 (0-0.1)	
ACM	0.0233%w/w

TP54 (0.1-0.3)	
FA and AF	0.0342%w/w

TP15 (0.3-0.5)	
Lead	840mg/kg

TP45 (0-0.1)	
Lead	400mg/kg

TP34 (0-0.1)
ACM in top 100mm

BH46 (0-0.1)	
Lead	460mg/kg

BH37 (0-0.1)	
Lead	600mg/kg

TP49 (0-0.1)
ACM in top 100mm

TP58 (0-0.15)	
ACM	0.0489%w/w
TP58-FCF1 (0-0.15)	
Asbestos	Detected

TP50 (0-0.1)	
ACM	0.0394%w/w
TP50 (0.2-0.4)	
Asbestos	Detected

BH59 (0-0.1)	
cPAHs	4.3mg/kg

SDUP15 (0-0.1) Duplicate of TP61	
Lead	410mg/kg

TP60 (0-0.1)	
cPAHs	8.9mg/kg
TP60 (0.1-0.3)	
cPAHs	14mg/kg

TP67 (0-0.05)	
cPAHs	880mg/kg
ACM	0.0366%w/w
TP67-FCF1 (0-0.05)	
Asbestos	Detected

LEGEND

- ▲ PROPOSED SURFACE WATER SAMPLING LOCATIONS
- ✕ FCF FIBRE CEMENT FRAGMENT LOCATION, NUMBER
- ● BH(Fill Depth) TEST PIT LOCATION, NUMBER AND DEPTH OF FILL (m)
- TP(Fill Depth) BOREHOLE LOCATION, NUMBER AND DEPTH OF FILL (m)
- BH/MW(Fill Depth) BOREHOLE AND GROUNDWATER MONITORING WELL LOCATION, NUMBER AND DEPTH OF FILL (m)
- PROPOSED BUILDING FOOTPRINTS
- APPROXIMATE ALIGNMENT OF SEWER MAIN
- ARCHEOLOGICALLY SENSITIVE LANDFORMS (MODERATE) LANDFORM
- POTENTIAL ARCHEOLOGICAL DEPOSIT AREAS
- o POWER POLES

SAMPLE ID	DEPTH (metres)
CHEMICAL	CONCENTRATION

SOIL/SURFACE SAMPLE EXCEEDANCE

SOIL/SURFACE CONTAMINATION ABOVE SAC FOR HUMAN HEALTH RISK

SOIL/SURFACE CONTAMINATION ABOVE SAC FOR HUMAN HEALTH RISK

0 20 40 60 80 100
SCALE 1:2000 @A3 METRES

This plan should be read in conjunction with the Environmental report.

Title: **SOIL HUMAN HEALTH SAC EXCEEDANCE PLAN**

Location: THE MALTINGS, 2 COLO STREET, MITTAGONG, NSW

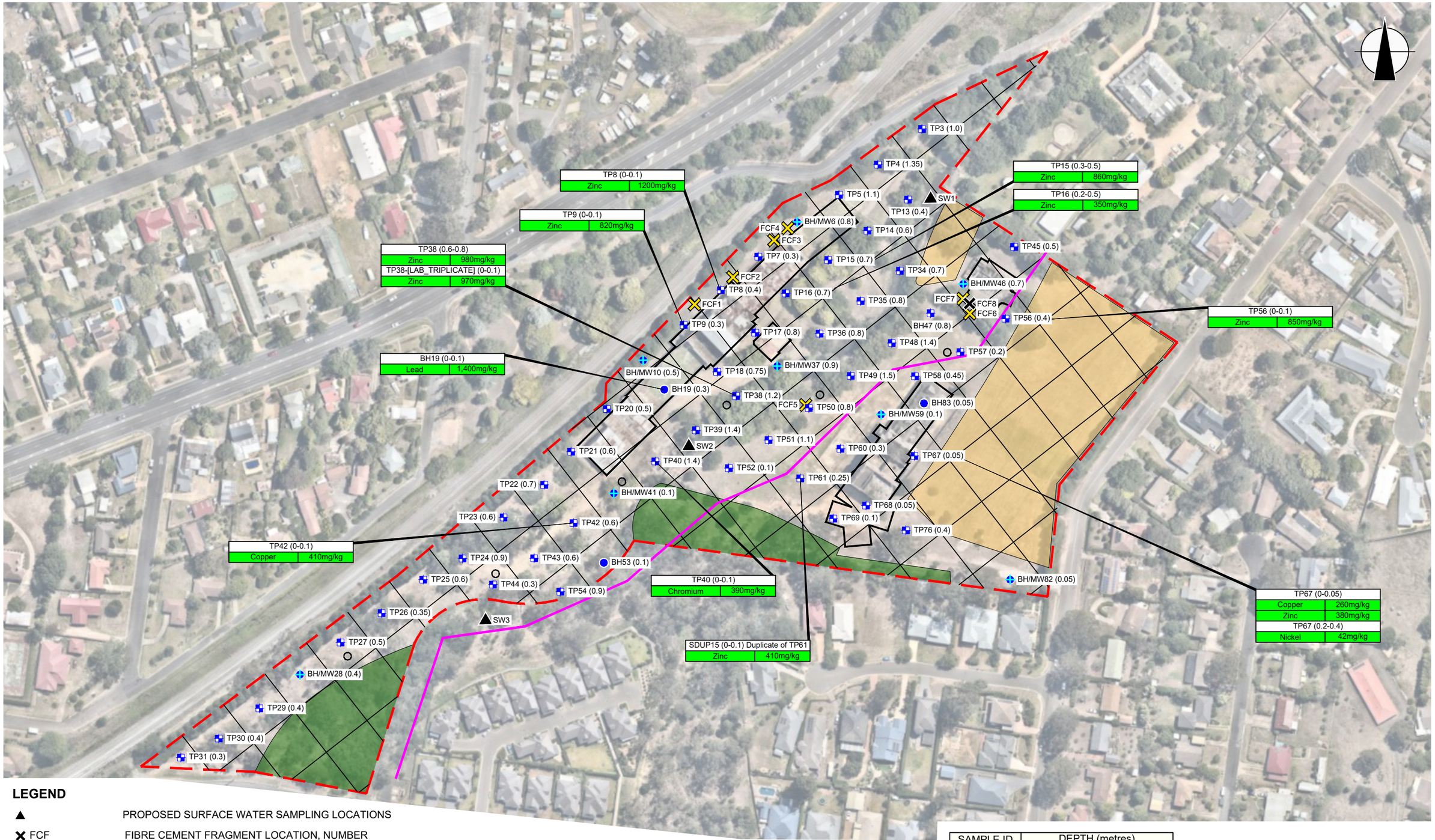
Project No: E33051BR

Figure: 4A

JKEnvironments

PLOT DATE: 17/05/2022 11:25:22 AM DWG FILE: S:\5 EIS\5C EIS JOBS\33000\SIE33051B MITTAGONG\E33051B PSI\CAD\E33051BR.DWG

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LEGEND

- ▲ PROPOSED SURFACE WATER SAMPLING LOCATIONS
- ✕ FCF FIBRE CEMENT FRAGMENT LOCATION, NUMBER
- ● BH(Fill Depth) TEST PIT LOCATION, NUMBER AND DEPTH OF FILL (m)
- ■ TP(Fill Depth) BOREHOLE LOCATION, NUMBER AND DEPTH OF FILL (m)
- ⊕ BH/MW(Fill Depth) BOREHOLE AND GROUNDWATER MONITORING WELL LOCATION, NUMBER AND DEPTH OF FILL (m)
- PROPOSED BUILDING FOOTPRINTS
- APPROXIMATE ALIGNMENT OF SEWER MAIN
- ARCHEOLOGICALLY SENSITIVE LANDFORMS (MODERATE) LANDFORM
- POTENTIAL ARCHEOLOGICAL DEPOSIT AREAS
- ○ POWER POLES

SAMPLE ID	DEPTH (metres)
CHEMICAL	CONCENTRATION

SOIL/SURFACE SAMPLE EXCEEDANCE

SOIL CONTAMINATION ABOVE SAC FOR ECOLOGICAL RISK

0 20 40 60 80 100
SCALE 1:2000 @A3 METRES

This plan should be read in conjunction with the Environmental report.

Title: **SOIL ECOLOGICAL SAC EXCEEDANCE PLAN**

Location: THE MALTINGS, 2 COLO STREET, MITTAGONG, NSW

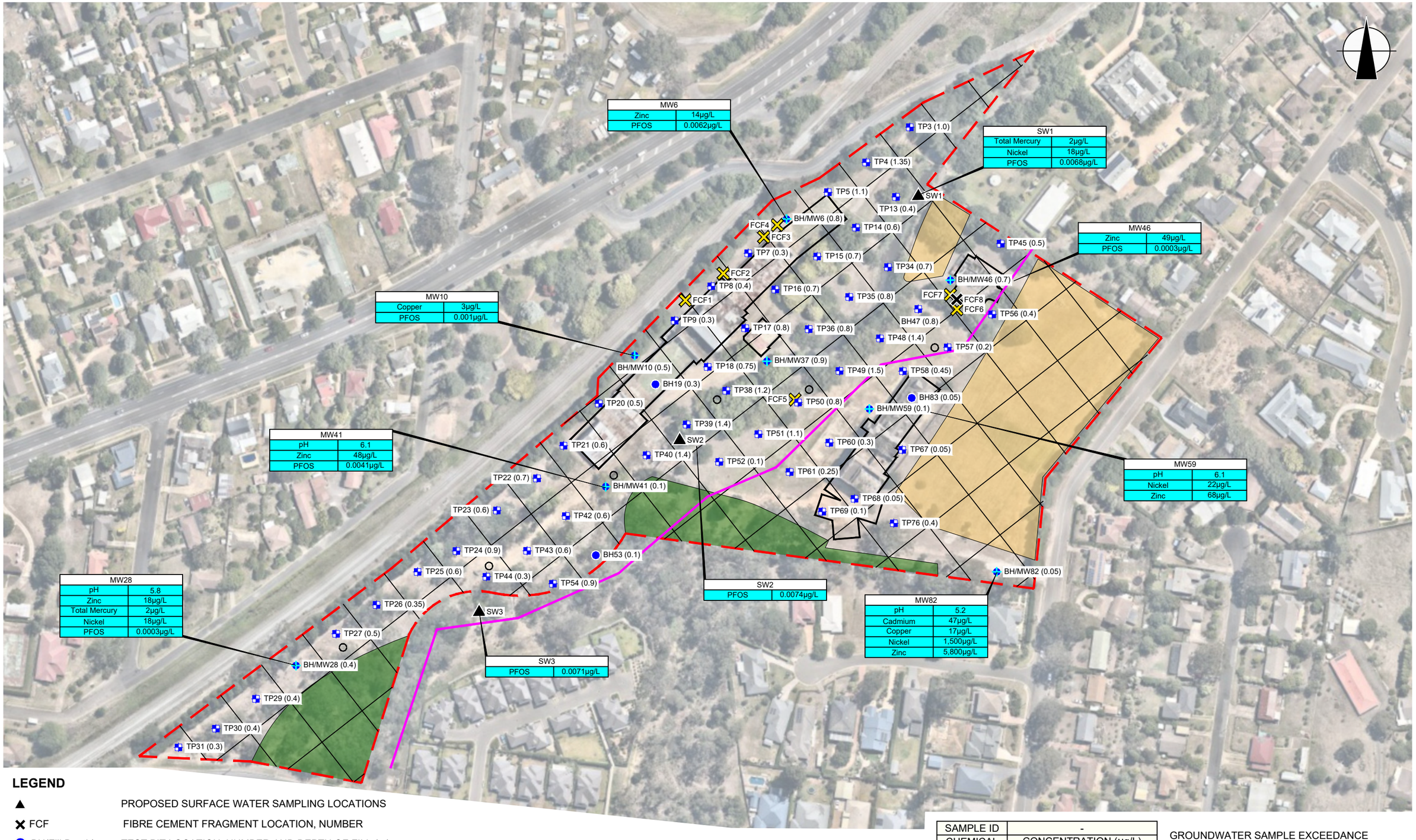
Project No: E33051BR

Figure: 4B

JKEnvironments

PLOT DATE: 17/05/2022 11:25:28 AM DWG FILE: S:\S EIS\SC EIS JOBS\33000\SIE33051B MITTAGONG\E33051B PSI\CAD\E33051BR.DWG

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LEGEND

- ▲ PROPOSED SURFACE WATER SAMPLING LOCATIONS
- ✕ FCF FIBRE CEMENT FRAGMENT LOCATION, NUMBER
- ● BH(Fill Depth) TEST PIT LOCATION, NUMBER AND DEPTH OF FILL (m)
- TP(Fill Depth) BOREHOLE LOCATION, NUMBER AND DEPTH OF FILL (m)
- BH/MW(Fill Depth) BOREHOLE AND GROUNDWATER MONITORING WELL LOCATION, NUMBER AND DEPTH OF FILL (m)
- PROPOSED BUILDING FOOTPRINTS
- APPROXIMATE ALIGNMENT OF SEWER MAIN
- ARCHEOLOGICALLY SENSITIVE LANDFORMS (MODERATE) LANDFORM
- POTENTIAL ARCHEOLOGICAL DEPOSIT AREAS
- ○ POWER POLES

SAMPLE ID	-
CHEMICAL	CONCENTRATION (µg/L)

GROUNDWATER SAMPLE EXCEEDANCE

GROUNDWATER CONTAMINATION ABOVE SAC

0 20 40 60 80 100
SCALE 1:2000 @A3 METRES

This plan should be read in conjunction with the Environmental report.

Title: **GROUNDWATER SAC EXCEEDANCE PLAN**

Location: THE MALTINGS, 2 COLO STREET, MITTAGONG, NSW

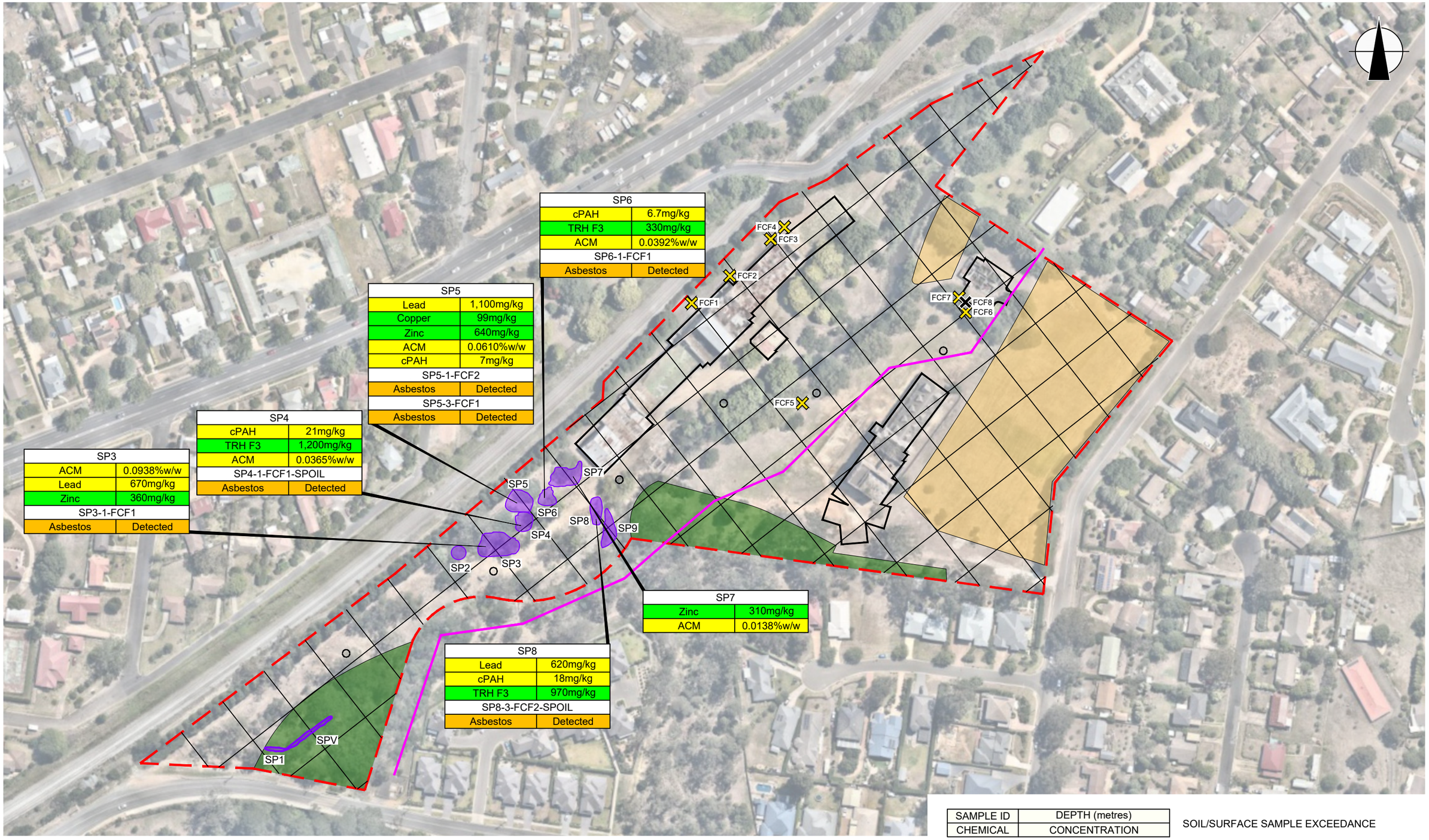
Project No: E33051BR

Figure: 4C

JKEnvironments

PLOT DATE: 17/05/2022 11:25:35 AM DWG FILE: S:\5 EIS\5C EIS JOBS\33000'S\E33051B MITTAGONG\E33051B PSI\CADE33051BR.DWG

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SAMPLE ID	DEPTH (metres)
CHEMICAL	CONCENTRATION

SOIL/SURFACE SAMPLE EXCEEDANCE

SOIL/SURFACE CONTAMINATION ABOVE SAC FOR HUMAN HEALTH RISK

SOIL CONTAMINATION ABOVE SAC FOR ECOLOGICAL RISK

LEGEND

- ✕ FCF — FIBRE CEMENT FRAGMENT LOCATION, NUMBER
- PROPOSED BUILDING FOOTPRINTS
- APPROXIMATE ALIGNMENT OF SEWER MAIN
- STOCKPILE
- ARCHEOLOGICALLY SENSITIVE LANDFORMS (MODERATE) LANDFORM
- POTENTIAL ARCHEOLOGICAL DEPOSIT AREAS
- o POWER POLES

0 20 40 60 80 100

SCALE 1:2000 @A3 METRES

This plan should be read in conjunction with the Environmental report.

Title: **STOCKPILE SAC EXCEEDANCE PLAN**

Location: THE MALTINGS, 2 COLO STREET, MITTAGONG, NSW

Project No: E33051BR

Figure: 5

JKEnvironments

PLOT DATE: 17/05/2022 11:25:41 AM DWG FILE: S:\5 EIS\5C EIS JOBS\33000'S\E33051B MITTAGONG\E33051B PSI\CAD\E33051BR.DWG

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BH/MW6 (0.8)
BH/MW46 (0.7)
BH/MW10 (0.5)
BH/MW37 (0.9)
BH/MW59 (0.1)
BH/MW41 (0.1)
BH/MW82 (0.05)
BH/MW28 (0.4)
623.0
624.0
625.0
626.0
627.0
628.0
629.0
630.0
631.0
632.0

LEGEND

- 625 — GROUNDWATER CONTOUR INTERVALS (m)
- INFERRED GROUNDWATER FLOW DIRECTION
- BH/MW(Fill Depth) — BOREHOLE AND GROUNDWATER MONITORING WELL LOCATION, NUMBER AND DEPTH OF FILL (m)
- PROPOSED BUILDING FOOTPRINTS
- APPROXIMATE ALIGNMENT OF SEWER MAIN
- ARCHEOLOGICALLY SENSITIVE LANDFORMS (MODERATE) LANDFORM
- POTENTIAL ARCHEOLOGICAL DEPOSIT AREAS
- POWER POLES

0 20 40 60 80 100
SCALE 1:2000 @A3 METRES

This plan should be read in conjunction with the Environmental report.

Title: **GROUNDWATER CONTOUR PLOT**

Location: THE MALTINGS, 2 COLO STREET, MITTAGONG, NSW

Project No: E33051BR

Figure: 6

JKEnvironments

PLOT DATE: 22/03/2022 3:42:09 PM DWG FILE: S:\5 EIS\5C EIS \JOBS\33000\SIE33051B MITTAGONG\E33051B PSII\CAD\E33051BR.DWG

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PSI Figures

1. MALTHOUSE 1 (M1)
2. M1 SHEDS
3. MALTHOUSE 2 (M2)
4. MALTHOUSE 3 (M3)
5. MALTSTER'S RESIDENCE
6. SILOS
7. RAIL SIDINGS (FORMER)
8. PUMP HOUSE
9. UNDERGROUND WATER TANK
10. ENGINE BUILDING (FORMER)
11. RAIL TURNTABLE
12. BRIDGE
13. FORMER BUILDING FOOTPRINT
14. RETAINING WALL
15. ASBESTOS WASTE
16. STOCKPILED SOIL
17. STOCKPILED DEMOLITION WASTE
18. TREE/VEGETATION STOCKPILE
19. WEIR
20. FORMER BRIDGE FOOTPRINT
21. STORMWATER DISCHARGE PIPE
22. RECYCLED AGGREGATE DRIVEWAY
23. RAISED EARTH MOUND (GRASS COVERED)
24. SEWER PUMPING STATION
25. WARNING SIGNS (BASA HAWK HABITAT/WILDLIFE CORRIDOR)
26. TENNIS COURTS (FORMER)

APPROXIMATE ALIGNMENT OF SEWER MAIN

0 20 40 60 80 100
SCALE 1:2000 @A3 METRES

This plan should be read in conjunction with the Environmental report.

Title: **SITE FEATURES PLAN**

Location: THE MALTINGS, 2 COLO STREET, MITTAGONG, NSW

Project No: E33051B

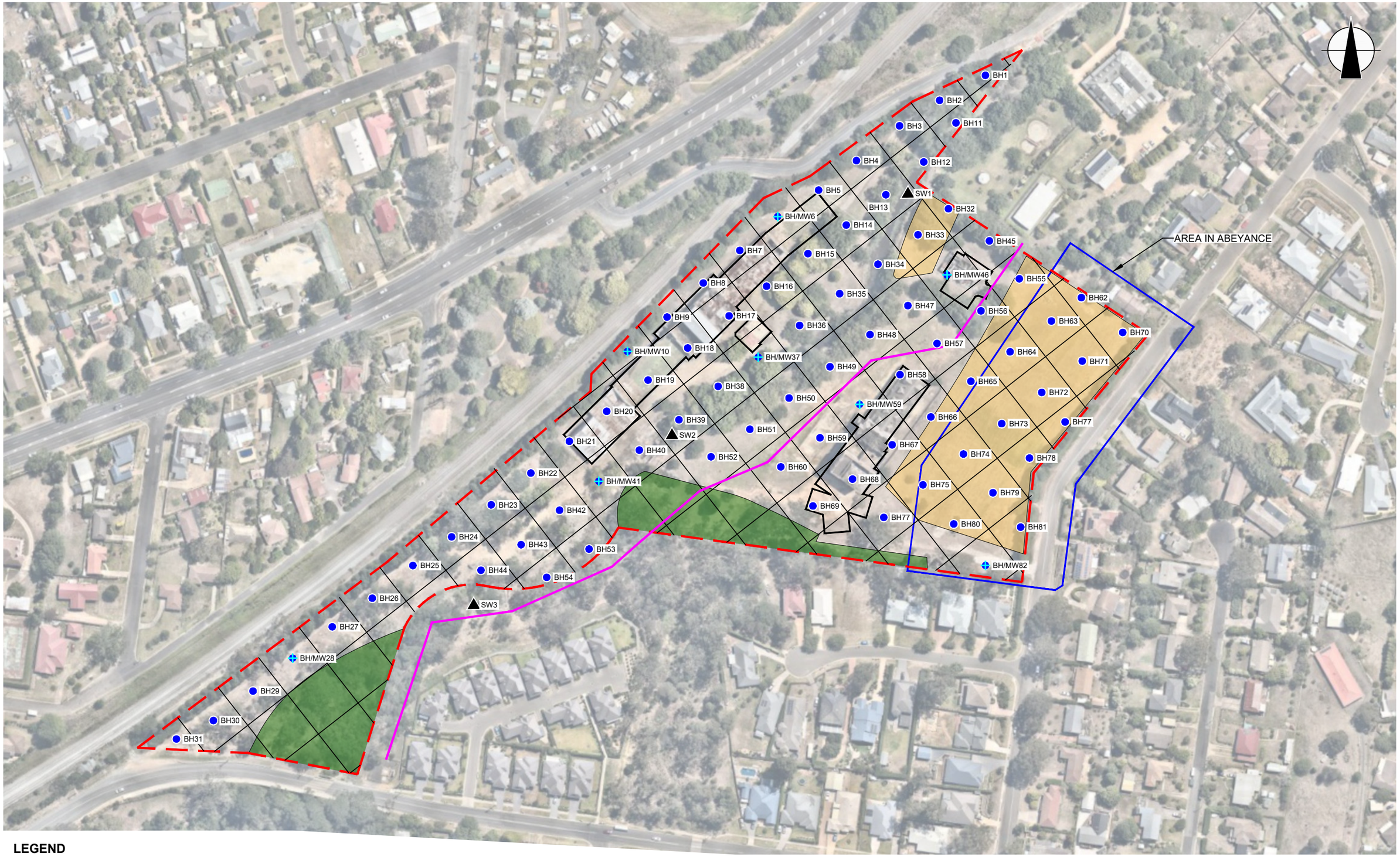
Figure: 2

JKEnvironments

PLOT DATE: 15/04/2020 4:38:52 PM DWG FILE: Z:\5 EIS\5C EIS JOBS\33000\SIE33051B MITTAGONG\CAD\E33051B.DWG

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SAQP Figures



LEGEND

- APPROXIMATE SITE BOUNDARY
- APPROXIMATE ALIGNMENT OF SEWER MAIN
- PROPOSED BOREHOLE LOCATION
- PROPOSED BOREHOLE AND GROUNDWATER MONITORING WELL LOCATION
- PROPOSED SURFACE WATER SAMPLING LOCATIONS
- PROPOSED BUILDING FOOTPRINTS

0 20 40 60 80 100

SCALE 1:2000 @A3 METRES

This plan should be read in conjunction with the Environmental report.

Title: **PROPOSED DSI SAMPLING PLAN**

Location: THE MALTINGS, 2 COLO STREET, MITTAGONG, NSW

Project No: E33051BR

Figure: 2

JKEnvironments

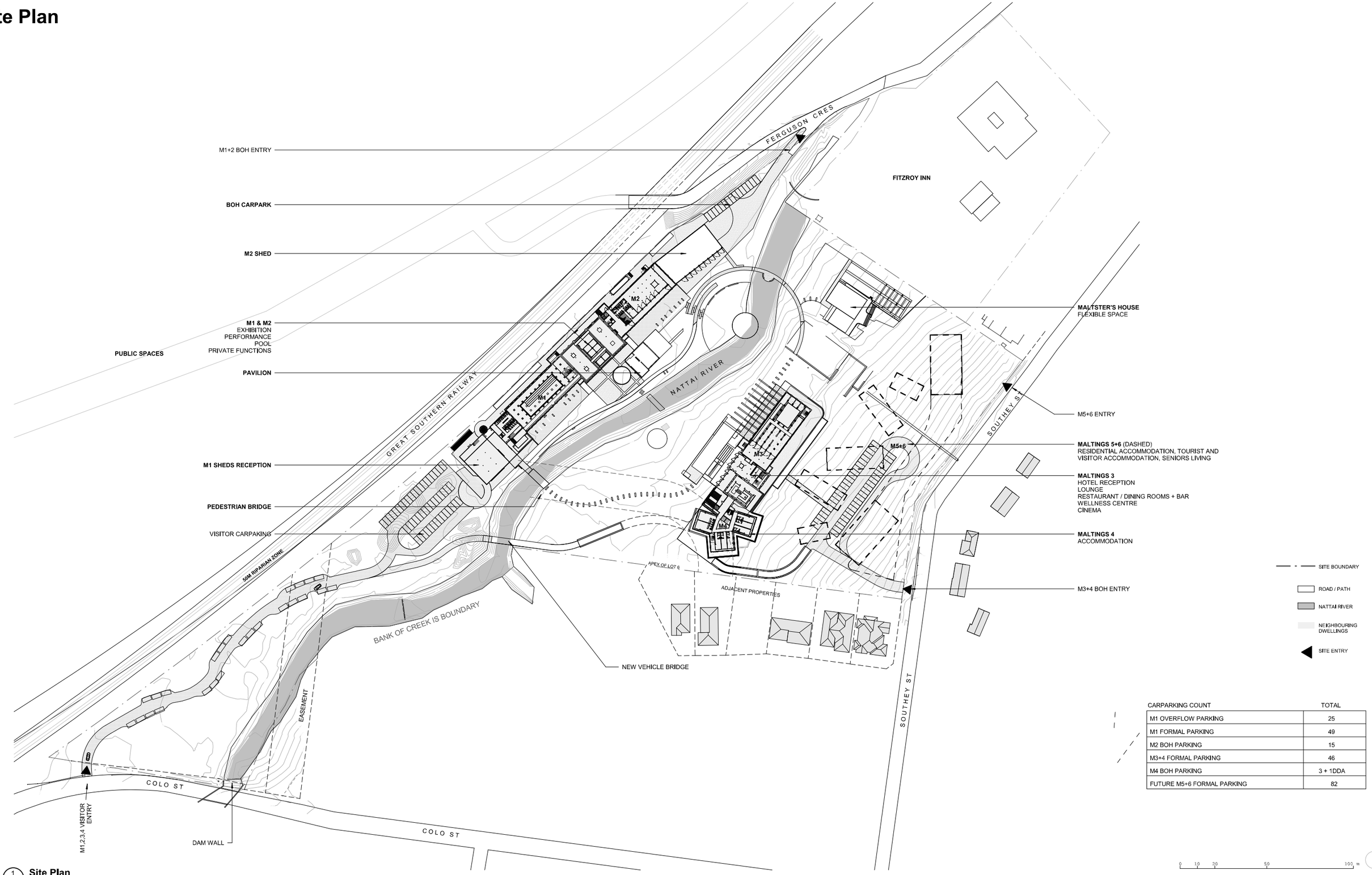
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Appendix B: Site Information

Selected Development Plans

Site Plan



CARPARKING COUNT	TOTAL
M1 OVERFLOW PARKING	25
M1 FORMAL PARKING	49
M2 BOH PARKING	15
M3+4 FORMAL PARKING	46
M4 BOH PARKING	3 + 1DDA
FUTURE M5+6 FORMAL PARKING	82

1 **Site Plan**
1 : 1000

Snøhetta
178 Sturt St | Adelaide | Australasia | SA 5000

The Maltings
Medich Corporation

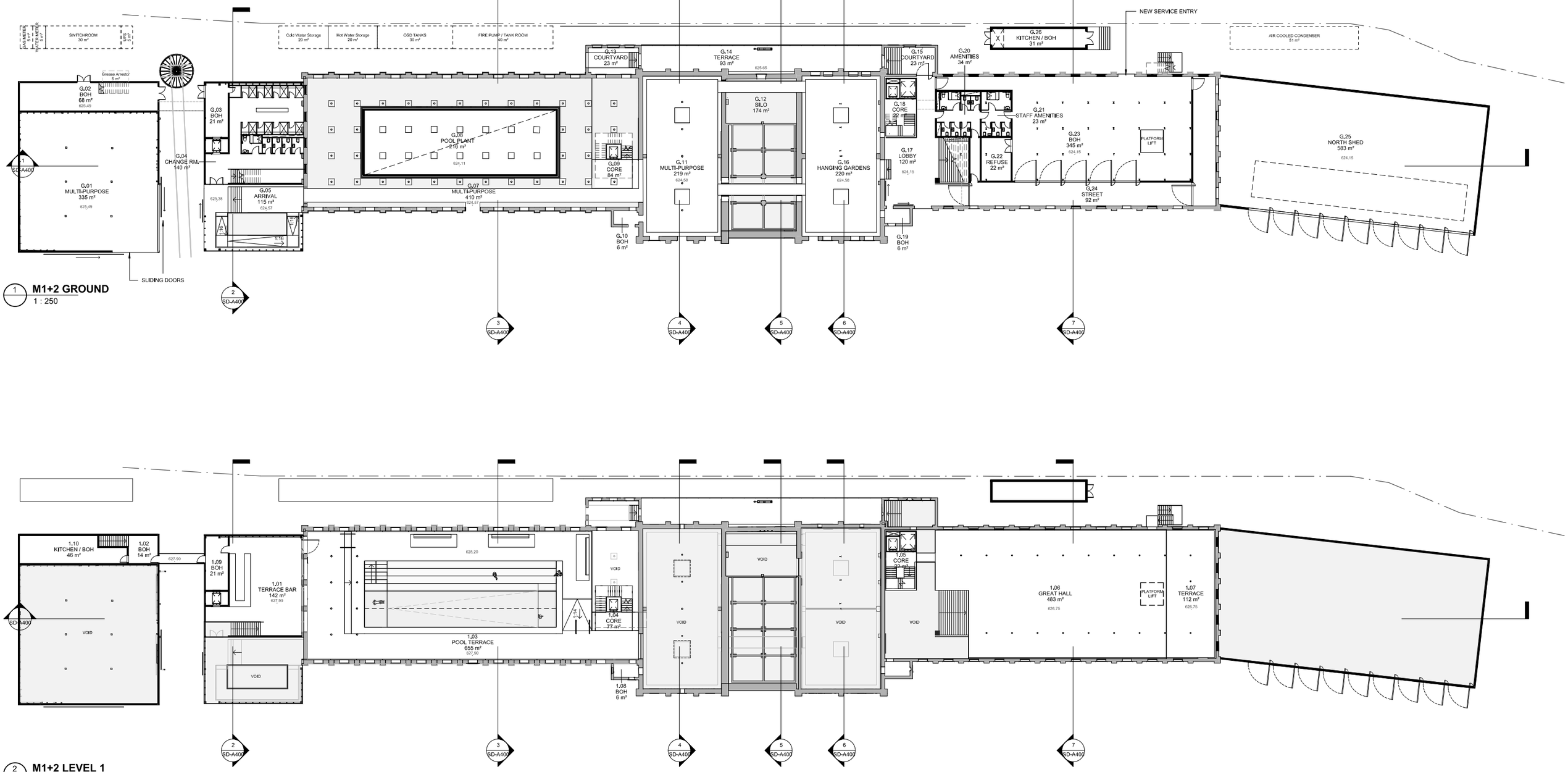
Scale @ A1: As indicated

Rev H / 100% SD / 06.04.2020

SD-A003

Preliminary

M1+2 Level G-1



1 **M1+2 GROUND**
1 : 250

2 **M1+2 LEVEL 1**
1 : 250

0 2.5 5 12.5 25 m

Snøhetta
178 Sturt St | Adelaide | Australasia | SA 5000

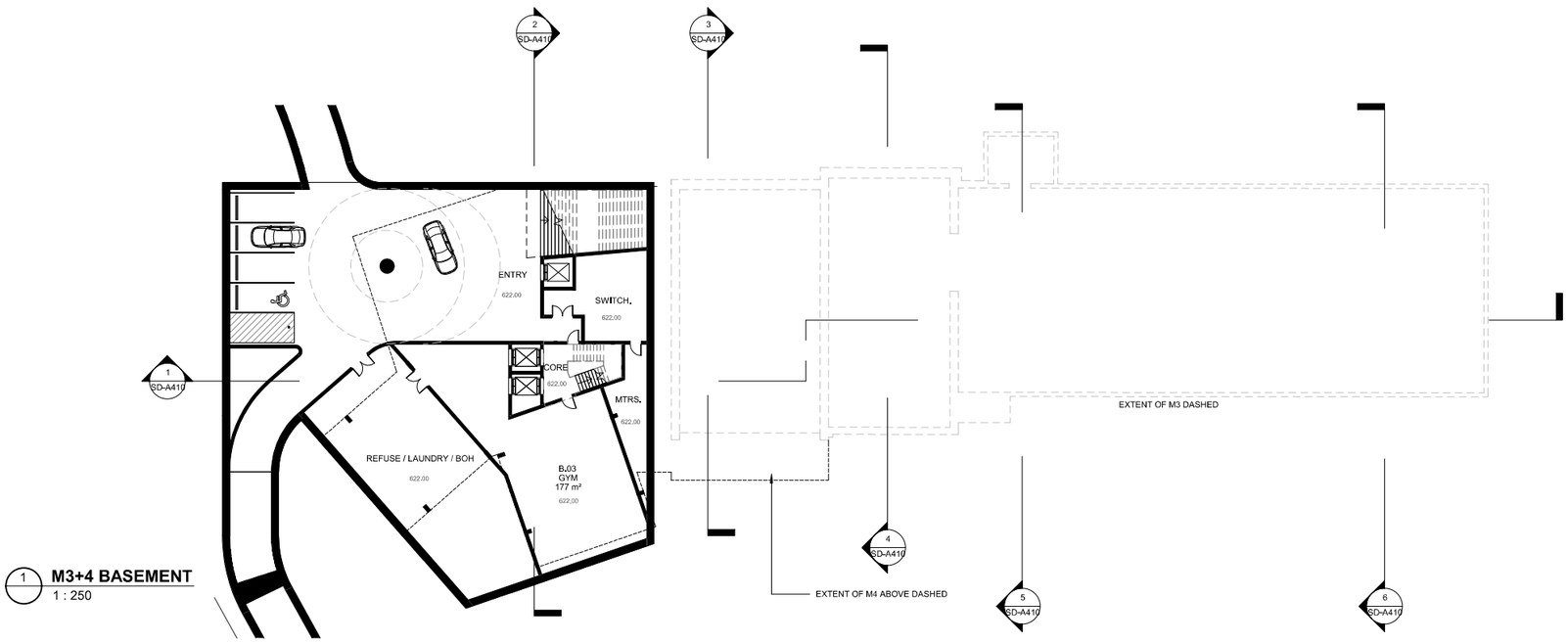
The Maltings
Medich Corporation

Scale @ A1: 1 : 250

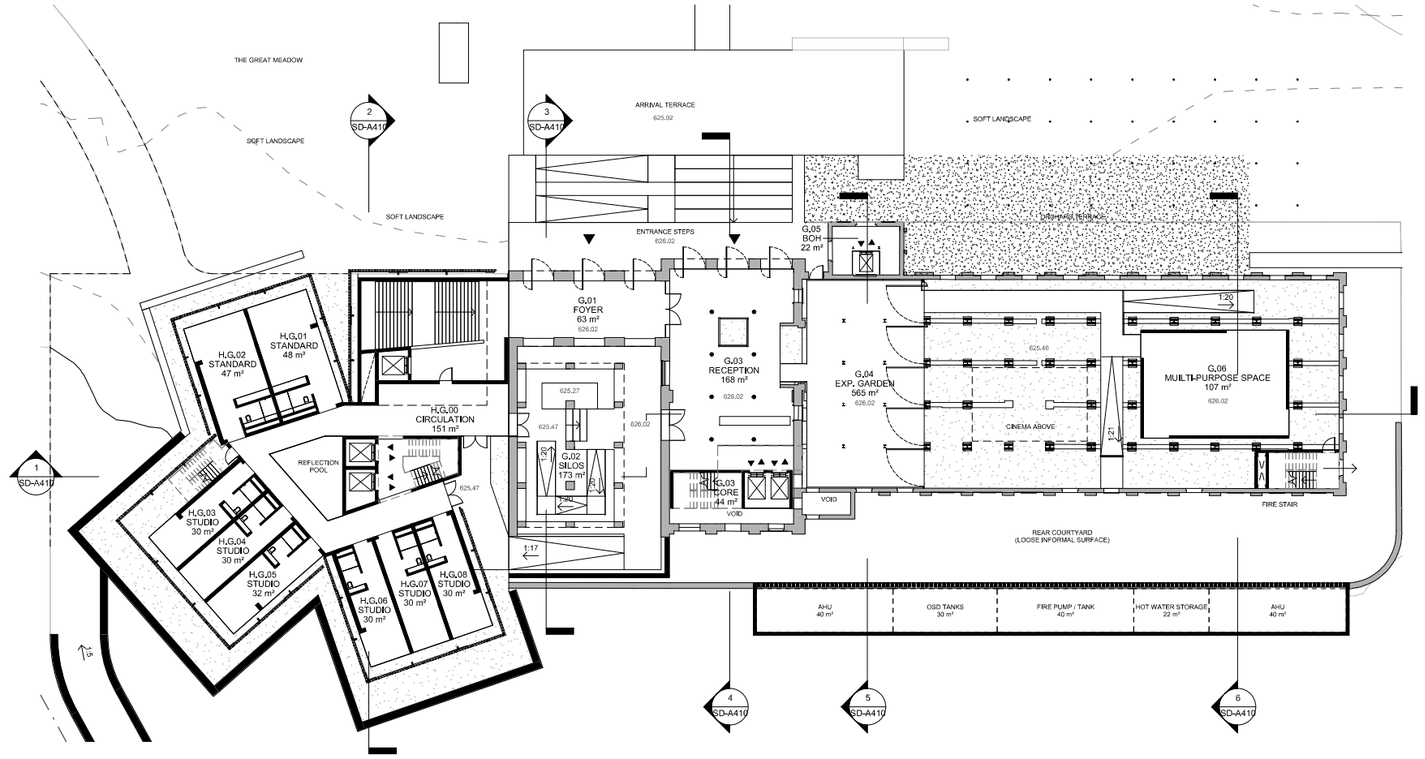
Rev J / 100% SD / 06.04.2020

SD-A200

M3+4 Level B-G



1 SD-A410 **M3+4 BASEMENT**
1 : 250



2 SD-A031 **M3+4 GROUND**
1 : 250

0 2.5 5 12.5 25 m

Snøhetta

178 Sturt St | Adelaide | Australasia | SA 5000

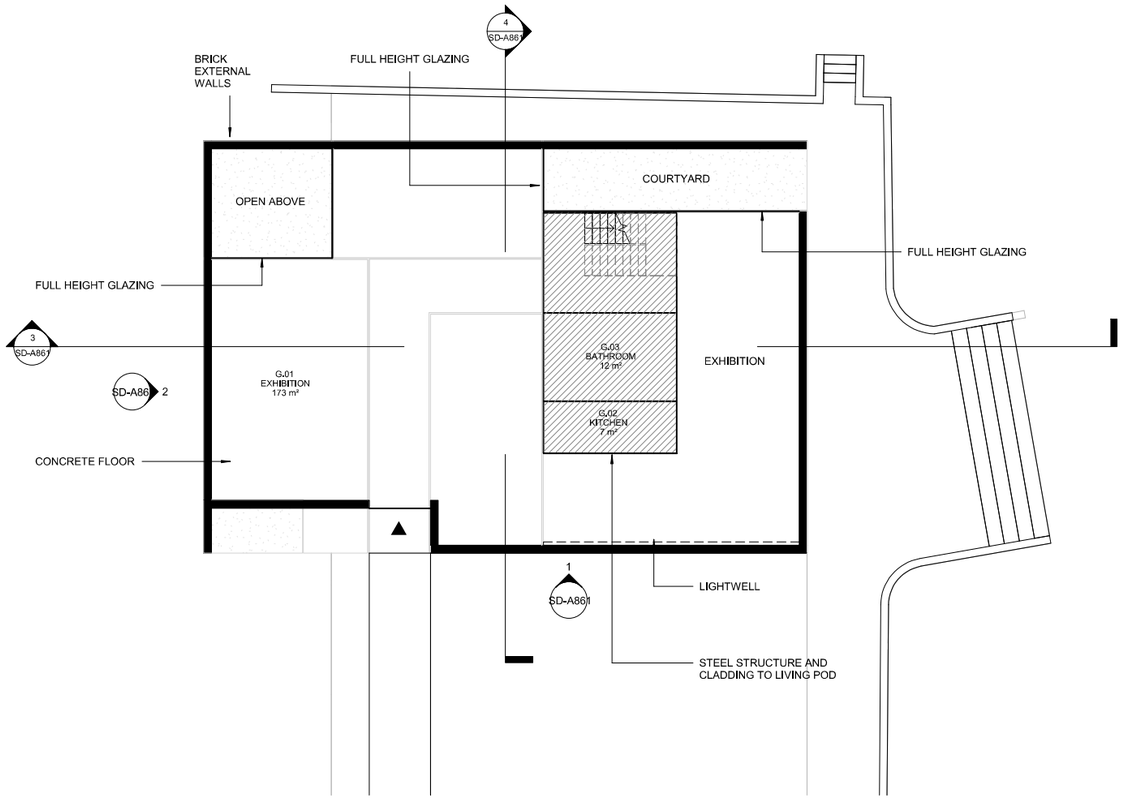
The Maltings
Medich Corporation

Scale @ A1: 1 : 250

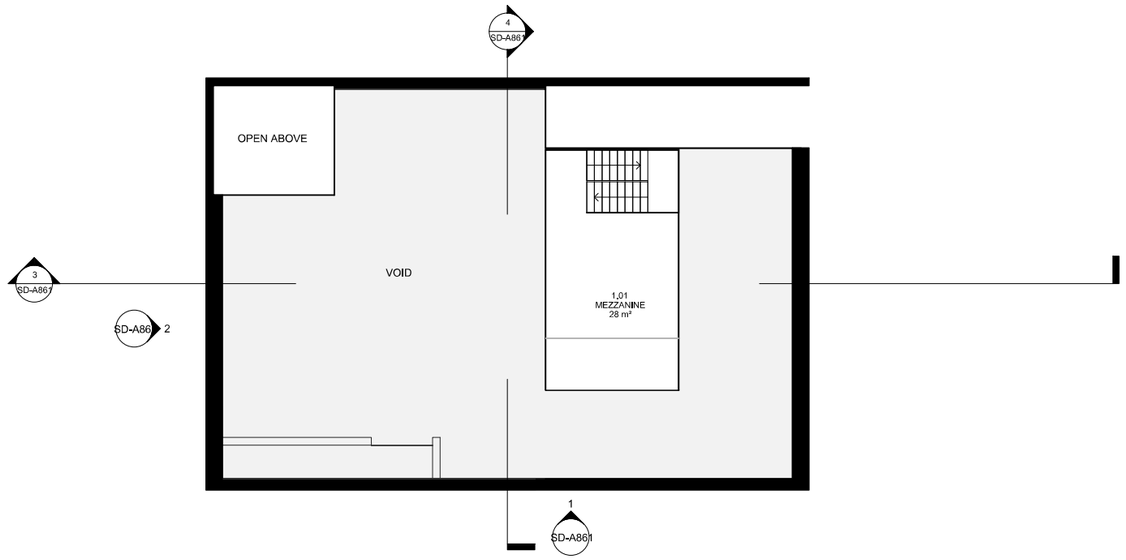
Rev L / 100% SD / 06.04.2020

SD-A210

Maltster's House Plans

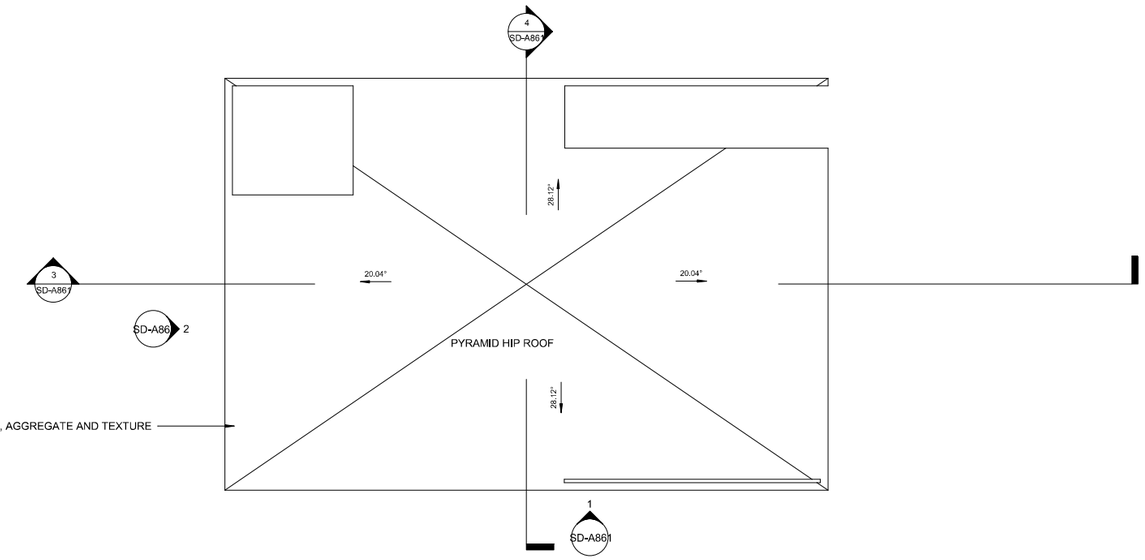


1 **Malster's House Ground Floor Plan**
1 : 100



2 **Malster's House Mezzanine Floor Plan**
1 : 100

Maltster's House Areas				
Number	Name	Area	Level	Building
1.01	MEZZANINE	28 m²	MALTSTER'S MEZ	Maltster's
G.01	EXHIBITION	173 m²	MALTSTER'S GROUND	Maltster's
G.02	KITCHEN	7 m²	MALTSTER'S GROUND	Maltster's
G.03	BATHROOM	12 m²	MALTSTER'S GROUND	Maltster's
Grand total: 4		221 m²		



3 **Malster's House Roof Plan**
1 : 100

0 1 2 5 10 m

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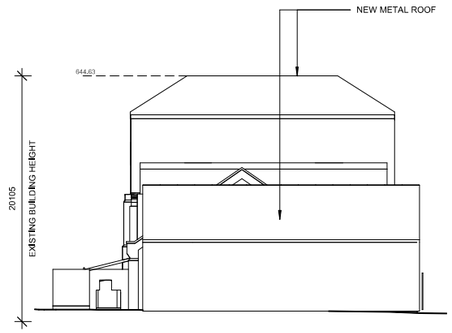
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Scale @ A1: 1 : 100

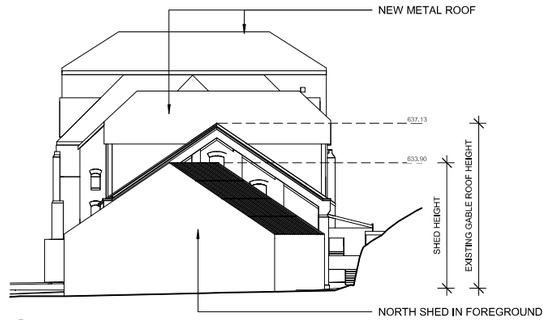
Rev E / 100% SD / 06.04.2020

SD-A860

M1+2 Elevations



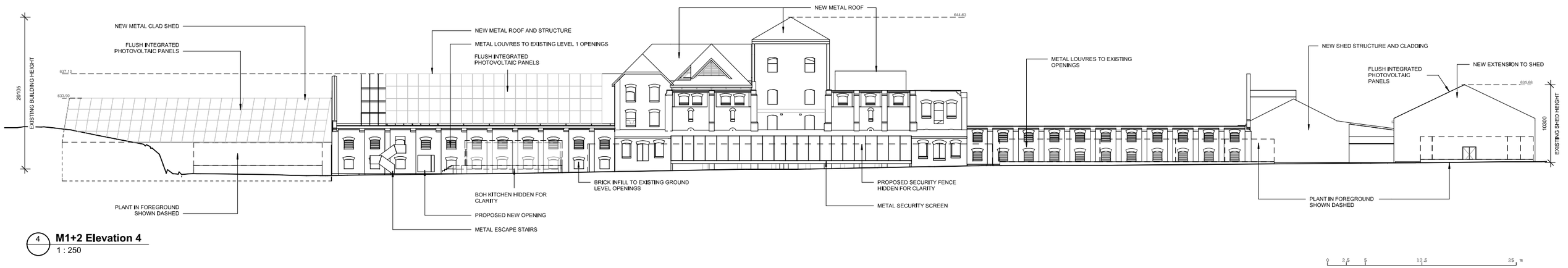
1 **M1+2 Elevation 1**
1 : 250



2 **M1+2 Elevation 2**
1 : 250



3 **M1+2 Elevation 3**
1 : 250



4 **M1+2 Elevation 4**
1 : 250

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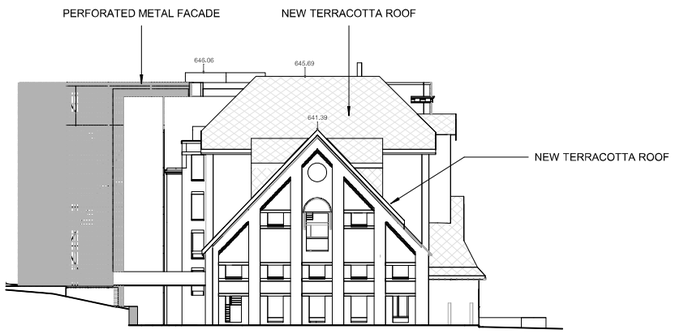
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Scale @ A1: 1 : 250

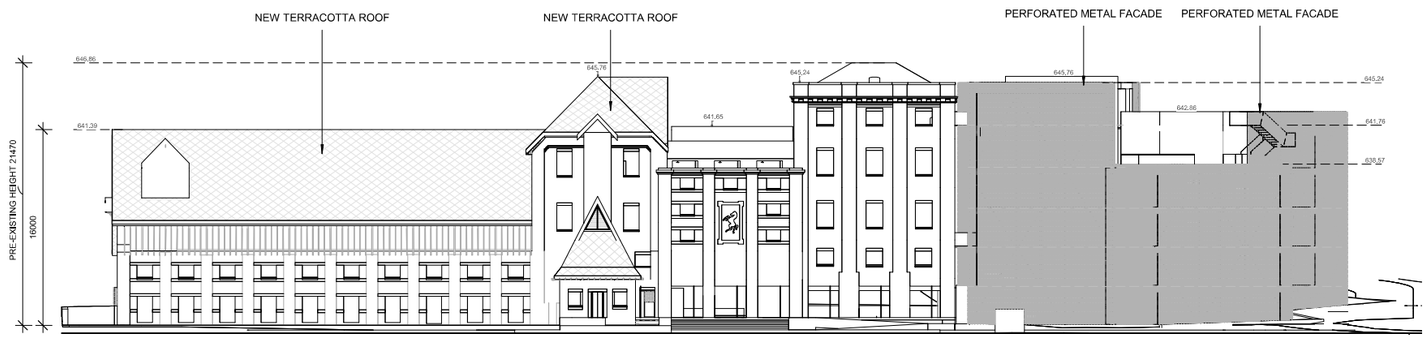
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SD-A300

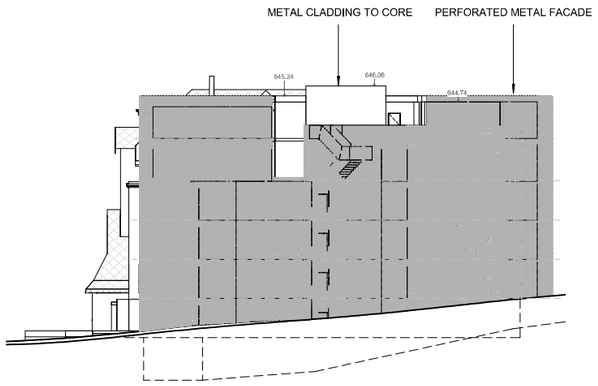
M3+4 Elevations



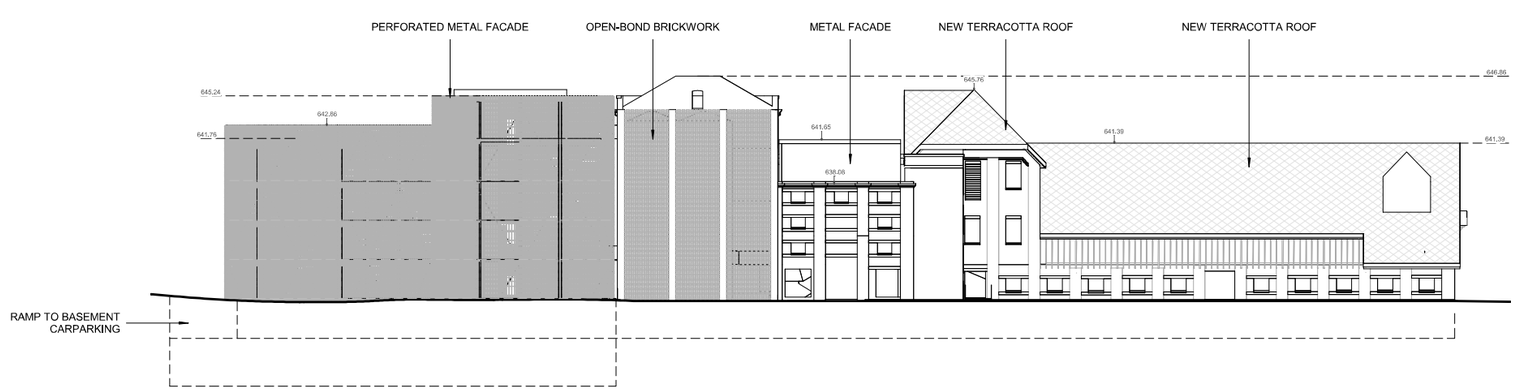
1 **M3+4 Elevation 1**
1 : 250



2 **M3+4 Elevation 2**
1 : 250



3 **M3+4 Elevation 3**
1 : 250



4 **M3+4 Elevation 4**
1 : 250

0 2.5 5 12.5 25 m

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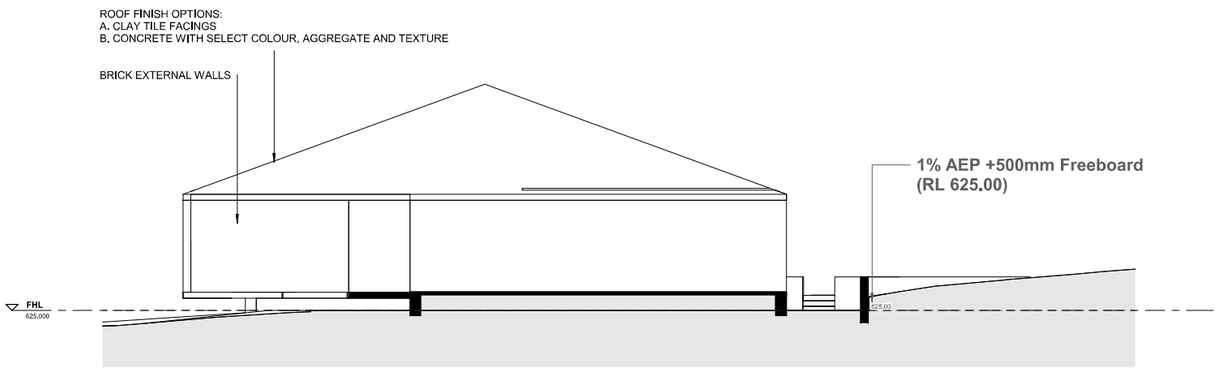
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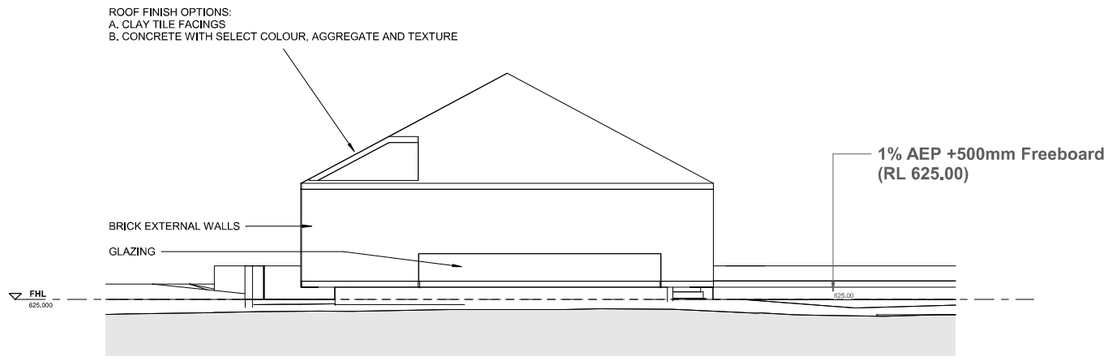
Scale @ A1: 1 : 250

SD-A310

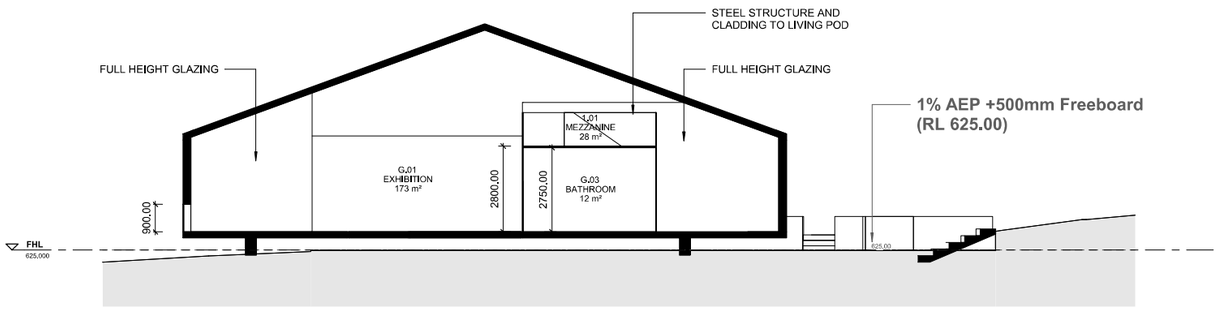
Maltster's House Sections + Elevations



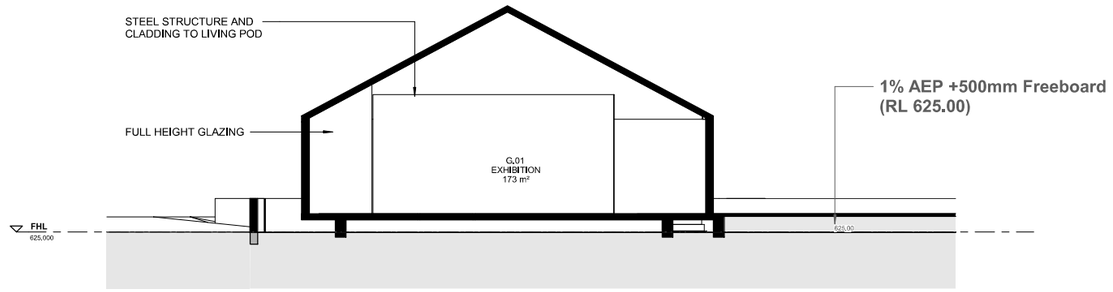
1 **Maltster's House Elevation 1**
1 : 100



2 **Maltster's House Elevation 2**
1 : 100



3 **Maltster's House Section 1**
1 : 100



4 **Maltster's House Section 2**
1 : 100

0 1 2 5 10 m

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Scale @ A1: 1 : 100

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SD-A861

Selected Site Photographs



Photograph 1: Malthouse 1 sheds



Photograph 2: Malthouse 1



Photograph 3: FCF and building rubble within Malthouse 1



Photograph 4: Malthouse 2



Photograph 5: Former rail siding and weighbridge of Malthouse 2



Photograph 6: Equipment stored in Malthouse 1 Shed



Photograph 7: Former engine building



Photograph 8: Demolition waste



Photograph 9: Refurbished bridge



Photograph 10: Pumphouse and UST



Photograph 11: Original bridge in eastern portion of site



Photograph 12: Former rail siding of Malthouse 3



Photograph 13: Malthouse 3



Photograph 14: FCF2 beside Malthouse 2



Photograph 15: Malthouse 3



Photograph 16: Maltster's residence



Photograph 17: Maltster's residence



Photograph 18: Recovered aggregate driveway from Southey Street

Appendix C: Laboratory Results Summary Tables

In-situ Soil Batch 1 Results Summary Tables

ABBREVIATIONS AND EXPLANATIONS

Abbreviations used in the Tables:

ABC:	Ambient Background Concentration
ACM:	Asbestos Containing Material
ADWG:	AustralianDrinking Water Guidelines
AF:	Asbestos Fines
ANZG	Australian and New Zealand Guidelines
B(a)P:	Benzo(a)pyrene
CEC:	Cation Exchange Capacity
CRC:	Cooperative Research Centre
CT:	Contaminant Threshold
EILs:	Ecological Investigation Levels
ESLs:	Ecological Screening Levels
FA:	Fibrous Asbestos
GIL:	Groundwater Investigation Levels
GSW:	General Solid Waste
HILs:	Health Investigation Levels
HSLs:	Health Screening Levels
HSL-SSA:	Health Screening Level-SiteSpecific Assessment
kg/L	kilograms per litre
NA:	Not Analysed
NC:	Not Calculated
NEPM:	National Environmental Protection Measure
NHMRC:	National Health and Medical Research Council
NL:	Not Limiting
NSL:	No Set Limit
OCP:	Organochlorine Pesticides
OPP:	Organophosphorus Pesticides
PAHs:	Polycyclic Aromatic Hydrocarbons
%w/w:	weight per weight
ppm:	Parts per million
PCBs:	Polychlorinated Biphenyls
PCE:	Perchloroethylene (Tetrachloroethylene or Teterachloroethene)
pH_{KCL} :	pH of filtered 1:20, 1M KCL extract, shaken overnight
pH_{ox} :	pH of filtered 1:20 1M KCl after peroxide digestion
PQL:	Practical Quantitation Limit
RS:	Rinsate Sample
RSL:	Regional Screening Levels
RSW:	Restricted Solid Waste
SAC:	Site Assessment Criteria
SCC:	Specific Contaminant Concentration
S_{Cr}:	Chromium reducible sulfur
S_{POS}:	Peroxide oxidisable Sulfur
SSA:	Site Specific Assessment
SSHSLs:	Site Specific Health Screening Levels
TAA:	Total Actual Acidity in 1M KCL extract titrated to pH6.5
TB:	Trip Blank
TCA:	1,1,1 Trichloroethane (methyl chloroform)
TCE:	Trichloroethylene (Trichloroethene)
TCLP:	Toxicity Characteristics Leaching Procedure
TPA:	Total Potential Acidity, 1M KCL peroxide digest
TS:	Trip Spike
TRH:	Total Recoverable Hydrocarbons
TSA:	Total Sulfide Acidity (TPA-TAA)
UCL:	Upper Level Confidence Limit on Mean Value
USEPA	United States Environmental Protection Agency
VOCC:	Volatile Organic Chlorinated Compounds
WHO:	World Health Organisation

Table Specific Explanations:

HIL Tables:

- The chromium results are for Total Chromium which includes Chromium III and VI. For initial screening purposes, we have assumed that the samples contain only Chromium VI unless demonstrated otherwise by additional analysis.
- Carcinogenic PAHs is a toxicity weighted sum of analyte concentrations for a specific list of PAH compounds relative to B(a)P. It is also refered to as the B(a)P Toxic Equivalence Quotient (TEQ).
- Statistical calculations are undertaken using ProUCL (USEPA). Statistical calculation is usually undertaken using data from fill samples.

EIL/ESL Table:

- ABC Values for selected metals have been adopted from the published background concentrations presented in Olszowy et. al., (1995), Trace Element Concentrations in Soils from Rural and Urban New South Wales (the 25th percentile values for old suburbs with low traffic have been quoted).

Waste Classification and TCLP Table:

- Data assessed using the NSW EPA Waste Classification Guidelines, Part 1: Classifying Waste (2014).
- The assessment of Total Moderately Harmful pesticides includes: Dichlorovos, Dimethoate, Fenitrothion, Ethion, Malathion and Parathion.
- Assessment of Total Scheduled pesticides include: HBC, alpha-BHC, gamma-BHC, beta-BHC, Heptachlor, Aldrin, Heptachlor Epoxide, gamma-Chlordane, alpha-chlordane, pp-DDE, Dieldrin, Endrin, pp-DDD, pp-DDT, Endrin Aldehyde.

QA/QC Table:

- Field blank, Inter and Intra laboratory duplicate results are reported in mg/kg.
- Trip spike results are reported as percentage recovery.
- Field rinsate results are reported in µg/L.

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TABLE S1
SOIL LABORATORY RESULTS COMPARED TO NEPM 2013.
HIL-A: 'Residential with garden/accessible soils; children's day care centers; preschools; and primary schools'

All data in mg/kg unless stated otherwise			HEAVY METALS								PAHs		ORGANOCHLORINE PESTICIDES (OCPs)							OP PESTICIDES (OPPs)	TOTAL PCBs	Total Phenols	ASBESTOS FIBRES
			Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Zinc	Total PAHs	Carcinogenic PAHs	HCB	Endosulfan	Methoxychlor	Aldrin & Dieldrin	Chlordane	DDT, DDD & DDE	Heptachlor	Chlorpyrifos			
PQL - Envirolab Services			4	0.4	1	1	1	0.1	1	1	-	0.5	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	5	100
Site Assessment Criteria (SAC)			100	20	100	6000	300	40	400	7400	300	3	10	270	300	6	50	240	6	160	1	3000	Detected/Not Detected
Sample Reference	**Sample Depth**	**Sample Description**																					
TP5	0-0.1	Fill: Silty Clay	**8**	<0.4	**16**	**9**	**39**	<0.1	**3**	**30**	<0.05	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	NA	Not Detected
TP5 - [LAB_DUP]	0-0.1	Laboratory Duplicate	**6**	<0.4	**13**	**11**	**40**	<0.1	**6**	**47**	<0.05	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	NA	NA
TP5 - [LAB_TRIP]	0-0.1	Laboratory Triplicate	**6**	<0.4	**15**	**9**	**35**	<0.1	**4**	**33**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TP5	1.0-1.1	Fill: Silty Clay	<4	<0.4	**11**	**5**	**28**	<0.1	**3**	**29**	<0.05	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Not Detected
TP5	1.2-1.4	Sandy Clay	<4	<0.4	**13**	**3**	**7**	<0.1	**3**	**19**	<0.05	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TP7	0-0.1	Fill: Gravelly Sand	**15**	**0.7**	**18**	**62**	**290**	**0.1**	**13**	**320**	<0.05	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.6**	<5	Not Detected
TP7 - [LAB_DUP]	0-0.1	Laboratory Duplicate	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.7**	<5	NA
TP7	0.6-0.8	Clayey Sand	<4	<0.4	**10**	**2**	**5**	<0.1	**2**	**4**	<0.05	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TP8	0-0.1	Fill: Gravelly Sand	**30**	**3**	**22**	**140**	**630**	**0.1**	**14**	**1200**	**1.6**	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**2.8**	<5	Not Detected
TP9	0-0.1	Fill: Gravelly Sand	**17**	**2**	**15**	**170**	**560**	**0.1**	**14**	**820**	**1.7**	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	<5	Not Detected
TP9	0.4-0.6	Sandy Clay	<4	<0.4	**21**	**5**	**11**	<0.1	**3**	**240**	<0.05	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TP20	0-0.1	Fill: Gravelly Sand	**19**	<0.4	**4**	**43**	**36**	<0.1	**15**	**36**	**0.1**	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5	Not Detected
TP20	0.8-1.0	Silty Clay	<4	<0.4	**21**	**7**	**10**	<0.1	**6**	**9**	<0.05	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TP21	0-0.1	Fill: Silty Sandy Clay	**18**	<0.4	**14**	**31**	**580**	<0.1	**9**	**250**	<0.05	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	NA	Not Detected
TP21 - [LAB_DUP]	0-0.1	Laboratory Duplicate	**19**	<0.4	**13**	**39**	**400**	<0.1	**11**	**280**	<0.05	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	NA	NA
TP21	0.4-0.6	Fill: Silty Sandy Clay	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Not Detected
TP21	0.8-1.0	Sandy Clay	<4	<0.4	**17**	**4**	**8**	<0.1	**3**	**10**	<0.05	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TP25	0-0.1	Fill: Silty Sandy Clay	<4	<0.4	**9**	**15**	**29**	<0.1	**10**	**95**	**0.64**	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	NA	Not Detected
TP25	0.6-0.8	Silty Sandy Clay	<4	<0.4	**18**	**4**	**7**	<0.1	**3**	**7**	<0.05	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TP26	0-0.1	Fill: Silty Sandy Clay	<4	<0.4	**8**	**14**	**30**	<0.1	**13**	**22**	<0.05	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Not Detected
TP26	0.4-0.6	Silty Sandy Clay	<4	<0.4	**24**	**6**	**9**	<0.1	**4**	**7**	<0.05	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TP27	0-0.1	Fill: Silty Sandy Clay	<4	<0.4	**9**	**9**	**16**	<0.1	**4**	**14**	<0.05	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	NA	Not Detected
TP27	0.5-0.7	Silty Sandy Clay	<4	<0.4	**19**	**5**	**8**	<0.1	**3**	**6**	<0.05	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TP29	0-0.1	Fill: Silty Sandy Clay	<4	<0.4	**7**	**10**	**28**	<0.1	**4**	**55**	<0.05	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Not Detected
TP30	0-0.1	Fill: Silty Sandy Clay	<4	<0.4	**8**	**2**	**12**	<0.1	**2**	**5**	<0.05	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	NA	Not Detected
TP30 -[LAB_DUP]	0-0.1	Laboratory Duplicate	<4	<0.4	**8**	**3**	**11**	<0.1	**3**	**8**	<0.05	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	NA	NA
TP30	0.2-0.4	Fill: Silty Sandy Clay	<4	<0.4	**8**	**3**	**11**	<0.1	**2**	**6**	<0.05	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Not Detected
TP30	0.4-0.6	Silty Sandy Clay	<4	<0.4	**16**	**2**	**10**	<0.1	**3**	**5**	<0.05	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TP31	0-0.1	Fill: Silty Clayey Sand	**6**	<0.4	**5**	**30**	**76**	<0.1	**9**	**37**	**0.1**	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Not Detected
TP31	0.3-0.5	Silty Sandy Clay	<4	<0.4	**6**	<1	**5**	<0.1	**2**	**2**	<0.05	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TP42	0-0.1	Fill: Sandy Clay	**10**	<0.4	**23**	**410**	**290**	<0.1	**8**	**370**	**0.06**	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	NA	Not Detected
TP42	0.4-0.6	Fill: Sandy Clay	<4	<0.4	**8**	**24**	**67**	<0.1	**6**	**91**	**1**	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Not Detected
TP42	0.6-0.8	Sandy Clay	<4	<0.4	**16**	**3**	**9**	<0.1	**2**	**6**	<0.05	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TP42 - [LAB_DUP]	0.6-0.8	Laboratory Duplicate	<4	<0.4	**17**	**3**	**9**	<0.1	**2**	**6**	<0.05	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TP43	0-0.1	Fill: Silty Clay	<4	<0.4	**13**	**20**	**100**	**0.4**	**4**	**100**	<0.05	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Not Detected
TP43	0.2-0.6	Fill: Silty Clay	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Not Detected
TP43	0.8-1.0	Clayey Sand	<4	<0.4	**11**	**2**	**6**	<0.1	**2**	**10**	<0.05	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TP44	0-0.1	Fill: Sandy Silty Clay	<4	<0.4	**8**	**7**	**73**	<0.1	**3**	**28**	<0.05	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	NA	Not Detected
SDUP1	0-0.1	Duplicate of TP31	**6**	<0.4	**4**	**34**	**68**	<0.1	**8**	**52**	**0.2**	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SDUP2	0-0.1	Duplicate of TP26	<4	<0.4	**8**	**15**	**41**	<0.1	**16**	**29**	<0.05	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SDUP3	0-0.1	Duplicate of TP43	**4**	<0.4	**10**	**12**	**76**	**0.2**	**4**	**82**	<0.5	<0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.2	Not Detected
SDUP4	0-0.1	Duplicate of TP20	**17**	<0.4	**21**	**50**	**49**	<0.1	**18**	**51**	<0.05	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5	Not Detected
SDUP5	0-0.1	Duplicate of TP7	**14**	**0.6**	**14**	**58**	**300**	<0.1	**14**	**310**	<0.5	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	Not Detected
FCF-TP21	0-0.1	Fragment	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Detected
FCF2-TP21(spoil)	0-0.1	Fragment	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Not Detected
FCF3-TP21	0.1-0.6	Fragment	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Detected
Total Number of Samples			40	40	40	40	40	40	40	40	39	39	15	15	15	15	15	15	15	15	16	8	26
Maximum Value			30	3	24	410	630	0.4	18	1200	1.7	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	2.8	<PQL	Detected

Concentration above the SAC **VALUE**
Concentration above the PQL **Bold**

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TABLE S2
SOIL LABORATORY RESULTS COMPARED TO HSLs
All data in mg/kg unless stated otherwise

					C_6-C_{10} (F1)	>C_{10}-C_{16} (F2)	Benzene	Toluene	Ethylbenzene	Xylenes	Naphthalene	Field PID Measurement
PQL - Envirolab Services					25	50	0.2	0.5	1	1	1	ppm
NEPM 2013 HSL Land Use Category					HSL-A/B: LOW/HIGH DENSITY RESIDENTIAL							
Sample Reference	**Sample Depth**	**Sample Description**	**Depth Category**	**Soil Category**								
TP5	0-0.1	Fill: Silty Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0
TP5 - [LAB_DUP]	0-0.1	Laboratory Duplicate	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	NA
TP5	1.0-1.1	Fill: Silty Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0
TP5	1.2-1.4	Sandy Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0
TP7	0-0.1	Fill: Gravelly Sand	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0
TP7	0.6-0.8	Clayey Sand	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0
TP8	0-0.1	Fill: Gravelly Sand	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0
TP9	0-0.1	Fill: Gravelly Sand	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0
TP9	0.4-0.6	Sandy Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0
TP20	0-0.1	Fill: Gravelly Sand	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0
TP20	0.8-1.0	Silty Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0
TP21	0-0.1	Fill: Silty Sandy Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0
TP21 - [LAB_DUP]	0-0.1	Laboratory Duplicate	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	NA
TP21	0.8-1.0	Sandy Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0
TP25	0-0.1	Fill: Silty Sandy Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0
TP25	0.6-0.8	Silty Sandy Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0
TP26	0-0.1	Fill: Silty Sandy Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0
TP26	0.4-0.6	Silty Sandy Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0
TP27	0-0.1	Fill: Silty Sandy Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0
TP27	0.5-0.7	Silty Sandy Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0
TP29	0-0.1	Fill: Silty Sandy Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0
TP30	0-0.1	Fill: Silty Sandy Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0
TP30 -[LAB_DUP]	0-0.1	Laboratory Duplicate	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	NA
TP30	0.2-0.4	Fill: Silty Sandy Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0
TP30	0.4-0.6	Silty Sandy Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0
TP31	0-0.1	Fill: Silty Clayey Sand	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0
TP31	0.3-0.5	Silty Sandy Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0
TP42	0-0.1	Fill: Sandy Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0
TP42	0.4-0.6	Fill: Sandy Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0
TP42	0.6-0.8	Sandy Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0
TP42 - [LAB_DUP]	0.6-0.8	Laboratory Duplicate	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	NA
TP43	0-0.1	Fill: Silty Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0
TP43	0.8-1.0	Clayey Sand	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0
TP44	0-0.1	Fill: Sandy Silty Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0
SDUP1	0-0.1	Duplicate of TP31	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	NA
SDUP2	0-0.1	Duplicate of TP26	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	NA
SDUP3	0-0.1	Duplicate of TP43	0m to <1m	Sand	<25	<50	<0.5	<0.2	<0.5	<1	<1	NA
SDUP4	0-0.1	Duplicate of TP20	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	NA
SDUP5	0-0.1	Duplicate of TP7	0m to <1m	Sand	<25	<50	<0.5	<0.2	<0.5	<1	<1	NA
Total Number of Samples					39	39	39	39	39	39	39	30
Maximum Value					<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL

Concentration above the SAC **VALUE**
Concentration above the PQL **Bold**
The guideline corresponding to the concentration above the SAC is highlighted in grey in the Site Assessment Criteria Table below

HSL SOIL ASSESSMENT CRITERIA

Sample Reference	Sample	Sample Description	Depth	Soil Category	C_6-C_{10} (F1)	>C_{10}-C_{16} (F2)	Benzene	Toluene	Ethylbenzene	Xylenes	Naphthalene
TP5	0-0.1	Fill: Silty Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP5 - [LAB_DUP]	0-0.1	Laboratory Duplicate	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP5	1.0-1.1	Fill: Silty Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP5	1.2-1.4	Sandy Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP7	0-0.1	Fill: Gravelly Sand	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP7	0.6-0.8	Clayey Sand	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP8	0-0.1	Fill: Gravelly Sand	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP9	0-0.1	Fill: Gravelly Sand	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP9	0.4-0.6	Sandy Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP20	0-0.1	Fill: Gravelly Sand	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP20	0.8-1.0	Silty Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP21	0-0.1	Fill: Silty Sandy Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP21 - [LAB_DUP]	0-0.1	Laboratory Duplicate	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP21	0.8-1.0	Sandy Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP25	0-0.1	Fill: Silty Sandy Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP25	0.6-0.8	Silty Sandy Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP26	0-0.1	Fill: Silty Sandy Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP26	0.4-0.6	Silty Sandy Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP27	0-0.1	Fill: Silty Sandy Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP27	0.5-0.7	Silty Sandy Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP29	0-0.1	Fill: Silty Sandy Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP30	0-0.1	Fill: Silty Sandy Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP30 -[LAB_DUP]	0-0.1	Laboratory Duplicate	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP30	0.2-0.4	Fill: Silty Sandy Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP30	0.4-0.6	Silty Sandy Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP31	0-0.1	Fill: Silty Clayey Sand	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP31	0.3-0.5	Silty Sandy Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP42	0-0.1	Fill: Sandy Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP42	0.4-0.6	Fill: Sandy Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP42	0.6-0.8	Sandy Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP42 - [LAB_DUP]	0.6-0.8	Laboratory Duplicate	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP43	0-0.1	Fill: Silty Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP43	0.8-1.0	Clayey Sand	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP44	0-0.1	Fill: Sandy Silty Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
SDUP1	0-0.1	Duplicate of TP31	0m to <1m	Sand	45	110	0.5	160	55	40	3
SDUP2	0-0.1	Duplicate of TP26	0m to <1m	Sand	45	110	0.5	160	55	40	3
SDUP3	0-0.1	Duplicate of TP43	0m to <1m	Sand	45	110	0.5	160	55	40	3
SDUP4	0-0.1	Duplicate of TP20	0m to <1m	Sand	45	110	0.5	160	55	40	3
SDUP5	0-0.1	Duplicate of TP7	0m to <1m	Sand	45	110	0.5	160	55	40	3

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TABLE S3
SOIL LABORATORY RESULTS COMPARED TO MANAGEMENT LIMITS
All data in mg/kg unless stated otherwise

			C_6-C_{10} (F1) plus BTEX	$>C_{10}$-C_{16} (F2) plus napthalene	$>C_{16}$-C_{34} (F3)	$>C_{34}$-C_{40} (F4)
PQL - Envirolab Services			25	50	100	100
NEPM 2013 Land Use Category			**RESIDENTIAL, PARKLAND & PUBLIC OPEN SPACE**			
Sample Reference	**Sample Depth**	**Soil Texture**				
TP5	0-0.1	Coarse	<25	<50	<100	<100
TP5 - [LAB_DUP]	0-0.1	Coarse	<25	<50	<100	<100
TP5	1.0-1.1	Coarse	<25	<50	<100	<100
TP5	1.2-1.4	Coarse	<25	<50	<100	<100
TP7	0-0.1	Coarse	<25	<50	<100	<100
TP7	0.6-0.8	Coarse	<25	<50	<100	<100
TP8	0-0.1	Coarse	<25	<50	**150**	<100
TP9	0-0.1	Coarse	<25	<50	**100**	<100
TP9	0.4-0.6	Coarse	<25	<50	<100	<100
TP20	0-0.1	Coarse	<25	<50	<100	<100
TP20	0.8-1.0	Coarse	<25	<50	<100	<100
TP21	0-0.1	Coarse	<25	<50	<100	<100
TP21 - [LAB_DUP]	0-0.1	Coarse	<25	<50	<100	<100
TP21	0.8-1.0	Coarse	<25	<50	<100	<100
TP25	0-0.1	Coarse	<25	<50	<100	<100
TP25	0.6-0.8	Coarse	<25	<50	<100	<100
TP26	0-0.1	Coarse	<25	<50	**190**	<100
TP26	0.4-0.6	Coarse	<25	<50	<100	<100
TP27	0-0.1	Coarse	<25	<50	<100	<100
TP27	0.5-0.7	Coarse	<25	<50	<100	<100
TP29	0-0.1	Coarse	<25	<50	<100	<100
TP30	0-0.1	Coarse	<25	<50	<100	<100
TP30 -[LAB_DUP]	0-0.1	Coarse	<25	<50	<100	<100
TP30	0.2-0.4	Coarse	<25	<50	<100	<100
TP30	0.4-0.6	Coarse	<25	<50	<100	<100
TP31	0-0.1	Coarse	<25	<50	<100	<100
TP31	0.3-0.5	Coarse	<25	<50	<100	<100
TP42	0-0.1	Coarse	<25	<50	<100	<100
TP42	0.4-0.6	Coarse	<25	<50	<100	<100
TP42	0.6-0.8	Coarse	<25	<50	<100	<100
TP42 - [LAB_DUP]	0.6-0.8	Coarse	<25	<50	<100	<100
TP43	0-0.1	Coarse	<25	<50	<100	<100
TP43	0.8-1.0	Coarse	<25	<50	<100	<100
TP44	0-0.1	Coarse	<25	<50	<100	<100
SDUP1	0-0.1	Coarse	<25	<50	<100	<100
SDUP2	0-0.1	Coarse	<25	<50	<100	<100
SDUP3	0-0.1	Coarse	<25	<50	<100	<100
SDUP4	0-0.1	Coarse	<25	<50	<100	<100
SDUP5	0-0.1	Coarse	<25	<50	<100	<100
Total Number of Samples			39	39	39	39
Maximum Value			<PQL	<PQL	190	<PQL

Concentration above the SAC **VALUE**
Concentration above the PQL **Bold**

MANAGEMENT LIMIT ASSESSMENT CRITERIA

Sample Reference	Sample Depth	Soil Texture	C_6-C_{10} (F1) plus BTEX	$>C_{10}$-C_{16} (F2) plus napthalene	$>C_{16}$-C_{34} (F3)	$>C_{34}$-C_{40} (F4)
TP5	0-0.1	Coarse	700	1000	2500	10000
TP5 - [LAB_DUP]	0-0.1	Coarse	700	1000	2500	10000
TP5	1.0-1.1	Coarse	700	1000	2500	10000
TP5	1.2-1.4	Coarse	700	1000	2500	10000
TP7	0-0.1	Coarse	700	1000	2500	10000
TP7	0.6-0.8	Coarse	700	1000	2500	10000
TP8	0-0.1	Coarse	700	1000	2500	10000
TP9	0-0.1	Coarse	700	1000	2500	10000
TP9	0.4-0.6	Coarse	700	1000	2500	10000
TP20	0-0.1	Coarse	700	1000	2500	10000
TP20	0.8-1.0	Coarse	700	1000	2500	10000
TP21	0-0.1	Coarse	700	1000	2500	10000
TP21 - [LAB_DUP]	0-0.1	Coarse	700	1000	2500	10000
TP21	0.8-1.0	Coarse	700	1000	2500	10000
TP25	0-0.1	Coarse	700	1000	2500	10000
TP25	0.6-0.8	Coarse	700	1000	2500	10000
TP26	0-0.1	Coarse	700	1000	2500	10000
TP26	0.4-0.6	Coarse	700	1000	2500	10000
TP27	0-0.1	Coarse	700	1000	2500	10000
TP27	0.5-0.7	Coarse	700	1000	2500	10000
TP29	0-0.1	Coarse	700	1000	2500	10000
TP30	0-0.1	Coarse	700	1000	2500	10000
TP30 -[LAB_DUP]	0-0.1	Coarse	700	1000	2500	10000
TP30	0.2-0.4	Coarse	700	1000	2500	10000
TP30	0.4-0.6	Coarse	700	1000	2500	10000
TP31	0-0.1	Coarse	700	1000	2500	10000
TP31	0.3-0.5	Coarse	700	1000	2500	10000
TP42	0-0.1	Coarse	700	1000	2500	10000
TP42	0.4-0.6	Coarse	700	1000	2500	10000
TP42	0.6-0.8	Coarse	700	1000	2500	10000
TP42 - [LAB_DUP]	0.6-0.8	Coarse	700	1000	2500	10000
TP43	0-0.1	Coarse	700	1000	2500	10000
TP43	0.8-1.0	Coarse	700	1000	2500	10000
TP44	0-0.1	Coarse	700	1000	2500	10000
SDUP1	0-0.1	Coarse	700	1000	2500	10000
SDUP2	0-0.1	Coarse	700	1000	2500	10000
SDUP3	0-0.1	Coarse	700	1000	2500	10000
SDUP4	0-0.1	Coarse	700	1000	2500	10000
SDUP5	0-0.1	Coarse	700	1000	2500	10000

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TABLE S4
SOIL LABORATORY RESULTS COMPARED T0 DIRECT CONTACT CRITERIA
All data in mg/kg unless stated otherwise

Analyte		C_6-C_{10}	>C_{10}-C_{16}	>C_{16}-C_{34}	>C_{34}-C_{40}	Benzene	Toluene	Ethylbenzene	Xylenes	Naphthalene	PID
PQL - Envirolab Services		25	50	100	100	0.2	0.5	1	1	1	
CRC 2011 -Direct contact Criteria		4,400	3,300	4,500	6,300	100	14,000	4,500	12,000	1,400	
Site Use		**RESIDENTIAL WITH ACCESSIBLE SOIL- DIRECT SOIL CONTACT**									
Sample Reference	**Sample Depth**										
TP5	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	0
TP5 - [LAB_DUP]	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	NA
TP5	1.0-1.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	0
TP5	1.2-1.4	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	0
TP7	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	0
TP7	0.6-0.8	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	0
TP8	0-0.1	<25	<50	**150**	<100	<0.2	<0.5	<1	<1	<1	0
TP9	0-0.1	<25	<50	**100**	<100	<0.2	<0.5	<1	<1	<1	0
TP9	0.4-0.6	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	0
TP20	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	0
TP20	0.8-1.0	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	0
TP21	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	0
TP21 - [LAB_DUP]	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	NA
TP21	0.8-1.0	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	0
TP25	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	0
TP25	0.6-0.8	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	0
TP26	0-0.1	<25	<50	**190**	<100	<0.2	<0.5	<1	<1	<1	0
TP26	0.4-0.6	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	0
TP27	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	0
TP27	0.5-0.7	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	0
TP29	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	0
TP30	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	0
TP30 -[LAB_DUP]	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	NA
TP30	0.2-0.4	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	0
TP30	0.4-0.6	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	0
TP31	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	0
TP31	0.3-0.5	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	0
TP42	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	0
TP42	0.4-0.6	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	0
TP42	0.6-0.8	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	0
TP42 - [LAB_DUP]	0.6-0.8	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	NA
TP43	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	0
TP43	0.8-1.0	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	0
TP44	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	0
SDUP1	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	NA
SDUP2	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	NA
SDUP3	0-0.1	<25	<50	<100	<100	<0.5	<0.2	<0.5	<1	<1	NA
SDUP4	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	NA
SDUP5	0-0.1	<25	<50	<100	<100	<0.5	<0.2	<0.5	<1	<1	NA
Total Number of Samples		39	39	39	39	39	39	39	39	39	30
Maximum Value		<PQL	<PQL	190	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL

Concentration above the SAC **VALUE**
Concentration above the PQL **Bold**

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TABLE S5
ASBESTOS QUANTIFICATION - FIELD OBSERVATIONS AND LABORATORY RESULTS
HSL-A: Residential with garden/accessible soils; children's day care centers; preschools; and primary schools

FIELD DATA															LABORATORY DATA											
Date Sampled	Sample reference	Sample Depth	Visible ACM in top 100mm	Approx. Volume of Soil (L)	Soil Mass (g)	Mass ACM (g)	Mass Asbestos in ACM (g)	[Asbestos from ACM in soil] (%w/w)	Mass ACM <7mm (g)	Mass Asbestos in ACM <7mm (g)	[Asbestos from ACM <7mm in soil] (%w/w)	Mass FA (g)	Mass Asbestos in FA (g)	[Asbestos from FA in soil] (%w/w)	Lab Report Number	Sample refeference	Sample Depth	Sample Mass (g)	Asbestos ID in soil (AS4964) >0.1g/kg	Trace Analysis	Total Asbestos (g/kg)	Asbestos ID in soil <0.1g/kg	ACM >7mm Estimation (g)	FA and AF Estimation (g)	ACM >7mm Estimation %(w/w)	FA and AF Estimation %(w/w)
SAC			**No**					**0.01**			**0.001**			**0.001**											**0.01**	**0.001**
18/02/2022	TP5	0-0.1	No	10	14,560	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	289269	TP5	0-0.1	891.16	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
18/02/2022	TP5	0.1-1.1	NA	10	11,010	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	289269	TP5	1.0-1.1	886.22	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
18/02/2022	TP7	0-0.1	No	10	12,530	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	289269	TP7	0-0.1	710.23	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	277347	SDUP5	0-0.1	600	No asbestos detected at reporting limit of 0.1g/kg	No asbestos detected	<0.1	No visible asbestos detected	--	--	<0.01	<0.001
18/02/2022	TP7	0.1-0.3	NA	10	11,830	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	--	--	--	--	--	--	--	--	--	--	--	--
18/02/2022	TP8	0-0.1	No	10	13,160	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	289269	TP8	0-0.1	662.64	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
18/02/2022	TP8	0.1-0.4	NA	10	13,500	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	--	--	--	--	--	--	--	--	--	--	--	--
18/02/2022	TP9	0-0.1	No	10	12,630	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	289269	TP9	0-0.1	647.12	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
18/02/2022	TP9	0.1-0.3	NA	10	11,710	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	--	--	--	--	--	--	--	--	--	--	--	--
18/02/2022	TP20	0-0.1	No	10	11,390	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	289269	TP20	0-0.1	630.37	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	289269	SDUP4	0-0.1	648.97	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
18/02/2022	TP20	0.1-0.5	NA	10	10,540	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	--	--	--	--	--	--	--	--	--	--	--	--
18/02/2022	TP21	0-0.1	Yes	10	17,530	5.95	0.8925	0.0051	No ACM <7mm observed	--	--	No FA observed	--	--	289269	TP21	0-0.1	712.9	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
18/02/2022	TP21	0.1-0.6	NA	10	10,310	1.61	0.2415	0.0023	No ACM <7mm observed	--	--	No FA observed	--	--	289269	TP21	0.4-0.6	737.51	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
18/02/2022	TP25	0-0.6	No	10	13,180	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	289269	TP25	0-0.1	651.45	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
18/02/2022	TP26	0-0.35	No	10	10,730	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	289269	TP26	0-0.1	702.28	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
17/02/2022	TP27	0-0.5	No	10	17,150	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	289269	TP27	0-0.1	740.57	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
17/02/2022	TP29	0-0.4	No	10	12,690	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	289269	TP29	0-0.1	643.83	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
17/02/2022	TP30	0-0.15	No	10	18,130	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	289269	TP30	0-0.1	793.52	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	289269	TP30	0.2-0.4	847.28	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
17/02/2022	TP31	0-0.3	No	10	11,330	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	289269	TP31	0-0.1	779.9	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
18/02/2022	TP42	0-0.1	No	10	12,580	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	289269	TP42	0-0.1	770.05	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
18/02/2022	TP42	0.1-0.6	NA	10	10,430	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	289269	TP42	0.4-0.6	747.39	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
18/02/2022	TP43	0-0.1	No	10	13,560	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	289269	TP43	0-0.1	859.47	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	277347	SDUP3	0-0.1	600	No asbestos detected at reporting limit of 0.1g/kg	No asbestos detected	<0.1	No visible asbestos detected	--	--	<0.01	<0.001
18/02/2022	TP43	0.1-0.6	NA	10	11,820	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	289269	TP43	0.2-0.6	805.53	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
17/02/2022	TP44	0-0.3	No	10	10,790	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	289269	TP44	0-0.1	636.72	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001

Concentration above the SAC **VALUE**

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TABLE S6
SOIL LABORATORY RESULTS COMPARED TO NEPM 2013 EILs AND ESLs
All data in mg/kg unless stated otherwise

Land Use Category				URBAN RESIDENTIAL AND PUBLIC OPEN SPACE																				
								AGED HEAVY METALS-EILs						EILs		ESLs								
				pH	CEC (cmolc/kg)	Total Organic Carbon (%)	Clay Content (% clay)	Arsenic	Chromium	Copper	Lead	Nickel	Zinc	Naphthalene	DDT	C_6-C_{10} (F1)	>C_{10}-C_{16} (F2)	>C_{16}-C_{34} (F3)	>C_{34}-C_{40} (F4)	Benzene	Toluene	Ethylbenzene	Total Xylenes	B(a)P
PQL - Envirolab Services				-	1	-	-	4	1	1	1	1	1	1	0.1	25	50	100	100	0.2	0.5	1	1	0.05
Ambient Background Concentration (ABC)				-	-	-	-	NSL	8	18	104	5	77	NSL	NSL	NSL	NSL	NSL	NSL	NSL	NSL	NSL	NSL	NSL
Sample Reference	**Sample Depth**	**Sample Description**	**Soil Texture**																					
TP5	0-0.1	Fill: Silty Clay	Coarse	NA	NA	NA	NA	**8**	**16**	**9**	**39**	**3**	**30**	<1	<0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
TP5 - [LAB_DUP]	0-0.1	Laboratory Duplicate	Coarse	NA	NA	NA	NA	**6**	**13**	**11**	**40**	**6**	**47**	<1	<0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
TP5 - [LAB_TRIP]	0-0.1	Laboratory Triplicate	Coarse	NA	NA	NA	NA	**6**	**15**	**9**	**35**	**4**	**33**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TP5	1.0-1.1	Fill: Silty Clay	Coarse	NA	NA	NA	NA	<4	**11**	**5**	**28**	**3**	**29**	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
TP5	1.2-1.4	Sandy Clay	Coarse	NA	NA	NA	NA	<4	**13**	**3**	**7**	**3**	**19**	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
TP7	0-0.1	Fill: Gravelly Sand	Coarse	**6.2**	**9.9**	NA	**3**	**15**	**18**	**62**	**290**	**13**	**320**	<1	<0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
TP7	0.6-0.8	Clayey Sand	Coarse	NA	NA	NA	NA	<4	**10**	**2**	**5**	**2**	**4**	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
TP8	0-0.1	Fill: Gravelly Sand	Coarse	**6.2**	**9.9**	**6.3**	**3**	**30**	**22**	**140**	**630**	**14**	**1200**	<1	<0.1	<25	<50	**150**	<100	<0.2	<0.5	<1	<1	**0.1**
TP9	0-0.1	Fill: Gravelly Sand	Coarse	**6.2**	**9.9**	**6.3**	**3**	**17**	**15**	**170**	**560**	**14**	**820**	<1	NA	<25	<50	**100**	<100	<0.2	<0.5	<1	<1	**0.2**
TP9	0.4-0.6	Sandy Clay	Coarse	**7.2**	**14**	**1.7**	NA	<4	**21**	**5**	**11**	**3**	**240**	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
TP20	0-0.1	Fill: Gravelly Sand	Coarse	NA	NA	NA	NA	**19**	**4**	**43**	**36**	**15**	**36**	<1	<0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
TP20	0.8-1.0	Silty Clay	Coarse	NA	NA	NA	NA	<4	**21**	**7**	**10**	**6**	**9**	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
TP21	0-0.1	Fill: Silty Sandy Clay	Coarse	**6.3**	**10**	**2.6**	NA	**18**	**14**	**31**	**580**	**9**	**250**	<1	<0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
TP21 - [LAB_DUP]	0-0.1	Laboratory Duplicate	Coarse	**6.3**	**10**	**2.6**	NA	**19**	**13**	**39**	**400**	**11**	**280**	<1	<0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
TP21	0.8-1.0	Sandy Clay	Coarse	NA	NA	NA	NA	<4	**17**	**4**	**8**	**3**	**10**	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
TP25	0-0.1	Fill: Silty Sandy Clay	Coarse	NA	NA	NA	NA	<4	**9**	**15**	**29**	**10**	**95**	<1	<0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	**0.1**
TP25	0.6-0.8	Silty Sandy Clay	Coarse	NA	NA	NA	NA	<4	**18**	**4**	**7**	**3**	**7**	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
TP26	0-0.1	Fill: Silty Sandy Clay	Coarse	NA	NA	NA	NA	<4	**8**	**14**	**30**	**13**	**22**	<1	NA	<25	<50	**190**	<100	<0.2	<0.5	<1	<1	<0.05
TP26	0.4-0.6	Silty Sandy Clay	Coarse	NA	NA	NA	NA	<4	**24**	**6**	**9**	**4**	**7**	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
TP27	0-0.1	Fill: Silty Sandy Clay	Coarse	NA	NA	NA	NA	<4	**9**	**9**	**16**	**4**	**14**	<1	<0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
TP27	0.5-0.7	Silty Sandy Clay	Coarse	NA	NA	NA	NA	<4	**19**	**5**	**8**	**3**	**6**	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
TP29	0-0.1	Fill: Silty Sandy Clay	Coarse	NA	NA	NA	NA	<4	**7**	**10**	**28**	**4**	**55**	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
TP30	0-0.1	Fill: Silty Sandy Clay	Coarse	NA	NA	NA	NA	<4	**8**	**2**	**12**	**2**	**5**	<1	<0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
TP30 - [LAB_DUP]	0-0.1	Laboratory Duplicate	Coarse	NA	NA	NA	NA	<4	**8**	**3**	**11**	**3**	**8**	<1	<0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
TP30	0.2-0.4	Fill: Silty Sandy Clay	Coarse	NA	NA	NA	NA	<4	**8**	**3**	**11**	**2**	**6**	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
TP30	0.4-0.6	Silty Sandy Clay	Coarse	NA	NA	NA	NA	<4	**16**	**2**	**10**	**3**	**5**	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
TP31	0-0.1	Fill: Silty Clayey Sand	Coarse	NA	NA	NA	NA	**6**	**5**	**30**	**76**	**9**	**37**	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
TP31	0.3-0.5	Silty Sandy Clay	Coarse	NA	NA	NA	NA	<4	**6**	<1	**5**	**2**	**2**	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
TP42	0-0.1	Fill: Sandy Clay	Coarse	**7.2**	**14**	**1.7**	NA	**10**	**23**	**410**	**290**	**8**	**370**	<1	<0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	**0.06**
TP42	0.4-0.6	Fill: Sandy Clay	Coarse	NA	NA	NA	NA	<4	**8**	**24**	**67**	**6**	**91**	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	**0.1**
TP42	0.6-0.8	Sandy Clay	Coarse	NA	NA	NA	NA	<4	**16**	**3**	**9**	**2**	**6**	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
TP42 - [LAB_DUP]	0.6-0.8	Laboratory Duplicate	Coarse	NA	NA	NA	NA	<4	**17**	**3**	**9**	**2**	**6**	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
TP43	0-0.1	Fill: Silty Clay	Coarse	NA	NA	NA	NA	<4	**13**	**20**	**100**	**4**	**100**	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
TP43	0.8-1.0	Clayey Sand	Coarse	NA	NA	NA	NA	<4	**11**	**2**	**6**	**2**	**10**	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
TP44	0-0.1	Fill: Sandy Silty Clay	Coarse	NA	NA	NA	NA	<4	**8**	**7**	**73**	**3**	**28**	<1	<0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
SDUP1	0-0.1	Duplicate of TP31	Coarse	NA	NA	NA	NA	**6**	**4**	**34**	**68**	**8**	**52**	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
SDUP2	0-0.1	Duplicate of TP26	Coarse	NA	NA	NA	NA	<4	**8**	**15**	**41**	**16**	**29**	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
SDUP3	0-0.1	Duplicate of TP43	Coarse	NA	NA	NA	NA	**4**	**10**	**12**	**76**	**4**	**82**	<1	NA	<25	<50	<100	<100	<0.5	<0.2	<0.5	<1	<0.05
SDUP4	0-0.1	Duplicate of TP20	Coarse	NA	NA	NA	NA	**17**	**21**	**50**	**49**	**18**	**51**	<1	<0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
SDUP5	0-0.1	Duplicate of TP7	Coarse	**6.2**	**9.9**	**6.3**	**3**	**14**	**14**	**58**	**300**	**14**	**310**	<1	<0.1	<25	<50	<100	<100	<0.5	<0.2	<0.5	<1	<0.05
Total Number of Samples				8	8	8	4	40	40	40	40	40	40	39	15	39	39	39	39	39	39	39	39	39
Maximum Value				7.2	14	6.3	3	30	24	410	630	18	1200	<PQL	<PQL	<PQL	<PQL	190	<PQL	<PQL	<PQL	<PQL	<PQL	0.2

Concentration above the SAC **VALUE**
Concentration above the PQL **Bold**
The guideline corresponding to the elevated value is highlighted in grey in the EIL and ESL Assessment Criteria Table below

EIL AND ESL ASSESSMENT CRITERIA

Sample Reference	Sample Depth	Sample Description	Soil Texture	pH	CEC (cmolc/kg)	Total Organic Carbon (%)	Clay Content (% clay)	Arsenic	Chromium	Copper	Lead	Nickel	Zinc	Naphthalene	DDT	C_6-C_{10} (F1)	>C_{10}-C_{16} (F2)	>C_{16}-C_{34} (F3)	>C_{34}-C_{40} (F4)	Benzene	Toluene	Ethylbenzene	Total Xylenes	B(a)P
TP5	0-0.1	Fill: Silty Clay	Coarse	NA	NA	NA	NA	100	200	80	1200	35	150	170	180	180	120	300	2800	50	85	70	105	20
TP5 - [LAB_DUP]	0-0.1	Laboratory Duplicate	Coarse	NA	NA	NA	NA	100	200	80	1200	35	150	170	180	180	120	300	2800	50	85	70	105	20
TP5 - [LAB_TRIP]	0-0.1	Laboratory Triplicate	Coarse	NA	NA	NA	NA	100	200	80	1200	35	150	--	--	--	--	--	--	--	--	--	--	--
TP5	1.0-1.1	Fill: Silty Clay	Coarse	NA	NA	NA	NA	100	200	80	1200	35	150	170	--	180	120	300	2800	50	85	70	105	20
TP5	1.2-1.4	Sandy Clay	Coarse	NA	NA	NA	NA	100	200	80	1200	35	150	170	--	180	120	300	2800	50	85	70	105	20
TP7	0-0.1	Fill: Gravelly Sand	Coarse	6.2	9.9	NA	3	100	330	210	1200	180	480	170	180	180	120	300	2800	50	85	70	105	20
TP7	0.6-0.8	Clayey Sand	Coarse	NA	NA	NA	NA	100	200	80	1200	35	150	170	--	180	120	300	2800	50	85	70	105	20
TP8	0-0.1	Fill: Gravelly Sand	Coarse	6.2	9.9	6.3	3	100	330	210	1200	180	480	170	180	180	120	300	2800	50	85	70	105	20
TP9	0-0.1	Fill: Gravelly Sand	Coarse	6.2	9.9	NA	3	100	330	210	1200	180	480	170	--	180	120	300	2800	50	85	70	105	20
TP9	0.4-0.6	Sandy Clay	Coarse	7.2	14	1.7	NA	100	200	230	1200	280	780	170	--	180	120	300	2800	50	85	70	105	20
TP20	0-0.1	Fill: Gravelly Sand	Coarse	NA	NA	NA	NA	100	200	80	1200	35	150	170	180	180	120	300	2800	50	85	70	105	20
TP20	0.8-1.0	Silty Clay	Coarse	NA	NA	NA	NA	100	200	80	1200	35	150	170	--	180	120	300	2800	50	85	70	105	20
TP21	0-0.1	Fill: Silty Sandy Clay	Coarse	6.3	10	2.6	NA	100	200	210	1200	180	480	170	180	180	120	300	2800	50	85	70	105	20
TP21 - [LAB_DUP]	0-0.1	Laboratory Duplicate	Coarse	6.3	10	2.6	NA	100	200	210	1200	180	480	170	180	180	120	300	2800	50	85	70	105	20
TP21	0.8-1.0	Sandy Clay	Coarse	NA	NA	NA	NA	100	200	80	1200	35	150	170	--	180	120	300	2800	50	85	70	105	20
TP25	0-0.1	Fill: Silty Sandy Clay	Coarse	NA	NA	NA	NA	100	200	80	1200	35	150	170	180	180	120	300	2800	50	85	70	105	20
TP25	0.6-0.8	Silty Sandy Clay	Coarse	NA	NA	NA	NA	100	200	80	1200	35	150	170	--	180	120	300	2800	50	85	70	105	20
TP26	0-0.1	Fill: Silty Sandy Clay	Coarse	NA	NA	NA	NA	100	200	80	1200	35	150	170	--	180	120	300	2800	50	85	70	105	20
TP26	0.4-0.6	Silty Sandy Clay	Coarse	NA	NA	NA	NA	100	200	80	1200	35	150	170	--	180	120	300	2800	50	85	70	105	20
TP27	0-0.1	Fill: Silty Sandy Clay	Coarse	NA	NA	NA	NA	100	200	80	1200	35	150	170	180	180	120	300	2800	50	85	70	105	20
TP27	0.5-0.7	Silty Sandy Clay	Coarse	NA	NA	NA	NA	100	200	80	1200	35	150	170	--	180	120	300	2800	50	85	70	105	20
TP29	0-0.1	Fill: Silty Sandy Clay	Coarse	NA	NA	NA	NA	100	200	80	1200	35	150	170	--	180	120	300	2800	50	85	70	105	20
TP30	0-0.1	Fill: Silty Sandy Clay	Coarse	NA	NA	NA	NA	100	200	80	1200	35	150	170	180	180	120	300	2800	50	85	70	105	20
TP30 -[LAB_DUP]	0-0.1	Laboratory Duplicate	Coarse	NA	NA	NA	NA	100	200	80	1200	35	150	170	180	180	120	300	2800	50	85	70	105	20
TP30	0.2-0.4	Fill: Silty Sandy Clay	Coarse	NA	NA	NA	NA	100	200	80	1200	35	150	170	--	180	120	300	2800	50	85	70	105	20
TP30	0.4-0.6	Silty Sandy Clay	Coarse	NA	NA	NA	NA	100	200	80	1200	35	150	170	--	180	120	300	2800	50	85	70	105	20
TP31	0-0.1	Fill: Silty Clayey Sand	Coarse	NA	NA	NA	NA	100	200	80	1200	35	150	170	--	180	120	300	2800	50	85	70	105	20
TP31	0.3-0.5	Silty Sandy Clay	Coarse	NA	NA	NA	NA	100	200	80	1200	35	150	170	--	180	120	300	2800	50	85	70	105	20
TP42	0-0.1	Fill: Sandy Clay	Coarse	7.2	14	1.7	NA	100	200	230	1200	280	780	170	180	180	120	300	2800	50	85	70	105	20
TP42	0.4-0.6	Fill: Sandy Clay	Coarse	NA	NA	NA	NA	100	200	80	1200	35	150	170	--	180	120	300	2800	50	85	70	105	20
TP42	0.6-0.8	Sandy Clay	Coarse	NA	NA	NA	NA	100	200	80	1200	35	150	170	--	180	120	300	2800	50	85	70	105	20
TP42 - [LAB_DUP]	0.6-0.8	Laboratory Duplicate	Coarse	NA	NA	NA	NA	100	200	80	1200	35	150	170	--	180	120	300	2800	50	85	70	105	20
TP43	0-0.1	Fill: Silty Clay	Coarse	NA	NA	NA	NA	100	200	80	1200	35	150	170	--	180	120	300	2800	50	85	70	105	20
TP43	0.8-1.0	Clayey Sand	Coarse	NA	NA	NA	NA	100	200	80	1200	35	150	170	--	180	120	300	2800	50	85	70	105	20
TP44	0-0.1	Fill: Sandy Silty Clay	Coarse	NA	NA	NA	NA	100	200	80	1200	35	150	170	180	180	120	300	2800	50	85	70	105	20
SDUP1	0-0.1	Duplicate of TP31	Coarse	NA	NA	NA	NA	100	200	80	1200	35	150	170	--	180	120	300	2800	50	85	70	105	20
SDUP2	0-0.1	Duplicate of TP26	Coarse	NA	NA	NA	NA	100	200	80	1200	35	150	170	--	180	120	300	2800	50	85	70	105	20
SDUP3	0-0.1	Duplicate of TP43	Coarse	NA	NA	NA	NA	100	200	80	1200	35	150	170	--	180	120	300	2800	50	85	70	105	20
SDUP4	0-0.1	Duplicate of TP20	Coarse	NA	NA	NA	NA	100	200	80	1200	35	150	170	180	180	120	300	2800	50	85	70	105	20
SDUP5	0-0.1	Duplicate of TP7	Coarse	6.2	9.9	6.3	3	100	330	210	1200	180	480	170	180	180	120	300	2800	50	85	70	105	20

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TABLE S7
SOIL LABORATORY RESULTS COMPARED TO WASTE CLASSIFICATION GUIDELINES
All data in mg/kg unless stated otherwise

			HEAVY METALS								PAHs		OC/OP PESTICIDES				Total PCBs	Total Phenols	TRH					BTEX COMPOUNDS				ASBESTOS FIBRES
			Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Zinc	Total PAHs	B(a)P	Total Endosulfans	Chloropyrifos	Total Moderately Harmful	Total Scheduled			C_6-C_9	C_{10}-C_{14}	C_{15}-C_{28}	C_{29}-C_{36}	Total C_{10}-C_{36}	Benzene	Toluene	Ethyl benzene	Total Xylenes	
PQL - Envirolab Services			4	0.4	1	1	1	0.1	1	1	-	0.05	0.1	0.1	0.1	0.1	0.1	5	25	50	100	100	50	0.2	0.5	1	1	100
General Solid Waste CT1			100	20	100	NSL	100	4	40	NSL	200	0.8	60	4	250	50	50	288	650		NSL		10,000	10	288	600	1,000	-
General Solid Waste SCC1			500	100	1900	NSL	1500	50	1050	NSL	200	10	108	7.5	250	50	50	518	650		NSL		10,000	18	518	1,080	1,800	-
Restricted Solid Waste CT2			400	80	400	NSL	400	16	160	NSL	800	3.2	240	16	1000	50	50	1152	2600		NSL		40,000	40	1,152	2,400	4,000	-
Restricted Solid Waste SCC2			2000	400	7600	NSL	6000	200	4200	NSL	800	23	432	30	1000	50	50	2073	2600		NSL		40,000	72	2,073	4,320	7,200	-
Sample Reference	**Sample Depth**	**Sample Description**																										
TP5	0-0.1	Fill: Silty Clay	**8**	<0.4	**16**	**9**	**39**	<0.1	**3**	**30**	<0.05	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
TP5 - [LAB_DUP]	0-0.1	Laboratory Duplicate	**6**	<0.4	**13**	**11**	**40**	<0.1	**6**	**47**	<0.05	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
TP5 - [LAB_TRIP]	0-0.1	Laboratory Triplicate	**6**	<0.4	**15**	**9**	**35**	<0.1	**4**	**33**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TP5	1.0-1.1	Fill: Silty Clay	<4	<0.4	**11**	**5**	**28**	<0.1	**3**	**29**	<0.05	<0.05	NA	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
TP5	1.2-1.4	Sandy Clay	<4	<0.4	**13**	**3**	**7**	<0.1	**3**	**19**	<0.05	<0.05	NA	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
TP7	0-0.1	Fill: Gravelly Sand	**15**	**0.7**	**18**	**62**	**290**	**0.1**	**13**	**320**	<0.05	<0.05	<0.1	<0.1	<0.1	<0.1	**0.6**	<5	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
TP7 - [LAB_DUP]	0-0.1	Laboratory Duplicate	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.7**	<5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TP7	0.6-0.8	Clayey Sand	<4	<0.4	**10**	**2**	**5**	<0.1	**2**	**4**	<0.05	<0.05	NA	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
TP8	0-0.1	Fill: Gravelly Sand	**30**	**3**	**22**	**140**	**630**	**0.1**	**14**	**1200**	**1.6**	**0.1**	<0.1	<0.1	<0.1	<0.1	**2.8**	<5	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
TP9	0-0.1	Fill: Gravelly Sand	**17**	**2**	**15**	**170**	**560**	**0.1**	**14**	**820**	**1.7**	**0.2**	NA	NA	NA	NA	NA	<5	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
TP9	0.4-0.6	Sandy Clay	<4	<0.4	**21**	**5**	**11**	<0.1	**3**	**240**	<0.05	<0.05	NA	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
TP20	0-0.1	Fill: Gravelly Sand	**19**	<0.4	**4**	**43**	**36**	<0.1	**15**	**36**	**0.1**	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<5	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
TP20	0.8-1.0	Silty Clay	<4	<0.4	**21**	**7**	**10**	<0.1	**6**	**9**	<0.05	<0.05	NA	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
TP21	0-0.1	Fill: Silty Sandy Clay	**18**	<0.4	**14**	**31**	**580**	<0.1	**9**	**250**	<0.05	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
TP21 - [LAB_DUP]	0-0.1	Laboratory Duplicate	**19**	<0.4	**13**	**39**	**400**	<0.1	**11**	**280**	<0.05	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
TP21	0.4-0.6	Fill: Silty Sandy Clay	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Not Detected
TP21	0.8-1.0	Sandy Clay	<4	<0.4	**17**	**4**	**8**	<0.1	**3**	**10**	<0.05	<0.05	NA	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
TP25	0-0.1	Fill: Silty Sandy Clay	<4	<0.4	**9**	**15**	**29**	<0.1	**10**	**95**	**0.64**	**0.1**	<0.1	<0.1	<0.1	<0.1	<0.1	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
TP25	0.6-0.8	Silty Sandy Clay	<4	<0.4	**18**	**4**	**7**	<0.1	**3**	**7**	<0.05	<0.05	NA	NA	NA	NA	NA	NA	<25	<50	<100	**110**	**110**	<0.2	<0.5	<1	<1	NA
TP26	0-0.1	Fill: Silty Sandy Clay	<4	<0.4	**8**	**14**	**30**	<0.1	**13**	**22**	<0.05	<0.05	NA	NA	NA	NA	NA	NA	<25	<50	<100	**140**	**140**	<0.2	<0.5	<1	<1	Not Detected
TP26	0.4-0.6	Silty Sandy Clay	<4	<0.4	**24**	**6**	**9**	<0.1	**4**	**7**	<0.05	<0.05	NA	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
TP27	0-0.1	Fill: Silty Sandy Clay	<4	<0.4	**9**	**9**	**16**	<0.1	**4**	**14**	<0.05	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
TP27	0.5-0.7	Silty Sandy Clay	<4	<0.4	**19**	**5**	**8**	<0.1	**3**	**6**	<0.05	<0.05	NA	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
TP29	0-0.1	Fill: Silty Sandy Clay	<4	<0.4	**7**	**10**	**28**	<0.1	**4**	**55**	<0.05	<0.05	NA	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
TP30	0-0.1	Fill: Silty Sandy Clay	<4	<0.4	**8**	**2**	**12**	<0.1	**2**	**5**	<0.05	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
TP30 -[LAB_DUP]	0-0.1	Laboratory Duplicate	<4	<0.4	**8**	**3**	**11**	<0.1	**3**	**8**	<0.05	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
TP30	0.2-0.4	Fill: Silty Sandy Clay	<4	<0.4	**8**	**3**	**11**	<0.1	**2**	**6**	<0.05	<0.05	NA	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
TP30	0.4-0.6	Silty Sandy Clay	<4	<0.4	**16**	**2**	**10**	<0.1	**3**	**5**	<0.05	<0.05	NA	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
TP31	0-0.1	Fill: Silty Clayey Sand	**6**	<0.4	**5**	**30**	**76**	<0.1	**9**	**37**	**0.1**	<0.05	NA	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
TP31	0.3-0.5	Silty Sandy Clay	<4	<0.4	**6**	<1	**5**	<0.1	**2**	**2**	<0.05	<0.05	NA	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
TP42	0-0.1	Fill: Sandy Clay	**10**	<0.4	**23**	**410**	**290**	<0.1	**8**	**370**	**0.06**	**0.06**	<0.1	<0.1	<0.1	<0.1	<0.1	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
TP42	0.4-0.6	Fill: Sandy Clay	<4	<0.4	**8**	**24**	**67**	<0.1	**6**	**91**	**1**	**0.1**	NA	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
TP42	0.6-0.8	Sandy Clay	<4	<0.4	**16**	**3**	**9**	<0.1	**2**	**6**	<0.05	<0.05	NA	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
TP42 - [LAB_DUP]	0.6-0.8	Laboratory Duplicate	<4	<0.4	**17**	**3**	**9**	<0.1	**2**	**6**	<0.05	<0.05	NA	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
TP43	0-0.1	Fill: Silty Clay	<4	<0.4	**13**	**20**	**100**	**0.4**	**4**	**100**	<0.05	<0.05	NA	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
TP43	0.2-0.6	Fill: Silty Clay	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Not Detected
TP43	0.8-1.0	Clayey Sand	<4	<0.4	**11**	**2**	**6**	<0.1	**2**	**10**	<0.05	<0.05	NA	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
TP44	0-0.1	Fill: Sandy Silty Clay	<4	<0.4	**8**	**7**	**73**	<0.1	**3**	**28**	<0.05	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
SDUP1	0-0.1	Duplicate of TP31	**6**	<0.4	**4**	**34**	**68**	<0.1	**8**	**52**	**0.2**	<0.05	NA	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
SDUP2	0-0.1	Duplicate of TP26	<4	<0.4	**8**	**15**	**41**	<0.1	**16**	**29**	<0.05	<0.05	NA	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
SDUP3	0-0.1	Duplicate of TP43	**4**	<0.4	**10**	**12**	**76**	**0.2**	**4**	**82**	<0.5	<0.05	NA	NA	NA	NA	NA	<0.2	<25	<50	<100	<100	<50	<0.5	<0.2	<0.5	<1	Not Detected
SDUP4	0-0.1	Duplicate of TP20	**17**	<0.4	**21**	**50**	**49**	<0.1	**18**	**51**	<0.05	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<5	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
SDUP5	0-0.1	Duplicate of TP7	**14**	**0.6**	**14**	**58**	**300**	<0.1	**14**	**310**	<0.5	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<25	<50	<100	<100	<50	<0.5	<0.2	<0.5	<1	Not Detected
FCF-TP21	0-0.1	Fragment	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Detected
FCF2-TP21(spoil)	0-0.1	Fragment	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Not Detected
FCF3-TP21	0.1-0.6	Fragment	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Detected
Total Number of Samples			40	40	40	40	40	40	40	40	39	39	15	15	15	15	16	8	39	39	39	39	39	39	39	39	39	26
Maximum Value			30	3	24	410	630	0.4	18	1200	1.7	0.2	<PQL	<PQL	<PQL	<PQL	2.8	<PQL	<PQL	<PQL	<PQL	140	140	<PQL	<PQL	<PQL	<PQL	Detected

Concentration above the CT1 — **VALUE**
Concentration above SCC1 — **VALUE**
Concentration above the SCC2 — **VALUE**
Concentration above PQL — **Bold**

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TABLE S8
SOIL LABORATORY TCLP RESULTS
All data in mg/L unless stated otherwise

			Arsenic	Cadmium	Chromium	Lead	Mercury	Nickel	B(a)P
PQL - Envirolab Services			0.05	0.01	0.01	0.03	0.0005	0.02	0.001
TCLP1 - General Solid Waste			5	1	5	5	0.2	2	0.04
TCLP2 - Restricted Solid Waste			20	4	20	20	0.8	8	0.16
TCLP3 - Hazardous Waste			>20	>4	>20	>20	>0.8	>8	>0.16
Sample Reference	**Sample Depth**	**Sample Description**							
TP8	0-0.1	Fill: Gravelly Sand	NA	NA	NA	**0.09**	NA	NA	NA
TP21	0-0.1	Fill: Silty Sandy Clay	NA	NA	NA	**0.5**	NA	NA	NA
TP42	0-0.1	Fill: Sandy Clay	NA	NA	NA	**0.2**	NA	NA	NA
Total Number of samples			0	0	0	3	0	0	0
Maximum Value			NA	NA	NA	0.50	NA	NA	NA

General Solid Waste	**VALUE**
Restricted Solid Waste	**VALUE**
Hazardous Waste	**VALUE**
Concentration above PQL	**Bold**

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TABLE S9
SUMMARY OF PFAS CONCENTRATIONS IN SOIL - HUMAN HEALTH
Units are µg/Kg unless stated otherwise.

	PQL Envirolab Services	NEMP 2020 Residential accessible soil	TP5 0-0.1 Fill: Silty Clay	TP5 - [LAB_DUP] 0-0.1 Laboratory Duplicate	TP7 0-0.1 Fill: Gravelly Sand	TP8 0-0.1 Fill: Gravelly Sand	TP9 0-0.1 Fill: Gravelly Sand	TP20 0-0.1 Fill: Gravelly Sand	TP21 0-0.1 Fill: Silty Sandy Clay	TP21 - [LAB_DUP] 0-0.1 Laboratory Duplicate	TP42 0-0.1 Fill: Sandy Clay	SDUP4 0-0.1 Duplicate of TP20	SDUP5 0-0.1 Duplicate of TP7
PFAS Compound													
Perfluorobutanesulfonic acid	0.1	NSL	<0.1	<0.1	<0.1	<0.1	<0.1	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**
Perfluoropentanesulfonic acid	0.1	NSL	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorohexanesulfonic acid - PFHxS	0.1	NSL	<0.1	<0.1	<0.1	<0.1	<0.1	**0.3**	<0.1	<0.1	<0.1	**0.2**	<0.1
Perfluoroheptanesulfonic acid	0.1	NSL	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorooctanesulfonic acid PFOS	0.1	NSL	**0.2**	**0.3**	**0.4**	**0.2**	**1.5**	**1.5**	**0.5**	**0.6**	**0.3**	**1**	**0.3**
Perfluorodecanesulfonic acid	0.2	NSL	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Perfluorobutanoic acid	0.2	NSL	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Perfluoropentanoic acid	0.2	NSL	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Perfluorohexanoic acid	0.1	NSL	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluoroheptanoic acid	0.1	NSL	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorooctanoic acid PFOA	0.1	100	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorononanoic acid	0.1	NSL	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorodecanoic acid	0.5	NSL	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Perfluoroundecanoic acid	0.5	NSL	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Perfluorododecanoic acid	0.5	NSL	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Perfluorotridecanoic acid	0.5	NSL	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Perfluorotetradecanoic acid	5	NSL	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
4:2 FTS	0.1	NSL	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
6:2 FTS	0.1	NSL	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
8:2 FTS	0.1	NSL	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
10:2 FTS	0.1	NSL	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Perfluorooctane sulfonamide	1	NSL	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
N-Methyl perfluorooctane sulfonamide	1	NSL	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
N-Ethyl perfluorooctanesulfon amide	1	NSL	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
N-Me perfluorooctanesulfonamid oethanol	1	NSL	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
N-Et perfluorooctanesulfonamid oethanol	5	NSL	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
MePerfluorooctanesulf-amid oacetic acid	0.2	NSL	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
EtPerfluorooctanesulf-amid oacetic acid	0.2	NSL	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total Positive PFHxS & PFOS	0.1	10	**0.2**	**0.3**	**0.4**	**0.2**	**1.5**	**1.8**	**0.5**	**0.6**	**0.3**	**1.2**	**0.3**
Total Positive PFOS & PFOA	0.1	NSL	**0.2**	**0.3**	**0.4**	**0.2**	**1.5**	**1.5**	**0.5**	**0.6**	**0.3**	**1**	**0.3**
Total Positive PFAS	0.1	NSL	**0.2**	**0.3**	**0.4**	**0.2**	**1.5**	**1.8**	**0.5**	**0.6**	**0.3**	**1.2**	**0.3**

Positive PFAS result **Bold**
PFAS result above the SAC **Bold**

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TABLE S10
SUMMARY OF PFAS CONCENTRATIONS IN SOIL - ECOLOGY
Units are µg/Kg unless stated otherwise.

	PQL	NEMP 2020	TP5	TP5 - [LAB_DUP]	TP7	TP8	TP9	TP20	TP21	TP21 - [LAB_DUP]	TP42	SDUP4	SDUP5
	Envirolab	Direct exposure	0-0.1	0-0.1	0-0.1	0-0.1	0-0.1	0-0.1	0-0.1	0-0.1	0-0.1	0-0.1	0-0.1
	Services	All land use	Fill: Silty Clay	Laboratory Duplicate	Fill: Gravelly Sand	Fill: Gravelly Sand	Fill: Gravelly Sand	Fill: Gravelly Sand	Fill: Silty Sandy Clay	Laboratory Duplicate	Fill: Sandy Clay	Duplicate of TP20	Duplicate of TP7
PFAS Compound													
Perfluorobutanesulfonic acid	0.1	NSL	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluoropentanesulfonic acid	0.1	NSL	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorohexanesulfonic acid - PFHxS	0.1	NSL	<0.1	<0.1	<0.1	<0.1	<0.1	**0.3**	<0.1	<0.1	<0.1	**0.2**	<0.1
Perfluoroheptanesulfonic acid	0.1	NSL	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorooctanesulfonic acid PFOS	0.1	1000	**0.2**	**0.3**	**0.4**	**0.2**	**1.5**	**1.5**	**0.5**	**0.6**	**0.3**	**1**	**0.3**
Perfluorodecanesulfonic acid	0.2	NSL	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Perfluorobutanoic acid	0.2	NSL	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Perfluoropentanoic acid	0.2	NSL	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Perfluorohexanoic acid	0.1	NSL	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluoroheptanoic acid	0.1	NSL	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorooctanoic acid PFOA	0.1	10,000	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorononanoic acid	0.1	NSL	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorodecanoic acid	0.5	NSL	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Perfluoroundecanoic acid	0.5	NSL	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Perfluorododecanoic acid	0.5	NSL	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Perfluorotridecanoic acid	0.5	NSL	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Perfluorotetradecanoic acid	5	NSL	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
4:2 FTS	0.1	NSL	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
6:2 FTS	0.1	NSL	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
8:2 FTS	0.1	NSL	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
10:2 FTS	0.1	NSL	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Perfluorooctane sulfonamide	1	NSL	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
N-Methyl perfluorooctane sulfonamide	1	NSL	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
N-Ethyl perfluorooctanesulfon amide	1	NSL	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
N-Me perfluorooctanesulfonamid oethanol	1	NSL	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
N-Et perfluorooctanesulfonamid oethanol	5	NSL	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
MePerfluorooctanesulf-amid oacetic acid	0.2	NSL	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
EtPerfluorooctanesulf-amid oacetic acid	0.2	NSL	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total Positive PFHxS & PFOS	0.1	NSL	**0.2**	**0.3**	**0.4**	**0.2**	**1.5**	**1.8**	**0.5**	**0.6**	**0.3**	**1.2**	**0.3**
Total Positive PFOS & PFOA	0.1	NSL	**0.2**	**0.3**	**0.4**	**0.2**	**1.5**	**1.5**	**0.5**	**0.6**	**0.3**	**1**	**0.3**
Total Positive PFAS	0.1	NSL	**0.2**	**0.3**	**0.4**	**0.2**	**1.5**	**1.8**	**0.5**	**0.6**	**0.3**	**1.2**	**0.3**

Positive PFAS result **Bold**
PFAS result above the SAC **Bold**

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TABLE S11
SUMMARY OF PFAS CONCENTRATIONS IN SOIL - WASTE CLASSIFICATION
Units are µg/Kg unless stated otherwise.

	PQL Envirolab Services	SCC1	SCC2	TP5 0-0.1 Fill: Silty Clay	TP5 - [LAB_DUP] 0-0.1 Laboratory Duplicate	TP7 0-0.1 Fill: Gravelly Sand	TP8 0-0.1 Fill: Gravelly Sand	TP9 0-0.1 Fill: Gravelly Sand	TP20 0-0.1 Fill: Gravelly Sand	TP21 0-0.1 Fill: Silty Sandy Clay	TP21 - [LAB_DUP] 0-0.1 Laboratory Duplicate	TP42 0-0.1 Fill: Sandy Clay	SDUP4 0-0.1 Duplicate of TP20	SDUP5 0-0.1 Duplicate of TP7
PFAS Compound														
Perfluorobutanesulfonic acid	0.1	NSL	NSL	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluoropentanesulfonic acid	0.1	NSL	NSL	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorohexanesulfonic acid - PFHxS	0.1	NSL	NSL	<0.1	<0.1	<0.1	<0.1	<0.1	0.3	<0.1	<0.1	<0.1	0.2	<0.1
Perfluoroheptanesulfonic acid	0.1	NSL	NSL	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorooctanesulfonic acid PFOS	0.1	NSL	NSL	0.2	0.3	0.4	0.2	1.5	1.5	0.5	0.6	0.3	1	0.3
Perfluorodecanesulfonic acid	0.2	NSL	NSL	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Perfluorobutanoic acid	0.2	NSL	NSL	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Perfluoropentanoic acid	0.2	NSL	NSL	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Perfluorohexanoic acid	0.1	NSL	NSL	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluoroheptanoic acid	0.1	NSL	NSL	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorooctanoic acid PFOA	0.1	18,000	72,000	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorononanoic acid	0.1	NSL	NSL	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorodecanoic acid	0.5	NSL	NSL	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Perfluoroundecanoic acid	0.5	NSL	NSL	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Perfluorododecanoic acid	0.5	NSL	NSL	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Perfluorotridecanoic acid	0.5	NSL	NSL	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Perfluorotetradecanoic acid	5	NSL	NSL	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
4:2 FTS	0.1	NSL	NSL	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
6:2 FTS	0.1	NSL	NSL	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
8:2 FTS	0.1	NSL	NSL	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
10:2 FTS	0.1	NSL	NSL	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Perfluorooctane sulfonamide	1	NSL	NSL	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
N-Methyl perfluorooctane sulfonamide	1	NSL	NSL	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
N-Ethyl perfluorooctanesulfon amide	1	NSL	NSL	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
N-Me perfluorooctanesulfonamid oethanol	1	NSL	NSL	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
N-Et perfluorooctanesulfonamid oethanol	5	NSL	NSL	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
MePerfluorooctanesulf-amid oacetic acid	0.2	NSL	NSL	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
EtPerfluorooctanesulf-amid oacetic acid	0.2	NSL	NSL	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total Positive PFHxS & PFOS	0.1	1800	7,200	0	0	0	0	2	2	1	0.6	0.3	1.2	0.3
Total Positive PFOS & PFOA	0.1	NSL	NSL	0.2	0.3	0.4	0.2	1.5	1.5	0.5	0.6	0.3	1	0.3
Total Positive PFAS	0.1	NSL	NSL	0.2	0.3	0.4	0.2	1.5	1.8	0.5	0.6	0.3	1.2	0.3

Result above SCC1 Criteria **Bold**
Result above SCC2 Criteria **Bold**

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TABLE S12
SUMMARY OF PFAS CONCENTRATIONS IN TCLP LEACHATE - WASTE CLASSIFICATION
Units are µg/L unless stated otherwise.

	PQL Envirolab Services	TCLP1	TCLP2	TP5 0-0.1 Fill: Silty Clay	TP9 0-0.1 Fill: Gravelly Sand	TP20 0-0.1 Fill: Gravelly Sand	TP21 0-0.1 Fill: Silty Sandy Clay
PFAS Compound							
Perfluorobutanesulfonic acid	0.01	NSL	NSL	<0.01	<0.01	<0.01	<0.01
Perfluoropentanesulfonic acid	0.01	NSL	NSL	<0.01	<0.01	<0.01	<0.01
Perfluorohexanesulfonic acid - PFHxS	0.01	NSL	NSL	<0.01	<0.01	<0.01	<0.01
Perfluoroheptanesulfonic acid	0.01	NSL	NSL	<0.01	<0.01	<0.01	<0.01
Perfluorooctanesulfonic acid PFOS	0.01	NSL	NSL	<0.01	<0.01	<0.01	<0.01
Perfluorodecanesulfonic acid	0.02	NSL	NSL	<0.02	<0.02	<0.02	<0.02
Perfluorobutanoic acid	0.02	NSL	NSL	<0.02	<0.02	<0.02	<0.02
Perfluoropentanoic acid	0.02	NSL	NSL	<0.02	<0.02	<0.02	<0.02
Perfluorohexanoic acid	0.01	NSL	NSL	<0.01	<0.01	<0.01	<0.01
Perfluoroheptanoic acid	0.01	NSL	NSL	<0.01	<0.01	<0.01	<0.01
Perfluorooctanoic acid PFOA	0.01	500	2,000	<0.01	<0.01	<0.01	<0.01
Perfluorononanoic acid	0.01	NSL	NSL	<0.01	<0.01	<0.01	<0.01
Perfluorodecanoic acid	0.02	NSL	NSL	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid	0.02	NSL	NSL	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid	0.05	NSL	NSL	<0.05	<0.05	<0.05	<0.05
Perfluorotridecanoic acid	0.1	NSL	NSL	<0.1	<0.1	<0.1	<0.1
Perfluorotetradecanoic acid	0.5	NSL	NSL	<0.5	<0.5	<0.5	<0.5
4:2 FTS	0.01	NSL	NSL	<0.01	<0.01	<0.01	<0.01
6:2 FTS	0.01	NSL	NSL	<0.01	<0.01	<0.01	<0.01
8:2 FTS	0.02	NSL	NSL	<0.02	<0.02	<0.02	<0.02
10:2 FTS	0.02	NSL	NSL	<0.02	<0.02	<0.02	<0.02
Perfluorooctane sulfonamide	0.1	NSL	NSL	<0.1	<0.1	<0.1	<0.1
N-Methyl perfluorooctane sulfonamide	0.05	NSL	NSL	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctanesulfon amide	0.1	NSL	NSL	<0.1	<0.1	<0.1	<0.1
N-Me perfluorooctanesulfonamid oethanol	0.05	NSL	NSL	<0.05	<0.05	<0.05	<0.05
N-Et perfluorooctanesulfonamid oethanol	0.5	NSL	NSL	<0.5	<0.5	<0.5	<0.5
MePerfluorooctanesulf-amid oacetic acid	0.02	NSL	NSL	<0.02	<0.02	<0.02	<0.02
EtPerfluorooctanesulf-amid oacetic acid	0.02	NSL	NSL	<0.02	<0.02	<0.02	<0.02
Total Positive PFHxS & PFOS	0.01	50	200	<0.01	<0.01	<0.01	<0.01
Total Positive PFOS & PFOA	0.01	NSL	NSL	<0.01	<0.01	<0.01	<0.01
Total Positive PFAS	0.01	NSL	NSL	<0.01	<0.01	<0.01	<0.01

Result above TCLP1 Criteria **Bold**
Result above TCLP2 Criteria **Bold**

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TABLE Q1
SOIL QA/QC SUMMARY

| | | | TRH C6 - C10 | TRH >C10-C16 | TRH >C16-C34 | TRH >C34-C40 | Benzene | Toluene | Ethylbenzene | m+p-xylene | o-Xylene | Naphthalene | Acenaphthylene | Acenaph-thene | Fluorene | Phenanthrene | Anthracene | Fluoranthene | Pyrene | Benzo(a)anthracene | Chrysene | Benzo(b+k)fluoranthene | Benzo(a)pyrene | Indeno(1,2,3-c,d)pyrene | Dibenz(a,h)anthra-cene | Benzo(g,h,i)perylene | HCB | alpha- BHC | gamma- BHC | beta- BHC | Heptachlor | delta- BHC | Aldrin | Heptachlor Epoxide | Gamma- Chlordane | alpha- chlordane | Endosulfan I | pp- DDE | Dieldrin | Endrin | pp- DDD | Endosulfan II | pp- DDT | Endrin Aldehyde | Endosulfan Sulphate | Methoxychlor | Azinphos-methyl (Guthion) | Bromophos-ethyl | Chlorpyriphos | Chlorpyriphos-methyl | Diazinon | Dichlorvos | Dimethoate | Ethion | Fenitrothion | Malathion | Parathion | Ronnel | Total PCBS | Total Phenols | Arsenic | Cadmium | Chromium | Copper | Lead | Mercury | Nickel | Zinc | ACM >7mm Estimation %(w/w) | FA and AF Estimation %(w/w) |
|---|---|---

TABLE Q2
SUMMARY OF PFAS FIELD QA/QC IN SOIL
Units are µg/Kg unless stated otherwise.

			Perfluorobutanesulfonic acid	Perfluoropentanesulfonic acid	Perfluorohexanesulfonic acid - PFHxS	Perfluoroheptanesulfonic acid	Perfluorooctanesulfonic acid PFOS	Perfluorodecanesulfonic acid	Perfluorobutanoic acid	Perfluoropentanoic acid	Perfluorohexanoic acid	Perfluoroheptanoic acid	Perfluorooctanoic acid PFOA	Perfluorononanoic acid	Perfluorodecanoic acid	Perfluoroundecanoic acid	Perfluorododecanoic acid	Perfluorotridecanoic acid	Perfluorotetradecanoic acid	4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	Perfluorooctane sulfonamide	N-Methyl perfluorooctane sulfonamide	N-Ethyl perfluorooctanesulfon amide	N-Me perfluorooctanesulfonamid oethanol	N-Et perfluorooctanesulfonamid oethanol	MePerfluorooctanesulf-amid oacetic acid	EtPerfluorooctanesulf-amid oacetic acid	Total Positive PFHxS & PFOS	Total Positive PFOS & PFOA	Total Positive PFAS
PQL Envirolab			*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.2*	*0.2*	*0.2*	*0.1*	*0.1*	*0.1*	*0.1*	*0.5*	*0.5*	*0.5*	*0.5*	*5*	*0.1*	*0.1*	*0.1*	*0.1*	*1*	*1*	*1*	*1*	*5*	*0.2*	*0.2*	*0.1*	*0.1*	*0.1*
PQL Envirolab VIC			*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.2*	*0.2*	*0.2*	*0.1*	*0.1*	*0.1*	*0.1*	*0.5*	*0.5*	*0.5*	*0.5*	*5*	*0.1*	*0.1*	*0.1*	*0.1*	*1*	*1*	*1*	*1*	*5*	*0.2*	*0.2*	*0.1*	*0.1*	*0.1*
Intra	TP20	0-0.1	<0.1	<0.1	0.3	<0.1	1.5	<0.2	<0.2	<0.2	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	<0.5	<0.5	<5	<0.1	<0.1	<0.2	<0.2	<1	<1	<1	<1	<5	<0.2	<0.2	1.8	1.5	1.8
laboratory	SDUP4	0-0.1	<0.1	<0.1	0.2	<0.1	1	<0.2	<0.2	<0.2	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	<0.5	<0.5	<5	<0.1	<0.1	<0.2	<0.2	<1	<1	<1	<1	<5	<0.2	<0.2	1.2	1	1.2
duplicate	MEAN		nc	nc	0.25	nc	1.25	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	1.5	1.25	1.5
	RPD %		nc	nc	40%	nc	40%	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	40%	40%	40%
Inter	TP7	0-0.1	<0.1	<0.1	<0.1	<0.1	0.4	<0.2	<0.2	<0.2	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	<0.5	<0.5	<5	<0.1	<0.1	<0.2	<0.2	<1	<1	<1	<1	<5	<0.2	<0.2	0.4	0.4	0.4
laboratory	SDUP5	0-0.1	<0.1	<0.1	<0.1	<0.1	0.3	<0.2	<0.2	<0.2	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	<0.5	<0.5	<5	<0.1	<0.1	<0.2	<0.2	<1	<1	<1	<1	<5	<0.2	<0.2	0.3	0.3	0.3
duplicate	MEAN		nc	nc	nc	nc	0.35	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	0.35	0.35	0.35
	RPD %		nc	nc	nc	nc	29%	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	29%	29%	29%
Field	TB-S1		<0.1	<0.1	<0.1	<0.1	0.1	<0.2	<0.2	<0.2	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	<0.5	<0.5	<5	<0.1	<0.1	<0.2	<0.2	<1	<1	<1	<1	<5	<0.2	<0.2	0.1	0.1	0.1
Blank	18/02/2022																																

Result outside of QA/QC acceptance criteria Value

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In-situ Soil Batch 2 Results Summary Tables

ABBREVIATIONS AND EXPLANATIONS

Abbreviations used in the Tables:

ABC:	Ambient Background Concentration
ACM:	Asbestos Containing Material
ADWG:	AustralianDrinking Water Guidelines
AF:	Asbestos Fines
ANZG	Australian and New Zealand Guidelines
B(a)P:	Benzo(a)pyrene
CEC:	Cation Exchange Capacity
CRC:	Cooperative Research Centre
CT:	Contaminant Threshold
EILs:	Ecological Investigation Levels
ESLs:	Ecological Screening Levels
FA:	Fibrous Asbestos
FTS:	Fluorotelomer sulfonic acid
GIL:	Groundwater Investigation Levels
GSW:	General Solid Waste
HILs:	Health Investigation Levels
HSLs:	Health Screening Levels
HSL-SSA:	Health Screening Level-SiteSpecific Assessment
kg/L	kilograms per litre
NA:	Not Analysed
NC:	Not Calculated
NEPM:	National Environmental Protection Measure
NHMRC:	National Health and Medical Research Council
NL:	Not Limiting
NSL:	No Set Limit
OCP:	Organochlorine Pesticides
OPP:	Organophosphorus Pesticides
PAHs:	Polycyclic Aromatic Hydrocarbons
%w/w:	weight per weight
ppm:	Parts per million
PCBs:	Polychlorinated Biphenyls
PCE:	Perchloroethylene (Tetrachloroethylene or Teterachloroethene)
PFAS	Per- and polyfluoroalkyl substances
PFHxS	Perfluorohexanesulfonic acid
PFOA	Perfluorooctanoic acid
PFOS	Perfluorooctanesulfonic acid
pH_{KCL} :	pH of filtered 1:20, 1M KCL extract, shaken overnight
pH_{ox} :	pH of filtered 1:20 1M KCl after peroxide digestion
PQL:	Practical Quantitation Limit
RS:	Rinsate Sample
RSL:	Regional Screening Levels
RSW:	Restricted Solid Waste
SAC:	Site Assessment Criteria
SCC:	Specific Contaminant Concentration
S_{Cr}:	Chromium reducible sulfur
S_{POS}:	Peroxide oxidisable Sulfur
SSA:	Site Specific Assessment
SSHSLs:	Site Specific Health Screening Levels
TAA:	Total Actual Acidity in 1M KCL extract titrated to pH6.5
TB:	Trip Blank
TCA:	1,1,1 Trichloroethane (methyl chloroform)
TCE:	Trichloroethylene (Trichloroethene)
TCLP:	Toxicity Characteristics Leaching Procedure
TPA:	Total Potential Acidity, 1M KCL peroxide digest
TS:	Trip Spike
TRH:	Total Recoverable Hydrocarbons
TSA:	Total Sulfide Acidity (TPA-TAA)
UCL:	Upper Level Confidence Limit on Mean Value
USEPA	United States Environmental Protection Agency
VOCC:	Volatile Organic Chlorinated Compounds
WHO:	World Health Organisation

Table Specific Explanations:

HIL Tables:

- The chromium results are for Total Chromium which includes Chromium III and VI. For initial screening purposes, we have assumed that the samples contain only Chromium VI unless demonstrated otherwise by additional analysis.
- Carcinogenic PAHs is a toxicity weighted sum of analyte concentrations for a specific list of PAH compounds relative to B(a)P. It is also refered to as the B(a)P Toxic Equivalence Quotient (TEQ).
- Statistical calculations are undertaken using ProUCL (USEPA). Statistical calculation is usually undertaken using data from fill samples.

EIL/ESL Table:

- ABC Values for selected metals have been adopted from the published background concentrations presented in Olszowy et. al., (1995), Trace Element Concentrations in Soils from Rural and Urban New South Wales (the 25th percentile values for old suburbs with low traffic have been quoted).

Waste Classification and TCLP Table:

- Data assessed using the NSW EPA Waste Classification Guidelines, Part 1: Classifying Waste (2014).
- The assessment of Total Moderately Harmful pesticides includes: Dichlorovos, Dimethoate, Fenitrothion, Ethion, Malathion and Parathion.
- Assessment of Total Scheduled pesticides include: HBC, alpha-BHC, gamma-BHC, beta-BHC, Heptachlor, Aldrin, Heptachlor Epoxide, gamma-Chlordane, alpha-chlordane, pp-DDE, Dieldrin, Endrin, pp-DDD, pp-DDT, Endrin Aldehyde.

QA/QC Table:

- Field blank, Inter and Intra laboratory duplicate results are reported in mg/kg.
- Trip spike results are reported as percentage recovery.
- Field rinsate results are reported in µg/L.

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TABLE S1
SOIL LABORATORY RESULTS COMPARED TO NEPM 2013.
HIL-A: 'Residential with garden/accessible soils; children's day care centers; preschools; and primary schools'

All data in mg/kg unless stated otherwise			HEAVY METALS													PAHs		ORGANOCHLORINE PESTICIDES (OCPs)							OP PESTICIDES (OPPs)	TOTAL PCBs	TOTAl Phenols	ASBESTOS FIBRES
			Arsenic	Beryllium	Boron	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Mercury	Nickel	Selenium	Zinc	Total PAHs	Carcinogenic PAHs	HCB	Endosulfan	Methoxychlor	Aldrin & Dieldrin	Chlordane	DDT, DDD & DDE	Heptachlor	Chlorpyrifos			
PQL - Envirolab Services			4	1	3	0.4	1	1	1	1	1	0.1	1	2	1	-	0.5	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	5	100
Site Assessment Criteria (SAC)			100	60	4500	20	100	100	6000	300	3800	40	400	200	7400	300	3	10	270	300	6	50	240	6	160	1	3000	Detected/Not Detected
Sample Reference	**Sample Depth**	**Sample Description**																										
TP3	0-0.1	Fill: Silty Clayey Sand	<4	NA	NA	<0.4	**9**	NA	**42**	**200**	NA	<0.1	**12**	NA	**120**	**2**	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	NA	Not Detected
TP3 - [LAB_DUP]	0-0.1	Laboratory Duplicate	<4	NA	NA	<0.4	**9**	NA	**44**	**150**	NA	<0.1	**12**	NA	**110**	**1.6**	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	NA	NA
TP3	0.5-0.7	Fill: Silty Clay	**5**	NA	NA	<0.4	**9**	NA	**10**	**14**	NA	**0.1**	**2**	NA	**26**	<0.05	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Not Detected
TP4	0-0.1	Fill: Silty Clayey Sand	**8**	NA	NA	<0.4	**8**	NA	**23**	**190**	NA	<0.1	**9**	NA	**73**	<0.05	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Not Detected
TP4	0.3-0.5	Fill: Silty Clay	**7**	NA	NA	<0.4	**9**	NA	**16**	**22**	NA	**0.1**	<1	NA	**5**	<0.05	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TP4	0.65-0.85	Fill: Silty Clayey Sand	**9**	NA	NA	<0.4	**10**	NA	**24**	**120**	NA	<0.1	**11**	NA	**73**	<0.05	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TP13	0-0.1	Fill: Silty Clayey Sand	<4	NA	NA	<0.4	**13**	NA	**9**	**42**	NA	<0.1	**8**	NA	**72**	<0.05	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	NA	Not Detected
TP13	0.4-0.6	Silty Sand	<4	NA	NA	<0.4	**12**	NA	**4**	**4**	NA	<0.1	**6**	NA	**11**	<0.05	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TP14	0-0.1	Fill: Gravelly Sand	<4	NA	NA	<0.4	**7**	NA	**13**	**56**	NA	<0.1	**5**	NA	**52**	<0.05	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Not Detected
TP14	0.6-0.8	Silty Clay	**5**	NA	NA	<0.4	**25**	NA	**8**	**11**	NA	<0.1	**3**	NA	**26**	<0.05	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TP15	0.3-0.5	Fill: Silty Clayey Sand	**5**	NA	NA	**1**	**7**	NA	**53**	**840**	NA	**0.3**	**13**	NA	**860**	**0.67**	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	NA	Not Detected
TP15	0.7-0.9	Silty Clay	<4	NA	NA	<0.4	**26**	NA	**6**	**15**	NA	<0.1	**4**	NA	**110**	<0.05	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TP16	0-0.1	Fill: Silty Sand	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Not Detected
TP16	0.2-0.5	Fill: Silty Sand	**6**	NA	NA	<0.4	**7**	NA	**40**	**290**	NA	<0.1	**12**	NA	**300**	**1.1**	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Not Detected
TP16	0.5-0.7	Fill: Sandy Clay	<4	NA	NA	<0.4	**13**	NA	**2**	**8**	NA	<0.1	**2**	NA	**9**	<0.05	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Not Detected
TP17	0-0.1	Fill: Silty Clayey Sand	<4	NA	NA	<0.4	**11**	NA	**14**	**160**	NA	<0.1	**5**	NA	**120**	<0.05	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	NA	Not Detected
TP17 - [LAB_DUP]	0-0.1	Laboratory Duplicate	<4	NA	NA	<0.4	**12**	NA	**24**	**150**	NA	**0.1**	**5**	NA	**110**	<0.05	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	NA	NA
TP17 - [LAB_TRIP]	0-0.1	Laboratory Triplicate	<4	NA	NA	<0.4	**14**	NA	**51**	**210**	NA	<0.1	**5**	NA	**110**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TP17	0.5-0.7	Fill: Silty Sandy Clay	<4	NA	NA	<0.4	**14**	NA	**19**	**200**	NA	**0.2**	**6**	NA	**310**	<0.05	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Not Detected
TP18	0-0.1	Fill: Silty Gravelly Clay	<4	NA	NA	<0.4	**6**	NA	**17**	**73**	NA	<0.1	**18**	NA	**39**	<0.05	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Not Detected
TP18	0.3-0.5	Fill: Silty Sandy Clay	**8**	NA	NA	<0.4	**11**	NA	**15**	**220**	NA	<0.1	**12**	NA	**35**	<0.05	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Detected
TP18	0.75-0.95	Silty Clay	<4	NA	NA	<0.4	**22**	NA	**7**	**8**	NA	<0.1	**3**	NA	**10**	<0.05	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TP34	0-0.1	Fill: Silty Sand	**5**	NA	NA	<0.4	**11**	NA	**20**	**270**	NA	<0.1	**9**	NA	**170**	<0.05	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	NA	Detected
TP34	0.7-0.9	Sandy Clay	<4	NA	NA	<0.4	**27**	NA	**8**	**10**	NA	<0.1	**13**	NA	**29**	<0.05	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TP35	0-0.1	Fill: Silty Sandy Clay	<4	NA	NA	<0.4	**10**	NA	**10**	**56**	NA	<0.1	**6**	NA	**110**	<0.05	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Not Detected
TP36	0-0.1	Fill: Silty Sand	<4	NA	NA	<0.4	**5**	NA	**8**	**41**	NA	<0.1	**4**	NA	**41**	**0.2**	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	NA	Not Detected
TP36	0.2-0.4	Fill: Silty Gravelly Sand	<4	NA	NA	<0.4	**2**	NA	**6**	**3**	NA	<0.1	**14**	NA	**7**	<0.05	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Not Detected
TP38	0-0.1	Fill: Silty Sand	**5**	NA	NA	**0.6**	**22**	NA	**110**	**1200**	NA	**0.2**	**11**	NA	**980**	<0.05	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	**0.2**	<0.1	<0.1	<0.1	NA	Not Detected
TP38 - [LAB_DUP]	0-0.1	Laboratory Duplicate	<4	NA	NA	<0.4	**17**	NA	**56**	**460**	NA	**0.1**	**12**	NA	**390**	<0.05	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	**0.2**	<0.1	<0.1	<0.1	NA	NA
TP38 - [LAB_TRIP]	0-0.1	Laboratory Triplicate	<4	NA	NA	**0.6**	**25**	NA	**97**	**950**	NA	**0.2**	**14**	NA	**970**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TP38	0.6-0.8	Fill: Clayey Gravelly Sand	**7**	NA	NA	**0.7**	**9**	NA	**140**	**1200**	NA	**1.9**	**18**	NA	**470**	**0.05**	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Not Detected
TP39	0-0.1	Fill: Silty Sand	<4	NA	NA	<0.4	**8**	NA	**13**	**170**	NA	<0.1	**7**	NA	**96**	**0.52**	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	NA	Not Detected
TP39	0.2-0.4	Fill: Gravelly Sand	<4	NA	NA	<0.4	**8**	NA	**19**	**26**	NA	<0.1	**21**	NA	**18**	<0.05	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Not Detected
TP39	1.0-1.2	Fill: Silty Clayey Sand	<4	NA	NA	<0.4	**7**	NA	**8**	**22**	NA	<0.1	**6**	NA	**25**	<0.05	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Not Detected
TP39 - [LAB_DUP]	1.0-1.2	Laboratory Duplicate	<4	NA	NA	<0.4	**9**	NA	**9**	**24**	NA	<0.1	**8**	NA	**29**	<0.05	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TP40	0-0.1	Fill: Gravelly Sand	<4	NA	NA	<0.4	**390**	NA	**10**	**21**	NA	<0.1	**4**	NA	**54**	<0.05	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5	Not Detected
TP40 (Cr VI)	0-0.1	Fill: Gravelly Sand	NA	NA	NA	NA	<1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TP40	0.2-0.4	Fill: Silty Gravelly Sand	**6**	NA	NA	<0.4	**9**	NA	**24**	**120**	NA	<0.1	**17**	NA	**110**	<0.05	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	<5	Not Detected
TP40	0.5-0.7	Fill: Silty Clay	<4	NA	NA	<0.4	**15**	NA	**5**	**19**	NA	<0.1	**4**	NA	**11**	<0.05	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Not Detected
TP40	1.6-1.8	Silty Sandy Clay	<4	NA	NA	<0.4	**1**	NA	<1	**3**	NA	<0.1	<1	NA	**2**	<0.05	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TP47	0-0.1	Fill: Silty Clayey Sand	<4	NA	NA	<0.4	**10**	NA	**15**	**58**	NA	<0.1	**8**	NA	**77**	<0.05	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	NA	Not Detected
TP47	0.2-0.4	Fill: Silty Sandy Clay	**5**	NA	NA	<0.4	**19**	NA	**18**	**57**	NA	<0.1	**10**	NA	**64**	<0.05	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Not Detected
TP48	0-0.1	Fill: Silty Sand	**7**	NA	NA	<0.4	**12**	NA	**35**	**160**	NA	<0.1	**13**	NA	**110**	<0.05	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	NA	Not Detected
TP48	1.0-1.2	Fill: Silty Clay	**6**	NA	NA	<0.4	**16**	NA	**28**	**23**	NA	<0.1	**9**	NA	**55**	<0.05	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Not Detected
TP49	0-0.1	Fill: Silty Sand	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Detected
TP49	0.1-0.3	Fill: Silty Clayey Sand	<4	NA	NA	<0.4	**7**	NA	**16**	**53**	NA	<0.1	**9**	NA	**76**	<0.05	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TP49	0.4-0.6	Fill: Silty Sandy Clay	**5**	NA	NA	<0.4	**9**	NA	**11**	**21**	NA	<0.1	**7**	NA	**64**	<0.05	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Not Detected
TP49	1.5-1.7	Silty Clay	<4	NA	NA	<0.4	**14**	NA	**10**	**13**	NA	<0.1	**7**	NA	**26**	<0.05	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TP49 - [LAB_DUP]	1.5-1.7	Laboratory Duplicate	<4	NA	NA	<0.4	**14**	NA	**10**	**13**	NA	<0.1	**7**	NA	**24**	<0.05	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TP50	0-0.1	Fill: Silty Sand	<4	NA	NA	<0.4	**6**	NA	**16**	**97**	NA	<0.1	**7**	NA	**98**	**1.2**	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	NA	Not Detected
TP50	0.2-0.4	Fill: Gravelly Sand	<4	NA	NA	<0.4	**3**	NA	**18**	**41**	NA	<0.1	**17**	NA	**42**	<0.05	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Detected
TP51	0-0.1	Fill: Silty Sand	<4	NA	NA	<0.4	**9**	NA	**21**	**93**	NA	<0.1	**9**	NA	**100**	<0.05	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Not Detected
TP51	0.1-0.3	Fill: Silty Sandy Clay	**4**	NA	NA	<0.4	**13**	NA	**24**	**46**	NA	<0.1	**6**	NA	**81**	<0.05	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Not Detected
TP51	0.6-0.8	Fill: Silty Clay	**4**	NA	NA	<0.4	**11**	NA	**27**	**30**	NA	<0.1	**7**	NA	**81**	<0.05	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Not Detected
TP52	0-0.1	Fill: Silty Sand	<4	NA	NA	<0.4	**8**	NA	**11**	**83**	NA	<0.1	**4**	NA	**83**	<0.05	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5	Not Detected
TP52	0.2-0.4	Silty Clay	**5**	NA	NA	<0.4	**17**	NA	**9**	**15**	NA	<0.1	**4**	NA	**14**	<0.05	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TP45	0-0.1	Fill: Silty Sandy Clay	**11**	NA	NA	<0.4	**15**	NA	**43**	**400**	NA	**0.4**	**15**	NA	**260**	<0.05	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	NA	Not Detected
TP45	0.6-0.8	Silty Sandy Clay	<4	NA	NA	<0.4	**16**	NA	**30**	**21**	NA	<0.1	**8**	NA	**42**	<0.05	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TP56	0-0.1	Fill: Silty Sandy Clay	**6**	NA	NA	<0.4	**17**	NA	**23**	**250**	NA	**0.2**	**15**	NA	**850**	<0.05	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	NA	Not Detected
TP56	0.4-0.6	Silty Clay	<4	NA	NA	<0.4	**22**	NA	**35**	**14**	NA	<0.1	**7**	NA	**42**	<0.05	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TP57	0-0.1	Fill: Silty Sandy Clay	**6**	NA	NA	<0.4	**18**	NA	**22**	**52**	NA	<0.1	**10**	NA	**52**	<0.05	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Not Detected
TP76	0-0.1	Fill: Silty Sandy Clay	**5**	NA	NA	<0.4	**19**	NA	**18**	**28**	NA	<0.1	**11**	NA	**38**	<0.05	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	NA	Not Detected
TP76	0.4-0.6	Silty Clay	**4**	NA	NA	<0.4	**17**	NA	**33**	**21**	NA	<0.1	**4**	NA	**29**	<0.05	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TP76 - [LAB_DUP]	0.4-0.6	Laboratory Duplicate	<4	NA	NA	<0.4	**16**	NA	**31**	**20**	NA	<0.1	**3**	NA	**26**	<0.05	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SDUP6	0-0.1	Duplicate of TP3	<4	NA	NA	<0.4	**10**	NA	**41**	**190**	NA	<0.1	**12**	NA	**120**	**1.1**	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Not Detected
SDUP8	0-0.1	Duplicate of TP36	<4	NA	NA	<0.4	**5**	NA	**12**	**53**	NA	<0.1	**7**	NA	**79**	**0.68**	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SDUP10	0-0.1	Duplicate of TP40	<4	NA	NA	<0.4	**180**	NA	**17**	**23**	NA	<0.1	**5**	NA	**58**	<0.05	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5	Not Detected
SDUP11	0-0.1	Duplicate of TP50	**6**	<1	<3	<0.4	**8**	**6**	**45**	**140**	**160**	<0.1	**7**	<2	**160**	**2.3**	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	NA	Not Detected
SDUP12	0-0.1	Duplicate of TP47	**6**	<1	<3	<0.4	**14**	**9**	**12**	**61**	**23**	<0.1	**9**	<2	**93**	<0.5	<0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SDUP14	0-0.1	Duplicate of TP76	**9**	<1	<3	<0.4	**17**	**13**	**20**	**46**	**1500**	<0.1	**13**	<2	**66**	<0.5	<0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Not Detected
FCF1 - Surface	Surface	Fragment	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Detected
FCF2 - Surface	Surface	Fragment	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Detected
FCF3 - Surface	Surface	Fragment	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Detected
FCF4 - Surface	Surface	Fragment	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Detected
FCF5 - Surface	Surface	Fragment	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Detected
TP50-FCF1		Fragment	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Detected
Total Number of Samples			67	3	3	67	67	3	67	67	3	67	67	3	67	65	65	21	21	21	21	21	21	21	21	21	4	45
Maximum Value			11	<PQL	<PQL	1	390	13	140	1200	1500	1.9	21	<2	980	2	2.3	<PQL	<PQL	<PQL	<PQL	<PQL	0.2	<PQL	<PQL	<PQL	<PQL	Detected

Concentration above the SAC **VALUE**
Concentration above the PQL **Bold**

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TABLE S2
SOIL LABORATORY RESULTS COMPARED TO HSLs
All data in mg/kg unless stated otherwise

					C_6-C_{10} (F1)	>C_{10}-C_{16} (F2)	Benzene	Toluene	Ethylbenzene	Xylenes	Naphthalene	Field PID Measurement
PQL - Envirolab Services					25	50	0.2	0.5	1	1	1	ppm
NEPM 2013 HSL Land Use Category					**HSL-A/B: LOW/HIGH DENSITY RESIDENTIAL**							
Sample Reference	**Sample Depth**	**Sample Description**	**Depth Category**	**Soil Category**								
TP3	0-0.1	Fill: Silty Clayey Sand	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0
TP3 - [LAB_DUP]	0-0.1	Laboratory Duplicate	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	NA
TP3	0.5-0.7	Fill: Silty Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0
TP4	0-0.1	Fill: Silty Clayey Sand	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0
TP4	0.3-0.5	Fill: Silty Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0
TP4	0.65-0.85	Fill: Silty Clayey Sand	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0
TP13	0-0.1	Fill: Silty Clayey Sand	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0
TP13	0.4-0.6	Silty Sand	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0
TP14	0-0.1	Fill: Gravelly Sand	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0
TP14	0.6-0.8	Silty Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0
TP15	0.3-0.5	Fill: Silty Clayey Sand	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0
TP15	0.7-0.9	Silty Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0
TP16	0.2-0.5	Fill: Silty Sand	0m to <1m	Sand	<25	**65**	<0.2	<0.5	<1	<1	<1	0
TP16	0.5-0.7	Fill: Sandy Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0
TP17	0-0.1	Fill: Silty Clayey Sand	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0
TP17 - [LAB_DUP]	0-0.1	Laboratory Duplicate	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	NA
TP17	0.5-0.7	Fill: Silty Sandy Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0
TP18	0-0.1	Fill: Silty Gravelly Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0
TP18	0.3-0.5	Fill: Silty Sandy Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0
TP18	0.75-0.95	Silty Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0
TP34	0-0.1	Fill: Silty Sand	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0
TP34	0.7-0.9	Sandy Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0
TP35	0-0.1	Fill: Silty Sandy Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0
TP36	0-0.1	Fill: Silty Sand	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0
TP36	0.2-0.4	Fill: Silty Gravelly Sand	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0
TP38	0-0.1	Fill: Silty Sand	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0
TP38 - [LAB_DUP]	0-0.1	Laboratory Duplicate	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	NA
TP38	0.6-0.8	Fill: Clayey Gravelly Sand	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0
TP39	0-0.1	Fill: Silty Sand	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0
TP39	0.2-0.4	Fill: Gravelly Sand	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0
TP39	1.0-1.2	Fill: Silty Clayey Sand	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0
TP39 - [LAB_DUP]	1.0-1.2	Laboratory Duplicate	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	NA
TP40	0-0.1	Fill: Gravelly Sand	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0
TP40	0.2-0.4	Fill: Silty Gravelly Sand	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0
TP40	0.5-0.7	Fill: Silty Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0
TP40	1.6-1.8	Silty Sandy Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0
TP47	0-0.1	Fill: Silty Clayey Sand	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0
TP47	0.2-0.4	Fill: Silty Sandy Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0
TP48	0-0.1	Fill: Silty Sand	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0
TP48	1.0-1.2	Fill: Silty Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0
TP49	0.1-0.3	Fill: Silty Clayey Sand	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0
TP49	0.4-0.6	Fill: Silty Sandy Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0
TP49	1.5-1.7	Silty Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0
TP49 - [LAB_DUP]	1.5-1.7	Laboratory Duplicate	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	NA
TP50	0-0.1	Fill: Silty Sand	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0
TP50	0.2-0.4	Fill: Gravelly Sand	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0
TP51	0-0.1	Fill: Silty Sand	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0
TP51	0.1-0.3	Fill: Silty Sandy Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0
TP51	0.6-0.8	Fill: Silty Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0
TP52	0-0.1	Fill: Silty Sand	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0
TP52	0.2-0.4	Silty Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0
TP45	0-0.1	Fill: Silty Sandy Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0
TP45	0.6-0.8	Silty Sandy Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0
TP56	0-0.1	Fill: Silty Sandy Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0
TP56	0.4-0.6	Silty Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0
TP57	0-0.1	Fill: Silty Sandy Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0
TP76	0-0.1	Fill: Silty Sandy Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0
TP76	0.4-0.6	Silty Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0
TP76 - [LAB_DUP]	0.4-0.6	Laboratory Duplicate	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0
SDUP6	0-0.1	Duplicate of TP3	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	NA
SDUP8	0-0.1	Duplicate of TP36	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	NA
SDUP10	0-0.1	Duplicate of TP40	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	NA
SDUP11	0-0.1	Duplicate of TP50	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	NA
SDUP12	0-0.1	Duplicate of TP47	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	NA
SDUP14	0-0.1	Duplicate of TP76	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	NA
Total Number of Samples					65	65	65	65	65	65	65	54
Maximum Value					<PQL	65	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL

Concentration above the SAC **VALUE**
Concentration above the PQL **Bold**
The guideline corresponding to the concentration above the SAC is highlighted in grey in the Site Assessment Criteria Table below

HSL SOIL ASSESSMENT CRITERIA

Sample Reference	**Sample Depth**	**Sample Description**	**Depth Category**	**Soil Category**	C_6-C_{10} (F1)	>C_{10}-C_{16} (F2)	Benzene	Toluene	Ethylbenzene	Xylenes	Naphthalene
TP3	0-0.1	Fill: Silty Clayey Sand	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP3 - [LAB_DUP]	0-0.1	Laboratory Duplicate	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP3	0.5-0.7	Fill: Silty Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP4	0-0.1	Fill: Silty Clayey Sand	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP4	0.3-0.5	Fill: Silty Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP4	0.65-0.85	Fill: Silty Clayey Sand	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP13	0-0.1	Fill: Silty Clayey Sand	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP13	0.4-0.6	Silty Sand	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP14	0-0.1	Fill: Gravelly Sand	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP14	0.6-0.8	Silty Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP15	0.3-0.5	Fill: Silty Clayey Sand	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP15	0.7-0.9	Silty Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP16	0.2-0.5	Fill: Silty Sand	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP16	0.5-0.7	Fill: Sandy Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP17	0-0.1	Fill: Silty Clayey Sand	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP17 - [LAB_DUP]	0-0.1	Laboratory Duplicate	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP17	0.5-0.7	Fill: Silty Sandy Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP18	0-0.1	Fill: Silty Gravelly Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP18	0.3-0.5	Fill: Silty Sandy Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP18	0.75-0.95	Silty Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP34	0-0.1	Fill: Silty Sand	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP34	0.7-0.9	Sandy Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP35	0-0.1	Fill: Silty Sandy Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP36	0-0.1	Fill: Silty Sand	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP36	0.2-0.4	Fill: Silty Gravelly Sand	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP38	0-0.1	Fill: Silty Sand	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP38 - [LAB_DUP]	0-0.1	Laboratory Duplicate	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP38	0.6-0.8	Fill: Clayey Gravelly Sand	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP39	0-0.1	Fill: Silty Sand	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP39	0.2-0.4	Fill: Gravelly Sand	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP39	1.0-1.2	Fill: Silty Clayey Sand	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP39 - [LAB_DUP]	1.0-1.2	Laboratory Duplicate	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP40	0-0.1	Fill: Gravelly Sand	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP40	0.2-0.4	Fill: Silty Gravelly Sand	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP40	0.5-0.7	Fill: Silty Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP40	1.6-1.8	Silty Sandy Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP47	0-0.1	Fill: Silty Clayey Sand	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP47	0.2-0.4	Fill: Silty Sandy Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP48	0-0.1	Fill: Silty Sand	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP48	1.0-1.2	Fill: Silty Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP49	0.1-0.3	Fill: Silty Clayey Sand	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP49	0.4-0.6	Fill: Silty Sandy Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP49	1.5-1.7	Silty Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP49 - [LAB_DUP]	1.5-1.7	Laboratory Duplicate	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP50	0-0.1	Fill: Silty Sand	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP50	0.2-0.4	Fill: Gravelly Sand	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP51	0-0.1	Fill: Silty Sand	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP51	0.1-0.3	Fill: Silty Sandy Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP51	0.6-0.8	Fill: Silty Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP52	0-0.1	Fill: Silty Sand	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP52	0.2-0.4	Silty Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP45	0-0.1	Fill: Silty Sandy Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP45	0.6-0.8	Silty Sandy Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP56	0-0.1	Fill: Silty Sandy Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP56	0.4-0.6	Silty Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP57	0-0.1	Fill: Silty Sandy Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP76	0-0.1	Fill: Silty Sandy Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP76	0.4-0.6	Silty Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP76 - [LAB_DUP]	0.4-0.6	Laboratory Duplicate	0m to <1m	Sand	45	110	0.5	160	55	40	3
SDUP6	0-0.1	Duplicate of TP3	0m to <1m	Sand	45	110	0.5	160	55	40	3
SDUP8	0-0.1	Duplicate of TP36	0m to <1m	Sand	45	110	0.5	160	55	40	3
SDUP10	0-0.1	Duplicate of TP40	0m to <1m	Sand	45	110	0.5	160	55	40	3
SDUP11	0-0.1	Duplicate of TP50	0m to <1m	Sand	45	110	0.5	160	55	40	3
SDUP12	0-0.1	Duplicate of TP47	0m to <1m	Sand	45	110	0.5	160	55	40	3
SDUP14	0-0.1	Duplicate of TP76	0m to <1m	Sand	45	110	0.5	160	55	40	3

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TABLE S3
SOIL LABORATORY RESULTS COMPARED TO MANAGEMENT LIMITS
All data in mg/kg unless stated otherwise

			C_6-C_{10} (F1) plus BTEX	>C_{10}-C_{16} (F2) plus napthalene	>C_{16}-C_{34} (F3)	>C_{34}-C_{40} (F4)
PQL - Envirolab Services			25	50	100	100
NEPM 2013 Land Use Category			RESIDENTIAL, PARKLAND & PUBLIC OPEN SPACE			
Sample Reference	**Sample Depth**	**Soil Texture**				
TP3	0-0.1	Coarse	<25	<50	**210**	**130**
TP3 - [LAB_DUP]	0-0.1	Coarse	<25	<50	**330**	**180**
TP3	0.5-0.7	Coarse	<25	<50	<100	<100
TP4	0-0.1	Coarse	<25	<50	<100	<100
TP4	0.3-0.5	Coarse	<25	<50	<100	<100
TP4	0.65-0.85	Coarse	<25	<50	<100	<100
TP13	0-0.1	Coarse	<25	<50	<100	<100
TP13	0.4-0.6	Coarse	<25	<50	<100	<100
TP14	0-0.1	Coarse	<25	<50	**110**	<100
TP14	0.6-0.8	Coarse	<25	<50	<100	<100
TP15	0.3-0.5	Coarse	<25	<50	**110**	<100
TP15	0.7-0.9	Coarse	<25	<50	<100	<100
TP16	0.2-0.5	Coarse	<25	**65**	**350**	**100**
TP16	0.5-0.7	Coarse	<25	<50	<100	<100
TP17	0-0.1	Coarse	<25	<50	<100	<100
TP17 - [LAB_DUP]	0-0.1	Coarse	<25	<50	<100	<100
TP17	0.5-0.7	Coarse	<25	<50	<100	<100
TP18	0-0.1	Coarse	<25	<50	<100	<100
TP18	0.3-0.5	Coarse	<25	<50	<100	<100
TP18	0.75-0.95	Coarse	<25	<50	<100	<100
TP34	0-0.1	Coarse	<25	<50	<100	<100
TP34	0.7-0.9	Coarse	<25	<50	<100	<100
TP35	0-0.1	Coarse	<25	<50	<100	<100
TP36	0-0.1	Coarse	<25	<50	<100	<100
TP36	0.2-0.4	Coarse	<25	<50	<100	<100
TP38	0-0.1	Coarse	<25	<50	**230**	**120**
TP38 - [LAB_DUP]	0-0.1	Coarse	<25	<50	**300**	**150**
TP38	0.6-0.8	Coarse	<25	<50	<100	<100
TP39	0-0.1	Coarse	<25	<50	**160**	<100
TP39	0.2-0.4	Coarse	<25	<50	<100	<100
TP39	1.0-1.2	Coarse	<25	<50	<100	<100
TP39 - [LAB_DUP]	1.0-1.2	Coarse	<25	<50	<100	<100
TP40	0-0.1	Coarse	<25	<50	<100	<100
TP40	0.2-0.4	Coarse	<25	<50	<100	<100
TP40	0.5-0.7	Coarse	<25	<50	<100	<100
TP40	1.6-1.8	Coarse	<25	<50	<100	<100
TP47	0-0.1	Coarse	<25	<50	<100	<100
TP47	0.2-0.4	Coarse	<25	<50	<100	<100
TP48	0-0.1	Coarse	<25	<50	<100	<100
TP48	1.0-1.2	Coarse	<25	<50	<100	<100
TP49	0.1-0.3	Coarse	<25	<50	<100	<100
TP49	0.4-0.6	Coarse	<25	<50	<100	<100
TP49	1.5-1.7	Coarse	<25	<50	<100	<100
TP49 - [LAB_DUP]	1.5-1.7	Coarse	<25	<50	<100	<100
TP50	0-0.1	Coarse	<25	<50	<100	<100
TP50	0.2-0.4	Coarse	<25	<50	<100	<100
TP51	0-0.1	Coarse	<25	<50	**100**	<100
TP51	0.1-0.3	Coarse	<25	<50	<100	<100
TP51	0.6-0.8	Coarse	<25	<50	<100	<100
TP52	0-0.1	Coarse	<25	<50	<100	<100
TP52	0.2-0.4	Coarse	<25	<50	<100	<100
TP45	0-0.1	Coarse	<25	<50	<100	<100
TP45	0.6-0.8	Coarse	<25	<50	<100	<100
TP56	0-0.1	Coarse	<25	<50	<100	<100
TP56	0.4-0.6	Coarse	<25	<50	<100	<100
TP57	0-0.1	Coarse	<25	<50	<100	<100
TP76	0-0.1	Coarse	<25	<50	<100	<100
TP76	0.4-0.6	Coarse	<25	<50	<100	<100
TP76 - [LAB_DUP]	0.4-0.6	Coarse	<25	<50	<100	<100
SDUP6	0-0.1	Coarse	<25	<50	**270**	**140**
SDUP8	0-0.1	Coarse	<25	<50	<100	<100
SDUP10	0-0.1	Coarse	<25	<50	<100	<100
SDUP11	0-0.1	Coarse	<25	<50	<100	<100
SDUP12	0-0.1	Coarse	<25	<50	<100	<100
SDUP14	0-0.1	Coarse	<25	<50	**110**	<100
Total Number of Samples			65	65	65	65
Maximum Value			<PQL	65	350	180

Concentration above the SAC — **VALUE**
Concentration above the PQL — **Bold**

MANAGEMENT LIMIT ASSESSMENT CRITERIA

Sample Reference	**Sample Depth**	**Soil Texture**	C_6-C_{10} (F1) plus BTEX	>C_{10}-C_{16} (F2) plus napthalene	>C_{16}-C_{34} (F3)	>C_{34}-C_{40} (F4)
TP3	0-0.1	Coarse	700	1000	2500	10000
TP3 - [LAB_DUP]	0-0.1	Coarse	700	1000	2500	10000
TP3	0.5-0.7	Coarse	700	1000	2500	10000
TP4	0-0.1	Coarse	700	1000	2500	10000
TP4	0.3-0.5	Coarse	700	1000	2500	10000
TP4	0.65-0.85	Coarse	700	1000	2500	10000
TP13	0-0.1	Coarse	700	1000	2500	10000
TP13	0.4-0.6	Coarse	700	1000	2500	10000
TP14	0-0.1	Coarse	700	1000	2500	10000
TP14	0.6-0.8	Coarse	700	1000	2500	10000
TP15	0.3-0.5	Coarse	700	1000	2500	10000
TP15	0.7-0.9	Coarse	700	1000	2500	10000
TP16	0.2-0.5	Coarse	700	1000	2500	10000
TP16	0.5-0.7	Coarse	700	1000	2500	10000
TP17	0-0.1	Coarse	700	1000	2500	10000
TP17 - [LAB_DUP]	0-0.1	Coarse	700	1000	2500	10000
TP17	0.5-0.7	Coarse	700	1000	2500	10000
TP18	0-0.1	Coarse	700	1000	2500	10000
TP18	0.3-0.5	Coarse	700	1000	2500	10000
TP18	0.75-0.95	Coarse	700	1000	2500	10000
TP34	0-0.1	Coarse	700	1000	2500	10000
TP34	0.7-0.9	Coarse	700	1000	2500	10000
TP35	0-0.1	Coarse	700	1000	2500	10000
TP36	0-0.1	Coarse	700	1000	2500	10000
TP36	0.2-0.4	Coarse	700	1000	2500	10000
TP38	0-0.1	Coarse	700	1000	2500	10000
TP38 - [LAB_DUP]	0-0.1	Coarse	700	1000	2500	10000
TP38	0.6-0.8	Coarse	700	1000	2500	10000
TP39	0-0.1	Coarse	700	1000	2500	10000
TP39	0.2-0.4	Coarse	700	1000	2500	10000
TP39	1.0-1.2	Coarse	700	1000	2500	10000
TP39 - [LAB_DUP]	1.0-1.2	Coarse	700	1000	2500	10000
TP40	0-0.1	Coarse	700	1000	2500	10000
TP40	0.2-0.4	Coarse	700	1000	2500	10000
TP40	0.5-0.7	Coarse	700	1000	2500	10000
TP40	1.6-1.8	Coarse	700	1000	2500	10000
TP47	0-0.1	Coarse	700	1000	2500	10000
TP47	0.2-0.4	Coarse	700	1000	2500	10000
TP48	0-0.1	Coarse	700	1000	2500	10000
TP48	1.0-1.2	Coarse	700	1000	2500	10000
TP49	0.1-0.3	Coarse	700	1000	2500	10000
TP49	0.4-0.6	Coarse	700	1000	2500	10000
TP49	1.5-1.7	Coarse	700	1000	2500	10000
TP49 - [LAB_DUP]	1.5-1.7	Coarse	700	1000	2500	10000
TP50	0-0.1	Coarse	700	1000	2500	10000
TP50	0.2-0.4	Coarse	700	1000	2500	10000
TP51	0-0.1	Coarse	700	1000	2500	10000
TP51	0.1-0.3	Coarse	700	1000	2500	10000
TP51	0.6-0.8	Coarse	700	1000	2500	10000
TP52	0-0.1	Coarse	700	1000	2500	10000
TP52	0.2-0.4	Coarse	700	1000	2500	10000
TP45	0-0.1	Coarse	700	1000	2500	10000
TP45	0.6-0.8	Coarse	700	1000	2500	10000
TP56	0-0.1	Coarse	700	1000	2500	10000
TP56	0.4-0.6	Coarse	700	1000	2500	10000
TP57	0-0.1	Coarse	700	1000	2500	10000
TP76	0-0.1	Coarse	700	1000	2500	10000
TP76	0.4-0.6	Coarse	700	1000	2500	10000
TP76 - [LAB_DUP]	0.4-0.6	Coarse	700	1000	2500	10000
SDUP6	0-0.1	Coarse	700	1000	2500	10000
SDUP8	0-0.1	Coarse	700	1000	2500	10000
SDUP10	0-0.1	Coarse	700	1000	2500	10000
SDUP11	0-0.1	Coarse	700	1000	2500	10000
SDUP12	0-0.1	Coarse	700	1000	2500	10000
SDUP14	0-0.1	Coarse	700	1000	2500	10000

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TABLE S4
SOIL LABORATORY RESULTS COMPARED T0 DIRECT CONTACT CRITERIA
All data in mg/kg unless stated otherwise

Analyte		C_6-C_{10}	>C_{10}-C_{16}	>C_{16}-C_{34}	>C_{34}-C_{40}	Benzene	Toluene	Ethylbenzene	Xylenes	Naphthalene	PID
PQL - Envirolab Services		25	50	100	100	0.2	0.5	1	1	1	
CRC 2011 -Direct contact Criteria		4,400	3,300	4,500	6,300	100	14,000	4,500	12,000	1,400	
Site Use		RESIDENTIAL WITH ACCESSIBLE SOIL- DIRECT SOIL CONTACT									
Sample Reference	**Sample Depth**										
TP3	0-0.1	<25	<50	**210**	**130**	<0.2	<0.5	<1	<1	<1	0
TP3 - [LAB_DUP]	0-0.1	<25	<50	**330**	**180**	<0.2	<0.5	<1	<1	<1	NA
TP3	0.5-0.7	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	0
TP4	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	0
TP4	0.3-0.5	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	0
TP4	0.65-0.85	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	0
TP13	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	0
TP13	0.4-0.6	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	0
TP14	0-0.1	<25	<50	**110**	<100	<0.2	<0.5	<1	<1	<1	0
TP14	0.6-0.8	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	0
TP15	0.3-0.5	<25	<50	**110**	<100	<0.2	<0.5	<1	<1	<1	0
TP15	0.7-0.9	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	0
TP16	0.2-0.5	<25	**65**	**350**	**100**	<0.2	<0.5	<1	<1	<1	0
TP16	0.5-0.7	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	0
TP17	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	0
TP17 - [LAB_DUP]	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	NA
TP17	0.5-0.7	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	0
TP18	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	0
TP18	0.3-0.5	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	0
TP18	0.75-0.95	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	0
TP34	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	0
TP34	0.7-0.9	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	0
TP35	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	0
TP36	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	0
TP36	0.2-0.4	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	0
TP38	0-0.1	<25	<50	**230**	**120**	<0.2	<0.5	<1	<1	<1	0
TP38 - [LAB_DUP]	0-0.1	<25	<50	**300**	**150**	<0.2	<0.5	<1	<1	<1	NA
TP38	0.6-0.8	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	0
TP39	0-0.1	<25	<50	**160**	<100	<0.2	<0.5	<1	<1	<1	0
TP39	0.2-0.4	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	0
TP39	1.0-1.2	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	0
TP39 - [LAB_DUP]	1.0-1.2	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	NA
TP40	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	0
TP40	0.2-0.4	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	0
TP40	0.5-0.7	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	0
TP40	1.6-1.8	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	0
TP47	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	0
TP47	0.2-0.4	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	0
TP48	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	0
TP48	1.0-1.2	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	0
TP49	0.1-0.3	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	0
TP49	0.4-0.6	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	0
TP49	1.5-1.7	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	0
TP49 - [LAB_DUP]	1.5-1.7	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	NA
TP50	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	0
TP50	0.2-0.4	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	0
TP51	0-0.1	<25	<50	**100**	<100	<0.2	<0.5	<1	<1	<1	0
TP51	0.1-0.3	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	0
TP51	0.6-0.8	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	0
TP52	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	0
TP52	0.2-0.4	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	0
TP45	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	0
TP45	0.6-0.8	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	0
TP56	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	0
TP56	0.4-0.6	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	0
TP57	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	0
TP76	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	0
TP76	0.4-0.6	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	0
TP76 - [LAB_DUP]	0.4-0.6	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	0
SDUP6	0-0.1	<25	<50	**270**	**140**	<0.2	<0.5	<1	<1	<1	NA
SDUP8	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	NA
SDUP10	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	NA
SDUP11	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	NA
SDUP12	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	NA
SDUP14	0-0.1	<25	<50	**110**	<100	<0.2	<0.5	<1	<1	<1	NA
Total Number of Samples		65	65	65	65	65	65	65	65	65	54
Maximum Value		<PQL	65	350	180	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL

Concentration above the SAC **VALUE**
Concentration above the PQL **Bold**

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TABLE S5
ASBESTOS QUANTIFICATION - FIELD OBSERVATIONS AND LABORATORY RESULTS
HSL-A: Residential with garden/accessible soils; children's day care centers; preschools; and primary schools

FIELD DATA															LABORATORY DATA									
Date Sampled	Sample reference	Sample Depth	Visible ACM in top 100mm	Approx. Volume of Soil (L)	Soil Mass (g)	Mass ACM (g)	Mass Asbestos in ACM (g)	[Asbestos from ACM in soil] (%w/w)	Mass ACM <7mm (g)	Mass Asbestos in ACM <7mm (g)	[Asbestos from ACM <7mm in soil] (%w/w)	Mass FA (g)	Mass Asbestos in FA (g)	[Asbestos from FA in soil] (%w/w)	Lab Report Number	Sample reference	Sample Depth	Sample Mass (g)	Trace Analysis	Total Asbestos (g/kg)	Asbestos ID in soil <0.1g/kg	ACM >7mm Estimation (g)	FA and AF Estimation (g)	ACM >7mm Estimation %(w/w)	FA and AF Estimation %(w/w)
SAC			**No**					**0.01**			**0.001**			**0.001**										**0.01**	**0.001**
21/02/2022	TP3	0-0.1	No	10	11,710	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	289658	TP3	0-0.1	506.2	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	289658	SDUP6	0-0.1	714.66	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
21/02/2022	TP3	0.1-0.5	NA	10	12,240	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	–	–	–	–	–	–	–	–	–	–	–
21/02/2022	TP3	0.5-1.0	NA	10	10,510	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	289658	TP3	0.5-0.7	821.42	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
21/02/2022	TP4	0-0.1	No	10	10,500	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	289658	TP4	0-0.1	593.91	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
21/02/2022	TP4	0.1-0.3	NA	10	10,220	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	–	–	–	–	–	–	–	–	–	–	–
21/02/2022	TP4	0.3-0.65	NA	10	10,160	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	–	–	–	–	–	–	–	–	–	–	–
21/02/2022	TP4	0.65-1.35	NA	10	11,660	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	–	–	–	–	–	–	–	–	–	–	–
21/02/2022	TP13	0-0.1	No	10	11,770	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	289658	TP13	0-0.1	696.77	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
21/02/2022	TP13	0.1-0.4	NA	10	10,850	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	–	–	–	–	–	–	–	–	–	–	–
21/02/2022	TP14	0-0.1	No	10	10,610	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	289658	TP14	0-0.1	796.26	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
21/02/2022	TP14	0.1-0.6	NA	10	10,910	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	–	–	–	–	–	–	–	–	–	–	–
21/02/2022	TP15	0-0.1	No	10	10,910	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	–	–	–	–	–	–	–	–	–	–	–
21/02/2022	TP15	0.1-0.7	NA	10	10,160	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	289658	TP15	0.3-0.5	619.24	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
21/02/2022	TP16	0-0.1	No	10	10,310	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	289658	TP16	0-0.1	45721	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
21/02/2022	TP16	0.1-0.5	NA	10	11,800	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	289658	TP16	0.2-0.5	636.3	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
21/02/2022	TP16	0.5-0.7	NA	10	12,620	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	289658	TP16	0.5-0.7	831.43	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
22/02/2022	TP17	0-0.1	No	10	12,620	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	289658	TP17	0-0.1	837.61	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
22/02/2022	TP17	0.1-0.45	NA	10	13,880	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	–	–	–	–	–	–	–	–	–	–	–
22/02/2022	TP17	0.45-0.8	NA	10	12,190	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	289658	TP17	0.5-0.7	756.26	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
22/02/2022	TP18	0-0.1	No	10	12,410	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	289658	TP18	0-0.1	668.02	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
22/02/2022	TP18	0.1-0.3	NA	10	12,890	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	–	–	–	–	–	–	–	–	–	–	–
22/02/2022	TP18	0.3-0.75	NA	10	14,490	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	289658	TP18	0.3-0.5	794.27	No asbestos detected	0.1147	Chrysotile	–	0.0911	<0.01	0.0115
21/02/2022	TP34	0-0.1	No	10	10,120	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	289658	TP34	0-0.1	772.49	No asbestos detected	0.2947	Chrysotile; Amosite; Crocidolite	0.2276	–	0.0295	<0.001
21/02/2022	TP34	0.1-0.7	NA	10	14,310	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	–	–	–	–	–	–	–	–	–	–	–
21/02/2022	TP35	0-0.1	No	10	13,260	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	289658	TP35	0-0.1	833.38	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
21/02/2022	TP35	0.1-0.8	NA	10	15,310	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	–	–	–	–	–	–	–	–	–	–	–
22/02/2022	TP36	0-0.1	No	10	12,440	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	289658	TP36	0-0.1	810.54	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
22/02/2022	TP36	0.1-0.8	NA	10	11,430	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	289658	TP36	0.2-0.4	470.14	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
22/02/2022	TP38	0-0.1	No	10	11,570	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	289658	TP38	0-0.1	580.71	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
22/02/2022	TP38	0.1-0.6	NA	10	10,650	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	–	–	–	–	–	–	–	–	–	–	–
22/02/2022	TP38	0.6-1.2	NA	10	11,350	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	289658	TP38	0.6-0.8	555.45	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
22/02/2022	TP39	0-0.1	No	10	13,520	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	289658	TP39	0-0.1	536.07	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
22/02/2022	TP39	0.1-0.6	NA	10	10,580	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	289658	TP39	0.2-0.4	483.06	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
22/02/2022	TP39	0.6-1.0	NA	10	14,100	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	–	–	–	–	–	–	–	–	–	–	–
22/02/2022	TP39	1.0-1.4	NA	10	12,650	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	289658	TP39	1.0-1.2	767.49	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
22/02/2022	TP40	0-0.1	No	10	12,840	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	289658	TP40	0-0.1	798.21	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	289658	SDUP10	0-0.1	603.54	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
22/02/2022	TP40	0.1-0.4	NA	10	12,610	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	289658	TP40	0.2-0.4	600.7	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
22/02/2022	TP40	0.4-1.1	NA	10	11,280	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	289658	TP40	0.5-0.7	662.21	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
22/02/2022	TP40	1.1-1.4	NA	10	13,130	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	–	–	–	–	–	–	–	–	–	–	–
22/02/2022	TP47	0-0.1	No	10	11,700	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	289658	TP47	0-0.1	730.17	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
22/02/2022	TP47	0.1-0.8	NA	10	12,640	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	289658	TP47	0.2-0.4	722.63	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
22/02/2022	TP48	0-0.1	No	10	10,710	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	289658	TP48	0-0.1	573.72	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
22/02/2022	TP48	0.1-0.9	NA	10	11,250	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	–	–	–	–	–	–	–	–	–	–	–
22/02/2022	TP48	0.9-1.4	NA	10	11,710	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	289658	TP48	1.0-1.2	521.5	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
22/02/2022	TP49	0-0.1	No	10	11,200	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	289658	TP49	0-0.1	432.97	No asbestos detected	4.8525	Chrysotile	2.101	–	0.4852	<0.001
22/02/2022	TP49	0.1-0.3	NA	10	13,920	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	–	–	–	–	–	–	–	–	–	–	–
22/02/2022	TP49	0.3-1.5	NA	10	13,730	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	289658	TP49	0.4-0.6	651.43	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
22/02/2022	TP50	0-0.1	Yes	10	11,200	29.4	4.416	0.0394	No ACM <7mm observed	--	--	No FA observed	--	--	289658	TP50	0-0.1	588.19	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	277524	SDUP11	0-0.1	540	No asbestos detected	--	No visible asbestos detected	--	--	<0.01	<0.001
22/02/2022	TP50	0.1-0.5	NA	10	11,960	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	289658	TP50	0.2-0.4	588.89	No asbestos detected	<0.1	Chrysotile	–	0.0001	<0.01	<0.001
22/02/2022	TP50	0.5-0.8	NA	10	13,050	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	–	–	–	–	–	–	–	–	–	–	–
22/02/2022	TP51	0-0.1	No	10	11,080	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	289658	TP51	0-0.1	520.34	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
22/02/2022	TP51	0.1-0.6	NA	10	11,720	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	289658	TP51	0.1-0.3	644.87	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
22/02/2022	TP51	0.6-1.1	NA	10	10,820	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	289658	TP51	0.6-0.8	600.89	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
22/02/2022	TP52	0-0.1	No	10	10,530	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	289658	TP52	0-0.1	635.84	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
23/02/2022	TP45	0-0.1	No	10	11,180	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	289658	TP45	0-0.1	564.43	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
23/02/2022	TP45	0.1-0.5	NA	10	12,220	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	–	–	–	–	–	–	–	–	–	–	–
23/02/2022	TP56	0-0.1	No	10	12,530	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	289658	TP56	0-0.1	520.57	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
23/02/2022	TP56	0.1-0.4	NA	10	12,110	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	–	–	–	–	–	–	–	–	–	–	–
23/02/2022	TP57	0-0.1	No	10	11,970	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	289658	TP57	0-0.1	411.54	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
23/02/2022	TP57	0.4-0.2	NA	10	11,570	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	–	–	–	–	–	–	–	–	–	–	–
23/02/2022	TP76	0-0.1	No	10	10,000	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	289658	TP76	0-0.1	458.71	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	277524	SDUP14	0-0.1	361	No asbestos detected	--	No visible asbestos detected	--	--	<0.01	<0.001
23/02/2022	TP76	0.1-0.4	NA	10	13,080	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	--	--	--	--	--	--	--	--	--	--	--

Concentration above the SAC **VALUE**

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TABLE S6
SOIL LABORATORY RESULTS COMPARED TO NEPM 2013 EILs AND ESLs
All data in mg/kg unless stated otherwise

Land Use Category				URBAN RESIDENTIAL AND PUBLIC OPEN SPACE																				
								AGED HEAVY METALS EILs						EILs		ESLs								
				pH	CEC (cmolc/kg)	Total Organic Carbon (%)	Clay Content (% clay)	Arsenic	Chromium	Copper	Lead	Nickel	Zinc	Naphthalene	DDT	C_6-C_{10} (F1)	>C_{10}-C_{16} (F2)	>C_{16}-C_{34} (F3)	>C_{34}-C_{40} (F4)	Benzene	Toluene	Ethylbenzene	Total Xylenes	B(a)P
PQL - Envirolab Services				-	1	-	-	4	1	1	1	1	1	1	0.1	25	50	100	100	0.2	0.5	1	1	0.05
Ambient Background Concentration (ABC)				-	-	-	-	NSL	8	18	104	5	77	NSL	NSL	NSL	NSL	NSL	NSL	NSL	NSL	NSL	NSL	NSL
Sample Reference	**Sample Depth**	**Sample Description**	**Soil Texture**																					
TP3	0-0.1	Fill: Silty Clayey Sand	Coarse	NA	NA	NA	NA	<4	**9**	**42**	**200**	**12**	**120**	<1	<0.1	<25	<50	**210**	**130**	<0.2	<0.5	<1	<1	**0.1**
TP3 - [LAB_DUP]	0-0.1	Laboratory Duplicate	Coarse	NA	NA	NA	NA	<4	**9**	**44**	**150**	**12**	**110**	<1	<0.1	<25	<50	**310**	**180**	<0.2	<0.5	<1	<1	**0.09**
TP3 - [Silica Gel]	0-0.1	Fill: Silty Clayey Sand	Coarse	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<50	<100	<100	NA	NA	NA	NA	NA
TP3	0.5-0.7	Fill: Silty Clay	Coarse	NA	NA	NA	NA	**5**	**9**	**10**	**14**	**2**	**26**	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
TP4	0-0.1	Fill: Silty Clayey Sand	Coarse	NA	NA	NA	NA	**8**	**8**	**23**	**190**	**9**	**73**	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
TP4	0.3-0.5	Fill: Silty Clay	Coarse	NA	NA	NA	NA	**7**	**9**	**16**	**22**	<1	**5**	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
TP4	0.65-0.85	Fill: Silty Clayey Sand	Coarse	NA	NA	NA	NA	**9**	**10**	**24**	**120**	**11**	**73**	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
TP13	0-0.1	Fill: Silty Clayey Sand	Coarse	NA	NA	NA	NA	<4	**13**	**9**	**42**	**8**	**72**	<1	<0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
TP13	0.4-0.6	Silty Sand	Coarse	NA	NA	NA	NA	<4	**12**	**4**	**4**	**6**	**11**	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
TP14	0-0.1	Fill: Gravelly Sand	Coarse	NA	NA	NA	NA	<4	**7**	**13**	**56**	**5**	**52**	<1	NA	<25	<50	**110**	<100	<0.2	<0.5	<1	<1	<0.05
TP14	0.6-0.8	Silty Clay	Coarse	NA	NA	NA	NA	**5**	**25**	**8**	**11**	**3**	**26**	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
TP15	0.3-0.5	Fill: Silty Clayey Sand	Coarse	**6**	**5.8**	NA	NA	**5**	**7**	**53**	**840**	**13**	**810**	<1	<0.1	<25	<50	**110**	<100	<0.2	<0.5	<1	<1	**0.05**
TP15	0.7-0.9	Silty Clay	Coarse	NA	NA	NA	NA	<4	**26**	**6**	**15**	**4**	**110**	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
TP16	0.2-0.5	Fill: Silty Sand	Coarse	**6.7**	**21**	**5.9**	NA	**6**	**7**	**40**	**290**	**12**	**300**	<1	NA	<25	**65**	**350**	**100**	<0.2	<0.5	<1	<1	<0.05
TP16 - [Silica Gel]	0.2-0.5	Fill: Silty Sand	Coarse	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<50	<100	<100	NA	NA	NA	NA	NA
TP16	0.5-0.7	Fill: Sandy Clay	Coarse	NA	NA	NA	NA	<4	**13**	**2**	**8**	**2**	**9**	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
TP17	0-0.1	Fill: Silty Clayey Sand	Coarse	NA	NA	NA	NA	<4	**11**	**14**	**160**	**5**	**120**	<1	<0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
TP17 - [LAB_DUP]	0-0.1	Laboratory Duplicate	Coarse	NA	NA	NA	NA	<4	**12**	**24**	**150**	**5**	**110**	<1	<0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
TP17 - [LAB_TRIP]	0-0.1	Laboratory Triplicate	Coarse	NA	NA	NA	NA	<4	**14**	**51**	**210**	**5**	**110**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TP17	0.5-0.7	Fill: Silty Sandy Clay	Coarse	**6.3**	**10**	**2.6**	NA	<4	**14**	**19**	**200**	**6**	**310**	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
TP18	0-0.1	Fill: Silty Gravelly Clay	Coarse	NA	NA	NA	NA	<4	**6**	**17**	**73**	**18**	**39**	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
TP18	0.3-0.5	Fill: Silty Sandy Clay	Coarse	NA	NA	NA	NA	**8**	**11**	**15**	**220**	**12**	**35**	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
TP18	0.75-0.95	Silty Clay	Coarse	NA	NA	NA	NA	<4	**22**	**7**	**8**	**3**	**10**	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
TP34	0-0.1	Fill: Silty Sand	Coarse	**6.7**	**21**	**5.9**	NA	**5**	**11**	**20**	**270**	**9**	**170**	<1	<0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
TP34	0.7-0.9	Sandy Clay	Coarse	NA	NA	NA	NA	<4	**27**	**8**	**10**	**13**	**29**	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
TP35	0-0.1	Fill: Silty Sandy Clay	Coarse	NA	NA	NA	NA	<4	**10**	**10**	**56**	**6**	**110**	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
TP36	0-0.1	Fill: Silty Sand	Coarse	NA	NA	NA	NA	<4	**5**	**8**	**41**	**4**	**41**	<1	<0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	**0.08**
TP36	0.2-0.4	Fill: Silty Gravelly Sand	Coarse	NA	NA	NA	NA	<4	**2**	**6**	**3**	**14**	**7**	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
TP38	0-0.1	Fill: Silty Sand	Coarse	**6.7**	**21**	**5.9**	NA	**5**	**22**	**110**	**1200**	**11**	**980**	<1	<0.1	<25	<50	**230**	**120**	<0.2	<0.5	<1	<1	<0.05
TP38 - [LAB_DUP]	0-0.1	Laboratory Duplicate	Coarse	**6.7**	**21**	**5.9**	NA	<4	**17**	**56**	**460**	**12**	**390**	<1	<0.1	<25	<50	**300**	**150**	<0.2	<0.5	<1	<1	<0.05
TP38 - [LAB_TRIP]	0-0.1	Laboratory Triplicate	Coarse	**6.7**	**21**	**5.9**	NA	<4	**25**	**97**	**950**	**14**	**870**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TP38	0.6-0.8	Fill: Clayey Gravelly Sand	Coarse	**7.3**	**23**	**1.5**	NA	**7**	**9**	**140**	**1200**	**18**	**470**	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	**0.05**
TP39	0-0.1	Fill: Silty Sand	Coarse	NA	NA	NA	NA	<4	**8**	**13**	**170**	**7**	**96**	<1	<0.1	<25	<50	**160**	<100	<0.2	<0.5	<1	<1	**0.1**
TP39	0.2-0.4	Fill: Gravelly Sand	Coarse	NA	NA	NA	NA	<4	**8**	**19**	**26**	**21**	**18**	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
TP39	1.0-1.2	Fill: Silty Clayey Sand	Coarse	NA	NA	NA	NA	<4	**7**	**8**	**22**	**6**	**25**	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
TP39 - [LAB_DUP]	1.0-1.2	Laboratory Duplicate	Coarse	NA	NA	NA	NA	<4	**9**	**9**	**24**	**8**	**29**	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
TP40	0-0.1	Fill: Gravelly Sand	Coarse	NA	NA	NA	**3**	<4	**390**	**10**	**21**	**4**	**54**	<1	<0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
TP40	0.2-0.4	Fill: Silty Gravelly Sand	Coarse	NA	NA	NA	NA	**6**	**9**	**24**	**120**	**17**	**110**	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
TP40	0.5-0.7	Fill: Silty Clay	Coarse	NA	NA	NA	NA	<4	**15**	**5**	**19**	**4**	**11**	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
TP40	1.6-1.8	Silty Sandy Clay	Coarse	NA	NA	NA	NA	<4	**1**	<1	**3**	<1	**2**	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
TP47	0-0.1	Fill: Silty Clayey Sand	Coarse	NA	NA	NA	NA	<4	**10**	**15**	**58**	**8**	**77**	<1	<0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
TP47	0.2-0.4	Fill: Silty Sandy Clay	Coarse	NA	NA	NA	NA	**5**	**19**	**18**	**57**	**10**	**64**	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
TP48	0-0.1	Fill: Silty Sand	Coarse	NA	NA	NA	NA	**7**	**12**	**35**	**160**	**13**	**110**	<1	<0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
TP48	1.0-1.2	Fill: Silty Clay	Coarse	NA	NA	NA	NA	**6**	**16**	**28**	**23**	**9**	**55**	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
TP49	0.1-0.3	Fill: Silty Clayey Sand	Coarse	NA	NA	NA	NA	<4	**7**	**16**	**53**	**9**	**76**	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
TP49	0.4-0.6	Fill: Silty Sandy Clay	Coarse	NA	NA	NA	NA	**5**	**9**	**11**	**21**	**7**	**64**	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
TP49	1.5-1.7	Silty Clay	Coarse	NA	NA	NA	NA	<4	**14**	**10**	**13**	**7**	**26**	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
TP49 - [LAB_DUP]	1.5-1.7	Laboratory Duplicate	Coarse	NA	NA	NA	NA	<4	**14**	**10**	**13**	**7**	**24**	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
TP50	0-0.1	Fill: Silty Sand	Coarse	NA	NA	NA	NA	<4	**6**	**16**	**97**	**7**	**98**	<1	<0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	**0.2**
TP50	0.2-0.4	Fill: Gravelly Sand	Coarse	NA	NA	NA	NA	<4	**3**	**18**	**41**	**17**	**42**	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
TP51	0-0.1	Fill: Silty Sand	Coarse	NA	NA	NA	NA	<4	**9**	**21**	**93**	**9**	**100**	<1	NA	<25	<50	**100**	<100	<0.2	<0.5	<1	<1	<0.05
TP51	0.1-0.3	Fill: Silty Sandy Clay	Coarse	NA	NA	NA	NA	**4**	**13**	**24**	**46**	**6**	**81**	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
TP51	0.6-0.8	Fill: Silty Clay	Coarse	NA	NA	NA	NA	**4**	**11**	**27**	**30**	**7**	**81**	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
TP52	0-0.1	Fill: Silty Sand	Coarse	NA	NA	NA	NA	<4	**8**	**11**	**83**	**4**	**83**	<1	<0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
TP52	0.2-0.4	Silty Clay	Coarse	NA	NA	NA	NA	**5**	**17**	**9**	**15**	**4**	**14**	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
TP45	0-0.1	Fill: Silty Sandy Clay	Coarse	**6.3**	**10**	**2.6**	NA	**11**	**15**	**43**	**600**	**15**	**260**	<1	<0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
TP45	0.6-0.8	Silty Sandy Clay	Coarse	NA	NA	NA	NA	<4	**16**	**30**	**21**	**8**	**42**	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
TP56	0-0.1	Fill: Silty Sandy Clay	Coarse	**6.3**	**10**	**2.6**	NA	**6**	**17**	**23**	**250**	**15**	**810**	<1	<0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
TP56	0.4-0.6	Silty Clay	Coarse	NA	NA	NA	NA	<4	**22**	**35**	**14**	**7**	**42**	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
TP57	0-0.1	Fill: Silty Sandy Clay	Coarse	NA	NA	NA	NA	**6**	**18**	**22**	**52**	**10**	**52**	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
TP76	0-0.1	Fill: Silty Sandy Clay	Coarse	NA	NA	NA	NA	**5**	**19**	**18**	**28**	**11**	**38**	<1	<0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
TP76	0.4-0.6	Silty Clay	Coarse	NA	NA	NA	NA	**4**	**17**	**33**	**21**	**4**	**29**	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
TP76 - [LAB_DUP]	0.4-0.6	Laboratory Duplicate	Coarse	NA	NA	NA	NA	<4	**16**	**31**	**20**	**3**	**26**	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
SDUP6	0-0.1	Duplicate of TP3	Coarse	NA	NA	NA	NA	<4	**10**	**41**	**190**	**12**	**120**	<1	NA	<25	<50	**270**	**140**	<0.2	<0.5	<1	<1	**0.1**
SDUP8	0-0.1	Duplicate of TP36	Coarse	NA	NA	NA	NA	<4	**5**	**12**	**53**	**7**	**79**	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	**0.1**
SDUP10	0-0.1	Duplicate of TP40	Coarse	NA	NA	NA	NA	<4	**180**	**17**	**23**	**5**	**58**	<1	<0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
SDUP11	0-0.1	Duplicate of TP50	Coarse	**6.7**	**21**	**5.9**	NA	**6**	**8**	**45**	**140**	**7**	**160**	<1	<0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	**0.27**
SDUP12	0-0.1	Duplicate of TP47	Coarse	NA	NA	NA	NA	**6**	**14**	**12**	**61**	**9**	**93**	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
SDUP14	0-0.1	Duplicate of TP76	Coarse	NA	NA	NA	NA	**9**	**17**	**20**	**46**	**13**	**66**	<1	NA	<25	<50	**110**	<100	<0.2	<0.5	<1	<1	<0.05
Total Number of Samples				11	11	10	1	67	67	67	67	67	67	65	21	65	67	67	67	65	65	65	65	65
Maximum Value				7.3	23	5.9	3	11	390	140	1200	21	980	<PQL	<PQL	<PQL	65	350	180	<PQL	<PQL	<PQL	<PQL	0.27

Concentration above the SAC — **VALUE**
Concentration above the PQL — **Bold**
The guideline corresponding to the elevated value is highlighted in grey in the EIL and ESL Assessment Criteria Table below

EIL AND ESL ASSESSMENT CRITERIA

Sample Reference	Sample Depth	Sample Description	Soil Texture	pH	CEC (cmolc/kg)	Total Organic Carbon (%)	Clay Content (% clay)	Arsenic	Chromium	Copper	Lead	Nickel	Zinc	Naphthalene	DDT	C_6-C_{10} (F1)	>C_{10}-C_{16} (F2)	>C_{16}-C_{34} (F3)	>C_{34}-C_{40} (F4)	Benzene	Toluene	Ethylbenzene	Total Xylenes	B(a)P
TP3	0-0.1	Fill: Silty Clayey Sand	Coarse	NA	NA	NA	NA	100	200	80	1200	35	150	170	180	180	120	300	2800	50	85	70	105	20
TP3 - [LAB_DUP]	0-0.1	Laboratory Duplicate	Coarse	NA	NA	NA	NA	100	200	80	1200	35	150	170	180	180	120	300	2800	50	85	70	105	20
TP3 - [Silica Gel]	0-0.1	Fill: Silty Clayey Sand	Coarse	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	120	300	2800	--	--	--	--	--
TP3	0.5-0.7	Fill: Silty Clay	Coarse	NA	NA	NA	NA	100	200	80	1200	35	150	170	--	180	120	300	2800	50	85	70	105	20
TP4	0-0.1	Fill: Silty Clayey Sand	Coarse	NA	NA	NA	NA	100	200	80	1200	35	150	170	--	180	120	300	2800	50	85	70	105	20
TP4	0.3-0.5	Fill: Silty Clay	Coarse	NA	NA	NA	NA	100	200	80	1200	35	150	170	--	180	120	300	2800	50	85	70	105	20
TP4	0.65-0.85	Fill: Silty Clayey Sand	Coarse	NA	NA	NA	NA	100	200	80	1200	35	150	170	--	180	120	300	2800	50	85	70	105	20
TP13	0-0.1	Fill: Silty Clayey Sand	Coarse	NA	NA	NA	NA	100	200	80	1200	35	150	170	180	180	120	300	2800	50	85	70	105	20
TP13	0.4-0.6	Silty Sand	Coarse	NA	NA	NA	NA	100	200	80	1200	35	150	170	--	180	120	300	2800	50	85	70	105	20
TP14	0-0.1	Fill: Gravelly Sand	Coarse	NA	NA	NA	NA	100	200	80	1200	35	150	170	--	180	120	300	2800	50	85	70	105	20
TP14	0.6-0.8	Silty Clay	Coarse	NA	NA	NA	NA	100	200	80	1200	35	150	170	--	180	120	300	2800	50	85	70	105	20
TP15	0.3-0.5	Fill: Silty Clayey Sand	Coarse	6	5.8	NA	NA	100	200	210	1200	180	350	170	180	180	120	300	2800	50	85	70	105	20
TP15	0.7-0.9	Silty Clay	Coarse	NA	NA	NA	NA	100	200	80	1200	35	150	170	--	180	120	300	2800	50	85	70	105	20
TP16	0.2-0.5	Fill: Silty Sand	Coarse	6.7	21	5.9	NA	100	200	240	1200	360	960	170	--	180	120	300	2800	50	85	70	105	20
TP16 - [Silica Gel]	0.2-0.5	Fill: Silty Sand	Coarse	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	120	300	2800	--	--	--	--	--
TP16	0.5-0.7	Fill: Sandy Clay	Coarse	NA	NA	NA	NA	100	200	80	1200	35	150	170	--	180	120	300	2800	50	85	70	105	20
TP17	0-0.1	Fill: Silty Clayey Sand	Coarse	NA	NA	NA	NA	100	200	80	1200	35	150	170	180	180	120	300	2800	50	85	70	105	20
TP17 - [LAB_DUP]	0-0.1	Laboratory Duplicate	Coarse	NA	NA	NA	NA	100	200	80	1200	35	150	170	180	180	120	300	2800	50	85	70	105	20
TP17 - [LAB_TRIP]	0-0.1	Laboratory Triplicate	Coarse	NA	NA	NA	NA	100	200	80	1200	35	150	--	--	--	--	--	--	--	--	--	--	--
TP17	0.5-0.7	Fill: Silty Sandy Clay	Coarse	6.3	10	2.6	NA	100	200	210	1200	180	480	170	--	180	120	300	2800	50	85	70	105	20
TP18	0-0.1	Fill: Silty Gravelly Clay	Coarse	NA	NA	NA	NA	100	200	80	1200	35	150	170	--	180	120	300	2800	50	85	70	105	20
TP18	0.3-0.5	Fill: Silty Sandy Clay	Coarse	NA	NA	NA	NA	100	200	80	1200	35	150	170	--	180	120	300	2800	50	85	70	105	20
TP18	0.75-0.95	Silty Clay	Coarse	NA	NA	NA	NA	100	200	80	1200	35	150	170	--	180	120	300	2800	50	85	70	105	20
TP34	0-0.1	Fill: Silty Sand	Coarse	6.7	21	5.9	NA	100	200	240	1200	360	960	170	180	180	120	300	2800	50	85	70	105	20
TP34	0.7-0.9	Sandy Clay	Coarse	NA	NA	NA	NA	100	200	80	1200	35	150	170	--	180	120	300	2800	50	85	70	105	20
TP35	0-0.1	Fill: Silty Sandy Clay	Coarse	NA	NA	NA	NA	100	200	80	1200	35	150	170	--	180	120	300	2800	50	85	70	105	20
TP36	0-0.1	Fill: Silty Sand	Coarse	NA	NA	NA	NA	100	200	80	1200	35	150	170	180	180	120	300	2800	50	85	70	105	20
TP36	0.2-0.4	Fill: Silty Gravelly Sand	Coarse	NA	NA	NA	NA	100	200	80	1200	35	150	170	--	180	120	300	2800	50	85	70	105	20
TP38	0-0.1	Fill: Silty Sand	Coarse	6.7	21	5.9	NA	100	200	240	1200	360	960	170	180	180	120	300	2800	50	85	70	105	20
TP38 - [LAB_DUP]	0-0.1	Laboratory Duplicate	Coarse	6.7	21	5.9	NA	100	200	240	1200	360	960	170	180	180	120	300	2800	50	85	70	105	20
TP38 - [LAB_TRIP]	0-0.1	Laboratory Triplicate	Coarse	6.7	21	5.9	NA	100	200	240	1200	360	960	--	--	--	--	--	--	--	--	--	--	--
TP38	0.6-0.8	Fill: Clayey Gravelly Sand	Coarse	7.3	23	1.5	NA	100	200	240	1200	360	1000	170	--	180	120	300	2800	50	85	70	105	20
TP39	0-0.1	Fill: Silty Sand	Coarse	NA	NA	NA	NA	100	200	80	1200	35	150	170	180	180	120	300	2800	50	85	70	105	20
TP39	0.2-0.4	Fill: Gravelly Sand	Coarse	NA	NA	NA	NA	100	200	80	1200	35	150	170	--	180	120	300	2800	50	85	70	105	20
TP39	1.0-1.2	Fill: Silty Clayey Sand	Coarse	NA	NA	NA	NA	100	200	80	1200	35	150	170	--	180	120	300	2800	50	85	70	105	20
TP39 - [LAB_DUP]	1.0-1.2	Laboratory Duplicate	Coarse	NA	NA	NA	NA	100	200	80	1200	35	150	170	--	180	120	300	2800	50	85	70	105	20
TP40	0-0.1	Fill: Gravelly Sand	Coarse	NA	NA	NA	3	100	330	80	1200	35	150	170	180	180	120	300	2800	50	85	70	105	20
TP40	0.2-0.4	Fill: Silty Gravelly Sand	Coarse	NA	NA	NA	NA	100	200	80	1200	35	150	170	--	180	120	300	2800	50	85	70	105	20
TP40	0.5-0.7	Fill: Silty Clay	Coarse	NA	NA	NA	NA	100	200	80	1200	35	150	170	--	180	120	300	2800	50	85	70	105	20
TP40	1.6-1.8	Silty Sandy Clay	Coarse	NA	NA	NA	NA	100	200	80	1200	35	150	170	--	180	120	300	2800	50	85	70	105	20
TP47	0-0.1	Fill: Silty Clayey Sand	Coarse	NA	NA	NA	NA	100	200	80	1200	35	150	170	180	180	120	300	2800	50	85	70	105	20
TP47	0.2-0.4	Fill: Silty Sandy Clay	Coarse	NA	NA	NA	NA	100	200	80	1200	35	150	170	--	180	120	300	2800	50	85	70	105	20
TP48	0-0.1	Fill: Silty Sand	Coarse	NA	NA	NA	NA	100	200	80	1200	35	150	170	180	180	120	300	2800	50	85	70	105	20
TP48	1.0-1.2	Fill: Silty Clay	Coarse	NA	NA	NA	NA	100	200	80	1200	35	150	170	--	180	120	300	2800	50	85	70	105	20
TP49	0.1-0.3	Fill: Silty Clayey Sand	Coarse	NA	NA	NA	NA	100	200	80	1200	35	150	170	--	180	120	300	2800	50	85	70	105	20
TP49	0.4-0.6	Fill: Silty Sandy Clay	Coarse	NA	NA	NA	NA	100	200	80	1200	35	150	170	--	180	120	300	2800	50	85	70	105	20
TP49	1.5-1.7	Silty Clay	Coarse	NA	NA	NA	NA	100	200	80	1200	35	150	170	--	180	120	300	2800	50	85	70	105	20
TP49 - [LAB_DUP]	1.5-1.7	Laboratory Duplicate	Coarse	NA	NA	NA	NA	100	200	80	1200	35	150	170	--	180	120	300	2800	50	85	70	105	20
TP50	0-0.1	Fill: Silty Sand	Coarse	NA	NA	NA	NA	100	200	80	1200	35	150	170	180	180	120	300	2800	50	85	70	105	20
TP50	0.2-0.4	Fill: Gravelly Sand	Coarse	NA	NA	NA	NA	100	200	80	1200	35	150	170	--	180	120	300	2800	50	85	70	105	20
TP51	0-0.1	Fill: Silty Sand	Coarse	NA	NA	NA	NA	100	200	80	1200	35	150	170	--	180	120	300	2800	50	85	70	105	20
TP51	0.1-0.3	Fill: Silty Sandy Clay	Coarse	NA	NA	NA	NA	100	200	80	1200	35	150	170	--	180	120	300	2800	50	85	70	105	20
TP51	0.6-0.8	Fill: Silty Clay	Coarse	NA	NA	NA	NA	100	200	80	1200	35	150	170	--	180	120	300	2800	50	85	70	105	20
TP52	0-0.1	Fill: Silty Sand	Coarse	NA	NA	NA	NA	100	200	80	1200	35	150	170	180	180	120	300	2800	50	85	70	105	20
TP52	0.2

TABLE S7
SOIL LABORATORY RESULTS COMPARED TO WASTE CLASSIFICATION GUIDELINES
All data in mg/kg unless stated otherwise

			HEAVY METALS										PAHs		OC/OP PESTICIDES				Total	Total	TRH					BTEX COMPOUNDS				ASBESTOS FIBRES
			Arsenic	Beryllium	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Zinc	Total PAHs	B(a)P	Total Endosulfans	Chloropyrifos	Total Moderately Harmful	Total Scheduled	PCBs	Phenols	C_6-C_9	C_{10}-C_{14}	C_{15}-C_{28}	C_{29}-C_{36}	Total C_{10}-C_{36}	Benzene	Toluene	Ethyl benzene	Total Xylenes	
PQL - Envirolab Services			4	1	0.4	1	1	1	0.1	1	2	1	-	0.05	0.1	0.1	0.1	0.1	0.1	5	25	50	100	100	50	0.2	0.5	1	1	100
General Solid Waste CT1			100	20	20	100	NSL	100	4	40	20	NSL	200	0.8	60	4	250	50	50	288	650		NSL		10,000	10	288	600	1,000	-
General Solid Waste SCC1			500	100	100	1900	NSL	1500	50	1050	50	NSL	200	10	108	7.5	250	50	50	518	650		NSL		10,000	18	518	1,080	1,800	-
Restricted Solid Waste CT2			400	80	80	400	NSL	400	16	160	80	NSL	800	3.2	240	16	1000	50	50	1152	2600		NSL		40,000	40	1,152	2,400	4,000	-
Restricted Solid Waste SCC2			2000	400	400	7600	NSL	6000	200	4200	200	NSL	800	23	432	30	1000	50	50	2073	2600		NSL		40,000	72	2,073	4,320	7,200	-
Sample Reference	**Sample Depth**	**Sample Description**																												
TP3	0-0.1	Fill: Silty Clayey Sand	<4	NA	<0.4	**9**	**42**	**200**	<0.1	**12**	NA	**120**	**2**	**0.1**	<0.1	<0.1	<0.1	<0.1	<0.1	NA	<25	<50	**100**	**160**	**260**	<0.2	<0.5	<1	<1	Not Detected
TP3 - [LAB_DUP]	0-0.1	Laboratory Duplicate	<4	NA	<0.4	**9**	**44**	**150**	<0.1	**12**	NA	**110**	**1.6**	**0.09**	<0.1	<0.1	<0.1	<0.1	<0.1	NA	<25	<50	**190**	**220**	**410**	<0.2	<0.5	<1	<1	NA
TP3	0.5-0.7	Fill: Silty Clay	**5**	NA	<0.4	**9**	**10**	**14**	**0.1**	**2**	NA	**26**	<0.05	<0.05	NA	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
TP4	0-0.1	Fill: Silty Clayey Sand	**8**	NA	<0.4	**8**	**23**	**190**	<0.1	**9**	NA	**73**	<0.05	<0.05	NA	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
TP4	0.3-0.5	Fill: Silty Clay	**7**	NA	<0.4	**9**	**16**	**22**	**0.1**	<1	NA	**5**	<0.05	<0.05	NA	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
TP4	0.65-0.85	Fill: Silty Clayey Sand	**9**	NA	<0.4	**10**	**24**	**120**	<0.1	**11**	NA	**73**	<0.05	<0.05	NA	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
TP13	0-0.1	Fill: Silty Clayey Sand	<4	NA	<0.4	**13**	**9**	**42**	<0.1	**8**	NA	**72**	<0.05	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
TP13	0.4-0.6	Silty Sand	<4	NA	<0.4	**12**	**4**	**4**	<0.1	**6**	NA	**11**	<0.05	<0.05	NA	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
TP14	0-0.1	Fill: Gravelly Sand	<4	NA	<0.4	**7**	**13**	**56**	<0.1	**5**	NA	**52**	<0.05	<0.05	NA	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
TP14	0.6-0.8	Silty Clay	**5**	NA	<0.4	**25**	**8**	**11**	<0.1	**3**	NA	**26**	<0.05	<0.05	NA	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
TP15	0.3-0.5	Fill: Silty Clayey Sand	**5**	NA	**1**	**7**	**53**	**840**	**0.3**	**13**	NA	**860**	**0.67**	**0.05**	<0.1	<0.1	<0.1	<0.1	<0.1	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
TP15	0.7-0.9	Silty Clay	<4	NA	<0.4	**26**	**6**	**15**	<0.1	**4**	NA	**110**	<0.05	<0.05	NA	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
TP16	0-0.1	Fill: Silty Sand	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Not Detected
TP16	0.2-0.5	Fill: Silty Sand	**6**	NA	<0.4	**7**	**40**	**290**	<0.1	**12**	NA	**300**	**1.1**	<0.05	NA	NA	NA	NA	NA	NA	<25	**55**	**260**	**150**	**465**	<0.2	<0.5	<1	<1	Not Detected
TP16	0.5-0.7	Fill: Sandy Clay	<4	NA	<0.4	**13**	**2**	**8**	<0.1	**2**	NA	**9**	<0.05	<0.05	NA	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
TP17	0-0.1	Fill: Silty Clayey Sand	<4	NA	<0.4	**11**	**14**	**160**	<0.1	**5**	NA	**120**	<0.05	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
TP17 - [LAB_DUP]	0-0.1	Laboratory Duplicate	<4	NA	<0.4	**12**	**24**	**150**	**0.1**	**5**	NA	**110**	<0.05	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
TP17 - [LAB_TRIP]	0-0.1	Laboratory Triplicate	<4	NA	<0.4	**14**	**51**	**210**	<0.1	**5**	NA	**110**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TP17	0.5-0.7	Fill: Silty Sandy Clay	<4	NA	<0.4	**14**	**19**	**200**	**0.2**	**6**	NA	**310**	<0.05	<0.05	NA	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
TP18	0-0.1	Fill: Silty Gravelly Clay	<4	NA	<0.4	**6**	**17**	**73**	<0.1	**18**	NA	**39**	<0.05	<0.05	NA	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
TP18	0.3-0.5	Fill: Silty Sandy Clay	**8**	NA	<0.4	**11**	**15**	**220**	<0.1	**12**	NA	**35**	<0.05	<0.05	NA	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Detected
TP18	0.75-0.95	Silty Clay	<4	NA	<0.4	**22**	**7**	**8**	<0.1	**3**	NA	**10**	<0.05	<0.05	NA	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
TP34	0-0.1	Fill: Silty Sand	**5**	NA	<0.4	**11**	**20**	**270**	<0.1	**9**	NA	**170**	<0.05	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Detected
TP34	0.7-0.9	Sandy Clay	<4	NA	<0.4	**27**	**8**	**10**	<0.1	**13**	NA	**29**	<0.05	<0.05	NA	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
TP35	0-0.1	Fill: Silty Sandy Clay	<4	NA	<0.4	**10**	**10**	**56**	<0.1	**6**	NA	**110**	<0.05	<0.05	NA	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
TP36	0-0.1	Fill: Silty Sand	<4	NA	<0.4	**5**	**8**	**41**	<0.1	**4**	NA	**41**	**0.2**	**0.08**	<0.1	<0.1	<0.1	<0.1	<0.1	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
TP36	0.2-0.4	Fill: Silty Gravelly Sand	<4	NA	<0.4	**2**	**6**	**3**	<0.1	**14**	NA	**7**	<0.05	<0.05	NA	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
TP38	0-0.1	Fill: Silty Sand	**5**	NA	**0.6**	**22**	**110**	**1200**	**0.2**	**11**	NA	**980**	<0.05	<0.05	<0.1	<0.1	<0.1	**0.2**	<0.1	NA	<25	<50	**110**	**170**	**280**	<0.2	<0.5	<1	<1	Not Detected
TP38 - [LAB_DUP]	0-0.1	Laboratory Duplicate	<4	NA	<0.4	**17**	**56**	**460**	<0.1	**12**	NA	**390**	<0.05	<0.05	<0.1	<0.1	<0.1	**0.2**	<0.1	NA	<25	<50	**120**	**240**	**360**	<0.2	<0.5	<1	<1	NA
TP38 - [LAB_TRIP]	0-0.1	Laboratory Triplicate	<4	NA	**0.6**	**25**	**97**	**950**	**0.2**	**14**	NA	**970**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TP38	0.6-0.8	Fill: Clayey Gravelly Sand	**7**	NA	**0.7**	**9**	**140**	**1200**	**1.9**	**18**	NA	**470**	**0.05**	**0.05**	NA	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
TP39	0-0.1	Fill: Silty Sand	<4	NA	<0.4	**8**	**13**	**170**	<0.1	**7**	NA	**96**	**0.52**	**0.1**	<0.1	<0.1	<0.1	<0.1	<0.1	NA	<25	<50	<100	**120**	**120**	<0.2	<0.5	<1	<1	Not Detected
TP39	0.2-0.4	Fill: Gravelly Sand	<4	NA	<0.4	**8**	**19**	**26**	<0.1	**21**	NA	**18**	<0.05	<0.05	NA	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
TP39	1.0-1.2	Fill: Silty Clayey Sand	<4	NA	<0.4	**7**	**8**	**22**	<0.1	**6**	NA	**25**	<0.05	<0.05	NA	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
TP39 - [LAB_DUP]	1.0-1.2	Laboratory Duplicate	<4	NA	<0.4	**9**	**9**	**24**	<0.1	**8**	NA	**29**	<0.05	<0.05	NA	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
TP40	0-0.1	Fill: Gravelly Sand	<4	NA	<0.4	**390**	**10**	**21**	<0.1	**4**	NA	**54**	<0.05	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<5	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
TP40 (Cr VI)	0-0.1	Fill: Gravelly Sand	NA	NA	NA	<1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TP40	0.2-0.4	Fill: Silty Gravelly Sand	**6**	NA	<0.4	**9**	**24**	**120**	<0.1	**17**	NA	**110**	<0.05	<0.05	NA	NA	NA	NA	NA	<5	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
TP40	0.5-0.7	Fill: Silty Clay	<4	NA	<0.4	**15**	**5**	**19**	<0.1	**4**	NA	**11**	<0.05	<0.05	NA	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
TP40	1.6-1.8	Silty Sandy Clay	<4	NA	<0.4	**1**	<1	**3**	<0.1	<1	NA	**2**	<0.05	<0.05	NA	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
TP47	0-0.1	Fill: Silty Clayey Sand	<4	NA	<0.4	**10**	**15**	**58**	<0.1	**8**	NA	**77**	<0.05	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
TP47	0.2-0.4	Fill: Silty Sandy Clay	**5**	NA	<0.4	**19**	**18**	**57**	<0.1	**10**	NA	**64**	<0.05	<0.05	NA	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
TP48	0-0.1	Fill: Silty Sand	**7**	NA	<0.4	**12**	**35**	**160**	<0.1	**13**	NA	**110**	<0.05	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
TP48	1.0-1.2	Fill: Silty Clay	**6**	NA	<0.4	**16**	**28**	**23**	<0.1	**9**	NA	**55**	<0.05	<0.05	NA	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
TP49	0-0.1	Fill: Silty Sand	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Detected
TP49	0.1-0.3	Fill: Silty Clayey Sand	<4	NA	<0.4	**7**	**16**	**53**	<0.1	**9**	NA	**76**	<0.05	<0.05	NA	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
TP49	0.4-0.6	Fill: Silty Sandy Clay	**5**	NA	<0.4	**9**	**11**	**21**	<0.1	**7**	NA	**64**	<0.05	<0.05	NA	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
TP49	1.5-1.7	Silty Clay	<4	NA	<0.4	**14**	**10**	**13**	<0.1	**7**	NA	**26**	<0.05	<0.05	NA	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
TP49 - [LAB_DUP]	1.5-1.7	Laboratory Duplicate	<4	NA	<0.4	**14**	**10**	**13**	<0.1	**7**	NA	**24**	<0.05	<0.05	NA	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
TP50	0-0.1	Fill: Silty Sand	<4	NA	<0.4	**6**	**16**	**97**	<0.1	**7**	NA	**98**	**1.2**	**0.2**	<0.1	<0.1	<0.1	<0.1	<0.1	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
TP50	0.2-0.4	Fill: Gravelly Sand	<4	NA	<0.4	**3**	**18**	**41**	<0.1	**17**	NA	**42**	<0.05	<0.05	NA	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Detected
TP51	0-0.1	Fill: Silty Sand	<4	NA	<0.4	**9**	**21**	**93**	<0.1	**9**	NA	**100**	<0.05	<0.05	NA	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
TP51	0.1-0.3	Fill: Silty Sandy Clay	**4**	NA	<0.4	**13**	**24**	**46**	<0.1	**6**	NA	**81**	<0.05	<0.05	NA	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
TP51	0.6-0.8	Fill: Silty Clay	**4**	NA	<0.4	**11**	**27**	**30**	<0.1	**7**	NA	**81**	<0.05	<0.05	NA	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
TP52	0-0.1	Fill: Silty Sand	<4	NA	<0.4	**8**	**11**	**83**	<0.1	**4**	NA	**83**	<0.05	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<5	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
TP52	0.2-0.4	Silty Clay	**5**	NA	<0.4	**17**	**9**	**15**	<0.1	**4**	NA	**14**	<0.05	<0.05	NA	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
TP45	0-0.1	Fill: Silty Sandy Clay	**11**	NA	<0.4	**15**	**43**	**400**	**0.4**	**15**	NA	**260**	<0.05	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
TP45	0.6-0.8	Silty Sandy Clay	<4	NA	<0.4	**16**	**30**	**21**	<0.1	**8**	NA	**42**	<0.05	<0.05	NA	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
TP56	0-0.1	Fill: Silty Sandy Clay	**6**	NA	<0.4	**17**	**23**	**250**	**0.2**	**15**	NA	**850**	<0.05	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
TP56	0.4-0.6	Silty Clay	<4	NA	<0.4	**22**	**35**	**14**	<0.1	**7**	NA	**42**	<0.05	<0.05	NA	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
TP57	0-0.1	Fill: Silty Sandy Clay	**6**	NA	<0.4	**18**	**22**	**52**	<0.1	**10**	NA	**52**	<0.05	<0.05	NA	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
TP76	0-0.1	Fill: Silty Sandy Clay	**5**	NA	<0.4	**19**	**18**	**28**	<0.1	**11**	NA	**38**	<0.05	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
TP76	0.4-0.6	Silty Clay	**4**	NA	<0.4	**17**	**33**	**21**	<0.1	**4**	NA	**29**	<0.05	<0.05	NA	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
TP76 - [LAB_DUP]	0.4-0.6	Laboratory Duplicate	<4	NA	<0.4	**16**	**31**	**20**	<0.1	**3**	NA	**26**	<0.05	<0.05	NA	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
SDUP6	0-0.1	Duplicate of TP3	<4	NA	<0.4	**10**	**41**	**190**	<0.1	**12**	NA	**120**	**1.1**	**0.1**	NA	NA	NA	NA	NA	NA	<25	<50	**150**	**170**	**320**	<0.2	<0.5	<1	<1	Not Detected
SDUP8	0-0.1	Duplicate of TP36	<4	NA	<0.4	**5**	**12**	**53**	<0.1	**7**	NA	**79**	**0.68**	**0.1**	NA	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
SDUP10	0-0.1	Duplicate of TP40	<4	NA	<0.4	**180**	**17**	**23**	<0.1	**5**	NA	**58**	<0.05	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<5	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
SDUP11	0-0.1	Duplicate of TP50	**6**	<1	<0.4	**8**	**45**	**140**	<0.1	**7**	<2	**160**	**2.3**	**0.27**	<0.1	<0.1	<0.1	<0.1	<0.1	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
SDUP12	0-0.1	Duplicate of TP47	**6**	<1	<0.4	**14**	**12**	**61**	<0.1	**9**	<2	**93**	<0.5	<0.05	NA	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
SDUP14	0-0.1	Duplicate of TP76	**9**	<1	<0.4	**17**	**20**	**46**	<0.1	**13**	<2	**66**	<0.5	<0.05	NA	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
Total Number of Samples			67	3	67	67	67	67	67	67	3	67	65	65	21	21	21	21	21	4	65	65	65	65	65	65	65	65	65	45
Maximum Value			11	<PQL	1	390	140	1200	1.9	21	<PQL	980	2	0.27	<PQL	<PQL	<PQL	0.2	<PQL	<PQL	<PQL	55	260	240	465	<PQL	<PQL	<PQL	<PQL	Detected

Concentration above the CT1 — **VALUE**
Concentration above SCC1 — **VALUE**
Concentration above the SCC2 — **VALUE**
Concentration above PQL — **Bold**

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TABLE S8
SOIL LABORATORY TCLP RESULTS
All data in mg/L unless stated otherwise

			Arsenic	Cadmium	Chromium	Lead	Mercury	Nickel	B(a)P
PQL - Envirolab Services			0.05	0.01	0.01	0.03	0.0005	0.02	0.001
TCLP1 - General Solid Waste			5	1	5	5	0.2	2	0.04
TCLP2 - Restricted Solid Waste			20	4	20	20	0.8	8	0.16
TCLP3 - Hazardous Waste			>20	>4	>20	>20	>0.8	>8	>0.16
Sample Reference	**Sample Depth**	**Sample Description**							
TP15	0.3-0.5	Fill: Silty Clayey Sand	NA	NA	NA	**0.2**	NA	NA	NA
TP15 - [LAB_DUP]	0.3-0.5	Laboratory Duplicate	NA	NA	NA	**0.2**	NA	NA	NA
TP38	0-0.1	Fill: Silty Sand	NA	NA	NA	**0.1**	NA	NA	NA
TP38	0.6-0.8	Fill: Clayey Gravelly Sand	NA	NA	NA	**0.67**	NA	NA	NA
Total Number of samples			0	0	0	4	0	0	0
Maximum Value			NA	NA	NA	0.67	NA	NA	NA

General Solid Waste	**VALUE**
Restricted Solid Waste	**VALUE**
Hazardous Waste	**VALUE**
Concentration above PQL	**Bold**

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TABLE S9
SUMMARY OF PFAS CONCENTRATIONS IN SOIL - HUMAN HEALTH
Units are µg/Kg unless stated otherwise.

	PQL Envirolab Services	NEMP 2020 Residential accessible soil	TP17 0-0.1 Fill: Silty Clayey Sand	TP17 0.5-0.7 Fill: Silty Sandy Clay	TP39 0-0.1 Fill: Silty Sand	TP40 0-0.1 Fill: Gravelly Sand	TP40 0.2-0.4 Fill: Silty Gravelly Sand	TP52 0-0.1 Fill: Silty Sand	SDUP10 0-0.1 Duplicate of TP40	SDUP10 - [LAB_DUP] 0-0.1 Laboratory Duplicate
PFAS Compound										
Perfluorobutanesulfonic acid	0.1	NSL	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluoropentanesulfonic acid	0.1	NSL	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorohexanesulfonic acid - PFHxS	0.1	NSL	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluoroheptanesulfonic acid	0.1	NSL	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorooctanesulfonic acid PFOS	0.1	NSL	<0.1	**0.4**	**0.1**	<0.1	**0.3**	**0.1**	<0.1	<0.1
Perfluorodecanesulfonic acid	0.2	NSL	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Perfluorobutanoic acid	0.2	NSL	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Perfluoropentanoic acid	0.2	NSL	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Perfluorohexanoic acid	0.1	NSL	<0.1	**0.1**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluoroheptanoic acid	0.1	NSL	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorooctanoic acid PFOA	0.1	100	<0.1	**0.2**	<0.1	<0.1	**0.1**	<0.1	<0.1	<0.1
Perfluorononanoic acid	0.1	NSL	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorodecanoic acid	0.5	NSL	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Perfluoroundecanoic acid	0.5	NSL	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Perfluorododecanoic acid	0.5	NSL	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Perfluorotridecanoic acid	0.5	NSL	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Perfluorotetradecanoic acid	5	NSL	<5	<5	<5	<5	<5	<5	<5	<5
4:2 FTS	0.1	NSL	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
6:2 FTS	0.1	NSL	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
8:2 FTS	0.1	NSL	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
10:2 FTS	0.1	NSL	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Perfluorooctane sulfonamide	1	NSL	<1	<1	<1	<1	<1	<1	<1	<1
N-Methyl perfluorooctane sulfonamide	1	NSL	<1	<1	<1	<1	<1	<1	<1	<1
N-Ethyl perfluorooctanesulfon amide	1	NSL	<1	<1	<1	<1	<1	<1	<1	<1
N-Me perfluorooctanesulfonamid oethanol	1	NSL	<1	<1	<1	<1	<1	<1	<1	<1
N-Et perfluorooctanesulfonamid oethanol	5	NSL	<5	<5	<5	<5	<5	<5	<5	<5
MePerfluorooctanesulf-amid oacetic acid	0.2	NSL	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
EtPerfluorooctanesulf-amid oacetic acid	0.2	NSL	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total Positive PFHxS & PFOS	0.1	10	<0.1	**0.4**	**0.1**	<0.1	**0.3**	**0.1**	<0.1	<0.1
Total Positive PFOS & PFOA	0.1	NSL	<0.1	**0.6**	**0.1**	<0.1	**0.4**	**0.1**	<0.1	<0.1
Total Positive PFAS	0.1	NSL	<0.1	**0.7**	**0.1**	<0.1	**0.4**	**0.1**	<0.1	<0.1

Positive PFAS result **Bold**
PFAS result above the SAC **Bold**

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TABLE S10
SUMMARY OF PFAS CONCENTRATIONS IN SOIL - ECOLOGY
Units are µg/Kg unless stated otherwise.

	PQL	NEMP 2020	TP17	TP17	TP39	TP40	TP40	TP52	SDUP10	SDUP10 - [LAB_DUP]
	Envirolab	Direct exposure	0-0.1	0.5-0.7	0-0.1	0-0.1	0.2-0.4	0-0.1	0-0.1	0-0.1
	Services	All land use	Fill: Silty Clayey Sand	Fill: Silty Sandy Clay	Fill: Silty Sand	Fill: Gravelly Sand	Fill: Silty Gravelly Sand	Fill: Silty Sand	Duplicate of TP40	Laboratory Duplicate
PFAS Compound										
Perfluorobutanesulfonic acid	0.1	NSL	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluoropentanesulfonic acid	0.1	NSL	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorohexanesulfonic acid - PFHxS	0.1	NSL	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluoroheptanesulfonic acid	0.1	NSL	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorooctanesulfonic acid PFOS	0.1	1000	<0.1	**0.4**	**0.1**	<0.1	**0.3**	**0.1**	<0.1	<0.1
Perfluorodecanesulfonic acid	0.2	NSL	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Perfluorobutanoic acid	0.2	NSL	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Perfluoropentanoic acid	0.2	NSL	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Perfluorohexanoic acid	0.1	NSL	<0.1	**0.1**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluoroheptanoic acid	0.1	NSL	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorooctanoic acid PFOA	0.1	10,000	<0.1	**0.2**	<0.1	<0.1	**0.1**	<0.1	<0.1	<0.1
Perfluorononanoic acid	0.1	NSL	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorodecanoic acid	0.5	NSL	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Perfluoroundecanoic acid	0.5	NSL	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Perfluorododecanoic acid	0.5	NSL	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Perfluorotridecanoic acid	0.5	NSL	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Perfluorotetradecanoic acid	5	NSL	<5	<5	<5	<5	<5	<5	<5	<5
4:2 FTS	0.1	NSL	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
6:2 FTS	0.1	NSL	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
8:2 FTS	0.1	NSL	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
10:2 FTS	0.1	NSL	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Perfluorooctane sulfonamide	1	NSL	<1	<1	<1	<1	<1	<1	<1	<1
N-Methyl perfluorooctane sulfonamide	1	NSL	<1	<1	<1	<1	<1	<1	<1	<1
N-Ethyl perfluorooctanesulfon amide	1	NSL	<1	<1	<1	<1	<1	<1	<1	<1
N-Me perfluorooctanesulfonamid oethanol	1	NSL	<1	<1	<1	<1	<1	<1	<1	<1
N-Et perfluorooctanesulfonamid oethanol	5	NSL	<5	<5	<5	<5	<5	<5	<5	<5
MePerfluorooctanesulf-amid oacetic acid	0.2	NSL	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
EtPerfluorooctanesulf-amid oacetic acid	0.2	NSL	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total Positive PFHxS & PFOS	0.1	NSL	<0.1	**0.4**	**0.1**	<0.1	**0.3**	**0.1**	<0.1	<0.1
Total Positive PFOS & PFOA	0.1	NSL	<0.1	**0.6**	**0.1**	<0.1	**0.4**	**0.1**	<0.1	<0.1
Total Positive PFAS	0.1	NSL	<0.1	**0.7**	**0.1**	<0.1	**0.4**	**0.1**	<0.1	<0.1

Positive PFAS result **Bold**
PFAS result above the SAC **Bold**

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TABLE S11
SUMMARY OF PFAS CONCENTRATIONS IN SOIL - WASTE CLASSIFICATION
Units are µg/Kg unless stated otherwise.

	PQL Envirolab Services	SCC1	SCC2	TP17 0-0.1 Fill: Silty Clayey Sand	TP17 0.5-0.7 Fill: Silty Sandy Clay	TP39 0-0.1 Fill: Silty Sand	TP40 0-0.1 Fill: Gravelly Sand	TP40 0.2-0.4 Fill: Silty Gravelly Sand	TP52 0-0.1 Fill: Silty Sand	SDUP10 0-0.1 Duplicate of TP40	SDUP10 - [LAB_DUP] 0-0.1 Laboratory Duplicate
PFAS Compound											
Perfluorobutanesulfonic acid	0.1	NSL	NSL	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluoropentanesulfonic acid	0.1	NSL	NSL	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorohexanesulfonic acid - PFHxS	0.1	NSL	NSL	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluoroheptanesulfonic acid	0.1	NSL	NSL	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorooctanesulfonic acid PFOS	0.1	NSL	NSL	<0.1	**0.4**	**0.1**	<0.1	**0.3**	**0.1**	<0.1	<0.1
Perfluorodecanesulfonic acid	0.2	NSL	NSL	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Perfluorobutanoic acid	0.2	NSL	NSL	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Perfluoropentanoic acid	0.2	NSL	NSL	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Perfluorohexanoic acid	0.1	NSL	NSL	<0.1	**0.1**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluoroheptanoic acid	0.1	NSL	NSL	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorooctanoic acid PFOA	0.1	18,000	72,000	<0.1	**0.2**	<0.1	<0.1	**0.1**	<0.1	<0.1	<0.1
Perfluorononanoic acid	0.1	NSL	NSL	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorodecanoic acid	0.5	NSL	NSL	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Perfluoroundecanoic acid	0.5	NSL	NSL	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Perfluorododecanoic acid	0.5	NSL	NSL	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Perfluorotridecanoic acid	0.5	NSL	NSL	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Perfluorotetradecanoic acid	5	NSL	NSL	<5	<5	<5	<5	<5	<5	<5	<5
4:2 FTS	0.1	NSL	NSL	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
6:2 FTS	0.1	NSL	NSL	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
8:2 FTS	0.1	NSL	NSL	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
10:2 FTS	0.1	NSL	NSL	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Perfluorooctane sulfonamide	1	NSL	NSL	<1	<1	<1	<1	<1	<1	<1	<1
N-Methyl perfluorooctane sulfonamide	1	NSL	NSL	<1	<1	<1	<1	<1	<1	<1	<1
N-Ethyl perfluorooctanesulfon amide	1	NSL	NSL	<1	<1	<1	<1	<1	<1	<1	<1
N-Me perfluorooctanesulfonamid oethanol	1	NSL	NSL	<1	<1	<1	<1	<1	<1	<1	<1
N-Et perfluorooctanesulfonamid oethanol	5	NSL	NSL	<5	<5	<5	<5	<5	<5	<5	<5
MePerfluorooctanesulf-amid oacetic acid	0.2	NSL	NSL	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
EtPerfluorooctanesulf-amid oacetic acid	0.2	NSL	NSL	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total Positive PFHxS & PFOS	0.1	1800	7,200	<0.1	**0.4**	**0.1**	<0.1	**0.3**	**0.1**	<0.1	<0.1
Total Positive PFOS & PFOA	0.1	NSL	NSL	<0.1	**0.6**	**0.1**	<0.1	**0.4**	**0.1**	<0.1	<0.1
Total Positive PFAS	0.1	NSL	NSL	<0.1	**0.7**	**0.1**	<0.1	**0.4**	**0.1**	<0.1	<0.1

Result above SCC1 Criteria **Bold**
Result above SCC2 Criteria **Bold**

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TABLE S12
SUMMARY OF PFAS CONCENTRATIONS IN TCLP LEACHATE - WASTE CLASSIFICATION
Units are µg/L unless stated otherwise.

	PQL Envirolab Services	TCLP1	TCLP2	TP17 0-0.1 Fill: Silty Clayey Sand	TP40 0.2-0.4 Fill: Silty Gravelly Sand	TP40 - [LAB_DUP] 0.2-0.4 Laboratory Duplicate
PFAS Compound						
Perfluorobutanesulfonic acid	0.01	NSL	NSL	<0.01	<0.01	<0.01
Perfluoropentanesulfonic acid	0.01	NSL	NSL	<0.01	<0.01	<0.01
Perfluorohexanesulfonic acid - PFHxS	0.01	NSL	NSL	<0.01	<0.01	<0.01
Perfluoroheptanesulfonic acid	0.01	NSL	NSL	<0.01	<0.01	<0.01
Perfluorooctanesulfonic acid PFOS	0.01	NSL	NSL	<0.01	<0.01	<0.01
Perfluorodecanesulfonic acid	0.02	NSL	NSL	<0.02	<0.02	<0.02
Perfluorobutanoic acid	0.02	NSL	NSL	<0.02	<0.02	<0.02
Perfluoropentanoic acid	0.02	NSL	NSL	<0.02	<0.02	<0.02
Perfluorohexanoic acid	0.01	NSL	NSL	<0.01	<0.01	<0.01
Perfluoroheptanoic acid	0.01	NSL	NSL	<0.01	<0.01	<0.01
Perfluorooctanoic acid PFOA	0.01	500	2,000	<0.01	<0.01	<0.01
Perfluorononanoic acid	0.01	NSL	NSL	<0.01	<0.01	<0.01
Perfluorodecanoic acid	0.02	NSL	NSL	<0.02	<0.02	<0.02
Perfluoroundecanoic acid	0.02	NSL	NSL	<0.02	<0.02	<0.02
Perfluorododecanoic acid	0.05	NSL	NSL	<0.05	<0.05	<0.05
Perfluorotridecanoic acid	0.1	NSL	NSL	<0.1	<0.1	<0.1
Perfluorotetradecanoic acid	0.5	NSL	NSL	<0.5	<0.5	<0.5
4:2 FTS	0.01	NSL	NSL	<0.01	<0.01	<0.01
6:2 FTS	0.01	NSL	NSL	<0.01	<0.01	<0.01
8:2 FTS	0.02	NSL	NSL	<0.02	<0.02	<0.02
10:2 FTS	0.02	NSL	NSL	<0.02	<0.02	<0.02
Perfluorooctane sulfonamide	0.1	NSL	NSL	<0.1	<0.1	<0.1
N-Methyl perfluorooctane sulfonamide	0.05	NSL	NSL	<0.05	<0.05	<0.05
N-Ethyl perfluorooctanesulfon amide	0.1	NSL	NSL	<0.1	<0.1	<0.1
N-Me perfluorooctanesulfonamid oethanol	0.05	NSL	NSL	<0.05	<0.05	<0.05
N-Et perfluorooctanesulfonamid oethanol	0.5	NSL	NSL	<0.5	<0.5	<0.5
MePerfluorooctanesulf-amid oacetic acid	0.02	NSL	NSL	<0.02	<0.02	<0.02
EtPerfluorooctanesulf-amid oacetic acid	0.02	NSL	NSL	<0.02	<0.02	<0.02
Total Positive PFHxS & PFOS	0.01	50	200	<0.01	<0.01	<0.01
Total Positive PFOS & PFOA	0.01	NSL	NSL	<0.01	<0.01	<0.01
Total Positive PFAS	0.01	NSL	NSL	<0.01	<0.01	<0.01

Result above TCLP1 Criteria **Bold**
Result above TCLP2 Criteria **Bold**

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TABLE Q1
SOIL QA/QC SUMMARY

			TRH C6 - C10	TRH >C10-C16	TRH >C16-C34	TRH >C34-C40	Benzene	Toluene	Ethylbenzene	m+p-xylene	o-Xylene	Naphthalene	Acenaphthylene	Acenaph-thene	Fluorene	Phenanthrene	Anthracene	Fluoranthene	Pyrene	Benzo(a)anthracene	Chrysene	Benzo(b,j+k)fluoranthene	Benzo(a)pyrene	Indeno(1,2,3-c,d)pyrene	Dibenzo(a,h)anthra-cene	Benzo(g,h,i)perylene	HCB	alpha- BHC	gamma- BHC	beta- BHC	Heptachlor	delta- BHC	Aldrin	Heptachlor Epoxide	Gamma- Chlordane	alpha- chlordane	Endosulfan I	pp- DDE	Dieldrin	Endrin	pp- DDD	Endosulfan II	pp- DDT	Endrin Adehyde	Endosulfan Sulphate	Methoxychlor	Total Phenols	Total PCBS	Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Zinc	ACM >7mm Estimation %(w/w)	FA and AF Estimation %(w/w)
	PQL Envirolab SYD		*25*	*50*	*100*	*100*	*0.2*	*0.5*	*1*	*2*	*1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.2*	*0.05*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*5*	*0.1*	*4*	*0.4*	*1*	*1*	*1*	*0.1*	*1*	*1*	*0.01*	*0.001*
	PQL Envirolab WA		*25*	*50*	*100*	*100*	*0.2*	*0.5*	*1*	*2*	*1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.2*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	-	*0.1*	*4.0*	*0.4*	*1.0*	*1.0*	*1.0*	*0.1*	*1.0*	*1.0*	*0.01*	*0.001*
Intra laboratory duplicate	TP3	0-0.1	<25	<50	210	130	<0.2	<0.5	<1	<2	<1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	0.4	0.4	0.2	0.2	0.2	0.1	0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<4	<0.4	9	42	200	<0.1	12	120	<0.01	<0.001
	SDUP6	0-0.1	<25	<50	270	140	<0.2	<0.5	<1	<2	<1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	0.3	0.3	<0.1	0.1	<0.2	0.1	<0.1	<0.1	0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	-	NA	<4	<0.4	10	41	190	<0.1	12	120	<0.01	<0.001
	MEAN		nc	nc	240	135	nc	nc	nc	nc	nc	nc	nc	nc	nc	0.2	nc	0.35	0.35	0.125	0.15	0.15	0.1	0.075	nc	0.1	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	-	nc	nc	nc	9.5	41.5	195	nc	12	120	nc	nc
	RPD %		nc	nc	25%	7%	nc	nc	nc	nc	nc	nc	nc	nc	nc	0%	nc	29%	29%	120%	67%	67%	0%	67%	nc	0%	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	-	nc	nc	nc	11%	2%	5%	nc	0%	0%	nc	nc
Inter laboratory duplicate	TP36	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<2	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.2	0.08	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<4	<0.4	5	8	41	<0.1	4	41	<0.01	<0.001
	SDUP8	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<2	<1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	0.2	0.2	<0.1	0.1	<0.2	0.1	<0.1	<0.1	<0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	-	NA	<4	<0.4	5	12	53	<0.1	7	79	NA	NA
	MEAN		nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	0.075	nc	0.125	0.15	nc	0.075	nc	0.09	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	-	nc	nc	nc	5	10	47	nc	5.5	60	nc	nc
	RPD %		nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	67%	nc	120%	67%	nc	67%	nc	22%	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	-	nc	nc	nc	0%	40%	26%	nc	55%	63%	nc	nc
Intra laboratory duplicate	TP40	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<2	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5	<0.1	<4	<0.4	390	10	21	<0.1	4	54	<0.01	<0.001
	SDUP10	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<2	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5	<0.1	<4	<0.4	180	17	23	<0.1	5	58	<0.01	<0.001
	MEAN		nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	285	13.5	22	nc	4.5	56	nc	nc
	RPD %		nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	74%	52%	9%	nc	22%	7%	nc	nc
Inter laboratory duplicate	TP50	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<2	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	0.2	<0.1	0.1	0.3	0.2	0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<4	<0.4	6	16	97	<0.1	7	98	<0.01	<0.001
	SDUP11	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<2	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.3	0.3	0.2	0.2	0.5	0.27	0.2	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	6	<0.4	8	45	140	<0.1	7	160	<0.01	<0.001
	MEAN		nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	0.25	0.25	0.125	0.15	0.4	0.235	0.15	nc	0.2	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	-	nc	4	nc	7	30.5	118.5	nc	7	129	nc	nc
	RPD %		nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	40%	40%	120%	67%	50%	30%	67%	nc	0%	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	-	nc	100%	nc	29%	95%	36%	nc	0%	48%	nc	nc
Inter laboratory duplicate	TP47	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<2	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<4	<0.4	10	15	58	<0.1	8	77	<0.01	<0.001
	SDUP12	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<2	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.05	<0.1	<0.1	<0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	-	NA	6	<0.4	14	12	61	<0.1	9	93	NA	NA
	MEAN		nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	-	nc	4	nc	12	13.5	59.5	nc	8.5	85	nc	nc
	RPD %		nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	-	nc	100%	nc	33%	22%	5%	nc	12%	19%	nc	nc
Inter laboratory duplicate	TP76	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<2	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	5	<0.4	19	18	28	<0.1	11	38	<0.01	<0.001
	SDUP14	0-0.1	<25	<50	110	<100	<0.2	<0.5	<1	<2	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.05	<0.1	<0.1	<0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	-	NA	9	<0.4	17	20	46	<0.1	13	66	<0.01	<0.001
	MEAN		nc	nc	80	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	-	nc	7	nc	18	19	37	nc	12	52	nc	nc
	RPD %		nc	nc	75%	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	-	nc	57%	nc	11%	11%	49%	nc	17%	54%	nc	nc
Field Blank	TB-S2 23/02/22	-	<25	NA	NA	NA	<0.2	<0.5	<1	<2	<1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Trip Spike	TS-S2 23/02/22		-	-	-	-	99%	100%	100%	100%	100%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Result outside of QA/QC acceptance criteria

TABLE Q2
SUMMARY OF PFAS FIELD QA/QC IN SOIL
Units are µg/Kg unless stated otherwise.

			Perfluorobutanesulfonic acid	Perfluoropentanesulfonic acid	Perfluorohexanesulfonic acid - PFHxS	Perfluoroheptanesulfonic acid	Perfluorooctanesulfonic acid PFOS	Perfluorodecanesulfonic acid	Perfluorobutanoic acid	Perfluoropentanoic acid	Perfluorohexanoic acid	Perfluoroheptanoic acid	Perfluorooctanoic acid PFOA	Perfluorononanoic acid	Perfluorodecanoic acid	Perfluoroundecanoic acid	Perfluorododecanoic acid	Perfluorotridecanoic acid	Perfluorotetradecanoic acid	4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	Perfluorooctane sulfonamide	N-Methyl perfluorooctane sulfonamide	N-Ethyl perfluorooctanesulfon amide	N-Me perfluorooctanesulfonamid oethanol	N-Et perfluorooctanesulfonamid oethanol	MePerfluorooctanesulf-amid oacetic acid	EtPerfluorooctanesulf-amid oacetic acid	Total Positive PFHxS & PFOS	Total Positive PFOS & PFOA	Total Positive PFAS
PQL Envirolab			*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.2*	*0.2*	*0.2*	*0.1*	*0.1*	*0.1*	*0.1*	*0.5*	*0.5*	*0.5*	*0.5*	*5*	*0.1*	*0.1*	*0.1*	*0.1*	*1*	*1*	*1*	*1*	*5*	*0.2*	*0.2*	*0.1*	*0.1*	*0.1*
PQL Envirolab VIC			*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.2*	*0.2*	*0.2*	*0.1*	*0.1*	*0.1*	*0.1*	*0.5*	*0.5*	*0.5*	*0.5*	*5*	*0.1*	*0.1*	*0.1*	*0.1*	*1*	*1*	*1*	*1*	*5*	*0.2*	*0.2*	*0.1*	*0.1*	*0.1*
Intra laboratory duplicate	TP40	0-0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.2	<0.2	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	<0.5	<0.5	<5	<0.1	<0.1	<0.2	<0.2	<1	<1	<1	<1	<5	<0.2	<0.2	<0.1	<0.1	<0.1
	SDUP10	0-0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.2	<0.2	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	<0.5	<0.5	<5	<0.1	<0.1	<0.2	<0.2	<1	<1	<1	<1	<5	<0.2	<0.2	<0.1	<0.1	<0.1
	MEAN		nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc
	RPD %		nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc
Field Blank	TB-S2	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.2	<0.2	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	<0.5	<0.5	<5	<0.1	<0.1	<0.2	<0.2	<1	<1	<1	<1	<5	<0.2	<0.2	<0.1	<0.1	<0.1
	23/02/2022																																

Result outside of QA/QC acceptance criteria Value

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In-Situ Soil Batch 3 Results Summary Tables

ABBREVIATIONS AND EXPLANATIONS

Abbreviations used in the Tables:

ABC:	Ambient Background Concentration
ACM:	Asbestos Containing Material
ADWG:	AustralianDrinking Water Guidelines
AF:	Asbestos Fines
ANZG	Australian and New Zealand Guidelines
B(a)P:	Benzo(a)pyrene
CEC:	Cation Exchange Capacity
CRC:	Cooperative Research Centre
CT:	Contaminant Threshold
EILs:	Ecological Investigation Levels
ESLs:	Ecological Screening Levels
FA:	Fibrous Asbestos
FTS:	Fluorotelomer sulfonic acid
GIL:	Groundwater Investigation Levels
GSW:	General Solid Waste
HILs:	Health Investigation Levels
HSLs:	Health Screening Levels
HSL-SSA:	Health Screening Level-SiteSpecific Assessment
kg/L	kilograms per litre
NA:	Not Analysed
NC:	Not Calculated
NEPM:	National Environmental Protection Measure
NHMRC:	National Health and Medical Research Council
NL:	Not Limiting
NSL:	No Set Limit
OCP:	Organochlorine Pesticides
OPP:	Organophosphorus Pesticides
PAHs:	Polycyclic Aromatic Hydrocarbons
%w/w:	weight per weight
ppm:	Parts per million
PCBs:	Polychlorinated Biphenyls
PCE:	Perchloroethylene (Tetrachloroethylene or Teterachloroethene)
PFAS	Per- and polyfluoroalkyl substances
PFHxS	Perfluorohexanesulfonic acid
PFOA	Perfluorooctanoic acid
PFOS	Perfluorooctanesulfonic acid
pH_{KCL} :	pH of filtered 1:20, 1M KCL extract, shaken overnight
pH_{ox} :	pH of filtered 1:20 1M KCl after peroxide digestion
PQL:	Practical Quantitation Limit
RS:	Rinsate Sample
RSL:	Regional Screening Levels
RSW:	Restricted Solid Waste
SAC:	Site Assessment Criteria
SCC:	Specific Contaminant Concentration
S_{Cr}:	Chromium reducible sulfur
S_{POS}:	Peroxide oxidisable Sulfur
SSA:	Site Specific Assessment
SSHSLs:	Site Specific Health Screening Levels
TAA:	Total Actual Acidity in 1M KCL extract titrated to pH6.5
TB:	Trip Blank
TCA:	1,1,1 Trichloroethane (methyl chloroform)
TCE:	Trichloroethylene (Trichloroethene)
TCLP:	Toxicity Characteristics Leaching Procedure
TPA:	Total Potential Acidity, 1M KCL peroxide digest
TS:	Trip Spike
TRH:	Total Recoverable Hydrocarbons
TSA:	Total Sulfide Acidity (TPA-TAA)
UCL:	Upper Level Confidence Limit on Mean Value
USEPA	United States Environmental Protection Agency
VOCC:	Volatile Organic Chlorinated Compounds
WHO:	World Health Organisation

Table Specific Explanations:

HIL Tables:

- The chromium results are for Total Chromium which includes Chromium III and VI. For initial screening purposes, we have assumed that the samples contain only Chromium VI unless demonstrated otherwise by additional analysis.
- Carcinogenic PAHs is a toxicity weighted sum of analyte concentrations for a specific list of PAH compounds relative to B(a)P. It is also refered to as the B(a)P Toxic Equivalence Quotient (TEQ).
- Statistical calculations are undertaken using ProUCL (USEPA). Statistical calculation is usually undertaken using data from fill samples.

EIL/ESL Table:

- ABC Values for selected metals have been adopted from the published background concentrations presented in Olszowy et. al., (1995), Trace Element Concentrations in Soils from Rural and Urban New South Wales (the 25th percentile values for old suburbs with low traffic have been quoted).

Waste Classification and TCLP Table:

- Data assessed using the NSW EPA Waste Classification Guidelines, Part 1: Classifying Waste (2014).
- The assessment of Total Moderately Harmful pesticides includes: Dichlorovos, Dimethoate, Fenitrothion, Ethion, Malathion and Parathion.
- Assessment of Total Scheduled pesticides include: HBC, alpha-BHC, gamma-BHC, beta-BHC, Heptachlor, Aldrin, Heptachlor Epoxide, gamma-Chlordane, alpha-chlordane, pp-DDE, Dieldrin, Endrin, pp-DDD, pp-DDT, Endrin Aldehyde.

QA/QC Table:

- Field blank, Inter and Intra laboratory duplicate results are reported in mg/kg.
- Trip spike results are reported as percentage recovery.
- Field rinsate results are reported in µg/L.

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TABLE S1
SOIL LABORATORY RESULTS COMPARED TO NEPM 2013.
HIL-A: 'Residential with garden/accessible soils; children's day care centers; preschools; and primary schools'

All data in mg/kg unless stated otherwise			HEAVY METALS								PAHs		ORGANOCHLORINE PESTICIDES (OCPs)							OP PESTICIDES (OPPs)	TOTAL PCBs	TOTAL Phenols	ASBESTOS FIBRES
			Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Zinc	Total PAHs	Carcinogenic PAHs	HCB	Endosulfan	Methoxychlor	Aldrin & Dieldrin	Chlordane	DDT, DDD & DDE	Heptachlor	Chlorpyrifos			
PQL - Envirolab Services			4	0.4	1	1	1	0.1	1	1	-	0.5	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	5	100
Site Assessment Criteria (SAC)			100	20	100	6000	300	40	400	7400	300	3	10	270	300	6	50	240	6	160	1	3000	Detected/Not Detected
Sample Reference	**Sample Depth**	**Sample Description**																					
TP22	0-0.1	Fill: Silty Sandy Clay	**7**	**0.4**	**12**	**120**	**690**	**0.4**	**7**	**380**	<0.05	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Not Detected
TP22	0.5-0.7	Fill: Gravelly Sand	**6**	<0.4	**3**	**68**	**220**	**0.2**	**9**	**190**	<0.05	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Not Detected
TP58	0-0.1	Fill: Silty Clay	<4	<0.4	**9**	**25**	**28**	<0.1	**3**	**32**	<0.05	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5	Not Detected
TP58 - [LAB_DUP]	0-0.1	Laboratory Duplicate	<4	<0.4	**8**	**28**	**35**	<0.1	**4**	**39**	<0.05	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5	NA
TP58	0.6-0.8	Fill: Silty Clayey Sand	<4	<0.4	**8**	**10**	**13**	<0.1	**2**	**15**	<0.05	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TP60	0-0.1	Fill: Silty Sandy Clay	**6**	<0.4	**26**	**59**	**250**	<0.1	**11**	**130**	**51**	**8.9**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Not Detected
TP60	0.1-0.3	Fill: Silty Clay	**6**	<0.4	**41**	**66**	**150**	<0.1	**15**	**98**	**81**	**14**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Not Detected
TP60	0.4-0.6	Silty Clay	NA	NA	NA	NA	NA	NA	NA	NA	**0.61**	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TP61	0-0.1	Fill: Silty Sandy Clay	**5**	<0.4	**9**	**32**	**290**	<0.1	**7**	**260**	<0.05	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Not Detected
TP61	0.25-0.45	Silty Clay	<4	<0.4	**8**	**17**	**13**	<0.1	**1**	**18**	<0.05	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TP67	0-0.05	Fill: Silty Clayey Sand	**12**	<0.4	**24**	**260**	**880**	<0.1	**29**	**380**	<0.05	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	NA	Not Detected
TP67	0.2-0.4	XW Siltstone	<4	<0.4	**10**	**18**	**22**	**0.1**	**42**	**130**	<0.05	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TP68	0-0.05	Fill: Gravelly Clayey Sand	**5**	<0.4	**10**	**91**	**110**	<0.1	**18**	**150**	<0.05	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	NA	Not Detected
TP68 - [LAB_DUP]	0-0.05	Laboratory Duplicate	<4	<0.4	**8**	**58**	**54**	<0.1	**18**	**110**	<0.05	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	NA	NA
TP68 - [LAB_TRIP]	0-0.05	Laboratory Triplicate	<4	<0.4	**9**	**61**	**48**	<0.1	**21**	**110**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TP68	0.1-0.3	XW Siltstone	<4	<0.4	**6**	**29**	**11**	<0.1	**19**	**69**	<0.05	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TP69	0-0.1	Fill: Silty Sandy Clay	<4	<0.4	**12**	**19**	**43**	<0.1	**6**	**37**	<0.05	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BH19	0-0.1	Fill: Silty Sandy Clay	<4	<0.4	**17**	**15**	**1400**	<0.1	**4**	**330**	<0.05	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5	Not Detected
BH19	0.3-0.5	Silty Sandy Clay	<4	<0.4	**16**	**2**	**15**	<0.1	**1**	**5**	<0.05	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	<5	NA
TP23	0.1-0.3	Fill: Silty Sandy Clay	<4	<0.4	**9**	**7**	**28**	<0.1	**1**	**31**	<0.05	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Not Detected
TP24	0-0.1	Fill: Silty Clayey Sand	<4	<0.4	**7**	**13**	**38**	<0.1	**4**	**180**	<0.05	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Not Detected
TP24	0.2-0.4	Fill: Silty Sandy Clay	<4	<0.4	**9**	**6**	**26**	<0.1	**3**	**36**	<0.05	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Not Detected
BH53	0-0.1	Fill: Silty Clay	<4	<0.4	**11**	**8**	**75**	<0.1	**4**	**53**	<0.05	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Not Detected
TP54	0-0.1	Fill: Silty Sandy Clay	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Not Detected
TP54	0.1-0.3	Fill: Silty Sandy Clay	<4	<0.4	**7**	**6**	**62**	<0.1	**3**	**33**	<0.05	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Detected
TP54	1.1-1.3	Silty Clay	<4	<0.4	**12**	**5**	**8**	<0.1	**2**	**8**	<0.05	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BH83	0-0.05	Fill: Sandy Gravel	<4	<0.4	**10**	**36**	**160**	<0.1	**34**	**62**	<0.05	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5	Not Detected
BH83 - [LAB_DUP]	0-0.05	Laboratory Duplicate	<4	<0.4	**10**	**30**	**150**	<0.1	**28**	**58**	<0.05	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5	NA
BH83	0.05-0.14	Silty Clay	<4	<0.4	**20**	**49**	**79**	<0.1	**32**	**98**	<0.05	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	<5	NA
BH6	0-0.1	Fill: Gravelly Clay	**8**	<0.4	**52**	**29**	**170**	<0.1	**7**	**220**	<0.05	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**4.9**	<5	Not Detected
BH6 - [LAB_DUP]	0-0.1	Laboratory Duplicate	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**3.2**	NA	NA
BH6	0.8-0.95	Sandy Clay	<4	<0.4	**9**	**7**	**15**	<0.1	<1	**11**	<0.05	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	<0.1	<5	NA
BH10	0-0.1	Fill: Clayey Gravelly Sand	**8**	<0.4	**6**	**32**	**96**	<0.1	**5**	**67**	<0.05	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5	Not Detected
BH10	0.2-0.5	Fill: Silty Clay	**34**	<0.4	**6**	**6**	**17**	<0.1	**1**	**29**	<0.05	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5	Not Detected
BH10	0.5-0.95	Silty Clay	<4	<0.4	**11**	**2**	**8**	<0.1	<1	**5**	<0.05	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BH28	0-0.1	Fill: Silty Clay	<4	<0.4	**5**	**5**	**21**	<0.1	**1**	**21**	<0.05	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5	Not Detected
BH28	0.5-0.95	Clayey Sand	<4	<0.4	**6**	**2**	**4**	<0.1	**2**	**3**	<0.05	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BH28	1.5-1.95	Sandy Clay	<4	<0.4	**11**	**3**	**6**	<0.1	**2**	**6**	<0.05	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BH37	0-0.1	Fill: Sandy Clay	<4	<0.4	**13**	**41**	**490**	<0.1	**13**	**220**	**0.06**	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5	Not Detected
BH37 - [LAB_DUP]	0-0.1	Laboratory Duplicate	<4	<0.4	**12**	**36**	**600**	**0.1**	**14**	**280**	<0.05	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	NA	NA
BH37	0.5-0.9	Fill: Sandy CLAY	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<5	NA
BH37	1.0-1.2	Silty Clay	<4	<0.4	**23**	**10**	**56**	<0.1	**6**	**82**	<0.05	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BH37	1.5-1.95	Sandy Clay	<4	<0.4	**25**	**8**	**9**	<0.1	**11**	**11**	<0.05	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BH41	0-0.1	Fill: Gravelly Clay	**4**	<0.4	**16**	**13**	**100**	<0.1	**7**	**67**	<0.05	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	<5	Not Detected
BH41	0.5-0.95	Silty Clay	<4	<0.4	**17**	**4**	**19**	<0.1	**3**	**14**	<0.05	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BH41	2.8-3.0	Sandstone	**5**	<0.4	**8**	**3**	**17**	<0.1	**3**	**19**	<0.05	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BH46	0-0.1	Fill: Silty Clay	**7**	<0.4	**18**	**55**	**460**	**0.1**	**13**	**240**	<0.05	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5	Not Detected
BH46	0.7-0.95	Silty Clay	<4	<0.4	**17**	**17**	**17**	<0.1	**8**	**45**	<0.05	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BH59	0-0.1	Fill: Silty Clay	**6**	<0.4	**36**	**48**	**97**	<0.1	**10**	**68**	**29**	**4.3**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5	Not Detected
BH59 - [LAB_DUP]	0-0.1	Laboratory Duplicate	**8**	<0.4	**32**	**52**	**100**	<0.1	**10**	**71**	**24**	**3.4**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	NA	NA
BH59	0.5-0.95	Silty Clay	**5**	<0.4	**14**	**34**	**20**	<0.1	**5**	**62**	<0.05	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BH82	0-0.1	Fill: Silty Clay	<4	<0.4	**13**	**23**	**18**	<0.1	**5**	**26**	<0.05	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5	Not Detected
BH82	0.2-0.5	Fill: Silty Clay		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Not Detected
BH82	1.5-1.95	XW Siltstone	<4	<0.4	**4**	**30**	**18**	<0.1	**3**	**22**	<0.05	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SDUP15	0-0.1	Duplicate of TP61	**6**	<0.4	**12**	**43**	**410**	<0.1	**14**	**410**	<0.05	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Not Detected
SDUP16	0-0.1	Duplicate of TP24	**6**	<0.4	**14**	**21**	**62**	<0.1	**8**	**260**	<0.05	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SDUP17	0-0.1	Duplicate of BH46	**7**	<0.4	**20**	**36**	**230**	**0.1**	**14**	**170**	<0.05	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	NA	Not Detected
SDUP18	0-0.1	Duplicate of BH82	**4**	<0.4	**15**	**25**	**19**	<0.1	**7**	**32**	<0.05	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	Not Detected
SDUP20	0-0.1	Duplicate of BH6	**6**	<0.4	**12**	**29**	**170**	<0.1	**13**	**140**	<0.05	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**1.7**	<5	Not Detected
TP22-FCF1	0-0.1	Fragment	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Detected
BH41-FCF1	0-0.1	Fragment	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Detected
TP58-FCF1	0-0.15	Fragment	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Detected
TP67-FCF1	0-0.05	Fragment	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Detected
FCF6-surface	Surface	Fragment	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Detected
FCF7-surface	Surface	Fragment	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Detected
FCF8-surface	Surface	Fragment	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Not Detected
Total Number of Samples			54	54	54	54	54	54	54	54	54	54	21	21	21	21	21	21	21	21	23	20	37
Maximum Value			34	0.4	52	260	1400	0.4	42	410	81	14	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	4.9	<PQL	Detected

Concentration above the SAC **VALUE**
Concentration above the PQL **Bold**

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TABLE S2
SOIL LABORATORY RESULTS COMPARED TO HSLs
All data in mg/kg unless stated otherwise

					C_6-C_{10} (F1)	>C_{10}-C_{16} (F2)	Benzene	Toluene	Ethylbenzene	Xylenes	Naphthalene	Field PID Measurement
PQL - Envirolab Services					25	50	0.2	0.5	1	1	1	ppm
NEPM 2013 HSL Land Use Category					**HSL-A/B: LOW/HIGH DENSITY RESIDENTIAL**							
Sample Reference	**Sample Depth**	**Sample Description**	**Depth Category**	**Soil Category**								
TP22	0-0.1	Fill: Silty Sandy Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0
TP22	0.5-0.7	Fill: Gravelly Sand	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	1.1
TP58	0-0.1	Fill: Silty Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	1.3
TP58 - [LAB_DUP]	0-0.1	Laboratory Duplicate	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	NA
TP58	0.6-0.8	Fill: Silty Clayey Sand	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	1.8
TP60	0-0.1	Fill: Silty Sandy Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0
TP60	0.1-0.3	Fill: Silty Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0
TP61	0-0.1	Fill: Silty Sandy Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	1.3
TP61	0.25-0.45	Silty Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	1.5
TP67	0-0.05	Fill: Silty Clayey Sand	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	1.8
TP67	0.2-0.4	XW Siltstone	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0
TP68	0-0.05	Fill: Gravelly Clayey Sand	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	1.7
TP68 - [LAB_DUP]	0-0.05	Laboratory Duplicate	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	NA
TP68	0.1-0.3	XW Siltstone	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	3
TP69	0-0.1	Fill: Silty Sandy Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	1.6
BH19	0-0.1	Fill: Silty Sandy Clay	0m to <1m	Sand	<25	**98**	<0.2	<0.5	<1	<1	<1	0
BH19	0.3-0.5	Silty Sandy Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0
TP23	0.1-0.3	Fill: Silty Sandy Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0
TP24	0-0.1	Fill: Silty Clayey Sand	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0
TP24	0.2-0.4	Fill: Silty Sandy Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0
BH53	0-0.1	Fill: Silty Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0
TP54	0.1-0.3	Fill: Silty Sandy Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	90.4
TP54	1.1-1.3	Silty Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	36.2
BH83	0-0.05	Fill: Sandy Gravel	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0
BH83 - [LAB_DUP]	0-0.05	Laboratory Duplicate	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	NA
BH83	0.05-0.14	Silty Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0
BH6	0-0.1	Fill: Gravelly Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0
BH6	0.8-0.95	Sandy Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0
BH10	0-0.1	Fill: Clayey Gravelly Sand	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	1.7
BH10	0.2-0.5	Fill: Silty Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0
BH10	0.5-0.95	Silty Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	1.6
BH28	0-0.1	Fill: Silty Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0
BH28	0.5-0.95	Clayey Sand	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	1.7
BH28	1.5-1.95	Sandy Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	2.9
BH37	0-0.1	Fill: Sandy Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0
BH37 - [LAB_DUP]	0-0.1	Laboratory Duplicate	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	NA
BH37	1.0-1.2	Silty Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0
BH37	1.5-1.95	Sandy Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	2.2
BH41	0-0.1	Fill: Gravelly Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	3.5
BH41	0.5-0.95	Silty Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	2.5
BH41	2.8-3.0	Sandstone	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	5.3
BH46	0-0.1	Fill: Silty Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	1.7
BH46	0.7-0.95	Silty Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	1.6
BH59	0-0.1	Fill: Silty Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	1.5
BH59 - [LAB_DUP]	0-0.1	Laboratory Duplicate	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	NA
BH59	0.5-0.95	Silty Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	1.1
BH82	0-0.1	Fill: Silty Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0
BH82	1.5-1.95	XW Siltstone	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0
SDUP15	0-0.1	Duplicate of TP61	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	NA
SDUP16	0-0.1	Duplicate of TP24	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	NA
SDUP17	0-0.1	Duplicate of BH46	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	NA
SDUP18	0-0.1	Duplicate of BH82	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	NA
SDUP20	0-0.1	Duplicate of BH6	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	NA
Total Number of Samples					53	53	53	53	53	53	53	43
Maximum Value					<PQL	98	<PQL	<PQL	<PQL	<PQL	<PQL	90.4

Concentration above the SAC **VALUE**
Concentration above the PQL **Bold**
The guideline corresponding to the concentration above the SAC is highlighted in grey in the Site Assessment Criteria Table below

HSL SOIL ASSESSMENT CRITERIA

Sample Reference	Sample Depth	Sample Description	Depth Category	Soil Category	C_6-C_{10} (F1)	>C_{10}-C_{16} (F2)	Benzene	Toluene	Ethylbenzene	Xylenes	Naphthalene
TP22	0-0.1	Fill: Silty Sandy Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP22	0.5-0.7	Fill: Gravelly Sand	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP58	0-0.1	Fill: Silty Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP58 - [LAB_DUP]	0-0.1	Laboratory Duplicate	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP58	0.6-0.8	Fill: Silty Clayey Sand	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP60	0-0.1	Fill: Silty Sandy Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP60	0.1-0.3	Fill: Silty Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP61	0-0.1	Fill: Silty Sandy Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP61	0.25-0.45	Silty Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP67	0-0.05	Fill: Silty Clayey Sand	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP67	0.2-0.4	XW Siltstone	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP68	0-0.05	Fill: Gravelly Clayey Sand	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP68 - [LAB_DUP]	0-0.05	Laboratory Duplicate	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP68	0.1-0.3	XW Siltstone	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP69	0-0.1	Fill: Silty Sandy Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
BH19	0-0.1	Fill: Silty Sandy Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
BH19	0.3-0.5	Silty Sandy Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP23	0.1-0.3	Fill: Silty Sandy Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP24	0-0.1	Fill: Silty Clayey Sand	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP24	0.2-0.4	Fill: Silty Sandy Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
BH53	0-0.1	Fill: Silty Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP54	0.1-0.3	Fill: Silty Sandy Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
TP54	1.1-1.3	Silty Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
BH83	0-0.05	Fill: Sandy Gravel	0m to <1m	Sand	45	110	0.5	160	55	40	3
BH83 - [LAB_DUP]	0-0.05	Laboratory Duplicate	0m to <1m	Sand	45	110	0.5	160	55	40	3
BH83	0.05-0.14	Silty Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
BH6	0-0.1	Fill: Gravelly Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
BH6	0.8-0.95	Sandy Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
BH10	0-0.1	Fill: Clayey Gravelly Sand	0m to <1m	Sand	45	110	0.5	160	55	40	3
BH10	0.2-0.5	Fill: Silty Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
BH10	0.5-0.95	Silty Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
BH28	0-0.1	Fill: Silty Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
BH28	0.5-0.95	Clayey Sand	0m to <1m	Sand	45	110	0.5	160	55	40	3
BH28	1.5-1.95	Sandy Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
BH37	0-0.1	Fill: Sandy Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
BH37 - [LAB_DUP]	0-0.1	Laboratory Duplicate	0m to <1m	Sand	45	110	0.5	160	55	40	3
BH37	1.0-1.2	Silty Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
BH37	1.5-1.95	Sandy Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
BH41	0-0.1	Fill: Gravelly Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
BH41	0.5-0.95	Silty Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
BH41	2.8-3.0	Sandstone	0m to <1m	Sand	45	110	0.5	160	55	40	3
BH46	0-0.1	Fill: Silty Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
BH46	0.7-0.95	Silty Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
BH59	0-0.1	Fill: Silty Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
BH59 - [LAB_DUP]	0-0.1	Laboratory Duplicate	0m to <1m	Sand	45	110	0.5	160	55	40	3
BH59	0.5-0.95	Silty Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
BH82	0-0.1	Fill: Silty Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
BH82	1.5-1.95	XW Siltstone	0m to <1m	Sand	45	110	0.5	160	55	40	3
SDUP15	0-0.1	Duplicate of TP61	0m to <1m	Sand	45	110	0.5	160	55	40	3
SDUP16	0-0.1	Duplicate of TP24	0m to <1m	Sand	45	110	0.5	160	55	40	3
SDUP17	0-0.1	Duplicate of BH46	0m to <1m	Sand	45	110	0.5	160	55	40	3
SDUP18	0-0.1	Duplicate of BH82	0m to <1m	Sand	45	110	0.5	160	55	40	3
SDUP20	0-0.1	Duplicate of BH6	0m to <1m	Sand	45	110	0.5	160	55	40	3

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TABLE S3
SOIL LABORATORY RESULTS COMPARED TO MANAGEMENT LIMITS
All data in mg/kg unless stated otherwise

			C_6-C_{10} (F1) plus BTEX	$>C_{10}$-C_{16} (F2) plus napthalene	$>C_{16}$-C_{34} (F3)	$>C_{34}$-C_{40} (F4)
PQL - Envirolab Services			25	50	100	100
NEPM 2013 Land Use Category			RESIDENTIAL, PARKLAND & PUBLIC OPEN SPACE			
Sample Reference	**Sample Depth**	**Soil Texture**				
TP22	0-0.1	Coarse	<25	<50	<100	<100
TP22	0.5-0.7	Coarse	<25	<50	<100	<100
TP58	0-0.1	Coarse	<25	<50	<100	<100
TP58 - [LAB_DUP]	0-0.1	Coarse	<25	<50	<100	<100
TP58	0.6-0.8	Coarse	<25	<50	<100	<100
TP60	0-0.1	Coarse	<25	<50	**300**	**130**
TP60	0.1-0.3	Coarse	<25	<50	**430**	**180**
TP61	0-0.1	Coarse	<25	<50	<100	<100
TP61	0.25-0.45	Coarse	<25	<50	<100	<100
TP67	0-0.05	Coarse	<25	<50	<100	<100
TP67	0.2-0.4	Coarse	<25	<50	<100	<100
TP68	0-0.05	Coarse	<25	<50	<100	<100
TP68 - [LAB_DUP]	0-0.05	Coarse	<25	<50	<100	<100
TP68	0.1-0.3	Coarse	<25	<50	<100	<100
TP69	0-0.1	Coarse	<25	<50	**100**	<100
BH19	0-0.1	Coarse	<25	**98**	<100	<100
BH19	0.3-0.5	Coarse	<25	<50	<100	<100
TP23	0.1-0.3	Coarse	<25	<50	<100	<100
TP24	0-0.1	Coarse	<25	<50	<100	<100
TP24	0.2-0.4	Coarse	<25	<50	<100	<100
BH53	0-0.1	Coarse	<25	<50	<100	<100
TP54	0.1-0.3	Coarse	<25	<50	<100	<100
TP54	1.1-1.3	Coarse	<25	<50	<100	<100
BH83	0-0.05	Coarse	<25	<50	<100	<100
BH83 - [LAB_DUP]	0-0.05	Coarse	<25	<50	<100	<100
BH83	0.05-0.14	Coarse	<25	<50	<100	<100
BH6	0-0.1	Coarse	<25	<50	<100	<100
BH6	0.8-0.95	Coarse	<25	<50	<100	<100
BH10	0-0.1	Coarse	<25	<50	**110**	<100
BH10	0.2-0.5	Coarse	<25	<50	<100	<100
BH10	0.5-0.95	Coarse	<25	<50	<100	<100
BH28	0-0.1	Coarse	<25	<50	<100	<100
BH28	0.5-0.95	Coarse	<25	<50	<100	<100
BH28	1.5-1.95	Coarse	<25	<50	<100	<100
BH37	0-0.1	Coarse	<25	<50	<100	<100
BH37 - [LAB_DUP]	0-0.1	Coarse	<25	<50	<100	<100
BH37	1.0-1.2	Coarse	<25	<50	<100	<100
BH37	1.5-1.95	Coarse	<25	<50	<100	<100
BH41	0-0.1	Coarse	<25	<50	<100	<100
BH41	0.5-0.95	Coarse	<25	<50	<100	<100
BH41	2.8-3.0	Coarse	<25	<50	<100	<100
BH46	0-0.1	Coarse	<25	<50	<100	<100
BH46	0.7-0.95	Coarse	<25	<50	<100	<100
BH59	0-0.1	Coarse	<25	<50	<100	<100
BH59 - [LAB_DUP]	0-0.1	Coarse	<25	<50	**130**	<100
BH59	0.5-0.95	Coarse	<25	<50	<100	<100
BH82	0-0.1	Coarse	<25	<50	<100	<100
BH82	1.5-1.95	Coarse	<25	<50	<100	<100
SDUP15	0-0.1	Coarse	<25	<50	<100	<100
SDUP16	0-0.1	Coarse	<25	<50	<100	<100
SDUP17	0-0.1	Coarse	<25	<50	<100	<100
SDUP18	0-0.1	Coarse	<25	<50	<100	<100
SDUP20	0-0.1	Coarse	<25	<50	<100	<100
Total Number of Samples			53	53	53	53
Maximum Value			<PQL	98	430	180

Concentration above the SAC — **VALUE**
Concentration above the PQL — **Bold**

MANAGEMENT LIMIT ASSESSMENT CRITERIA

Sample Reference	**Sample Depth**	**Soil Texture**	C_6-C_{10} (F1) plus BTEX	$>C_{10}$-C_{16} (F2) plus napthalene	$>C_{16}$-C_{34} (F3)	$>C_{34}$-C_{40} (F4)
TP22	0-0.1	Coarse	700	1000	2500	10000
TP22	0.5-0.7	Coarse	700	1000	2500	10000
TP58	0-0.1	Coarse	700	1000	2500	10000
TP58 - [LAB_DUP]	0-0.1	Coarse	700	1000	2500	10000
TP58	0.6-0.8	Coarse	700	1000	2500	10000
TP60	0-0.1	Coarse	700	1000	2500	10000
TP60	0.1-0.3	Coarse	700	1000	2500	10000
TP61	0-0.1	Coarse	700	1000	2500	10000
TP61	0.25-0.45	Coarse	700	1000	2500	10000
TP67	0-0.05	Coarse	700	1000	2500	10000
TP67	0.2-0.4	Coarse	700	1000	2500	10000
TP68	0-0.05	Coarse	700	1000	2500	10000
TP68 - [LAB_DUP]	0-0.05	Coarse	700	1000	2500	10000
TP68	0.1-0.3	Coarse	700	1000	2500	10000
TP69	0-0.1	Coarse	700	1000	2500	10000
BH19	0-0.1	Coarse	700	1000	2500	10000
BH19	0.3-0.5	Coarse	700	1000	2500	10000
TP23	0.1-0.3	Coarse	700	1000	2500	10000
TP24	0-0.1	Coarse	700	1000	2500	10000
TP24	0.2-0.4	Coarse	700	1000	2500	10000
BH53	0-0.1	Coarse	700	1000	2500	10000
TP54	0.1-0.3	Coarse	700	1000	2500	10000
TP54	1.1-1.3	Coarse	700	1000	2500	10000
BH83	0-0.05	Coarse	700	1000	2500	10000
BH83 - [LAB_DUP]	0-0.05	Coarse	700	1000	2500	10000
BH83	0.05-0.14	Coarse	700	1000	2500	10000
BH6	0-0.1	Coarse	700	1000	2500	10000
BH6	0.8-0.95	Coarse	700	1000	2500	10000
BH10	0-0.1	Coarse	700	1000	2500	10000
BH10	0.2-0.5	Coarse	700	1000	2500	10000
BH10	0.5-0.95	Coarse	700	1000	2500	10000
BH28	0-0.1	Coarse	700	1000	2500	10000
BH28	0.5-0.95	Coarse	700	1000	2500	10000
BH28	1.5-1.95	Coarse	700	1000	2500	10000
BH37	0-0.1	Coarse	700	1000	2500	10000
BH37 - [LAB_DUP]	0-0.1	Coarse	700	1000	2500	10000
BH37	1.0-1.2	Coarse	700	1000	2500	10000
BH37	1.5-1.95	Coarse	700	1000	2500	10000
BH41	0-0.1	Coarse	700	1000	2500	10000
BH41	0.5-0.95	Coarse	700	1000	2500	10000
BH41	2.8-3.0	Coarse	700	1000	2500	10000
BH46	0-0.1	Coarse	700	1000	2500	10000
BH46	0.7-0.95	Coarse	700	1000	2500	10000
BH59	0-0.1	Coarse	700	1000	2500	10000
BH59 - [LAB_DUP]	0-0.1	Coarse	700	1000	2500	10000
BH59	0.5-0.95	Coarse	700	1000	2500	10000
BH82	0-0.1	Coarse	700	1000	2500	10000
BH82	1.5-1.95	Coarse	700	1000	2500	10000
SDUP15	0-0.1	Coarse	700	1000	2500	10000
SDUP16	0-0.1	Coarse	700	1000	2500	10000
SDUP17	0-0.1	Coarse	700	1000	2500	10000
SDUP18	0-0.1	Coarse	700	1000	2500	10000
SDUP20	0-0.1	Coarse	700	1000	2500	10000
BH41-FCF1	0-0.1		NA	NA	NA	NA
TP67-FCF1	0-0.05		NA	NA	NA	NA
FCF7-surface	Surface		NA	NA	NA	NA

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TABLE S4
SOIL LABORATORY RESULTS COMPARED T0 DIRECT CONTACT CRITERIA
All data in mg/kg unless stated otherwise

Analyte		C_6-C_{10}	>C_{10}-C_{16}	>C_{16}-C_{34}	>C_{34}-C_{40}	Benzene	Toluene	Ethylbenzene	Xylenes	Naphthalene	PID
PQL - Envirolab Services		25	50	100	100	0.2	0.5	1	1	1	
CRC 2011 -Direct contact Criteria		4,400	3,300	4,500	6,300	100	14,000	4,500	12,000	1,400	
Site Use		**RESIDENTIAL WITH ACCESSIBLE SOIL- DIRECT SOIL CONTACT**									
Sample Reference	**Sample Depth**										
TP22	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	0
TP22	0.5-0.7	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**1.1**
TP58	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**1.3**
TP58 - [LAB_DUP]	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	NA
TP58	0.6-0.8	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**1.8**
TP60	0-0.1	<25	<50	**300**	**130**	<0.2	<0.5	<1	<1	<1	0
TP60	0.1-0.3	<25	<50	**430**	**180**	<0.2	<0.5	<1	<1	<1	0
TP61	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**1.3**
TP61	0.25-0.45	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**1.5**
TP67	0-0.05	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**1.8**
TP67	0.2-0.4	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	0
TP68	0-0.05	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**1.7**
TP68 - [LAB_DUP]	0-0.05	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	NA
TP68	0.1-0.3	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**3**
TP69	0-0.1	<25	<50	**100**	<100	<0.2	<0.5	<1	<1	<1	**1.6**
BH19	0-0.1	<25	**98**	<100	<100	<0.2	<0.5	<1	<1	<1	0
BH19	0.3-0.5	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	0
TP23	0.1-0.3	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	0
TP24	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	0
TP24	0.2-0.4	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	0
BH53	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	0
TP54	0.1-0.3	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**90.4**
TP54	1.1-1.3	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**36.2**
BH83	0-0.05	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	0
BH83 - [LAB_DUP]	0-0.05	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	NA
BH83	0.05-0.14	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	0
BH6	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	0
BH6	0.8-0.95	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	0
BH10	0-0.1	<25	<50	**110**	<100	<0.2	<0.5	<1	<1	<1	**1.7**
BH10	0.2-0.5	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	0
BH10	0.5-0.95	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**1.6**
BH28	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	0
BH28	0.5-0.95	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**1.7**
BH28	1.5-1.95	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**2.9**
BH37	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	0
BH37 - [LAB_DUP]	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	NA
BH37	1.0-1.2	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	0
BH37	1.5-1.95	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**2.2**
BH41	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**3.5**
BH41	0.5-0.95	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**2.5**
BH41	2.8-3.0	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**5.3**
BH46	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**1.7**
BH46	0.7-0.95	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**1.6**
BH59	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**1.5**
BH59 - [LAB_DUP]	0-0.1	<25	<50	**130**	<100	<0.2	<0.5	<1	<1	<1	NA
BH59	0.5-0.95	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**1.1**
BH82	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	0
BH82	1.5-1.95	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	0
SDUP15	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	NA
SDUP16	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	NA
SDUP17	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	NA
SDUP18	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	NA
SDUP20	0-0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	NA

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TABLE S5
ASBESTOS QUANTIFICATION - FIELD OBSERVATIONS AND LABORATORY RESULTS
HSL-A: Residential with garden/accessible soils; children's day care centers; preschools; and primary schools

FIELD DATA															LABORATORY DATA											
Date Sampled	Sample reference	Sample Depth	Visible ACM in top 100mm	Approx. Volume of Soil (L)	Soil Mass (g)	Mass ACM (g)	Mass Asbestos in ACM (g)	[Asbestos from ACM in soil] (%w/w)	Mass ACM <7mm (g)	Mass Asbestos in ACM <7mm (g)	[Asbestos from ACM <7mm in soil] (%w/w)	Mass FA (g)	Mass Asbestos in FA (g)	[Asbestos from FA in soil] (%w/w)	Lab Report Number	Sample refeference	Sample Depth	Sample Mass (g)	Asbestos ID in soil (AS4964) >0.1g/kg	Trace Analysis	Total Asbestos (g/kg)	Asbestos ID in soil <0.1g/kg	ACM >7mm Estimation (g)	FA and AF Estimation (g)	ACM >7mm Estimation %(w/w)	FA and AF Estimation %(w/w)
SAC			**No**					**0.01**			**0.001**			**0.001**											**0.01**	**0.001**
23/02/2022	TP22	0-0.1	Yes	10	10,680	17.95	2.6925	0.0252	No ACM <7mm observed	--	--	No FA observed	--	--	290249	TP22	0-0.1	601.44	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
23/02/2022	TP22	0.1-0.5	NA	10	11,540	52.01	7.8015	0.0676	No ACM <7mm observed	--	--	No FA observed	--	--	--	--	--	--	--	--	--	--	--	--	--	--
23/02/2022	TP22	0.5-0.7	NA	10	12,520	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	290249	TP22	0.5-0.7	482.11	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
23/02/2022	TP58	0-0.15	Yes	10	11,610	37.86	5.679	0.0489	No ACM <7mm observed	--	--	No FA observed	--	--	290249	TP58	0-0.1	620.19	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
23/02/2022	TP58	0.15-0.45	NA	10	12,900	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	--	--	--	--	--	--	--	--	--	--	--	--
23/02/2022	TP60	0-0.1	No	10	12,920	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	290249	TP60	0-0.1	494.46	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
23/02/2022	TP60	0.1-0.3	NA	10	13,490	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	290249	TP60	0.1-0.3	654.65	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
23/02/2022	TP61	0-0.1	No	10	10,530	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	290249	TP61	0-0.1	442.23	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
23/02/2022	TP61	0.1-0.25	NA	10	17,430	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	--	--	--	--	--	--	--	--	--	--	--	--
23/02/2022	TP67	0-0.05	Yes	10	11,270	27.50	4.125	0.0366	No ACM <7mm observed	--	--	No FA observed	--	--	290249	TP67	0-0.05	647.61	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
23/02/2022	TP68	0-0.05	No	10	14,320	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	290249	TP68	0-0.05	819.39	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
23/02/2022	TP69	0-0.1	No	10	11,230	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	290249	BH19	0-0.1	699.28	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
24/02/2022	TP23	0-0.1	Yes	10	13,310	20.68	3.102	0.0233	No ACM <7mm observed	--	--	No FA observed	--	--	--	--	--	--	--	--	--	--	--	--	--	--
24/02/2022	TP23	0.1-0.9	NA	10	13,420	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	290249	TP23	0.1-0.3	765.53	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
24/02/2022	TP24	0-0.1	No	10	11,220	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	290249	TP24	0-0.1	372.37	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
24/02/2022	TP24	0.1-0.9	NA	10	10,300	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	290249	TP24	0.2-0.4	697.19	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	290249	BH53	0-0.1	460.28	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
24/02/2022	TP54	0-0.1	No	10	10,000	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	290249	TP54	0-0.1	485.60	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
24/02/2022	TP54	0.1-0.9	NA	10	10,000	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	290249	TP54	0.1-0.3	677.48	Chrysotile asbestos detected: Amosite asbestos detected: Organic fibres detected	No asbestos detected	0.3423	Chrysotile; Amosite	–	0.2319	<0.01	0.0342
24/02/2022	BH83	0-0.05	No	10	17,430	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	290249	BH83	0-0.05	827.97	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
25/02/2022	BH6	0-0.1	No	10	10,000	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	290249	BH6	0-0.1	530.48	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
25/02/2022	BH6	0.1-0.8	NA	--	4,580	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	--	--	--	--	--	--	--	--	--	--	--	--
25/02/2022	BH10	0-0.1	No	10	10,880	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	290249	BH10	0-0.1	559.01	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
25/02/2022	BH10	0.1-0.5	NA	--	3,450	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	290249	BH10	0.2-0.5	689.44	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
25/02/2022	BH28	0-0.1	No	10	10,830	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	290249	BH28	0-0.1	765.20	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
25/02/2022	BH28	0.1-0.4	NA	--	3,700	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	--	--	--	--	--	--	--	--	--	--	--	--
24/02/2022	BH37	0-0.1	No	10	10,540	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	290249	BH37	0-0.1	683.96	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
24/02/2022	BH37	0.1-0.9	NA	--	5,690	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	--	--	--	--	--	--	--	--	--	--	--	--
25/02/2022	BH41	0-0.1	Yes	10	11,250	47.48	7.122	0.0633	No ACM <7mm observed	--	--	No FA observed	--	--	290249	BH41	0-0.1	700.59	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
24/02/2022	BH46	0-0.1	No	10	10,800	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	290249	BH46	0-0.1	672.68	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
24/02/2022	BH46	0.1-0.7	NA	10	6,870	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	--	--	--	--	--	--	--	--	--	--	--	--
24/02/2022	BH59	0-0.1	No	10	11,140	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	290249	BH59	0-0.1	630.65	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
24/02/2022	BH82	0-0.1	No	10	10,050	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	290249	BH82	0-0.1	681.57	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
24/02/2022	BH82	0.1-0.5	NA	--	3,900	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	290249	BH82	0.2-0.5	579.95	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001

Concentration above the SAC **VALUE**

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TABLE S6
SOIL LABORATORY RESULTS COMPARED TO NEPM 2013 EILs AND ESLs
All data in mg/kg unless stated otherwise

Land Use Category				URBAN RESIDENTIAL AND PUBLIC OPEN SPACE																				
								AGED HEAVY METALS-EILs						EILs		ESLs								
				pH	CEC (cmolc/kg)	Total Organic Carbon (%)	Clay Content (% clay)	Arsenic	Chromium	Copper	Lead	Nickel	Zinc	Naphthalene	DDT	C_6-C_{10} (F1)	>C_{10}-C_{16} (F2)	>C_{16}-C_{34} (F3)	>C_{34}-C_{40} (F4)	Benzene	Toluene	Ethylbenzene	Total Xylenes	B(a)P
PQL - Envirolab Services				-	1	-	-	4	1	1	1	1	1	1	0.1	25	50	100	100	0.2	0.5	1	1	0.05
Ambient Background Concentration (ABC)				-	-	-	-	NSL	8	18	104	5	77	NSL	NSL	NSL	NSL	NSL	NSL	NSL	NSL	NSL	NSL	NSL
Sample Reference	**Sample Depth**	**Sample Description**	**Soil Texture**																					
TP22	0-0.1	Fill: Silty Sandy Clay	Coarse	**6.3**	**10**	**2.6**	NA	**7**	**12**	**120**	**690**	**7**	**380**	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
TP22	0.5-0.7	Fill: Gravelly Sand	Coarse	**6.2**	**9.9**	**6.3**	NA	**6**	**3**	**68**	**220**	**9**	**190**	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
TP58	0-0.1	Fill: Silty Clay	Coarse	NA	NA	NA	NA	<4	**9**	**25**	**28**	**3**	**32**	<1	<0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
TP58 - [LAB_DUP]	0-0.1	Laboratory Duplicate	Coarse	NA	NA	NA	NA	<4	**8**	**28**	**35**	**4**	**39**	<1	<0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
TP58	0.6-0.8	Fill: Silty Clayey Sand	Coarse	NA	NA	NA	NA	<4	**8**	**10**	**13**	**2**	**15**	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
TP60	0-0.1	Fill: Silty Sandy Clay	Coarse	NA	NA	NA	NA	**6**	**26**	**59**	**250**	**11**	**130**	<1	NA	<25	<50	**300**	**130**	<0.2	<0.5	<1	<1	**6**
TP60	0.1-0.3	Fill: Silty Clay	Coarse	NA	NA	NA	NA	**6**	**41**	**66**	**150**	**15**	**98**	<1	NA	<25	<50	**430**	**180**	<0.2	<0.5	<1	<1	**9.7**
TP60 - [Silica Gel]	0.1-0.3	Fill: Silty Clay	Coarse	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<50	<100	<100	NA	NA	NA	NA	NA
TP60	0.4-0.6	Silty Clay	Coarse	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.05
TP61	0-0.1	Fill: Silty Sandy Clay	Coarse	**5.3**	**13**	NA	NA	**5**	**9**	**32**	**290**	**7**	**260**	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
TP61	0.25-0.45	Silty Clay	Coarse	NA	NA	NA	NA	<4	**8**	**17**	**13**	**1**	**18**	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
TP67	0-0.05	Fill: Silty Clayey Sand	Coarse	**6**	**5.8**	NA	NA	**12**	**24**	**260**	**880**	**29**	**380**	<1	<0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
TP67	0.2-0.4	XW Siltstone	Coarse	NA	NA	NA	NA	<4	**10**	**18**	**22**	**42**	**130**	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
TP68	0-0.05	Fill: Gravelly Clayey Sand	Coarse	**7.3**	**23**	NA	NA	**5**	**10**	**91**	**110**	**18**	**150**	<1	<0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
TP68 - [LAB_DUP]	0-0.05	Laboratory Duplicate	Coarse	NA	NA	NA	NA	<4	**8**	**58**	**54**	**18**	**110**	<1	<0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
TP68 - [LAB_TRIP]	0-0.05	Laboratory Triplicate	Coarse	NA	NA	NA	NA	<4	**9**	**61**	**48**	**21**	**110**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TP68	0.1-0.3	XW Siltstone	Coarse	NA	NA	NA	NA	<4	**6**	**29**	**11**	**19**	**69**	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
TP69	0-0.1	Fill: Silty Sandy Clay	Coarse	NA	NA	NA	NA	<4	**12**	**19**	**43**	**6**	**37**	<1	NA	<25	<50	**100**	<100	<0.2	<0.5	<1	<1	<0.05
BH19	0-0.1	Fill: Silty Sandy Clay	Coarse	**6.3**	**10**	**2.6**	NA	<4	**17**	**15**	**1400**	**4**	**330**	<1	<0.1	<25	**98**	<100	<100	<0.2	<0.5	<1	<1	<0.05
BH19	0.3-0.5	Silty Sandy Clay	Coarse	NA	NA	NA	NA	<4	**16**	**2**	**15**	**1**	**5**	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
TP23	0.1-0.3	Fill: Silty Sandy Clay	Coarse	NA	NA	NA	NA	<4	**9**	**7**	**28**	**1**	**31**	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
TP24	0-0.1	Fill: Silty Clayey Sand	Coarse	**4.6**	**21**	NA	NA	<4	**7**	**13**	**38**	**4**	**180**	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
TP24	0.2-0.4	Fill: Silty Sandy Clay	Coarse	NA	NA	NA	NA	<4	**9**	**6**	**26**	**3**	**36**	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
BH53	0-0.1	Fill: Silty Clay	Coarse	NA	NA	NA	NA	<4	**11**	**8**	**75**	**4**	**53**	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
TP54	0.1-0.3	Fill: Silty Sandy Clay	Coarse	NA	NA	NA	NA	<4	**7**	**6**	**62**	**3**	**33**	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
TP54	1.1-1.3	Silty Clay	Coarse	NA	NA	NA	NA	<4	**12**	**5**	**8**	**2**	**8**	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
BH83	0-0.05	Fill: Sandy Gravel	Coarse	NA	NA	NA	NA	<4	**10**	**36**	**160**	**34**	**62**	<1	<0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
BH83 - [LAB_DUP]	0-0.05	Laboratory Duplicate	Coarse	NA	NA	NA	NA	<4	**10**	**30**	**150**	**28**	**58**	<1	<0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
BH83	0.05-0.14	Silty Clay	Coarse	NA	NA	NA	NA	<4	**20**	**49**	**79**	**32**	**98**	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
BH6	0-0.1	Fill: Gravelly Clay	Coarse	**5.9**	**5.5**	NA	NA	**8**	**52**	**29**	**170**	**7**	**220**	<1	<0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
BH6	0.8-0.95	Sandy Clay	Coarse	NA	NA	NA	NA	<4	**9**	**7**	**15**	<1	**11**	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
BH10	0-0.1	Fill: Clayey Gravelly Sand	Coarse	NA	NA	NA	NA	**8**	**6**	**32**	**96**	**5**	**67**	<1	<0.1	<25	<50	**110**	<100	<0.2	<0.5	<1	<1	<0.05
BH10	0.2-0.5	Fill: Silty Clay	Coarse	NA	NA	NA	NA	**34**	**6**	**6**	**17**	**1**	**29**	<1	<0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
BH10	0.5-0.95	Silty Clay	Coarse	NA	NA	NA	NA	<4	**11**	**2**	**8**	<1	**5**	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
BH28	0-0.1	Fill: Silty Clay	Coarse	NA	NA	NA	NA	<4	**5**	**5**	**21**	**1**	**21**	<1	<0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
BH28	0.5-0.95	Clayey Sand	Coarse	NA	NA	NA	NA	<4	**6**	**2**	**4**	**2**	**3**	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
BH28	1.5-1.95	Sandy Clay	Coarse	NA	NA	NA	NA	<4	**11**	**3**	**6**	**2**	**6**	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
BH37	0-0.1	Fill: Sandy Clay	Coarse	**7.1**	**26**	NA	NA	<4	**13**	**41**	**490**	**13**	**220**	<1	<0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	**0.06**
BH37 - [LAB_DUP]	0-0.1	Laboratory Duplicate	Coarse	**7.1**	**26**	NA	NA	<4	**12**	**36**	**600**	**14**	**280**	<1	<0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
BH37	1.0-1.2	Silty Clay	Coarse	NA	NA	NA	NA	<4	**23**	**10**	**56**	**6**	**82**	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
BH37	1.5-1.95	Sandy Clay	Coarse	NA	NA	NA	NA	<4	**25**	**8**	**9**	**11**	**11**	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
BH41	0-0.1	Fill: Gravelly Clay	Coarse	NA	NA	NA	NA	**4**	**16**	**13**	**100**	**7**	**67**	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
BH41	0.5-0.95	Silty Clay	Coarse	NA	NA	NA	NA	<4	**17**	**4**	**19**	**3**	**14**	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
BH41	2.8-3.0	Sandstone	Coarse	NA	NA	NA	NA	**5**	**8**	**3**	**17**	**3**	**19**	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
BH46	0-0.1	Fill: Silty Clay	Coarse	**6**	**17**	NA	NA	**7**	**18**	**55**	**460**	**13**	**240**	<1	<0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
BH46	0.7-0.95	Silty Clay	Coarse	NA	NA	NA	NA	<4	**17**	**17**	**17**	**8**	**45**	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
BH59	0-0.1	Fill: Silty Clay	Coarse	NA	NA	NA	NA	**6**	**36**	**48**	**97**	**10**	**68**	<1	<0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	**2.9**
BH59 - [LAB_DUP]	0-0.1	Laboratory Duplicate	Coarse	NA	NA	NA	NA	**8**	**32**	**52**	**100**	**10**	**71**	<1	<0.1	<25	<50	**130**	<100	<0.2	<0.5	<1	<1	**2.3**
BH59	0.5-0.95	Silty Clay	Coarse	NA	NA	NA	NA	**5**	**14**	**34**	**20**	**5**	**62**	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
BH82	0-0.1	Fill: Silty Clay	Coarse	NA	NA	NA	NA	<4	**13**	**23**	**18**	**5**	**26**	<1	<0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
BH82	1.5-1.95	XW Siltstone	Coarse	NA	NA	NA	NA	<4	**4**	**30**	**18**	**3**	**22**	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
SDUP15	0-0.1	Duplicate of TP61	Coarse	**5.3**	**13**	NA	NA	**6**	**12**	**43**	**410**	**14**	**410**	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
SDUP16	0-0.1	Duplicate of TP24	Coarse	**4.6**	**21**	NA	NA	**6**	**14**	**21**	**62**	**8**	**260**	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
SDUP17	0-0.1	Duplicate of BH46	Coarse	**6**	**17**	NA	NA	**7**	**20**	**36**	**230**	**14**	**170**	<1	<0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
SDUP18	0-0.1	Duplicate of BH82	Coarse	NA	NA	NA	NA	**4**	**15**	**25**	**19**	**7**	**32**	<1	<0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
SDUP20	0-0.1	Duplicate of BH6	Coarse	NA	NA	NA	NA	**6**	**12**	**29**	**170**	**13**	**140**	<1	<0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
Total Number of Samples				14	14	3	0	54	54	54	54	54	54	53	21	53	54	54	54	53	53	53	53	54
Maximum Value				7.3	26	6.3	NA	34	52	260	1400	42	410	<PQL	<PQL	<PQL	98	430	180	<PQL	<PQL	<PQL	<PQL	9.7

Concentration above the SAC — VALUE
Concentration above the PQL — **Bold**
The guideline corresponding to the elevated value is highlighted in grey in the EIL and ESL Assessment Criteria Table below

EIL AND ESL ASSESSMENT CRITERIA

Sample Reference	Sample Depth	Sample Description	Soil Texture	pH	CEC (cmolc/kg)	Total Organic Carbon (%)	Clay Content (% clay)	Arsenic	Chromium	Copper	Lead	Nickel	Zinc	Naphthalene	DDT	C_6-C_{10} (F1)	>C_{10}-C_{16} (F2)	>C_{16}-C_{34} (F3)	>C_{34}-C_{40} (F4)	Benzene	Toluene	Ethylbenzene	Total Xylenes	B(a)P
TP22	0-0.1	Fill: Silty Sandy Clay	Coarse	6.3	10	2.6	NA	100	200	210	1200	180	480	170	--	180	120	300	2800	50	85	70	105	20
TP22	0.5-0.7	Fill: Gravelly Sand	Coarse	6.2	9.9	6.3	NA	100	200	210	1200	180	480	170	--	180	120	300	2800	50	85	70	105	20
TP58	0-0.1	Fill: Silty Clay	Coarse	NA	NA	NA	NA	100	200	80	1200	35	150	170	180	180	120	300	2800	50	85	70	105	20
TP58 - [LAB_DUP]	0-0.1	Laboratory Duplicate	Coarse	NA	NA	NA	NA	100	200	80	1200	35	150	170	180	180	120	300	2800	50	85	70	105	20
TP58	0.6-0.8	Fill: Silty Clayey Sand	Coarse	NA	NA	NA	NA	100	200	80	1200	35	150	170	--	180	120	300	2800	50	85	70	105	20
TP60	0-0.1	Fill: Silty Sandy Clay	Coarse	NA	NA	NA	NA	100	200	80	1200	35	150	170	--	180	120	300	2800	50	85	70	105	20
TP60	0.1-0.3	Fill: Silty Clay	Coarse	NA	NA	NA	NA	100	200	80	1200	35	150	170	--	180	120	300	2800	50	85	70	105	20
TP60 - [Silica Gel]	0.1-0.3	Fill: Silty Clay	Coarse	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	120	300	2800	--	--	--	--	--
TP60	0.4-0.6	Silty Clay	Coarse	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TP61	0-0.1	Fill: Silty Sandy Clay	Coarse	5.3	13	NA	NA	100	200	150	1200	280	350	170	--	180	120	300	2800	50	85	70	105	20
TP61	0.25-0.45	Silty Clay	Coarse	NA	NA	NA	NA	100	200	80	1200	35	150	170	--	180	120	300	2800	50	85	70	105	20
TP67	0-0.05	Fill: Silty Clayey Sand	Coarse	6	5.8	NA	NA	100	200	210	1200	180	350	170	180	180	120	300	2800	50	85	70	105	20
TP67	0.2-0.4	XW Siltstone	Coarse	NA	NA	NA	NA	100	200	80	1200	35	150	170	--	180	120	300	2800	50	85	70	105	20
TP68	0-0.05	Fill: Gravelly Clayey Sand	Coarse	7.3	23	NA	NA	100	200	240	1200	360	1000	170	180	180	120	300	2800	50	85	70	105	20
TP68 - [LAB_DUP]	0-0.05	Laboratory Duplicate	Coarse	NA	NA	NA	NA	100	200	80	1200	35	150	170	180	180	120	300	2800	50	85	70	105	20
TP68 - [LAB_TRIP]	0-0.05	Laboratory Triplicate	Coarse	NA	NA	NA	NA	100	200	80	1200	35	150	--	--	--	--	--	--	--	--	--	--	--
TP68	0.1-0.3	XW Siltstone	Coarse	NA	NA	NA	NA	100	200	80	1200	35	150	170	--	180	120	300	2800	50	85	70	105	20
TP69	0-0.1	Fill: Silty Sandy Clay	Coarse	NA	NA	NA	NA	100	200	80	1200	35	150	170	--	180	120	300	2800	50	85	70	105	20
BH19	0-0.1	Fill: Silty Sandy Clay	Coarse	6.3	10	2.6	NA	100	200	210	1200	180	480	170	180	180	120	300	2800	50	85	70	105	20
BH19	0.3-0.5	Silty Sandy Clay	Coarse	NA	NA	NA	NA	100	200	80	1200	35	150	170	--	180	120	300	2800	50	85	70	105	20
TP23	0.1-0.3	Fill: Silty Sandy Clay	Coarse	NA	NA	NA	NA	100	200	80	1200	35	150	170	--	180	120	300	2800	50	85	70	105	20
TP24	0-0.1	Fill: Silty Clayey Sand	Coarse	4.6	21	NA	NA	100	200	150	1200	360	260	170	--	180	120	300	2800	50	85	70	105	20
TP24	0.2-0.4	Fill: Silty Sandy Clay	Coarse	NA	NA	NA	NA	100	200	80	1200	35	150	170	--	180	120	300	2800	50	85	70	105	20
BH53	0-0.1	Fill: Silty Clay	Coarse	NA	NA	NA	NA	100	200	80	1200	35	150	170	--	180	120	300	2800	50	85	70	105	20
TP54	0.1-0.3	Fill: Silty Sandy Clay	Coarse	NA	NA	NA	NA	100	200	80	1200	35	150	170	--	180	120	300	2800	50	85	70	105	20
TP54	1.1-1.3	Silty Clay	Coarse	NA	NA	NA	NA	100	200	80	1200	35	150	170	--	180	120	300	2800	50	85	70	105	20
BH83	0-0.05	Fill: Sandy Gravel	Coarse	NA	NA	NA	NA	100	200	80	1200	35	150	170	180	180	120	300	2800	50	85	70	105	20
BH83 - [LAB_DUP]	0-0.05	Laboratory Duplicate	Coarse	NA	NA	NA	NA	100	200	80	1200	35	150	170	180	180	120	300	2800	50	85	70	105	20
BH83	0.05-0.14	Silty Clay	Coarse	NA	NA	NA	NA	100	200	80	1200	35	150	170	--	180	120	300	2800	50	85	70	105	20
BH6	0-0.1	Fill: Gravelly Clay	Coarse	5.9	5.5	NA	NA	100	200	210	1200	180	350	170	180	180	120	300	2800	50	85	70	105	20
BH6	0.8-0.95	Sandy Clay	Coarse	NA	NA	NA	NA	100	200	80	1200	35	150	170	--	180	120	300	2800	50	85	70	105	20
BH10	0-0.1	Fill: Clayey Gravelly Sand	Coarse	NA	NA	NA	NA	100	200	80	1200	35	150	170	180	180	120	300	2800	50	85	70	105	20
BH10	0.2-0.5	Fill: Silty Clay	Coarse	NA	NA	NA	NA	100	200	80	1200	35	150	170	180	180	120	300	2800	50	85	70	105	20
BH10	0.5-0.95	Silty Clay	Coarse	NA	NA	NA	NA	100	200	80	1200	35	150	170	--	180	120	300	2800	50	85	70	105	20
BH28	0-0.1	Fill: Silty Clay	Coarse	NA	NA	NA	NA	100	200	80	1200	35	150	170	180	180	120	300	2800	50	85	70	105	20
BH28	0.5-0.95	Clayey Sand	Coarse	NA	NA	NA	NA	100	200	80	1200	35	150	170	--	180	120	300	2800	50	85	70	105	20
BH28	1.5-1.95	Sandy Clay	Coarse	NA	NA	NA	NA	100	200	80	1200	35	150	170	--	180	120	300	2800	50	85	70	105	20
BH37	0-0.1	Fill: Sandy Clay	Coarse	7.1	26	NA	NA	100	200	240	1200	360	1000	170	180	180	120	300	2800	50	85	70	105	20
BH37 - [LAB_DUP]	0-0.1	Laboratory Duplicate	Coarse	7.1	26	NA	NA	100	200	240	1200	360	1000	170	180	180	120	300	2800	50	85	70	105	20
BH37	1.0-1.2	Silty Clay	Coarse	NA	NA	NA	NA	100	200	80	1200	35	150	170	--	180	120	300	2800	50	85	70	105	20
BH37	1.5-1.95	Sandy Clay	Coarse	NA	NA	NA	NA	100	200	80	1200	35	150	170	--	180	120	300	2800	50	85	70	105	20
BH41	0-0.1	Fill: Gravelly Clay	Coarse	NA	NA	NA	NA	100	200	80	1200	35	150	170	--	180	120	300	2800	50	85	70	105	20
BH41	0.5-0.95	Silty Clay	Coarse	NA	NA	NA	NA	100	200	80	1200	35	150	170	--	180	120	300	2800	50	85	70	105	20
BH41	2.8-3.0	Sandstone	Coarse	NA	NA	NA	NA	100	200	80	1200	35	150	170	--	180	120	300	2800	50	85	70	105	20
BH46	0-0.1	Fill: Silty Clay	Coarse	6	17	NA	NA	100	200	210	1200	280	480	170	180	180	120	300	2800	50	85	70	105	20
BH46	0.7-0.95	Silty Clay	Coarse	NA	NA	NA	NA	100	200	80	1200	35	150	170	--	180	120	300	2800	50	85	70	105	20
BH59	0-0.1	Fill: Silty Clay	Coarse	NA	NA	NA	NA	100	200	80	1200	35	150	170	180	180	120	300	2800	50	85	70	105	20
BH59 - [LAB_DUP]	0-0.1	Laboratory Duplicate	Coarse	NA	NA	NA	NA	100	200	80	1200	35	150	170	180	180	120	300	2800	50	85	70	105	20
BH59	0.5-0.95	Silty Clay	Coarse	NA	NA	NA	NA	100	200	80	1200	35	150	170	--	180	120	300	2800	50	85	70	105	20
BH82	0-0.1	Fill: Silty Clay	Coarse	NA	NA	NA	NA	100	200	80	1200	35	150	170	180	180	120	300	2800	50	85	70	105	20
BH82	1.5-1.95	XW Siltstone	Coarse	NA	NA	NA	NA	100	200	80	1200	35	150	170	--	180	120	300	2800	50	85	70	105	20
SDUP15	0-0.1	Duplicate of TP61	Coarse	5.3	13	NA	NA	100	200	150	1200	280	350	170	--	180	120	300	2800	50	85	70	105	20
SDUP16	0-0.1	Duplicate of TP24	Coarse	4.6	21	NA	NA	100	200	150	1200	360	260	170	--	180	120	300	2800	50	85	70	105	20
SDUP17	0-0.1	Duplicate of BH46	Coarse	6	17	NA	NA	100	200	210	1200	280	480	170	180	180	120	300	2800	50	85	70	105	20
SDUP18	0-0.1	Duplicate of BH82	Coarse	NA	NA	NA	NA	100	200	80	1200	35	150	170	180	180	120	300	2800	50	85	70	105	20
SDUP20	0-0.1	Duplicate of BH6	Coarse	NA	NA	NA	NA	100	200	80	1200	35	150	170	180	180	120	300	2800	50	85	70	105	20

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TABLE S7
SOIL LABORATORY RESULTS COMPARED TO WASTE CLASSIFICATION GUIDELINES
All data in mg/kg unless stated otherwise

			HEAVY METALS								PAHs		OC/OP PESTICIDES				Total PCBs	Total Phenols	TRH					BTEX COMPOUNDS				ASBESTOS FIBRES
			Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Zinc	Total PAHs	B(a)P	Total Endosulfans	Chloropyrifos	Total Moderately Harmful	Total Scheduled			C_6-C_9	C_{10}-C_{14}	C_{15}-C_{28}	C_{29}-C_{36}	Total C_{10}-C_{36}	Benzene	Toluene	Ethyl benzene	Total Xylenes	
PQL - Envirolab Services			4	0.4	1	1	1	0.1	1	1	-	0.05	0.1	0.1	0.1	0.1	0.1	0.1	25	50	100	100	50	0.2	0.5	1	1	100
General Solid Waste CT1			100	20	100	NSL	100	4	40	NSL	200	0.8	60	4	250	50	50		650		NSL		10,000	10	288	600	1,000	-
General Solid Waste SCC1			500	100	1900	NSL	1500	50	1050	NSL	200	10	108	7.5	250	50	50		650		NSL		10,000	18	518	1,080	1,800	-
Restricted Solid Waste CT2			400	80	400	NSL	400	16	160	NSL	800	3.2	240	16	1000	50	50		2600		NSL		40,000	40	1,152	2,400	4,000	-
Restricted Solid Waste SCC2			2000	400	7600	NSL	6000	200	4200	NSL	800	23	432	30	1000	50	50		2600		NSL		40,000	72	2,073	4,320	7,200	-
Sample Reference	**Sample Depth**	**Sample Description**																										
TP22	0-0.1	Fill: Silty Sandy Clay	**7**	**0.4**	**12**	**120**	**690**	**0.4**	**7**	**380**	<0.05	<0.05	NA	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
TP22	0.5-0.7	Fill: Gravelly Sand	**6**	<0.4	**3**	**68**	**220**	**0.2**	**9**	**190**	<0.05	<0.05	NA	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
TP58	0-0.1	Fill: Silty Clay	<4	<0.4	**9**	**25**	**28**	<0.1	**3**	**32**	<0.05	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<5	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
TP58 - [LAB_DUP]	0-0.1	Laboratory Duplicate	<4	<0.4	**8**	**28**	**35**	<0.1	**4**	**39**	<0.05	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<5	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
TP58	0.6-0.8	Fill: Silty Clayey Sand	<4	<0.4	**8**	**10**	**13**	<0.1	**2**	**15**	<0.05	<0.05	NA	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
TP60	0-0.1	Fill: Silty Sandy Clay	**6**	<0.4	**26**	**59**	**250**	<0.1	**11**	**130**	**51**	**6**	NA	NA	NA	NA	NA	NA	<25	<50	**150**	**200**	**350**	<0.2	<0.5	<1	<1	Not Detected
TP60	0.1-0.3	Fill: Silty Clay	**6**	<0.4	**41**	**66**	**150**	<0.1	**15**	**98**	**81**	**9.7**	NA	NA	NA	NA	NA	NA	<25	<50	**230**	**280**	**510**	<0.2	<0.5	<1	<1	Not Detected
TP60	0.4-0.6	Silty Clay	NA	NA	NA	NA	NA	NA	NA	NA	**0.61**	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TP61	0-0.1	Fill: Silty Sandy Clay	**5**	<0.4	**9**	**32**	**290**	<0.1	**7**	**260**	<0.05	<0.05	NA	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
TP61	0.25-0.45	Silty Clay	<4	<0.4	**8**	**17**	**13**	<0.1	**1**	**18**	<0.05	<0.05	NA	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
TP67	0-0.05	Fill: Silty Clayey Sand	**12**	<0.4	**24**	**260**	**880**	<0.1	**29**	**380**	<0.05	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
TP67	0.2-0.4	XW Siltstone	<4	<0.4	**10**	**18**	**22**	**0.1**	**42**	**130**	<0.05	<0.05	NA	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
TP68	0-0.05	Fill: Gravelly Clayey Sand	**5**	<0.4	**10**	**91**	**110**	<0.1	**18**	**150**	<0.05	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
TP68 - [LAB_DUP]	0-0.05	Laboratory Duplicate	<4	<0.4	**8**	**58**	**54**	<0.1	**18**	**110**	<0.05	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
TP68 - [LAB_TRIP]	0-0.05	Laboratory Triplicate	<4	<0.4	**9**	**61**	**48**	<0.1	**21**	**110**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TP68	0.1-0.3	XW Siltstone	<4	<0.4	**6**	**29**	**11**	<0.1	**19**	**69**	<0.05	<0.05	NA	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
TP69	0-0.1	Fill: Silty Sandy Clay	<4	<0.4	**12**	**19**	**43**	<0.1	**6**	**37**	<0.05	<0.05	NA	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
BH19	0-0.1	Fill: Silty Sandy Clay	<4	<0.4	**17**	**15**	**1400**	<0.1	**4**	**330**	<0.05	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<5	<25	**100**	<100	<100	**100**	<0.2	<0.5	<1	<1	Not Detected
BH19	0.3-0.5	Silty Sandy Clay	<4	<0.4	**16**	**2**	**15**	<0.1	**1**	**5**	<0.05	<0.05	NA	NA	NA	NA	NA	<5	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
TP23	0.1-0.3	Fill: Silty Sandy Clay	<4	<0.4	**9**	**7**	**28**	<0.1	**1**	**31**	<0.05	<0.05	NA	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
TP24	0-0.1	Fill: Silty Clayey Sand	<4	<0.4	**7**	**13**	**38**	<0.1	**4**	**180**	<0.05	<0.05	NA	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
TP24	0.2-0.4	Fill: Silty Sandy Clay	<4	<0.4	**9**	**6**	**26**	<0.1	**3**	**36**	<0.05	<0.05	NA	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
BH53	0-0.1	Fill: Silty Clay	<4	<0.4	**11**	**8**	**75**	<0.1	**4**	**53**	<0.05	<0.05	NA	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
TP54	0-0.1	Fill: Silty Sandy Clay	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Not Detected
TP54	0.1-0.3	Fill: Silty Sandy Clay	<4	<0.4	**7**	**6**	**62**	<0.1	**3**	**33**	<0.05	<0.05	NA	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Detected
TP54	1.1-1.3	Silty Clay	<4	<0.4	**12**	**5**	**8**	<0.1	**2**	**8**	<0.05	<0.05	NA	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
BH83	0-0.05	Fill: Sandy Gravel	<4	<0.4	**10**	**36**	**160**	<0.1	**34**	**62**	<0.05	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<5	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
BH83 - [LAB_DUP]	0-0.05	Laboratory Duplicate	<4	<0.4	**10**	**30**	**150**	<0.1	**28**	**58**	<0.05	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<5	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
BH83	0.05-0.14	Silty Clay	<4	<0.4	**20**	**49**	**79**	<0.1	**32**	**98**	<0.05	<0.05	NA	NA	NA	NA	NA	<5	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
BH6	0-0.1	Fill: Gravelly Clay	**8**	<0.4	**52**	**29**	**170**	<0.1	**7**	**220**	<0.05	<0.05	<0.1	<0.1	<0.1	<0.1	**4.9**	**<5**	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
BH6 - [LAB_DUP]	0-0.1	Laboratory Duplicate	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**3.2**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BH6	0.8-0.95	Sandy Clay	<4	<0.4	**9**	**7**	**15**	<0.1	<1	**11**	<0.05	<0.05	NA	NA	NA	NA	<0.1	<5	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
BH10	0-0.1	Fill: Clayey Gravelly Sand	**8**	<0.4	**6**	**32**	**96**	<0.1	**5**	**67**	<0.05	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<5	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
BH10	0.2-0.5	Fill: Silty Clay	**34**	<0.4	**6**	**6**	**17**	<0.1	**1**	**29**	<0.05	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<5	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
BH10	0.5-0.95	Silty Clay	<4	<0.4	**11**	**2**	**8**	<0.1	<1	**5**	<0.05	<0.05	NA	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
BH28	0-0.1	Fill: Silty Clay	<4	<0.4	**5**	**5**	**21**	<0.1	**1**	**21**	<0.05	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<5	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
BH28	0.5-0.95	Clayey Sand	<4	<0.4	**6**	**2**	**4**	<0.1	**2**	**3**	<0.05	<0.05	NA	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
BH28	1.5-1.95	Sandy Clay	<4	<0.4	**11**	**3**	**6**	<0.1	**2**	**6**	<0.05	<0.05	NA	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
BH37	0-0.1	Fill: Sandy Clay	<4	<0.4	**13**	**41**	**490**	<0.1	**13**	**220**	**0.06**	**0.06**	<0.1	<0.1	<0.1	<0.1	<0.1	<5	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
BH37 - [LAB_DUP]	0-0.1	Laboratory Duplicate	<4	<0.4	**12**	**36**	**600**	**0.1**	**14**	**280**	<0.05	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
BH37	0.5-0.9	Fill: Sandy Clay	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BH37	1.0-1.2	Silty Clay	<4	<0.4	**23**	**10**	**56**	<0.1	**6**	**82**	<0.05	<0.05	NA	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
BH37	1.5-1.95	Sandy Clay	<4	<0.4	**25**	**8**	**9**	<0.1	**11**	**11**	<0.05	<0.05	NA	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
BH41	0-0.1	Fill: Gravelly Clay	**4**	<0.4	**16**	**13**	**100**	<0.1	**7**	**67**	<0.05	<0.05	NA	NA	NA	NA	NA	<5	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
BH41	0.5-0.95	Silty Clay	<4	<0.4	**17**	**4**	**19**	<0.1	**3**	**14**	<0.05	<0.05	NA	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
BH41	2.8-3.0	Sandstone	**5**	<0.4	**8**	**3**	**17**	<0.1	**3**	**19**	<0.05	<0.05	NA	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
BH46	0-0.1	Fill: Silty Clay	**7**	<0.4	**18**	**55**	**460**	**0.1**	**13**	**240**	<0.05	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<5	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
BH46	0.7-0.95	Silty Clay	<4	<0.4	**17**	**17**	**17**	<0.1	**8**	**45**	<0.05	<0.05	NA	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
BH59	0-0.1	Fill: Silty Clay	**6**	<0.4	**36**	**48**	**97**	<0.1	**10**	**68**	**29**	**2.9**	<0.1	<0.1	<0.1	<0.1	<0.1	<5	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
BH59 - [LAB_DUP]	0-0.1	Laboratory Duplicate	**8**	<0.4	**32**	**52**	**100**	<0.1	**10**	**71**	**24**	**2.3**	<0.1	<0.1	<0.1	<0.1	<0.1	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
BH59	0.5-0.95	Silty Clay	**5**	<0.4	**14**	**34**	**20**	<0.1	**5**	**62**	<0.05	<0.05	NA	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
BH82	0-0.1	Fill: Silty Clay	<4	<0.4	**13**	**23**	**18**	<0.1	**5**	**26**	<0.05	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<5	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
BH82	0.2-0.5	Fill: Silty Clay	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Not Detected
BH82	1.5-1.95	XW Siltstone	<4	<0.4	**4**	**30**	**18**	<0.1	**3**	**22**	<0.05	<0.05	NA	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
SDUP15	0-0.1	Duplicate of TP61	**6**	<0.4	**12**	**43**	**410**	<0.1	**14**	**410**	<0.05	<0.05	NA	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
SDUP16	0-0.1	Duplicate of TP24	**6**	<0.4	**14**	**21**	**62**	<0.1	**8**	**260**	<0.05	<0.05	NA	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
SDUP17	0-0.1	Duplicate of BH46	**7**	<0.4	**20**	**36**	**230**	**0.1**	**14**	**170**	<0.05	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
SDUP18	0-0.1	Duplicate of BH82	**4**	<0.4	**15**	**25**	**19**	<0.1	**7**	**32**	<0.05	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
SDUP20	0-0.1	Duplicate of BH6	**6**	<0.4	**12**	**29**	**170**	<0.1	**13**	**140**	<0.05	<0.05	<0.1	<0.1	<0.1	<0.1	**1.7**	<5	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
TP22-FCF1	0-0.1	Fragment	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Detected
BH41-FCF1	0-0.1	Fragment	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Detected
TP58-FCF1	0-0.15	Fragment	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Detected
TP67-FCF1	0-0.05	Fragment	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Detected
FCF6-surface	Surface	Fragment	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Detected
FCF7-surface	Surface	Fragment	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Detected
FCF8-surface	Surface	Fragment	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Not Detected
Total Number of Samples			54	54	54	54	54	54	54	54	54	54	21	21	21	21	22	20	53	53	53	53	53	53	53	53	53	37
Maximum Value			34	0.4	52	260	1400	0.4	42	410	81	9.7	<PQL	<PQL	<PQL	<PQL	4.9	<PQL	<PQL	100	230	280	510	<PQL	<PQL	<PQL	<PQL	Detected

Concentration above the CT1 — VALUE
Concentration above SCC1 — VALUE
Concentration above the SCC2 — VALUE
Concentration above PQL — **Bold**

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TABLE S8
SOIL LABORATORY TCLP RESULTS
All data in mg/L unless stated otherwise

			Arsenic	Cadmium	Chromium	Lead	Mercury	Nickel	B(a)P
PQL - Envirolab Services			0.05	0.01	0.01	0.03	0.0005	0.02	0.001
TCLP1 - General Solid Waste			5	1	5	5	0.2	2	0.04
TCLP2 - Restricted Solid Waste			20	4	20	20	0.8	8	0.16
TCLP3 - Hazardous Waste			>20	>4	>20	>20	>0.8	>8	>0.16
Sample Reference	**Sample Depth**	**Sample Description**							
TP22	0-0.1	Fill: Silty Sandy Clay	NA	NA	NA	**0.3**	NA	NA	NA
TP22 - [LAB_DUP]	0-0.1	Laboratory Duplicate	NA	NA	NA	**0.3**	NA	NA	NA
TP60	0.1-0.3	Fill: Silty Sandy Clay	NA	NA	NA	<0.03	NA	NA	NA
TP67	0.2-0.4	XW Siltstone	NA	NA	NA	NA	NA	**0.03**	<0.001
BH19	0-0.1	Fill: Silty Sandy Clay	NA	NA	NA	**1.2**	NA	NA	NA
BH83	0-0.05	Fill: Sandy Gravel	NA	NA	NA	**0.2**	NA	NA	NA
BH37	0-0.1	Fill: Sandy Clay	NA	NA	NA	<0.03	NA	NA	NA
BH46	0-0.1	Fill: Silty Clay	NA	NA	NA	0.09	NA	NA	NA
BH59	0-0.1	Fill: Silty Clay	NA	NA	NA	NA	NA	NA	<0.001
Total Number of samples			0	0	0	7	0	1	2
Maximum Value			NA	NA	NA	1.20	NA	0.03	<PQL

General Solid Waste	**VALUE**
Restricted Solid Waste	**VALUE**
Hazardous Waste	**VALUE**
Concentration above PQL	**Bold**

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TABLE 59
SUMMARY OF PFAS CONCENTRATIONS IN SOIL - HUMAN HEALTH
Units are ug/Kg unless stated otherwise.

	PQL	NEMP 2020	TP58	TP58 - [LAB_DUP]	TP60	TP67	BH19	BH19	TP54	BH83	BH83 - [LAB_DUP]	BH83	BH6	BH6	BH10	BH10	BH28	BH37	BH37 - [LAB_DUP]	BH37	BH41	BH46	BH46	BH59	BH59	BH82	BH82	SDUP17	SDUP18	SDUP20
	Envirolab Services	Residential accessible soil	0-0.1 FIll: Silty Clay	0-0.1 Laboratory Duplicate	0-0.1 FIll: Silty Sandy Clay	0-0.05 FIll: Gravelly Clayey Sand	0-0.1 FIll: Silty Sandy Clay	0.3-0.5 Silty Sandy Clay	0.1-0.3 FIll: Silty Sandy Clay	0-0.05 FIll: Sandy Gravel	0-0.05 Laboratory Duplicate	0.05-0.14 Silty Clay	0-0.1 FIll: Gravelly Clay	0.8-0.95 Sandy Clay	0-0.1 FIll: Clayey Gravelly Sand	0.2-0.5 FIll: Silty Clay	0-0.1 FIll: Silty Clay	0-0.1 FIll: Sandy Clay	0-0.1 Laboratory Duplicate	0.5-0.9 FIll: Sandy Clay	0-0.1 FIll: Gravelly Clay	0-0.1 FIll: Silty Clay	0.5-0.7 FIll: Silty Clay	0-0.1 FIll: Silty Clay	0.5-0.95 Silty Clay	0-0.1 FIll: Silty Clay	0.2-0.5 FIll: Silty Clay	Duplicate of BH46	Duplicate of BH82	Duplicate of BH6
PFAS Compound																														
Perfluorobutanesulfonic acid	0.1	NSL	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**
Perfluoropentanesulfonic acid	0.1	NSL	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorohexanesulfonic acid - PFHxS	0.1	NSL	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluoroheptanesulfonic acid	0.1	NSL	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorooctanesulfonic acid PFOS	0.1	NSL	**0.2**	**0.3**	**0.3**	**0.4**	**0.3**	<0.1	**0.1**	**0.2**	**0.2**	<0.1	<0.1	<0.1	**0.2**	<0.1	<0.1	**1.2**	**1.3**	**0.9**	**0.2**	**1**	**0.6**	<0.1	<0.1	<0.1	<0.1	**1.2**	<0.1	**0.1**
Perfluorodecanesulfonic acid	0.2	NSL	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Perfluorobutanoic acid	0.2	NSL	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Perfluoropentanoic acid	0.2	NSL	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Perfluorohexanoic acid	0.1	NSL	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.1**	**0.1**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluoroheptanoic acid	0.1	NSL	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorooctanoic acid PFOA	0.1	100	<0.1	<0.1	<0.1	**0.1**	**0.1**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0**	**1**	**0**	<0.1	**0**	**0**	<0.1	<0.1	<0.1	<0.1	**0.1**	<0.1	<0.1
Perfluorononanoic acid	0.1	NSL	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorodecanoic acid	0.5	NSL	<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	<0.5	<0.5	<0.5
Perfluoroundecanoic acid	0.5	NSL	<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	<0.5	<0.5	<0.5
Perfluorododecanoic acid	0.5	NSL	<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	<0.5	<0.5	<0.5
Perfluorotridecanoic acid	0.5	NSL	<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	<0.5	<0.5	<0.5
Perfluorotetradecanoic acid	5	NSL	<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
4:2 FTS	0.1	NSL	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
6:2 FTS	0.1	NSL	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
8:2 FTS	0.1	NSL	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
10:2 FTS	0.1	NSL	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Perfluorooctane sulfonamide	1	NSL	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
N-Methyl perfluorooctane sulfonamide	1	NSL	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
N-Ethyl perfluorooctanesulfon amide	1	NSL	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
N-Me perfluorooctanesulfonamid oethanol	1	NSL	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
N-Et perfluorooctanesulfonamid oethanol	5	NSL	<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
MePerfluorooctanesulf-amid oacetic acid	0.2	NSL	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
EtPerfluorooctanesulf-amid oacetic acid	0.2	NSL	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total Positive PFHxS & PFOS	0.1	10	**0.2**	**0.3**	**0.3**	**0.4**	**0.3**	<0.1	**0.1**	**0.2**	**0.2**	<0.1	<0.1	<0.1	**0.2**	<0.1	<0.1	**1.2**	**1.3**	**0.9**	**0.2**	**1.0**	**0.6**	<0.1	<0.1	<0.1	<0.1	**1.2**	<0.1	**0.1**
Total Positive PFOS & PFOA	0.1	NSL	**0.2**	**0.3**	**0.3**	**0.5**	**0.5**	<0.1	**0.1**	**0.2**	**0.2**	<0.1	<0.1	<0.1	**0.2**	<0.1	<0.1	**1.6**	**1.8**	**1.1**	**0.2**	**1.1**	**0.8**	<0.1	<0.1	<0.1	<0.1	**1.3**	<0.1	**0.1**
Total Positive PFAS	0.1	NSL	**0.2**	**0.3**	**0.3**	**0.5**	**0.5**	<0.1	**0.1**	**0.2**	**0.2**	<0.1	<0.1	<0.1	**0.2**	<0.1	<0.1	**1.8**	**1.9**	**1.1**	**0.2**	**1.1**	**0.8**	<0.1	<0.1	<0.1	<0.1	**1.3**	<0.1	**0.1**

Positive PFAS result **Bold**
PFAS result above the SAC **Bold**

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TABLE S10
SUMMARY OF PFAS CONCENTRATIONS IN SOIL - ECOLOGY
Units are µg/Kg unless stated otherwise.

	PQL	NEMP 2020	TP58	TP58 - [LAB_DUP]	TP60	TP67	BH19	BH19	TP54	BH83	BH83 - [LAB_DUP]	BH83	BH6	BH6	BH10	BH10	BH28	BH37	BH37 - [LAB_DUP]	BH27	BH41	BH46	BH46	BH59	BH59	BH82	BH82	SDUP17	SDUP18	SDUP20
	Envirolab	Direct exposure	0-0.1	0-0.1	0-0.1	0-0.05	0-0.1	0.3-0.5	0.1-0.3	0-0.05	0-0.05	0.05-0.14	0-0.1	0.8-0.95	0-0.1	0.2-0.5	0-0.1	0-0.1	0-0.1	0.5-0.9	0-0.1	0-0.1	0.5-0.7	0-0.1	0.5-0.95	0-0.1	0.2-0.5	0-0.1	0-0.1	0-0.1
	Services	All land use	Fill: Silty Clay	Laboratory Duplicate	Fill: Silty Sandy Clay	Fill: Gravelly Clayey Sand	Fill: Silty Sandy Clay	Silty Sandy Clay	Fill: Silty Sandy Clay	Fill: Sandy Gravel	Laboratory Duplicate	Silty Clay	Fill: Gravelly Clay	Sandy Clay	Fill: Clayey Gravelly Sand	Fill: Silty Clay	Fill: Silty Clay	Fill: Sandy Clay	Laboratory Duplicate	Fill: Sandy Clay	Fill: Gravelly Clay	Fill: Silty Clay	Fill: Silty Clay	Fill: Silty Clay	Silty Clay	Fill: Silty Clay	Fill: Silty Clay	Duplicate of BH46	Duplicate of BH82	Duplicate of BH6
PFAS Compound																														
Perfluorobutanesulfonic acid	0.1	NSL	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluoropentanesulfonic acid	0.1	NSL	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorohexanesulfonic acid - PFHxS	0.1	NSL	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluoroheptanesulfonic acid	0.1	NSL	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorooctanesulfonic acid PFOS	0.1	1000	**0.2**	**0.3**	**0.3**	**0.4**	**0.3**	<0.1	**0.1**	**0.2**	**0.2**	<0.1	<0.1	<0.1	**0.2**	<0.1	<0.1	**1.2**	**1.3**	**0.9**	**0.2**	**1**	**0.6**	<0.1	<0.1	<0.1	<0.1	**1.2**	<0.1	**0.1**
Perfluorodecanesulfonic acid	0.2	NSL	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Perfluorobutanoic acid	0.2	NSL	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Perfluoropentanoic acid	0.2	NSL	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Perfluorohexanoic acid	0.1	NSL	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.1**	**0.1**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluoroheptanoic acid	0.1	NSL	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorooctanoic acid PFOA	0.1	10,000	<0.1	<0.1	<0.1	**0.1**	**0.1**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.4**	**0.5**	**0.2**	<0.1	**0.1**	**0.1**	<0.1	<0.1	<0.1	<0.1	**0.1**	<0.1	<0.1
Perfluorononanoic acid	0.1	NSL	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorodecanoic acid	0.5	NSL	<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	<0.5	<0.5	<0.5
Perfluoroundecanoic acid	0.5	NSL	<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	<0.5	<0.5	<0.5
Perfluorododecanoic acid	0.5	NSL	<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	<0.5	<0.5	<0.5
Perfluorotridecanoic acid	0.5	NSL	<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	<0.5	<0.5	<0.5
Perfluorotetradecanoic acid	5	NSL	<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
4:2 FTS	0.1	NSL	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
6:2 FTS	0.1	NSL	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
8:2 FTS	0.1	NSL	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
10:2 FTS	0.1	NSL	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Perfluorooctane sulfonamide	1	NSL	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
N-Methyl perfluorooctane sulfonamide	1	NSL	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
N-Ethyl perfluorooctanesulfon amide	1	NSL	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
N-Me perfluorooctanesulfonamid oethanol	1	NSL	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
N-Et perfluorooctanesulfonamid oethanol	5	NSL	<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
MePerfluorooctanesulf-amid oacetic acid	0.2	NSL	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
EtPerfluorooctanesulf-amid oacetic acid	0.2	NSL	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total Positive PFHxS & PFOS	0.1	NSL	**0.2**	**0.3**	**0.3**	**0.4**	**0.3**	<0.1	**0.1**	**0.2**	**0.2**	<0.1	<0.1	<0.1	**0.2**	<0.1	<0.1	**1.2**	**1.3**	**0.9**	**0.2**	**1**	**0.6**	<0.1	<0.1	<0.1	<0.1	**1.2**	<0.1	**0.1**
Total Positive PFOS & PFOA	0.1	NSL	**0.2**	**0.3**	**0.3**	**0.5**	**0.5**	<0.1	**0.1**	**0.2**	**0.2**	<0.1	<0.1	<0.1	**0.2**	<0.1	<0.1	**1.6**	**1.8**	**1.1**	**0.2**	**1.1**	**0.8**	<0.1	<0.1	<0.1	<0.1	**1.3**	<0.1	**0.1**
Total Positive PFAS	0.1	NSL	**0.2**	**0.3**	**0.3**	**0.5**	**0.5**	<0.1	**0.1**	**0.2**	**0.2**	<0.1	<0.1	<0.1	**0.2**	<0.1	<0.1	**1.8**	**1.9**	**1.1**	**0.2**	**1.1**	**0.8**	<0.1	<0.1	<0.1	<0.1	**1.3**	<0.1	**0.1**

Positive PFAS result **Bold**
PFAS result above the SAC **Bold**

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TABLE S11
SUMMARY OF PFAS CONCENTRATIONS IN SOIL - WASTE CLASSIFICATION
Units are µg/Kg unless stated otherwise.

	PQL Envirolab Services	SCC1	SCC2	TP58 0-0.1 Fill: Silty Clay	TP58 - [LAB_DUP] 0-0.1 Laboratory Duplicate	TP63 0-0.1 Fill: Silty Sandy Clay	TP67 0-0.05 Fill: Gravelly Clayey Sand	BH19 0-0.1 Fill: Silty Sandy Clay	BH19 0.3-0.5 Silty Sandy Clay	TP54 0.1-0.3 Fill: Silty Sandy Clay	BH83 0-0.05 Fill: Sandy Gravel	BH83 - [LAB_DUP] 0-0.05 Laboratory Duplicate	BH83 0.05-0.14 Silty Clay	BH6 0-0.1 Fill: Gravelly Clay	BH6 0.8-0.95 Sandy Clay	BH10 0-0.1 Fill: Clayey Gravelly Sand	BH10 0.2-0.5 Fill: Silty Clay	BH28 0-0.1 Fill: Silty Clay	BH27 0-0.1 Fill: Sandy Clay	BH27 - [LAB_DUP] 0-0.1 Laboratory Duplicate	BH27 0.5-0.9 Fill: Sandy Clay	BH41 0-0.1 Fill: Gravelly Clay	BH46 0-0.1 Fill: Silty Clay	BH46 0.5-0.7 Fill: Silty Clay	BH59 0-0.1 Fill: Silty Clay	BH59 0.5-0.95 Silty Clay	BH82 0-0.1 Fill: Silty Clay	BH82 0.2-0.5 Fill: Silty Clay	SDUP17 0-0.1 Duplicate of BH46	SDUP18 0-0.1 Duplicate of BH82	SDUP20 0-0.1 Duplicate of BH6
PFAS Compound																																
Perfluorobutanesulfonic acid	0.1	NSL	NSL	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluoropentanesulfonic acid	0.1	NSL	NSL	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorohexanesulfonic acid - PFHxS	0.1	NSL	NSL	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluoroheptanesulfonic acid	0.1	NSL	NSL	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorooctanesulfonic acid PFOS	0.1	NSL	NSL	0.2	0.3	0.3	0.4	0.1	<0.1	0.1	0.2	0.2	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	1.2	1.3	0.9	0.2	1	0.6	<0.1	<0.1	<0.1	<0.1	<0.1	1.2	<0.1	0.1
Perfluorodecanesulfonic acid	0.2	NSL	NSL	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Perfluorobutanoic acid	0.2	NSL	NSL	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Perfluoropentanoic acid	0.2	NSL	NSL	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Perfluorohexanoic acid	0.1	NSL	NSL	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluoroheptanoic acid	0.1	NSL	NSL	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorooctanoic acid PFOA	0.1	18,000	72,000	<0.1	<0.1	<0.1	0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.4	1	0	<0.1	0	0	<0.1	0	<0.1	<0.1	<0.1	0.1	<0.1	<0.1
Perfluorononanoic acid	0.1	NSL	NSL	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorodecanoic acid	0.5	NSL	NSL	<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	<0.5	<0.5	<0.5	<0.5
Perfluoroundecanoic acid	0.5	NSL	NSL	<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	<0.5	<0.5	<0.5	<0.5
Perfluorododecanoic acid	0.5	NSL	NSL	<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	<0.5	<0.5	<0.5	<0.5
Perfluorotridecanoic acid	0.5	NSL	NSL	<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	<0.5	<0.5	<0.5	<0.5
Perfluorotetradecanoic acid	5	NSL	NSL	<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
4:2 FTS	0.1	NSL	NSL	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
6:2 FTS	0.1	NSL	NSL	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
8:2 FTS	0.1	NSL	NSL	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
10:2 FTS	0.1	NSL	NSL	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Perfluorooctane sulfonamide	1	NSL	NSL	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
N-Methyl perfluorooctane sulfonamide	1	NSL	NSL	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
N-Ethyl perfluorooctanesulfon amide	1	NSL	NSL	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
N-Me perfluorooctanesulfonamid oethanol	1	NSL	NSL	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
N-Et perfluorooctanesulfonamid oethanol	5	NSL	NSL	<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
MePerfluorooctanesulf-amid oacetic acid	0.2	NSL	NSL	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
EtPerfluorooctanesulf-amid oacetic acid	0.2	NSL	NSL	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total Positive PFHxS & PFOS	0.1	1800	7,200	0.2	0.3	0.3	0.4	0.3	<0.1	0.1	0.2	0.2	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	1	1	1	0	1	1	<0.1	<0.1	<0.1	<0.1	<0.1	1.2	<0.1	0.1
Total Positive PFOS & PFOA	0.1	NSL	NSL	0.2	0.3	0.3	0.5	0.5	<0.1	0.1	0.2	0.2	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	1.6	1.8	1.1	0.2	1.1	0.8	<0.1	<0.1	<0.1	<0.1	<0.1	1.3	<0.1	0.1
Total Positive PFAS	0.1	NSL	NSL	0.2	0.3	0.3	0.5	0.5	<0.1	0.1	0.2	0.2	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	1.8	1.9	1.1	0.2	1.1	0.8	<0.1	<0.1	<0.1	<0.1	<0.1	1.3	<0.1	0.1

Result above SCC1 Criteria **Bold**
Result above SCC2 Criteria **Bold**

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TABLE S12
SUMMARY OF PFAS CONCENTRATIONS IN TCLP LEACHATE - WASTE CLASSIFICATION
Units are µg/L unless stated otherwise.

	PQL Envirolab Services	TCLP1	TCLP2	TP58 0-0.1 Fill: Silty Clay	TP58 - [LAB_DUP] 0-0.1 Laboratory Duplicate	TP67 0-0.05 Fill: Gravelly Clayey Sand	BH19 0-0.1 Fill: Silty Sandy Clay	BH37 0-0.1 Fill: Sandy Clay	BH46 0-0.1 Fill: Silty Clay
PFAS Compound									
Perfluorobutanesulfonic acid	0.01	NSL	NSL	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluoropentanesulfonic acid	0.01	NSL	NSL	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorohexanesulfonic acid - PFHxS	0.01	NSL	NSL	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluoroheptanesulfonic acid	0.01	NSL	NSL	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorooctanesulfonic acid PFOS	0.01	NSL	NSL	<0.01	<0.01	<0.01	<0.01	**0.01**	<0.01
Perfluorodecanesulfonic acid	0.02	NSL	NSL	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorobutanoic acid	0.02	NSL	NSL	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoropentanoic acid	0.02	NSL	NSL	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorohexanoic acid	0.01	NSL	NSL	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluoroheptanoic acid	0.01	NSL	NSL	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorooctanoic acid PFOA	0.01	500	2,000	<0.01	<0.01	<0.01	<0.01	**0.01**	<0.01
Perfluorononanoic acid	0.01	NSL	NSL	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorodecanoic acid	0.02	NSL	NSL	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid	0.02	NSL	NSL	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid	0.05	NSL	NSL	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Perfluorotridecanoic acid	0.1	NSL	NSL	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorotetradecanoic acid	0.5	NSL	NSL	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
4:2 FTS	0.01	NSL	NSL	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
6:2 FTS	0.01	NSL	NSL	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
8:2 FTS	0.02	NSL	NSL	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
10:2 FTS	0.02	NSL	NSL	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctane sulfonamide	0.1	NSL	NSL	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
N-Methyl perfluorooctane sulfonamide	0.05	NSL	NSL	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctanesulfon amide	0.1	NSL	NSL	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
N-Me perfluorooctanesulfonamid oethanol	0.05	NSL	NSL	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Et perfluorooctanesulfonamid oethanol	0.5	NSL	NSL	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MePerfluorooctanesulf-amid oacetic acid	0.02	NSL	NSL	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
EtPerfluorooctanesulf-amid oacetic acid	0.02	NSL	NSL	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Total Positive PFHxS & PFOS	0.01	50	200	<0.01	<0.01	<0.01	<0.01	**0.01**	<0.01
Total Positive PFOS & PFOA	0.01	NSL	NSL	<0.01	<0.01	<0.01	<0.01	**0.02**	<0.01
Total Positive PFAS	0.01	NSL	NSL	<0.01	<0.01	<0.01	<0.01	**0.02**	<0.01

Result above TCLP1 Criteria **Bold**
Result above TCLP2 Criteria **Bold**

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Detailed Site Investigation
The Maltings, 2 Colo Street, Mittagong, NSW
E33051BR

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TABLE Q1
SOIL QA/QC SUMMARY

| | | | TRH C6 - C10 | TRH >C10-C16 | TRH >C16-C34 | TRH >C34-C40 | Benzene | Toluene | Ethylbenzene | m+p-xylene | o-Xylene | Naphthalene | Acenaphthylene | Acenaphthene | Fluorene | Phenanthrene | Anthracene | Fluoranthene | Pyrene | Benzo(a)anthracene | Chrysene | Benzo(b,j+k)fluoranthene | Benzo(a)pyrene | Indeno(1,2,3-c,d)pyrene | Dibenzo(a,h)anthra-cene | Benzo(g,h,i)perylene | HCB | alpha- BHC | gamma- BHC | beta- BHC | Heptachlor | delta- BHC | Aldrin | Heptachlor Epoxide | Gamma- Chlordane | alpha- chlordane | Endosulfan I | pp- DDE | Dieldrin | Endrin | pp- DDD | Endosulfan II | pp- DDT | Endrin Aldehyde | Endosulfan Sulphate | Methoxychlor | Azinphos-methyl (Guthion) | Bromophos-ethyl | Chlorpyriphos | Chlorpyriphos-methyl | Diazinon | Dichlorvos | Dimethoate | Ethion | Fenitrothion | Malathion | Parathion | Ronnel | Total PCBs | Total Phenols | Arsenic | Cadmium | Chromium | Copper | Lead | Mercury | Nickel | Zinc | ACM >7mm Estimation %(w/w) | FA and AF Estimation %(w/w) |
|---|---|---

TABLE Q2
SUMMARY OF PFAS FIELD QA/QC IN SOIL
Units are µg/Kg unless stated otherwise.

			Perfluorobutanesulfonic acid	Perfluoropentanesulfonic acid	Perfluorohexanesulfonic acid - PFHxS	Perfluoroheptanesulfonic acid	Perfluorooctanesulfonic acid PFOS	Perfluorodecanesulfonic acid	Perfluorobutanoic acid	Perfluoropentanoic acid	Perfluorohexanoic acid	Perfluoroheptanoic acid	Perfluorooctanoic acid PFOA	Perfluorononanoic acid	Perfluorodecanoic acid	Perfluoroundecanoic acid	Perfluorododecanoic acid	Perfluorotridecanoic acid	Perfluorotetradecanoic acid	4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	Perfluorooctane sulfonamide	N-Methyl perfluorooctane sulfonamide	N-Ethyl perfluorooctanesulfon amide	N-Me perfluorooctanesulfonamid oethanol	N-Et perfluorooctanesulfonamid oethanol	MePerfluorooctanesulf-amid oacetic acid	EtPerfluorooctanesulf-amid oacetic acid	Total Positive PFHxS & PFOS	Total Positive PFOS & PFOA	Total Positive PFAS
PQL Envirolab			*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.2*	*0.2*	*0.2*	*0.1*	*0.1*	*0.1*	*0.1*	*0.5*	*0.5*	*0.5*	*0.5*	*5*	*0.1*	*0.1*	*0.1*	*0.1*	*1*	*1*	*1*	*1*	*5*	*0.2*	*0.2*	*0.1*	*0.1*	*0.1*
PQL Envirolab VIC			*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.2*	*0.2*	*0.2*	*0.1*	*0.1*	*0.1*	*0.1*	*0.5*	*0.5*	*0.5*	*0.5*	*5*	*0.1*	*0.1*	*0.1*	*0.1*	*1*	*1*	*1*	*1*	*5*	*0.2*	*0.2*	*0.1*	*0.1*	*0.1*
Intra	BH46	0-0.1	<0.1	<0.1	<0.1	<0.1	1	<0.2	<0.2	<0.2	<0.1	<0.1	0.1	<0.1	<0.5	<0.5	<0.5	<0.5	<5	<0.1	<0.1	<0.2	<0.2	<1	<1	<1	<1	<5	<0.2	<0.2	1	1.1	1.1
laboratory	SDUP17	0-0.1	<0.1	<0.1	<0.1	<0.1	1.2	<0.2	<0.2	<0.2	<0.1	<0.1	0.1	<0.1	<0.5	<0.5	<0.5	<0.5	<5	<0.1	<0.1	<0.2	<0.2	<1	<1	<1	<1	<5	<0.2	<0.2	1.2	1.3	1.3
duplicate	MEAN		nc	nc	nc	nc	1.1	nc	nc	nc	nc	nc	0.1	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	1.1	1.2	1.2
	RPD %		nc	nc	nc	nc	18%	nc	nc	nc	nc	nc	0%	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	18%	17%	17%
Intra	BH6	0-0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.2	<0.2	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	<0.5	<0.5	<5	<0.1	<0.1	<0.2	<0.2	<1	<1	<1	<1	<5	<0.2	<0.2	<0.1	<0.1	<0.1
laboratory	SDUP20	0-0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.2	<0.2	<0.2	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	<0.5	<0.5	<5	<0.1	<0.1	<0.2	<0.2	<1	<1	<1	<1	<5	<0.2	<0.2	0.1	0.1	0.1
duplicate	MEAN		nc	nc	nc	nc	0.075	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	0.075	0.075	0.075
	RPD %		nc	nc	nc	nc	67%	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	67%	67%	67%
Inter	BH82	0-0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.2	<0.2	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	<0.5	<0.5	<5	<0.1	<0.1	<0.2	<0.2	<1	<1	<1	<1	<5	<0.2	<0.2	<0.1	<0.1	<0.1
laboratory	SDUP18	0-0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.2	<0.2	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	<0.5	<0.5	<5	<0.1	<0.1	<0.2	<0.2	<1	<1	<1	<1	<5	<0.2	<0.2	<0.1	<0.1	<0.1
duplicate	MEAN		nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc
	RPD %		nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc
Field	TB-S3	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.2	<0.2	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	<0.5	<0.5	<5	<0.1	<0.1	<0.2	<0.2	<1	<1	<1	<1	<5	<0.2	<0.2	<0.1	<0.1	<0.1
Blank	25/02/2022																																
Field	FR1-Soil-SPT	µg/L	<0.0004	<0.001	<0.0002	<0.001	<0.0002	<0.002	<0.002	<0.002	<0.0004	<0.0004	<0.0002	<0.001	<0.002	<0.002	<0.005	<0.01	<0.05	<0.001	<0.0004	<0.0004	<0.002	<0.01	<0.005	<0.01	<0.005	<0.05	<0.002	<0.002	<0.0002	<0.0002	<0.0002
Rinsate	25/02/2022																																

Result outside of QA/QC acceptance criteria Value

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Stockpiles Results Summary Tables

ABBREVIATIONS AND EXPLANATIONS

Abbreviations used in the Tables:

ABC:	Ambient Background Concentration
ACM:	Asbestos Containing Material
ADWG:	AustralianDrinking Water Guidelines
AF:	Asbestos Fines
ANZG	Australian and New Zealand Guidelines
B(a)P:	Benzo(a)pyrene
CEC:	Cation Exchange Capacity
CRC:	Cooperative Research Centre
CT:	Contaminant Threshold
EILs:	Ecological Investigation Levels
ESLs:	Ecological Screening Levels
FA:	Fibrous Asbestos
GIL:	Groundwater Investigation Levels
GSW:	General Solid Waste
HILs:	Health Investigation Levels
HSLs:	Health Screening Levels
HSL-SSA:	Health Screening Level-SiteSpecific Assessment
kg/L	kilograms per litre
NA:	Not Analysed
NC:	Not Calculated
NEPM:	National Environmental Protection Measure
NHMRC:	National Health and Medical Research Council
NL:	Not Limiting
NSL:	No Set Limit
OCP:	Organochlorine Pesticides
OPP:	Organophosphorus Pesticides
PAHs:	Polycyclic Aromatic Hydrocarbons
%w/w:	weight per weight
ppm:	Parts per million
PCBs:	Polychlorinated Biphenyls
PCE:	Perchloroethylene (Tetrachloroethylene or Teterachloroethene)
pH_{KCL} :	pH of filtered 1:20, 1M KCL extract, shaken overnight
pH_{ox} :	pH of filtered 1:20 1M KCl after peroxide digestion
PQL:	Practical Quantitation Limit
RS:	Rinsate Sample
RSL:	Regional Screening Levels
RSW:	Restricted Solid Waste
SAC:	Site Assessment Criteria
SCC:	Specific Contaminant Concentration
S_{Cr}:	Chromium reducible sulfur
S_{POS}:	Peroxide oxidisable Sulfur
SSA:	Site Specific Assessment
SSHSLs:	Site Specific Health Screening Levels
TAA:	Total Actual Acidity in 1M KCL extract titrated to pH6.5
TB:	Trip Blank
TCA:	1,1,1 Trichloroethane (methyl chloroform)
TCE:	Trichloroethylene (Trichloroethene)
TCLP:	Toxicity Characteristics Leaching Procedure
TPA:	Total Potential Acidity, 1M KCL peroxide digest
TS:	Trip Spike
TRH:	Total Recoverable Hydrocarbons
TSA:	Total Sulfide Acidity (TPA-TAA)
UCL:	Upper Level Confidence Limit on Mean Value
USEPA	United States Environmental Protection Agency
VOCC:	Volatile Organic Chlorinated Compounds
WHO:	World Health Organisation

Table Specific Explanations:

HIL Tables:

- The chromium results are for Total Chromium which includes Chromium III and VI. For initial screening purposes, we have assumed that the samples contain only Chromium VI unless demonstrated otherwise by additional analysis.
- Carcinogenic PAHs is a toxicity weighted sum of analyte concentrations for a specific list of PAH compounds relative to B(a)P. It is also refered to as the B(a)P Toxic Equivalence Quotient (TEQ).
- Statistical calculations are undertaken using ProUCL (USEPA). Statistical calculation is usually undertaken using data from fill samples.

EIL/ESL Table:

- ABC Values for selected metals have been adopted from the published background concentrations presented in Olszowy et. al., (1995), Trace Element Concentrations in Soils from Rural and Urban New South Wales (the 25th percentile values for old suburbs with low traffic have been quoted).

Waste Classification and TCLP Table:

- Data assessed using the NSW EPA Waste Classification Guidelines, Part 1: Classifying Waste (2014).
- The assessment of Total Moderately Harmful pesticides includes: Dichlorovos, Dimethoate, Fenitrothion, Ethion, Malathion and Parathion.
- Assessment of Total Scheduled pesticides include: HBC, alpha-BHC, gamma-BHC, beta-BHC, Heptachlor, Aldrin, Heptachlor Epoxide, gamma-Chlordane, alpha-chlordane, pp-DDE, Dieldrin, Endrin, pp-DDD, pp-DDT, Endrin Aldehyde.

QA/QC Table:

- Field blank, Inter and Intra laboratory duplicate results are reported in mg/kg.
- Trip spike results are reported as percentage recovery.
- Field rinsate results are reported in µg/L.

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TABLE S1
SOIL LABORATORY RESULTS COMPARED TO NEPM 2013.
HIL-A: 'Residential with garden/accessible soils; children's day care centers; preschools; and primary schools'

All data in mg/kg unless stated otherwise			HEAVY METALS								PAHs		ORGANOCHLORINE PESTICIDES (OCPs)							OP PESTICIDES (OPPs)	TOTAL PCBs	ASBESTOS FIBRES
			Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Zinc	Total PAHs	Carcinogenic PAHs	HCB	Endosulfan	Methoxychlor	Aldrin & Dieldrin	Chlordane	DDT, DDD & DDE	Heptachlor	Chlorpyrifos		
PQL - Envirolab Services			4	0.4	1	1	1	0.1	1	1	-	0.5	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	100
Site Assessment Criteria (SAC)			100	20	100	6000	300	40	400	7400	300	3	10	270	300	6	50	240	6	160	1	Detected/Not Detected
Sample Reference	**Sample Depth**	**Sample Description**																				
SP2-1	0.5-0.7	Fill: Silty Clayey Sand	<4	<0.4	**7**	**9**	**47**	<0.1	**8**	**39**	<0.05	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	Not Detected
SP2-1 - [LAB_DUP]	0.5-0.7	Laboratory Duplicate	<4	<0.4	**7**	**8**	**48**	<0.1	**3**	**38**	<0.05	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	NA
SP2-1 - [LAB_TRIP]	0.5-0.7	Laboratory Triplicate	<4	<0.4	**6**	**6**	**34**	<0.1	**2**	**29**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SP2-1	1.5-1.7	Fill: Silty Clayey Sand	<4	<0.4	**8**	**10**	**70**	<0.1	**4**	**46**	<0.05	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SP2-2	1.0-1.2	Fill: Silty Clayey Sand	<4	<0.4	**8**	**8**	**44**	<0.1	**4**	**45**	<0.05	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SP3-1	0.3-0.5	Fill: Silty Sandy Clay	**4**	<0.4	**9**	**25**	**250**	**0.1**	**6**	**160**	<0.05	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	Detected
SP3-2	0.8-1.0	Fill: Silty Sandy Clay	**9**	<0.4	**10**	**46**	**360**	**0.1**	**6**	**310**	**0.07**	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	Not Detected
SP3-3	0.8-1.1	Fill: Silty Sandy Clay	**9**	**0.5**	**12**	**43**	**390**	**0.2**	**6**	**340**	**0.87**	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SP3-3	1.8-2.0	Fill: Silty Sandy Clay	**5**	**0.5**	**10**	**51**	**670**	**0.1**	**6**	**360**	<0.05	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SP4-1	0.3-0.5	Fill: Silty Clayey Sand	**7**	<0.4	**33**	**22**	**68**	**0.1**	**16**	**56**	**82**	**16**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SP4-2	0.8-1.0	Fill: Silty Clayey Sand	**7**	<0.4	**55**	**21**	**50**	<0.1	**19**	**48**	**120**	**21**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SP4-3	0.3-0.5	Fill: Silty Clayey Sand	**7**	<0.4	**44**	**23**	**98**	<0.1	**17**	**65**	**98**	**17**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	Not Detected
SP5-1	0.3-0.5	Fill: Silty Sandy Clay	**7**	**0.5**	**12**	**55**	**850**	**0.2**	**8**	**430**	<0.05	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SP5-1	0.8-1.0	Fill: Silty Sandy Clay	**8**	**0.8**	**13**	**99**	**1100**	**0.3**	**11**	**640**	<0.05	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	Detected
SP5-1 - [LAB_DUP]	0.8-1.0	Laboratory Duplicate	**5**	**0.5**	**9**	**47**	**860**	**0.2**	**6**	**450**	**0.05**	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.3**	NA
SP5-1 - [LAB_TRIP]	0.8-1.0	Laboratory Triplicate	**7**	**0.7**	**12**	**83**	**980**	**0.3**	**9**	**600**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SP5-2	2.3-2.5	Fill: Silty Sandy Clay	**5**	**0.5**	**11**	**96**	**800**	**0.3**	**8**	**370**	**32**	**7**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SP6-1	0.3-0.5	Fill: Silty Clayey Sand	**4**	<0.4	**21**	**26**	**110**	**0.2**	**11**	**66**	**35**	**6.7**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SP6-3	0.3-0.5	Fill: Silty Clayey Sand	<4	<0.4	**21**	**17**	**110**	<0.1	**12**	**44**	**41**	**6.6**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	Not Detected
SP7-1	0.3-0.5	Fill: Silty Sandy Clay	**6**	<0.4	**11**	**24**	**180**	<0.1	**5**	**190**	<0.05	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SP7-1	1.8-2.0	Fill: Silty Sandy Clay	**11**	**0.5**	**30**	**41**	**260**	<0.1	**6**	**310**	**0.07**	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.6**	Not Detected
SP7-1 - [LAB_DUP]	1.8-2.0	Laboratory Duplicate	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.7**	NA
SP7-2	0.8-1.0	Fill: Silty Sandy Clay	**4**	<0.4	**10**	**37**	**280**	<0.1	**6**	**240**	<0.05	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SP8-1	0.3-0.5	Fill: Silty Sandy Clay	**6**	<0.4	**24**	**260**	**620**	<0.1	**10**	**320**	**2.4**	**0.5**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SP8-3	0.3-0.5	Fill: Silty Sandy Clay	<4	<0.4	**9**	**11**	**41**	<0.1	**5**	**29**	**0.09**	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	Not Detected
SP8-3	1.3-1.5	Fill: Silty Sandy Clay	<4	<0.4	**13**	**35**	**250**	<0.1	**5**	**120**	**25**	**4.5**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SP8-3 - [LAB_DUP]	1.3-1.5	Laboratory Duplicate	<4	<0.4	**17**	**43**	**250**	<0.1	**8**	**130**	**3.2**	**0.6**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SP8-3 - [LAB_TRIP]	1.3-1.5	Laboratory Triplicate	NA	NA	NA	NA	NA	NA	NA	NA	**8.6**	**1.7**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SDUP21	0.3-0.5	Duplicate of SP4-3	<4	<0.4	**7**	**5**	**18**	<0.1	**2**	**19**	<0.05	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SDUP22	0.3-0.5	Duplicate of SP8-1	**7**	<0.4	**73**	**28**	**83**	**0.3**	**17**	**59**	**96**	**18**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SDUP23	0.3-0.5	Duplicate of SP8-3	**<4**	<0.4	**18**	**19**	**120**	**<0.1**	**8**	**81**	**1.4**	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SP3-1-FCF1	0-1.0	Fragment	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Detected
SP3-2-FCF1	0-1.0	Fragment	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Detected
SP4-1-FCF1-Spoil	0-0.5	Fragment	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Detected
SP5-1-FCF2	1.0-2.0	Fragment	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Detected
SP5-3-FCF1	0-1.0	Fragment	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Detected
SP6-1-FCF1	0-1.0	Fragment	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Detected
SP7-2-FCF1	0-1.0	Fragment	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Not Detected
SP7-3-FCF1-Spoil-	-	Fragment	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Not Detected
SP8-3-FCF2-Spoil	-	Fragment	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Detected
Total Number of Samples			28	28	28	28	28	28	28	28	27	27	9	9	9	9	9	9	9	9	10	16
Maximum Value			11	0.8	73	260	1100	0.3	19	640	120	21	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	0.7	Detected

Concentration above the SAC **VALUE**
Concentration above the PQL **Bold**

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TABLE S2
SOIL LABORATORY RESULTS COMPARED TO HSLs
All data in mg/kg unless stated otherwise

					C_6-C_{10} (F1)	>C_{10}-C_{16} (F2)	Benzene	Toluene	Ethylbenzene	Xylenes	Naphthalene	Field PID Measurement
PQL - Envirolab Services					25	50	0.2	0.5	1	1	1	ppm
NEPM 2013 HSL Land Use Category					HSL-A/B: LOW/HIGH DENSITY RESIDENTIAL							
Sample Reference	**Sample Depth**	**Sample Description**	**Depth Category**	**Soil Category**								
SP2-1	0.5-0.7	Fill: Silty Clayey Sand	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0
SP2-1 - [LAB_DUP]	0.5-0.7	Laboratory Duplicate	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	NA
SP2-1	1.5-1.7	Fill: Silty Clayey Sand	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0
SP2-2	1.0-1.2	Fill: Silty Clayey Sand	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0
SP3-1	0.3-0.5	Fill: Silty Sandy Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0
SP3-2	0.8-1.0	Fill: Silty Sandy Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0
SP3-3	0.8-1.1	Fill: Silty Sandy Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0
SP3-3	1.8-2.0	Fill: Silty Sandy Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0
SP4-1	0.3-0.5	Fill: Silty Clayey Sand	0m to <1m	Sand	<25	**57**	<0.2	<0.5	<1	<1	<1	0
SP4-2	0.8-1.0	Fill: Silty Clayey Sand	0m to <1m	Sand	<25	**60**	<0.2	<0.5	<1	<1	<1	0
SP4-3	0.3-0.5	Fill: Silty Clayey Sand	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	5.1
SP5-1	0.3-0.5	Fill: Silty Sandy Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0
SP5-1	0.8-1.0	Fill: Silty Sandy Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0
SP5-1 - [LAB_DUP]	0.8-1.0	Laboratory Duplicate	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	NA
SP5-2	2.3-2.5	Fill: Silty Sandy Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0
SP6-1	0.3-0.5	Fill: Silty Clayey Sand	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	0
SP6-3	0.3-0.5	Fill: Silty Clayey Sand	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	4.7
SP7-1	0.3-0.5	Fill: Silty Sandy Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	3.6
SP7-1	1.8-2.0	Fill: Silty Sandy Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	4.9
SP7-2	0.8-1.0	Fill: Silty Sandy Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	3.6
SP8-1	0.3-0.5	Fill: Silty Sandy Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	1.6
SP8-3	0.3-0.5	Fill: Silty Sandy Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	1.5
SP8-3	1.3-1.5	Fill: Silty Sandy Clay	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	2.3
SP8-3 - [LAB_DUP]	1.3-1.5	Laboratory Duplicate	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	NA
SDUP21	0.3-0.5	Duplicate of SP4-3	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	NA
SDUP22	0.3-0.5	Duplicate of SP8-1	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	NA
SDUP23	0.3-0.5	Duplicate of SP8-3	0m to <1m	Sand	<25	<50	<0.2	<0.5	<1	<1	<1	NA
Total Number of Samples					26	26	26	26	26	26	26	21
Maximum Value					<PQL	60	<PQL	<PQL	<PQL	<PQL	<PQL	5.1

Concentration above the SAC **VALUE**
Concentration above the PQL **Bold**
The guideline corresponding to the concentration above the SAC is highlighted in grey in the Site Assessment Criteria Table below

HSL SOIL ASSESSMENT CRITERIA

Sample Reference	Sample Depth	Sample Description	Depth Category	Soil Category	C_6-C_{10} (F1)	>C_{10}-C_{16} (F2)	Benzene	Toluene	Ethylbenzene	Xylenes	Naphthalene
SP2-1	0.5-0.7	Fill: Silty Clayey Sand	0m to <1m	Sand	45	110	0.5	160	55	40	3
SP2-1 - [LAB_DUP]	0.5-0.7	Laboratory Duplicate	0m to <1m	Sand	45	110	0.5	160	55	40	3
SP2-1	1.5-1.7	Fill: Silty Clayey Sand	0m to <1m	Sand	45	110	0.5	160	55	40	3
SP2-2	1.0-1.2	Fill: Silty Clayey Sand	0m to <1m	Sand	45	110	0.5	160	55	40	3
SP3-1	0.3-0.5	Fill: Silty Sandy Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
SP3-2	0.8-1.0	Fill: Silty Sandy Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
SP3-3	0.8-1.1	Fill: Silty Sandy Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
SP3-3	1.8-2.0	Fill: Silty Sandy Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
SP4-1	0.3-0.5	Fill: Silty Clayey Sand	0m to <1m	Sand	45	110	0.5	160	55	40	3
SP4-2	0.8-1.0	Fill: Silty Clayey Sand	0m to <1m	Sand	45	110	0.5	160	55	40	3
SP4-3	0.3-0.5	Fill: Silty Clayey Sand	0m to <1m	Sand	45	110	0.5	160	55	40	3
SP5-1	0.3-0.5	Fill: Silty Sandy Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
SP5-1	0.8-1.0	Fill: Silty Sandy Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
SP5-1 - [LAB_DUP]	0.8-1.0	Laboratory Duplicate	0m to <1m	Sand	45	110	0.5	160	55	40	3
SP5-2	2.3-2.5	Fill: Silty Sandy Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
SP6-1	0.3-0.5	Fill: Silty Clayey Sand	0m to <1m	Sand	45	110	0.5	160	55	40	3
SP6-3	0.3-0.5	Fill: Silty Clayey Sand	0m to <1m	Sand	45	110	0.5	160	55	40	3
SP7-1	0.3-0.5	Fill: Silty Sandy Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
SP7-1	1.8-2.0	Fill: Silty Sandy Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
SP7-2	0.8-1.0	Fill: Silty Sandy Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
SP8-1	0.3-0.5	Fill: Silty Sandy Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
SP8-3	0.3-0.5	Fill: Silty Sandy Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
SP8-3	1.3-1.5	Fill: Silty Sandy Clay	0m to <1m	Sand	45	110	0.5	160	55	40	3
SP8-3 - [LAB_DUP]	1.3-1.5	Laboratory Duplicate	0m to <1m	Sand	45	110	0.5	160	55	40	3
SDUP21	0.3-0.5	Duplicate of SP4-3	0m to <1m	Sand	45	110	0.5	160	55	40	3
SDUP22	0.3-0.5	Duplicate of SP8-1	0m to <1m	Sand	45	110	0.5	160	55	40	3

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TABLE S3
SOIL LABORATORY RESULTS COMPARED TO MANAGEMENT LIMITS
All data in mg/kg unless stated otherwise

			C_6-C_{10} (F1) plus BTEX	>C_{10}-C_{16} (F2) plus napthalene	>C_{16}-C_{34} (F3)	>C_{34}-C_{40} (F4)
PQL - Envirolab Services			25	50	100	100
NEPM 2013 Land Use Category			**RESIDENTIAL, PARKLAND & PUBLIC OPEN SPACE**			
Sample	**Sample Depth**	**Soil Texture**				
SP2-1	0.5-0.7	Coarse	<25	<50	**120**	<100
SP2-1 -	0.5-0.7	Coarse	<25	<50	<100	<100
SP2-1	1.5-1.7	Coarse	<25	<50	<100	<100
SP2-2	1.0-1.2	Coarse	<25	<50	**180**	**160**
SP3-1	0.3-0.5	Coarse	<25	<50	<100	<100
SP3-2	0.8-1.0	Coarse	<25	<50	**240**	<100
SP3-3	0.8-1.1	Coarse	<25	<50	<100	<100
SP3-3	1.8-2.0	Coarse	<25	<50	**100**	<100
SP4-1	0.3-0.5	Coarse	<25	**57**	**900**	**320**
SP4-2	0.8-1.0	Coarse	<25	**60**	**1200**	**460**
SP4-3	0.3-0.5	Coarse	<25	<50	**840**	**320**
SP5-1	0.3-0.5	Coarse	<25	<50	<100	<100
SP5-1	0.8-1.0	Coarse	<25	<50	<100	<100
SP5-1 -	0.8-1.0	Coarse	<25	<50	**140**	<100
SP5-2	2.3-2.5	Coarse	<25	<50	**110**	<100
SP6-1	0.3-0.5	Coarse	<25	<50	**330**	**190**
SP6-3	0.3-0.5	Coarse	<25	<50	**320**	**140**
SP7-1	0.3-0.5	Coarse	<25	<50	<100	<100
SP7-1	1.8-2.0	Coarse	<25	<50	<100	<100
SP7-2	0.8-1.0	Coarse	<25	<50	<100	<100
SP8-1	0.3-0.5	Coarse	<25	<50	<100	<100
SP8-3	0.3-0.5	Coarse	<25	<50	<100	<100
SP8-3	1.3-1.5	Coarse	<25	<50	**150**	<100
SP8-3 -	1.3-1.5	Coarse	<25	<50	<100	<100
SDUP21	0.3-0.5	Coarse	<25	<50	<100	<100
SDUP22	0.3-0.5	Coarse	<25	<50	970	440
SDUP23	0.3-0.5	Coarse	<25	<50	**<100**	**<100**
Total Number of Samples			26	26	26	26
Maximum Value			<PQL	60	1200	460

Concentration above the SAC — **VALUE**
Concentration above the PQL — **Bold**

MANAGEMENT LIMIT ASSESSMENT CRITERIA

Sample Reference	**Sample Depth**	**Soil Texture**	C_6-C_{10} (F1) plus BTEX	>C_{10}-C_{16} (F2) plus napthalene	>C_{16}-C_{34} (F3)	>C_{34}-C_{40} (F4)
SP2-1	0.5-0.7	Coarse	700	1000	2500	10000
SP2-1 -	0.5-0.7	Coarse	700	1000	2500	10000
SP2-1	1.5-1.7	Coarse	700	1000	2500	10000
SP2-2	1.0-1.2	Coarse	700	1000	2500	10000
SP3-1	0.3-0.5	Coarse	700	1000	2500	10000
SP3-2	0.8-1.0	Coarse	700	1000	2500	10000
SP3-3	0.8-1.1	Coarse	700	1000	2500	10000
SP3-3	1.8-2.0	Coarse	700	1000	2500	10000
SP4-1	0.3-0.5	Coarse	700	1000	2500	10000
SP4-2	0.8-1.0	Coarse	700	1000	2500	10000
SP4-3	0.3-0.5	Coarse	700	1000	2500	10000
SP5-1	0.3-0.5	Coarse	700	1000	2500	10000
SP5-1	0.8-1.0	Coarse	700	1000	2500	10000
SP5-1 -	0.8-1.0	Coarse	700	1000	2500	10000
SP5-2	2.3-2.5	Coarse	700	1000	2500	10000
SP6-1	0.3-0.5	Coarse	700	1000	2500	10000
SP6-3	0.3-0.5	Coarse	700	1000	2500	10000
SP7-1	0.3-0.5	Coarse	700	1000	2500	10000
SP7-1	1.8-2.0	Coarse	700	1000	2500	10000
SP7-2	0.8-1.0	Coarse	700	1000	2500	10000
SP8-1	0.3-0.5	Coarse	700	1000	2500	10000
SP8-3	0.3-0.5	Coarse	700	1000	2500	10000
SP8-3	1.3-1.5	Coarse	700	1000	2500	10000
SP8-3 -	1.3-1.5	Coarse	700	1000	2500	10000
SDUP21	0.3-0.5	Coarse	700	1000	2500	10000
SDUP22	0.3-0.5	Coarse	700	1000	2500	10000

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TABLE S4
SOIL LABORATORY RESULTS COMPARED T0 DIRECT CONTACT CRITERIA
All data in mg/kg unless stated otherwise

Analyte		C_6-C_{10}	>C_{10}-C_{16}	>C_{16}-C_{34}	>C_{34}-C_{40}	Benzene	Toluene	Ethylbenzene	Xylenes	Naphthalene	PID
PQL - Envirolab Services		25	50	100	100	0.2	0.5	1	1	1	
CRC 2011 -Direct contact Criteria		4,400	3,300	4,500	6,300	100	14,000	4,500	12,000	1,400	
Site Use		**RESIDENTIAL WITH ACCESSIBLE SOIL- DIRECT SOIL CONTACT**									
Sample Reference	**Sample Depth**										
SP2-1	0.5-0.7	<25	<50	**120**	<100	<0.2	<0.5	<1	<1	<1	0
SP2-1 - [LAB_DUP]	0.5-0.7	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	NA
SP2-1	1.5-1.7	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	0
SP2-2	1.0-1.2	<25	<50	**180**	**160**	<0.2	<0.5	<1	<1	<1	0
SP3-1	0.3-0.5	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	0
SP3-2	0.8-1.0	<25	<50	**240**	<100	<0.2	<0.5	<1	<1	<1	0
SP3-3	0.8-1.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	0
SP3-3	1.8-2.0	<25	<50	**100**	<100	<0.2	<0.5	<1	<1	<1	0
SP4-1	0.3-0.5	<25	**57**	**900**	**320**	<0.2	<0.5	<1	<1	<1	0
SP4-2	0.8-1.0	<25	**60**	**1200**	**460**	<0.2	<0.5	<1	<1	<1	0
SP4-3	0.3-0.5	<25	<50	**840**	**320**	<0.2	<0.5	<1	<1	<1	**5.1**
SP5-1	0.3-0.5	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	0
SP5-1	0.8-1.0	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	0
SP5-1 - [LAB_DUP]	0.8-1.0	<25	<50	**140**	<100	<0.2	<0.5	<1	<1	<1	NA
SP5-2	2.3-2.5	<25	<50	**110**	<100	<0.2	<0.5	<1	<1	<1	0
SP6-1	0.3-0.5	<25	<50	**330**	**190**	<0.2	<0.5	<1	<1	<1	0
SP6-3	0.3-0.5	<25	<50	**320**	**140**	<0.2	<0.5	<1	<1	<1	**4.7**
SP7-1	0.3-0.5	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**3.6**
SP7-1	1.8-2.0	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**4.9**
SP7-2	0.8-1.0	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**3.6**
SP8-1	0.3-0.5	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**1.6**
SP8-3	0.3-0.5	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	**1.5**
SP8-3	1.3-1.5	<25	<50	**150**	<100	<0.2	<0.5	<1	<1	<1	**2.3**
SP8-3 - [LAB_DUP]	1.3-1.5	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	NA
SDUP21	0.3-0.5	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	NA
SDUP22	0.3-0.5	<25	<50	970	440	<0.2	<0.5	<1	<1	<1	NA
SDUP23	0.3-0.5	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<1	NA
Total Number of Samples		26	26	26	26	26	26	26	26	26	21
Maximum Value		<PQL	60	1200	460	<PQL	<PQL	<PQL	<PQL	<PQL	5.1

Concentration above the SAC **VALUE**
Concentration above the PQL **Bold**

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TABLE S5
ASBESTOS QUANTIFICATION - FIELD OBSERVATIONS AND LABORATORY RESULTS
HSL-A: Residential with garden/accessible soils; children's day care centers; preschools; and primary schools

FIELD DATA															LABORATORY DATA										
Date Sampled	Sample reference	Sample Depth	Visible ACM in top 100mm	Approx. Volume of Soil (L)	Soil Mass (g)	Mass ACM (g)	Mass Asbestos in ACM (g)	[Asbestos from ACM in soil] (%w/w)	Mass ACM <7mm (g)	Mass Asbestos in ACM <7mm (g)	[Asbestos from ACM <7mm in soil] (%w/w)	Mass FA (g)	Mass Asbestos in FA (g)	[Asbestos from FA in soil] (%w/w)	Lab Report Number	Sample refeference	Sample Depth	Sample Mass (g)	Asbestos ID in soil (AS4964) >0.1g/kg	Trace Analysis	Total Asbestos (g/kg)	Asbestos ID in soil <0.1g/kg	ACM >7mm Estimation (g)	FA and AF Estimation (g)	ACM >7mm Estimation %(w/w)	FA and AF Estimation %(w/w)
SAC			**No**					**0.01**			**0.001**			**0.001**											**0.01**	**0.001**
24/02/2022	SP2-1	0-1.0	No	10	12,940	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	290257	SP2-1	0.5-0.7	765.22	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
24/02/2022	SP2-1	1.0-2.0	NA	10	12,800	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	--	--	--	--	--	--	--	--	--	--	--	--
24/02/2022	SP2-2	0-1.0	No	10	12,520	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	--	--	--	--	--	--	--	--	--	--	--	--
24/02/2022	SP2-2	1.0-1.9	NA	10	13,980	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	--	--	--	--	--	--	--	--	--	--	--	--
25/02/2022	SP2-3	0-1.0	No	10	11,820	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	--	--	--	--	--	--	--	--	--	--	--	--
25/02/2022	SP2-3	1.0-1.8	NA	10	11,950	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	--	--	--	--	--	--	--	--	--	--	--	--
25/02/2022	SP3-1	0-1.0	Yes	10	12,550	17.51	2.6265	0.0209	No ACM <7mm observed	--	--	No FA observed	--	--	290257	SP3-1	0.3-0.5	657.29	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	Chrysotile	0.0206	–	<0.01	<0.001
25/02/2022	SP3-1	1.0-2.0	NA	10	11,540	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	--	--	--	--	--	--	--	--	--	--	--	--
25/02/2022	SP3-2	0-1.0	Yes	10	10,730	49.03	7.3545	0.0685	No ACM <7mm observed	--	--	No FA observed	--	--	290257	SP3-2	0.8-1.0	459.8	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
25/02/2022	SP3-2	1.0-2.0	NA	10	10,680	38.45	5.7675	0.0540	No ACM <7mm observed	--	--	No FA observed	--	--	--	--	--	--	--	--	--	--	--	--	--	--
25/02/2022	SP3-3	0-1.0	Yes	10	11,770	33.63	5.0445	0.0429	No ACM <7mm observed	--	--	No FA observed	--	--	--	--	--	--	--	--	--	--	--	--	--	--
25/02/2022	SP3-3	1.0-2.0	NA	10	11,660	72.93	10.9395	0.0938	No ACM <7mm observed	--	--	No FA observed	--	--	--	--	--	--	--	--	--	--	--	--	--	--
25/02/2022	SP4-1	0-1.0	No	10	13,230	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	--	--	--	--	--	--	--	--	--	--	--	--
25/02/2022	SP4-1	1.0-2.0	NA	10	14,200	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	--	--	--	--	--	--	--	--	--	--	--	--
25/02/2022	SP4-2	0-1.0	Yes	10	12,440	30.24	4.536	0.0365	No ACM <7mm observed	--	--	No FA observed	--	--	--	--	--	--	--	--	--	--	--	--	--	--
25/02/2022	SP4-2	1.0-2.0	NA	10	13,580	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	--	--	--	--	--	--	--	--	--	--	--	--
25/02/2022	SP4-3	0-1.0	No	10	14,430	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	290257	SP4-3	0.3-0.5	744.25	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
25/02/2022	SP4-3	1.0-2.0	NA	10	16,220	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	--	--	--	--	--	--	--	--	--	--	--	--
25/02/2022	SP5-1	0-1.0	Yes	10	11,870	48.27	7.2405	0.0610	No ACM <7mm observed	--	--	No FA observed	--	--	290257	SP5-1	0.8-1.0	544.56	Chrysotile asbestos detected: Amosite asbestos detected: Organic fibres detected	No asbestos detected	0.2338	Chrysotile and amosite	0.1273	–	0.0234	<0.001
25/02/2022	SP5-1	1.0-2.0	NA	10	12,770	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	--	--	--	--	--	--	--	--	--	--	--	--
25/02/2022	SP5-2	0-1.0	No	10	12,970	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	--	--	--	--	--	--	--	--	--	--	--	--
25/02/2022	SP5-2	1.0-2.0	NA	10	10,610	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	--	--	--	--	--	--	--	--	--	--	--	--
25/02/2022	SP5-2	2.0-2.5	NA	10	12,520	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	--	--	--	--	--	--	--	--	--	--	--	--
25/02/2022	SP5-3	0-1.0	No	10	12,580	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	--	--	--	--	--	--	--	--	--	--	--	--
25/02/2022	SP5-3	1.0-2.0	NA	10	12,950	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	--	--	--	--	--	--	--	--	--	--	--	--
25/02/2022	SP6-1	0-1.0	Yes	10	10,800	9.67	1.4505	0.0134	No ACM <7mm observed	--	--	No FA observed	--	--	--	--	--	--	--	--	--	--	--	--	--	--
25/02/2022	SP6-2	0-1.0	Yes	10	13,560	35.43	5.3145	0.0392	No ACM <7mm observed	--	--	No FA observed	--	--	--	--	--	--	--	--	--	--	--	--	--	--
25/02/2022	SP6-3	0-1.1	No	10	14,410	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	290257	SP6-3	0.3-0.5	806.95	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
25/02/2022	SP7-1	0-1.0	No	10	12,510	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	--	--	--	--	--	--	--	--	--	--	--	--
25/02/2022	SP7-1	1.0-2.0	NA	10	12,090	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	290257	SP7-1	1.8-2.0	626.26	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
25/02/2022	SP7-2	0-1.0	No	10	11,960	11.00	1.65	0.0138	No ACM <7mm observed	--	--	No FA observed	--	--	--	--	--	--	--	--	--	--	--	--	--	--
25/02/2022	SP7-2	1.0-2.0	NA	10	11,610	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	--	--	--	--	--	--	--	--	--	--	--	--
25/02/2022	SP7-3	0-1.0	No	10	13,180	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	--	--	--	--	--	--	--	--	--	--	--	--
25/02/2022	SP7-3	1.0-2.0	NA	10	12,400	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	--	--	--	--	--	--	--	--	--	--	--	--
25/02/2022	SP8-1	0-1.0	No	10	11,230	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	--	--	--	--	--	--	--	--	--	--	--	--
25/02/2022	SP8-1	1.-2.0	NA	10	12,850	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	--	--	--	--	--	--	--	--	--	--	--	--
25/02/2022	SP8-2	0-1.0	No	10	12,930	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	--	--	--	--	--	--	--	--	--	--	--	--
25/02/2022	SP8-2	1.0-2.0	NA	10	13,830	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	--	--	--	--	--	--	--	--	--	--	--	--
25/02/2022	SP8-3	0-1.0	No	10	15,040	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	290257	SP8-3	0.3-0.5	475.44	No asbestos detected at reporting limit of 0.1g/kg: Organic fibres detected	No asbestos detected	<0.1	No visible asbestos detected	–	–	<0.01	<0.001
25/02/2022	SP8-3	1.0-2.0	NA	10	12,380	No ACM observed	--	--	No ACM <7mm observed	--	--	No FA observed	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Concentration above the SAC **VALUE**

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TABLE S6
SOIL LABORATORY RESULTS COMPARED TO NEPM 2013 EILs AND ESLs
All data in mg/kg unless stated otherwise

Land Use Category				URBAN RESIDENTIAL AND PUBLIC OPEN SPACE																		
							AGED HEAVY METALS-EILs						EILs		ESLs							
				pH	CEC (cmolc/kg)	Clay Content (% clay)	Arsenic	Chromium	Copper	Lead	Nickel	Zinc	Naphthalene	DDT	C_6-C_{10} (F1)	>C_{10}-C_{16} (F2)	>C_{16}-C_{34} (F3)	>C_{34}-C_{40} (F4)	Benzene	Toluene	Ethylbenzene	Total Xylenes	B(a)P
PQL - Envirolab Services				-	1	-	4	1	1	1	1	1	1	0.1	25	50	100	100	0.2	0.5	1	1	0.05
Ambient Background Concentration (ABC)				-	-	-	NSL	8	18	104	5	77	NSL	NSL	NSL	NSL	NSL	NSL	NSL	NSL	NSL	NSL	NSL
Sample Reference	**Sample Depth**	**Sample Description**	**Soil Texture**																			
SP2-1	0.5-0.7	Fill: Silty Clayey Sand	Coarse	NA	NA	NA	<4	**7**	**9**	**47**	**8**	**39**	<1	<0.1	<25	<50	**120**	<100	<0.2	<0.5	<1	<1	<0.05
SP2-1 - [LAB_DUP]	0.5-0.7	Laboratory Duplicate	Coarse	NA	NA	NA	<4	**7**	**8**	**48**	**3**	**38**	<1	<0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
SP2-1 - [LAB_TRIP]	0.5-0.7	Laboratory Triplicate	Coarse	NA	NA	NA	<4	**6**	**6**	**34**	**2**	**29**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SP2-1	1.5-1.7	Fill: Silty Clayey Sand	Coarse	NA	NA	NA	<4	**8**	**10**	**70**	**4**	**46**	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
SP2-2	1.0-1.2	Fill: Silty Clayey Sand	Coarse	NA	NA	NA	<4	**8**	**8**	**44**	**4**	**45**	<1	NA	<25	<50	**180**	**160**	<0.2	<0.5	<1	<1	<0.05
SP3-1	0.3-0.5	Fill: Silty Sandy Clay	Coarse	NA	NA	NA	**4**	**9**	**25**	**250**	**6**	**160**	<1	<0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
SP3-2	0.8-1.0	Fill: Silty Sandy Clay	Coarse	NA	NA	NA	**9**	**10**	**46**	**360**	**6**	**310**	<1	NA	<25	<50	**240**	<100	<0.2	<0.5	<1	<1	**0.07**
SP3-3	0.8-1.1	Fill: Silty Sandy Clay	Coarse	NA	NA	NA	**9**	**12**	**43**	**390**	**6**	**340**	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	**0.1**
SP3-3	1.8-2.0	Fill: Silty Sandy Clay	Coarse	NA	NA	NA	**5**	**10**	**51**	**670**	**6**	**360**	<1	NA	<25	<50	**100**	<100	<0.2	<0.5	<1	<1	<0.05
SP4-1	0.3-0.5	Fill: Silty Clayey Sand	Coarse	NA	NA	NA	**7**	**33**	**22**	**68**	**16**	**56**	<1	NA	<25	**57**	**900**	**320**	<0.2	<0.5	<1	<1	**10**
SP4-2	0.8-1.0	Fill: Silty Clayey Sand	Coarse	NA	NA	NA	**7**	**55**	**21**	**50**	**19**	**48**	<1	NA	<25	**60**	**1200**	**460**	<0.2	<0.5	<1	<1	**14**
SP4-3	0.3-0.5	Fill: Silty Clayey Sand	Coarse	NA	NA	NA	**7**	**44**	**23**	**98**	**17**	**65**	<1	<0.1	<25	<50	**840**	**320**	<0.2	<0.5	<1	<1	**12**
SP5-1	0.3-0.5	Fill: Silty Sandy Clay	Coarse	NA	NA	NA	**7**	**12**	**55**	**850**	**8**	**430**	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
SP5-1	0.8-1.0	Fill: Silty Sandy Clay	Coarse	NA	NA	NA	**8**	**13**	**99**	**1100**	**11**	**640**	<1	<0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
SP5-1 - [LAB_DUP]	0.8-1.0	Laboratory Duplicate	Coarse	NA	NA	NA	**5**	**9**	**47**	**860**	**6**	**450**	<1	<0.1	<25	<50	**140**	<100	<0.2	<0.5	<1	<1	**0.05**
SP5-1 - [LAB_TRIP]	0.8-1.0	Laboratory Triplicate	Coarse	NA	NA	NA	**7**	**12**	**83**	**980**	**9**	**600**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SP5-2	2.3-2.5	Fill: Silty Sandy Clay	Coarse	NA	NA	NA	**5**	**11**	**96**	**800**	**8**	**370**	<1	NA	<25	<50	**110**	<100	<0.2	<0.5	<1	<1	**4.6**
SP6-1	0.3-0.5	Fill: Silty Clayey Sand	Coarse	NA	NA	NA	**4**	**21**	**26**	**110**	**11**	**66**	<1	NA	<25	<50	**330**	**190**	<0.2	<0.5	<1	<1	**4.1**
SP6-3	0.3-0.5	Fill: Silty Clayey Sand	Coarse	NA	NA	NA	<4	**21**	**17**	**110**	**12**	**44**	<1	<0.1	<25	<50	**320**	**140**	<0.2	<0.5	<1	<1	**4.6**
SP7-1	0.3-0.5	Fill: Silty Sandy Clay	Coarse	NA	NA	NA	**6**	**11**	**24**	**180**	**5**	**190**	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
SP7-1	1.8-2.0	Fill: Silty Sandy Clay	Coarse	NA	NA	NA	**11**	**30**	**41**	**260**	**6**	**310**	<1	<0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	**0.07**
SP7-2	0.8-1.0	Fill: Silty Sandy Clay	Coarse	NA	NA	NA	**4**	**10**	**37**	**280**	**6**	**240**	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
SP8-1	0.3-0.5	Fill: Silty Sandy Clay	Coarse	NA	NA	NA	**6**	**24**	**260**	**620**	**10**	**320**	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	**0.3**
SP8-3	0.3-0.5	Fill: Silty Sandy Clay	Coarse	NA	NA	NA	<4	**9**	**11**	**41**	**5**	**29**	<1	<0.1	<25	<50	<100	<100	<0.2	<0.5	<1	<1	**0.09**
SP8-3	1.3-1.5	Fill: Silty Sandy Clay	Coarse	NA	NA	NA	<4	**13**	**35**	**250**	**5**	**120**	<1	NA	<25	<50	**150**	<100	<0.2	<0.5	<1	<1	**3.2**
SP8-3 - [LAB_DUP]	1.3-1.5	Laboratory Duplicate	Coarse	NA	NA	NA	<4	**17**	**43**	**250**	**8**	**130**	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	**0.4**
SP8-3 - [LAB_TRIP]	1.3-1.5	Laboratory Triplicate	Coarse	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**1.2**
SDUP21	0.3-0.5	Duplicate of SP4-3	Coarse	NA	NA	NA	<4	**7**	**5**	**18**	**2**	**19**	<1	NA	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<0.05
SDUP22	0.3-0.5	Duplicate of SP8-1	Coarse	NA	NA	NA	7	**73**	**28**	**83**	**17**	**59**	<1	NA	<25	<50	**970**	440	<0.2	<0.5	<1	<1	12
SDUP23	0.3-0.5	Duplicate of SP8-3	Coarse	NA	NA	NA	**<4**	**18**	**19**	**120**	**8**	**81**	<1	NA	<25	<50	<100	**<100**	<0.2	<0.5	<1	<1	**0.19**
Total Number of Samples				0	0	0	28	28	28	28	28	28	26	9	26	26	26	26	26	26	26	26	27
Maximum Value				NA	NA	NA	11	73	260	1100	19	640	<PQL	<PQL	<PQL	60	1200	460	<PQL	<PQL	<PQL	<PQL	14

Concentration above the SAC — **VALUE**
Concentration above the PQL — **Bold**
The guideline corresponding to the elevated value is highlighted in grey in the EIL and ESL Assessment Criteria Table below

EIL AND ESL ASSESSMENT CRITERIA

Sample Reference	**Sample Depth**	**Sample Description**	**Soil Texture**	pH	CEC (cmolc/kg)	Clay Content (% clay)	Arsenic	Chromium	Copper	Lead	Nickel	Zinc	Naphthalene	DDT	C_6-C_{10} (F1)	>C_{10}-C_{16} (F2)	>C_{16}-C_{34} (F3)	>C_{34}-C_{40} (F4)	Benzene	Toluene	Ethylbenzene	Total Xylenes	B(a)P
SP2-1	0.5-0.7	Fill: Silty Clayey Sand	Coarse	NA	NA	NA	100	200	80	1200	35	150	170	180	180	120	300	2800	50	85	70	105	20
SP2-1 - [LAB_DUP]	0.5-0.7	Laboratory Duplicate	Coarse	NA	NA	NA	100	200	80	1200	35	150	170	180	180	120	300	2800	50	85	70	105	20
SP2-1 - [LAB_TRIP]	0.5-0.7	Laboratory Triplicate	Coarse	NA	NA	NA	100	200	80	1200	35	150	--	--	--	--	--	--	--	--	--	--	--
SP2-1	1.5-1.7	Fill: Silty Clayey Sand	Coarse	NA	NA	NA	100	200	80	1200	35	150	170	--	180	120	300	2800	50	85	70	105	20
SP2-2	1.0-1.2	Fill: Silty Clayey Sand	Coarse	NA	NA	NA	100	200	80	1200	35	150	170	--	180	120	300	2800	50	85	70	105	20
SP3-1	0.3-0.5	Fill: Silty Sandy Clay	Coarse	NA	NA	NA	100	200	80	1200	35	150	170	180	180	120	300	2800	50	85	70	105	20
SP3-2	0.8-1.0	Fill: Silty Sandy Clay	Coarse	NA	NA	NA	100	200	80	1200	35	150	170	--	180	120	300	2800	50	85	70	105	20
SP3-3	0.8-1.1	Fill: Silty Sandy Clay	Coarse	NA	NA	NA	100	200	80	1200	35	150	170	--	180	120	300	2800	50	85	70	105	20
SP3-3	1.8-2.0	Fill: Silty Sandy Clay	Coarse	NA	NA	NA	100	200	80	1200	35	150	170	--	180	120	300	2800	50	85	70	105	20
SP4-1	0.3-0.5	Fill: Silty Clayey Sand	Coarse	NA	NA	NA	100	200	80	1200	35	150	170	--	180	120	300	2800	50	85	70	105	20
SP4-2	0.8-1.0	Fill: Silty Clayey Sand	Coarse	NA	NA	NA	100	200	80	1200	35	150	170	--	180	120	300	2800	50	85	70	105	20
SP4-3	0.3-0.5	Fill: Silty Clayey Sand	Coarse	NA	NA	NA	100	200	80	1200	35	150	170	180	180	120	300	2800	50	85	70	105	20
SP5-1	0.3-0.5	Fill: Silty Sandy Clay	Coarse	NA	NA	NA	100	200	80	1200	35	150	170	--	180	120	300	2800	50	85	70	105	20
SP5-1	0.8-1.0	Fill: Silty Sandy Clay	Coarse	NA	NA	NA	100	200	80	1200	35	150	170	180	180	120	300	2800	50	85	70	105	20
SP5-1 - [LAB_DUP]	0.8-1.0	Laboratory Duplicate	Coarse	NA	NA	NA	100	200	80	1200	35	150	170	180	180	120	300	2800	50	85	70	105	20
SP5-1 - [LAB_TRIP]	0.8-1.0	Laboratory Triplicate	Coarse	NA	NA	NA	100	200	80	1200	35	150	--	--	--	--	--	--	--	--	--	--	--
SP5-2	2.3-2.5	Fill: Silty Sandy Clay	Coarse	NA	NA	NA	100	200	80	1200	35	150	170	--	180	120	300	2800	50	85	70	105	20
SP6-1	0.3-0.5	Fill: Silty Clayey Sand	Coarse	NA	NA	NA	100	200	80	1200	35	150	170	--	180	120	300	2800	50	85	70	105	20
SP6-3	0.3-0.5	Fill: Silty Clayey Sand	Coarse	NA	NA	NA	100	200	80	1200	35	150	170	180	180	120	300	2800	50	85	70	105	20
SP7-1	0.3-0.5	Fill: Silty Sandy Clay	Coarse	NA	NA	NA	100	200	80	1200	35	150	170	--	180	120	300	2800	50	85	70	105	20
SP7-1	1.8-2.0	Fill: Silty Sandy Clay	Coarse	NA	NA	NA	100	200	80	1200	35	150	170	180	180	120	300	2800	50	85	70	105	20
SP7-2	0.8-1.0	Fill: Silty Sandy Clay	Coarse	NA	NA	NA	100	200	80	1200	35	150	170	--	180	120	300	2800	50	85	70	105	20
SP8-1	0.3-0.5	Fill: Silty Sandy Clay	Coarse	NA	NA	NA	100	200	80	1200	35	150	170	--	180	120	300	2800	50	85	70	105	20
SP8-3	0.3-0.5	Fill: Silty Sandy Clay	Coarse	NA	NA	NA	100	200	80	1200	35	150	170	180	180	120	300	2800	50	85	70	105	20
SP8-3	1.3-1.5	Fill: Silty Sandy Clay	Coarse	NA	NA	NA	100	200	80	1200	35	150	170	--	180	120	300	2800	50	85	70	105	20
SP8-3 - [LAB_DUP]	1.3-1.5	Laboratory Duplicate	Coarse	NA	NA	NA	100	200	80	1200	35	150	170	--	180	120	300	2800	50	85	70	105	20
SP8-3 - [LAB_TRIP]	1.3-1.5	Laboratory Triplicate	Coarse	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	20
SDUP21	0.3-0.5	Duplicate of SP4-3	Coarse	NA	NA	NA	100	200	80	1200	35	150	170	--	180	120	300	2800	50	85	70	105	20
SDUP22	0.3-0.5	Duplicate of SP8-1	Coarse	NA	NA	NA	100	200	80	1200	35	150	170	--	180	120	300	2800	50	85	70	105	20
SDUP23	0.3-0.5	Duplicate of SP8-3	Coarse	NA	NA	NA	100	200	80	1200	35	150	170	--	180	120	300	2800	50	85	70	105	20

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TABLE S7
SOIL LABORATORY RESULTS COMPARED TO WASTE CLASSIFICATION GUIDELINES
All data in mg/kg unless stated otherwise

			HEAVY METALS								PAHs		OC/OP PESTICIDES				Total PCBs	TRH					BTEX COMPOUNDS				ASBESTOS FIBRES
			Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Zinc	Total PAHs	B(a)P	Total Endosulfans	Chloropyrifos	Total Moderately Harmful	Total Scheduled		C_6-C_9	C_{10}-C_{14}	C_{15}-C_{28}	C_{29}-C_{36}	Total C_{10}-C_{36}	Benzene	Toluene	Ethyl benzene	Total Xylenes	
PQL - Envirolab Services			4	0.4	1	1	1	0.1	1	1	-	0.05	0.1	0.1	0.1	0.1	0.1	25	50	100	100	50	0.2	0.5	1	1	100
General Solid Waste CT1			100	20	100	NSL	100	4	40	NSL	200	0.8	60	4	250	50	50	650		NSL		10,000	10	288	600	1,000	-
General Solid Waste SCC1			500	100	1900	NSL	1500	50	1050	NSL	200	10	108	7.5	250	50	50	650		NSL		10,000	18	518	1,080	1,800	-
Restricted Solid Waste CT2			400	80	400	NSL	400	16	160	NSL	800	3.2	240	16	1000	50	50	2600		NSL		40,000	40	1,152	2,400	4,000	-
Restricted Solid Waste SCC2			2000	400	7600	NSL	6000	200	4200	NSL	800	23	432	30	1000	50	50	2600		NSL		40,000	72	2,073	4,320	7,200	-
Sample Reference	**Sample Depth**	**Sample Description**																									
SP2-1	0.5-0.7	Fill: Silty Clayey Sand	<4	<0.4	**7**	**9**	**47**	<0.1	**8**	**39**	<0.05	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<25	<50	**100**	<100	**100**	<0.2	<0.5	<1	<1	Not Detected
SP2-1 - [LAB_DUP]	0.5-0.7	Laboratory Duplicate	<4	<0.4	**7**	**8**	**48**	<0.1	**3**	**38**	<0.05	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
SP2-1 - [LAB_TRIP]	0.5-0.7	Laboratory Triplicate	<4	<0.4	**6**	**6**	**34**	<0.1	**2**	**29**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SP2-1	1.5-1.7	Fill: Silty Clayey Sand	<4	<0.4	**8**	**10**	**70**	<0.1	**4**	**46**	<0.05	<0.05	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
SP2-2	1.0-1.2	Fill: Silty Clayey Sand	<4	<0.4	**8**	**8**	**44**	<0.1	**4**	**45**	<0.05	<0.05	NA	NA	NA	NA	NA	<25	<50	<100	**160**	**160**	<0.2	<0.5	<1	<1	NA
SP3-1	0.3-0.5	Fill: Silty Sandy Clay	**4**	<0.4	**9**	**25**	**250**	**0.1**	**6**	**160**	<0.05	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Detected
SP3-2	0.8-1.0	Fill: Silty Sandy Clay	**9**	<0.4	**10**	**46**	**360**	**0.1**	**6**	**310**	**0.07**	**0.07**	NA	NA	NA	NA	NA	<25	<50	**160**	**110**	**270**	<0.2	<0.5	<1	<1	Not Detected
SP3-3	0.8-1.1	Fill: Silty Sandy Clay	**9**	**0.5**	**12**	**43**	**390**	**0.2**	**6**	**340**	**0.87**	**0.1**	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
SP3-3	1.8-2.0	Fill: Silty Sandy Clay	**5**	**0.5**	**10**	**51**	**670**	**0.1**	**6**	**360**	<0.05	<0.05	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
SP4-1	0.3-0.5	Fill: Silty Clayey Sand	**7**	<0.4	**33**	**22**	**68**	**0.1**	**16**	**56**	**82**	**10**	NA	NA	NA	NA	NA	<25	<50	**550**	**500**	**1050**	<0.2	<0.5	<1	<1	NA
SP4-2	0.8-1.0	Fill: Silty Clayey Sand	**7**	<0.4	**55**	**21**	**50**	<0.1	**19**	**48**	**120**	**14**	NA	NA	NA	NA	NA	<25	<50	**720**	**670**	**1390**	<0.2	<0.5	<1	<1	NA
SP4-3	0.3-0.5	Fill: Silty Clayey Sand	**7**	<0.4	**44**	**23**	**98**	<0.1	**17**	**65**	**98**	**12**	<0.1	<0.1	<0.1	<0.1	<0.1	<25	<50	**520**	**460**	**980**	<0.2	<0.5	<1	<1	Not Detected
SP5-1	0.3-0.5	Fill: Silty Sandy Clay	**7**	**0.5**	**12**	**55**	**850**	**0.2**	**8**	**430**	<0.05	<0.05	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
SP5-1	0.8-1.0	Fill: Silty Sandy Clay	**8**	**0.8**	**13**	**99**	**1100**	**0.3**	**11**	**640**	<0.05	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Detected
SP5-1 - [LAB_DUP]	0.8-1.0	Laboratory Duplicate	**5**	**0.5**	**9**	**47**	**860**	**0.2**	**6**	**450**	**0.05**	**0.05**	<0.1	<0.1	<0.1	<0.1	**0.3**	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
SP5-1 - [LAB_TRIP]	0.8-1.0	Laboratory Triplicate	**7**	**0.7**	**12**	**83**	**980**	**0.3**	**9**	**600**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SP5-2	2.3-2.5	Fill: Silty Sandy Clay	**5**	**0.5**	**11**	**96**	**800**	**0.3**	**8**	**370**	**32**	**4.6**	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
SP6-1	0.3-0.5	Fill: Silty Clayey Sand	**4**	<0.4	**21**	**26**	**110**	**0.2**	**11**	**66**	**35**	**4.1**	NA	NA	NA	NA	NA	<25	<50	**160**	**250**	**410**	<0.2	<0.5	<1	<1	NA
SP6-3	0.3-0.5	Fill: Silty Clayey Sand	<4	<0.4	**21**	**17**	**110**	<0.1	**12**	**44**	**41**	**4.6**	<0.1	<0.1	<0.1	<0.1	<0.1	<25	<50	**180**	**200**	**380**	<0.2	<0.5	<1	<1	Not Detected
SP7-1	0.3-0.5	Fill: Silty Sandy Clay	**6**	<0.4	**11**	**24**	**180**	<0.1	**5**	**190**	<0.05	<0.05	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
SP7-1	1.8-2.0	Fill: Silty Sandy Clay	**11**	**0.5**	**30**	**41**	**260**	<0.1	**6**	**310**	**0.07**	**0.07**	<0.1	<0.1	<0.1	<0.1	**0.6**	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
SP7-1 - [LAB_DUP]	1.8-2.0	Laboratory Duplicate	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.7**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SP7-2	0.8-1.0	Fill: Silty Sandy Clay	**4**	<0.4	**10**	**37**	**280**	<0.1	**6**	**240**	<0.05	<0.05	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
SP8-1	0.3-0.5	Fill: Silty Sandy Clay	**6**	<0.4	**24**	**260**	**620**	<0.1	**10**	**320**	**2.4**	**0.3**	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
SP8-3	0.3-0.5	Fill: Silty Sandy Clay	<4	<0.4	**9**	**11**	**41**	<0.1	**5**	**29**	**0.09**	**0.09**	<0.1	<0.1	<0.1	<0.1	<0.1	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	Not Detected
SP8-3	1.3-1.5	Fill: Silty Sandy Clay	<4	<0.4	**13**	**35**	**250**	<0.1	**5**	**120**	**25**	**3.2**	NA	NA	NA	NA	NA	<25	<50	<100	**100**	**100**	<0.2	<0.5	<1	<1	NA
SP8-3 - [LAB_DUP]	1.3-1.5	Laboratory Duplicate	<4	<0.4	**17**	**43**	**250**	<0.1	**8**	**130**	**3.2**	**0.4**	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
SP8-3 - [LAB_TRIP]	1.3-1.5	Laboratory Triplicate	NA	NA	NA	NA	NA	NA	NA	NA	**8.6**	**1.2**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SDUP21	0.3-0.5	Duplicate of SP4-3	<4	<0.4	**7**	**5**	**18**	<0.1	**2**	**19**	<0.05	<0.05	NA	NA	NA	NA	NA	<25	<50	<100	<100	<50	<0.2	<0.5	<1	<1	NA
SDUP22	0.3-0.5	Duplicate of SP8-1	**7**	<0.4	**73**	**28**	**83**	**0.3**	**17**	**59**	**96**	**12**	NA	NA	NA	NA	NA	<25	<50	**590**	**580**	**1170**	<0.2	<0.5	<1	<1	NA
SDUP23	0.3-0.5	Duplicate of SP8-3	**<4**	<0.4	**18**	**19**	**120**	**<0.1**	**8**	**81**	**1.4**	**0.19**	NA	NA	NA	NA	NA	<25	<50	**<100**	**<100**	**<50**	<0.2	<0.5	<1	<1	NA
SP3-1-FCF1	0-1.0	Fragment	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Detected
SP3-2-FCF1	0-1.0	Fragment	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Detected
SP4-1-FCF1-Spoil	0-0.5	Fragment	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Detected
SP5-1-FCF2	1.0-2.0	Fragment	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Detected
SP5-3-FCF1	0-1.0	Fragment	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Detected
SP6-1-FCF1	0-1.0	Fragment	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Detected
SP7-3-FCF1-Spoil-	-	Fragment	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Not Detected
SP8-3-FCF2-Spoil	-	Fragment	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Detected
Total Number of Samples			29	29	29	29	29	29	29	29	28	28	9	9	9	9	10	27	27	27	27	27	27	27	27	27	16
Maximum Value			11	0.8	73	260	1100	0.3	19	640	120	14	<PQL	<PQL	<PQL	<PQL	0.7	<PQL	<PQL	720	670	1390	<PQL	<PQL	<PQL	<PQL	Detected

Concentration above the CT1 — **VALUE**
Concentration above SCC1 — **VALUE**
Concentration above the SCC2 — **VALUE**
Concentration above PQL — **Bold**

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TABLE S8
SOIL LABORATORY TCLP RESULTS
All data in mg/L unless stated otherwise

			Arsenic	Cadmium	Chromium	Lead	Mercury	Nickel	B(a)P
PQL - Envirolab Services			0.05	0.01	0.01	0.03	0.0005	0.02	0.001
TCLP1 - General Solid Waste			5	1	5	5	0.2	2	0.04
TCLP2 - Restricted Solid Waste			20	4	20	20	0.8	8	0.16
TCLP3 - Hazardous Waste			>20	>4	>20	>20	>0.8	>8	>0.16
Sample Reference	**Sample Depth**	**Sample Description**							
SP3-3	0.8-1.1	Fill: Silty Sandy Clay	NA	NA	NA	**0.07**	NA	NA	NA
SP3-3-[LAB_DUP]	0.8-1.1	Laboratory Duplicate	NA	NA	NA	**0.08**	NA	NA	NA
SP4-2	0.8-1.0	Fill: Silty Clayey Sand	NA	NA	NA	NA	NA	NA	<0.001
SP5-1	0.8-1.0	Fill: Silty Sandy Clay	NA	NA	NA	<0.03	NA	NA	NA
SP5-2	2.3-2.5	Fill: Silty Sandy Clay	NA	NA	NA	**0.2**	NA	NA	<0.001
SP6-3	0.3-0.5	Fill: Silty Clayey Sand	NA	NA	NA	<0.03	NA	NA	<0.001
SP7-2	0.8-1.0	Fill: Silty Sandy Clay	NA	NA	NA	**0.08**	NA	NA	NA
SP8-1	0.3-0.5	Fill: Silty Sandy Clay	NA	NA	NA	**0.34**	NA	NA	NA
Total Number of samples			0	0	0	7	0	0	3
Maximum Value			NA	NA	NA	0.34	NA	NA	<PQL

General Solid Waste	**VALUE**
Restricted Solid Waste	**VALUE**
Hazardous Waste	**VALUE**
Concentration above PQL	**Bold**

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TABLE S9
SUMMARY OF PFAS CONCENTRATIONS IN SOIL - HUMAN HEALTH
Units are µg/Kg unless stated otherwise.

	PQL Envirolab Services	NEMP 2020 Residential accessible soil	SP3-1 0.3-0.5 Fill: Silty Sandy Clay	SP3-2 0.8-1.0 Fill: Silty Sandy Clay	SP4-3 0.3-0.5 Fill: Silty Clayey Sand	SP5-1 0.8-1.0 Fill: Silty Sandy Clay	SP5-1 - [LAB_DUP] 0.8-1.0 Laboratory Duplicate	SP6-3 0.3-0.5 Fill: Silty Clayey Sand	SP7-1 1.8-2.0 Fill: Silty Sandy Clay	SP8-3 0.3-0.5 Fill: Silty Sandy Clay
PFAS Compound										
Perfluorobutanesulfonic acid	0.1	NSL	<0.1	<0.1	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**
Perfluoropentanesulfonic acid	0.1	NSL	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorohexanesulfonic acid - PFHxS	0.1	NSL	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluoroheptanesulfonic acid	0.1	NSL	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorooctanesulfonic acid PFOS	0.1	NSL	**0.4**	**0.4**	**0.3**	**0.5**	**0.6**	**0.3**	**0.4**	**0.8**
Perfluorodecanesulfonic acid	0.2	NSL	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Perfluorobutanoic acid	0.2	NSL	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	**0.2**
Perfluoropentanoic acid	0.2	NSL	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Perfluorohexanoic acid	0.1	NSL	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluoroheptanoic acid	0.1	NSL	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorooctanoic acid PFOA	0.1	100	<0.1	<0.1	<0.1	**0.1**	**0.1**	<0.1	**0.1**	**0.1**
Perfluorononanoic acid	0.1	NSL	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1
Perfluorodecanoic acid	0.5	NSL	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Perfluoroundecanoic acid	0.5	NSL	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.5	<0.5
Perfluorododecanoic acid	0.5	NSL	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Perfluorotridecanoic acid	0.5	NSL	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Perfluorotetradecanoic acid	5	NSL	<5	<5	<5	<5	<5	<5	<5	<5
4:2 FTS	0.1	NSL	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
6:2 FTS	0.1	NSL	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
8:2 FTS	0.1	NSL	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
10:2 FTS	0.1	NSL	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Perfluorooctane sulfonamide	1	NSL	<1	<1	<1	<1	<1	<1	<1	<1
N-Methyl perfluorooctane sulfonamide	1	NSL	<1	<1	<1	<1	<1	<1	<1	<1
N-Ethyl perfluorooctanesulfon amide	1	NSL	<1	<1	<1	<1	<1	<1	<1	<1
N-Me perfluorooctanesulfonamid oethanol	1	NSL	<1	<1	<1	<1	<1	<1	<1	<1
N-Et perfluorooctanesulfonamid oethanol	5	NSL	<5	<5	<5	<5	<5	<5	<5	<5
MePer uorooctanesulf-amid oacetic acid	0.2	NSL	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
EtPer uorooctanesulf-amid oacetic acid	0.2	NSL	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total Positive PFHxS & PFOS	0.1	10	**0.4**	**0.4**	**0.3**	**0.5**	**0.6**	**0.3**	**0.4**	**0.8**
Total Positive PFOS & PFOA	0.1	NSL	**0.4**	**0.4**	**0.3**	**0.6**	**0.7**	**0.3**	**0.5**	**0.9**
Total Positive PFAS	0.1	NSL	**0.4**	**0.4**	**0.3**	**0.6**	**0.7**	**0.3**	**0.5**	**1.2**

Positive PFAS result **Bold**
PFAS result above the SAC **Bold**

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TABLE S10
SUMMARY OF PFAS CONCENTRATIONS IN SOIL - ECOLOGY
Units are µg/Kg unless stated otherwise.

	PQL Envirolab Services	NEMP 2020 Direct exposure All land use	SP3-1 0.3-0.5 Fill: Silty Sandy Clay	SP3-2 0.8-1.0 Fill: Silty Sandy Clay	SP4-3 0.3-0.5 Fill: Silty Clayey Sand	SP5-1 0.8-1.0 Fill: Silty Sandy Clay	SP5-1 - [LAB_DUP] 0.8-1.0 Laboratory Duplicate	SP6-3 0.3-0.5 Fill: Silty Clayey Sand	SP7-1 1.8-2.0 Fill: Silty Sandy Clay	SP8-3 0.3-0.5 Fill: Silty Sandy Clay
PFAS Compound										
Perfluorobutanesulfonic acid	0.1	NSL	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluoropentanesulfonic acid	0.1	NSL	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorohexanesulfonic acid - PFHxS	0.1	NSL	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluoroheptanesulfonic acid	0.1	NSL	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorooctanesulfonic acid PFOS	0.1	1000	**0.4**	**0.4**	**0.3**	**0.5**	**0.6**	**0.3**	**0.4**	**0.8**
Perfluorodecanesulfonic acid	0.2	NSL	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Perfluorobutanoic acid	0.2	NSL	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	**0.2**
Perfluoropentanoic acid	0.2	NSL	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Perfluorohexanoic acid	0.1	NSL	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluoroheptanoic acid	0.1	NSL	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorooctanoic acid PFOA	0.1	10,000	<0.1	<0.1	<0.1	**0.1**	**0.1**	<0.1	**0.1**	**0.1**
Perfluorononanoic acid	0.1	NSL	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1
Perfluorodecanoic acid	0.5	NSL	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Perfluoroundecanoic acid	0.5	NSL	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.5	<0.5
Perfluorododecanoic acid	0.5	NSL	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Perfluorotridecanoic acid	0.5	NSL	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Perfluorotetradecanoic acid	5	NSL	<5	<5	<5	<5	<5	<5	<5	<5
4:2 FTS	0.1	NSL	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
6:2 FTS	0.1	NSL	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
8:2 FTS	0.1	NSL	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
10:2 FTS	0.1	NSL	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Perfluorooctane sulfonamide	1	NSL	<1	<1	<1	<1	<1	<1	<1	<1
N-Methyl perfluorooctane sulfonamide	1	NSL	<1	<1	<1	<1	<1	<1	<1	<1
N-Ethyl perfluorooctanesulfon amide	1	NSL	<1	<1	<1	<1	<1	<1	<1	<1
N-Me perfluorooctanesulfonamid oethanol	1	NSL	<1	<1	<1	<1	<1	<1	<1	<1
N-Et perfluorooctanesulfonamid oethanol	5	NSL	<5	<5	<5	<5	<5	<5	<5	<5
MePer uorooctanesulf-amid oacetic acid	0.2	NSL	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
EtPer uorooctanesulf-amid oacetic acid	0.2	NSL	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total Positive PFHxS & PFOS	0.1	NSL	**0.4**	**0.4**	**0.3**	**0.5**	**0.6**	**0.3**	**0.4**	**0.8**
Total Positive PFOS & PFOA	0.1	NSL	**0.4**	**0.4**	**0.3**	**0.6**	**0.7**	**0.3**	**0.5**	**0.9**
Total Positive PFAS	0.1	NSL	**0.4**	**0.4**	**0.3**	**0.6**	**0.7**	**0.3**	**0.5**	**1.2**

Positive PFAS result **Bold**
PFAS result above the SAC **Bold**

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TABLE S11
SUMMARY OF PFAS CONCENTRATIONS IN SOIL - WASTE CLASSIFICATION
Units are µg/Kg unless stated otherwise.

	PQL Envirolab Services	SCC1	SCC2	SP3-1 0.3-0.5 Fill: Silty Sandy Clay	SP3-2 0.8-1.0 Fill: Silty Sandy Clay	SP4-3 0.3-0.5 Fill: Silty Clayey Sand	SP5-1 0.8-1.0 Fill: Silty Sandy Clay	SP5-1 - [LAB_DUP] 0.8-1.0 Laboratory Duplicate	SP6-3 0.3-0.5 Fill: Silty Clayey Sand	SP7-1 1.8-2.0 Fill: Silty Sandy Clay	SP8-3 0.3-0.5 Fill: Silty Sandy Clay
PFAS Compound											
Perfluorobutanesulfonic acid	0.1	NSL	NSL	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluoropentanesulfonic acid	0.1	NSL	NSL	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorohexanesulfonic acid - PFHxS	0.1	NSL	NSL	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluoroheptanesulfonic acid	0.1	NSL	NSL	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorooctanesulfonic acid PFOS	0.1	NSL	NSL	**0.4**	**0.4**	**0.3**	**0.5**	**0.6**	**0.3**	**0.4**	**0.8**
Perfluorodecanesulfonic acid	0.2	NSL	NSL	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Perfluorobutanoic acid	0.2	NSL	NSL	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	**0.2**
Perfluoropentanoic acid	0.2	NSL	NSL	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Perfluorohexanoic acid	0.1	NSL	NSL	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluoroheptanoic acid	0.1	NSL	NSL	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorooctanoic acid PFOA	0.1	18,000	72,000	<0.1	<0.1	<0.1	**0.1**	**0.1**	<0.1	**0.1**	**0.1**
Perfluorononanoic acid	0.1	NSL	NSL	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1
Perfluorodecanoic acid	0.5	NSL	NSL	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Perfluoroundecanoic acid	0.5	NSL	NSL	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.5	<0.5
Perfluorododecanoic acid	0.5	NSL	NSL	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Perfluorotridecanoic acid	0.5	NSL	NSL	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Perfluorotetradecanoic acid	5	NSL	NSL	<5	<5	<5	<5	<5	<5	<5	<5
4:2 FTS	0.1	NSL	NSL	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
6:2 FTS	0.1	NSL	NSL	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
8:2 FTS	0.1	NSL	NSL	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
10:2 FTS	0.1	NSL	NSL	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Perfluorooctane sulfonamide	1	NSL	NSL	<1	<1	<1	<1	<1	<1	<1	<1
N-Methyl perfluorooctane sulfonamide	1	NSL	NSL	<1	<1	<1	<1	<1	<1	<1	<1
N-Ethyl perfluorooctanesulfon amide	1	NSL	NSL	<1	<1	<1	<1	<1	<1	<1	<1
N-Me perfluorooctanesulfonamid oethanol	1	NSL	NSL	<1	<1	<1	<1	<1	<1	<1	<1
N-Et perfluorooctanesulfonamid oethanol	5	NSL	NSL	<5	<5	<5	<5	<5	<5	<5	<5
MePer uorooctanesulf-amid oacetic acid	0.2	NSL	NSL	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
EtPer uorooctanesulf-amid oacetic acid	0.2	NSL	NSL	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total Positive PFHxS & PFOS	0.1	1800	7,200	**0.4**	**0.4**	**0.3**	**0.5**	**0.6**	**0.3**	**0.4**	**0.8**
Total Positive PFOS & PFOA	0.1	NSL	NSL	**0.4**	**0.4**	**0.3**	**0.6**	**0.7**	**0.3**	**0.5**	**0.9**
Total Positive PFAS	0.1	NSL	NSL	**0.4**	**0.4**	**0.3**	**0.6**	**0.7**	**0.3**	**0.5**	**1.2**

Result above SCC1 Criteria **Bold**
Result above SCC2 Criteria **Bold**

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TABLE S12
SUMMARY OF PFAS CONCENTRATIONS IN TCLP LEACHATE - WASTE CLASSIFICATION
Units are µg/L unless stated otherwise.

	PQL Envirolab Services	TCLP1	TCLP2	SP5-1 0.8-1.0	5-1-[LAB_DU 0.8-1.0	SP6-3 0.3-0.5
PFAS Compound						
Perfluorobutanesulfonic acid	0.01	NSL	NSL	<0.01	<0.01	<0.01
Perfluoropentanesulfonic acid	0.01	NSL	NSL	<0.01	<0.01	<0.01
Perfluorohexanesulfonic acid - PFHxS	0.01	NSL	NSL	<0.01	<0.01	<0.01
Perfluoroheptanesulfonic acid	0.01	NSL	NSL	<0.01	<0.01	<0.01
Perfluorooctanesulfonic acid PFOS	0.01	NSL	NSL	<0.01	<0.01	<0.01
Perfluorodecanesulfonic acid	0.02	NSL	NSL	<0.02	<0.02	<0.02
Perfluorobutanoic acid	0.02	NSL	NSL	<0.02	<0.02	<0.02
Perfluoropentanoic acid	0.02	NSL	NSL	<0.02	<0.02	<0.02
Perfluorohexanoic acid	0.01	NSL	NSL	<0.01	<0.01	<0.01
Perfluoroheptanoic acid	0.01	NSL	NSL	<0.01	<0.01	<0.01
Perfluorooctanoic acid PFOA	0.01	500	2,000	<0.01	<0.01	<0.01
Perfluorononanoic acid	0.01	NSL	NSL	<0.01	<0.01	<0.01
Perfluorodecanoic acid	0.02	NSL	NSL	<0.02	<0.02	<0.02
Perfluoroundecanoic acid	0.02	NSL	NSL	<0.02	<0.02	<0.02
Perfluorododecanoic acid	0.05	NSL	NSL	<0.05	<0.05	<0.05
Perfluorotridecanoic acid	0.1	NSL	NSL	<0.1	<0.1	<0.1
Perfluorotetradecanoic acid	0.5	NSL	NSL	<0.5	<0.5	<0.5
4:2 FTS	0.01	NSL	NSL	<0.01	<0.01	<0.01
6:2 FTS	0.01	NSL	NSL	<0.01	<0.01	<0.01
8:2 FTS	0.02	NSL	NSL	<0.02	<0.02	<0.02
10:2 FTS	0.02	NSL	NSL	<0.02	<0.02	<0.02
Perfluorooctane sulfonamide	0.1	NSL	NSL	<0.1	<0.1	<0.1
N-Methyl perfluorooctane sulfonamide	0.05	NSL	NSL	<0.05	<0.05	<0.05
N-Ethyl perfluorooctanesulfon amide	0.1	NSL	NSL	<0.1	<0.1	<0.1
N-Me perfluorooctanesulfonamid oethanol	0.05	NSL	NSL	<0.05	<0.05	<0.05
N-Et perfluorooctanesulfonamid oethanol	0.5	NSL	NSL	<0.5	<0.5	<0.5
MePerfluorooctanesulf-amid oacetic acid	0.02	NSL	NSL	<0.02	<0.02	<0.02
EtPerfluorooctanesulf-amid oacetic acid	0.02	NSL	NSL	<0.02	<0.02	<0.02
Total Positive PFHxS & PFOS	0.01	50	200	<0.01	<0.01	<0.01
Total Positive PFOS & PFOA	0.01	NSL	NSL	<0.01	<0.01	<0.01
Total Positive PFAS	0.01	NSL	NSL	<0.01	<0.01	<0.01

Result above TCLP1 Criteria **Bold**
Result above TCLP2 Criteria **Bold**

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TABLE Q1
SOIL QA/QC SUMMARY

			TRH C6 - C10	TRH >C10-C16	TRH >C16-C34	TRH >C34-C40	Benzene	Toluene	Ethylbenzene	m+p-xylene	o-Xylene	Naphthalene	Acenaphthylene	Acenaph-thene	Fluorene	Phenanthrene	Anthracene	Fluoranthene	Pyrene	Benzo(a)anthracene	Chrysene	Benzo(b,j+k)fluoranthene	Benzo(a)pyrene	Indeno(1,2,3-c,d)pyrene	Dibenzo(a,h)anthra-cene	Benzo(g,h,i)perylene	Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Zinc
	PQL Envirolab SYD		*25*	*50*	*100*	*100*	*0.2*	*0.5*	*1*	*2*	*1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.2*	*0.05*	*0.1*	*0.1*	*0.1*	*4*	*0.4*	*1*	*1*	*1*	*0.1*	*1*	*1*
	PQL Envirolab VIC		*25*	*50*	*100*	*100*	*0.2*	*0.5*	*1.0*	*2.0*	*1.0*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.2*	*0.1*	*0.1*	*0.1*	*0.1*	*4.0*	*0.4*	*1.0*	*1.0*	*1.0*	*0.1*	*1.0*	*1.0*
Intra	SP4-3	0.3-0.5	<25	<50	840	320	<0.2	<0.5	<1	<2	<1	0.3	3	<0.1	0.2	2.7	2.4	12	15	10	8.2	17	12	6.3	1.5	7.5	7	<0.4	44	23	98	<0.1	17	65
laboratory	SDUP21	0.3-0.5	<25	<50	<100	<100	<0.2	<0.5	<1	<2	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.05	<0.1	<0.1	<0.1	<4	<0.4	7	5	18	<0.1	2	19
duplicate	MEAN		nc	nc	445	185	nc	nc	nc	nc	nc	0.175	1.525	nc	0.125	1.375	1.225	6.025	7.525	5.025	4.125	8.55	6.0125	3.175	0.775	3.775	4.5	nc	25.5	14	58	nc	9.5	42
	RPD %		nc	nc	178%	146%	nc	nc	nc	nc	nc	143%	193%	nc	120%	193%	192%	198%	199%	198%	198%	198%	199%	197%	187%	197%	111%	nc	145%	129%	138%	nc	158%	110%
Intra	SP8-1	0.3-0.5	<25	<50	<100	<100	<0.2	<0.5	<1	<2	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.3	0.4	0.3	0.2	0.5	0.3	0.2	<0.1	0.2	6	<0.4	24	260	620	<0.1	10	320
laboratory	SDUP22	0.3-0.5	<25	<50	970	440	<0.2	<0.5	<1	<2	<1	0.3	2.8	<0.1	0.3	3.7	2.6	11	14	11	6.8	16	12	5.9	2.7	7	7	<0.4	73	28	83	0.3	17	59
duplicate	MEAN		nc	nc	510	245	nc	nc	nc	nc	nc	0.175	1.425	nc	0.175	1.875	1.325	5.65	7.2	5.65	3.5	8.25	6.15	3.05	1.375	3.6	6.5	nc	48.5	144	351.5	0.175	13.5	189.5
	RPD %		nc	nc	180%	159%	nc	nc	nc	nc	nc	143%	193%	nc	143%	195%	192%	189%	189%	189%	189%	188%	190%	187%	193%	189%	15%	nc	101%	161%	153%	143%	52%	138%
Inter	SP8-3	0.3-0.5	<25	<50	<100	<100	<0.2	<0.5	<1	<2	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	0.09	<0.1	<0.1	<0.1	<4	<0.4	9	11	41	<0.1	5	29
laboratory	SDUP23	0.3-0.5	0	0	0	0	<0.2	<0.5	<1	<2	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	0.3	0.1	0.2	0.3	0.19	0.1	<0.1	<0.1	<4	<0.4	18	19	120	<0.1	8	81
duplicate	MEAN		6.25	12.5	25	25	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	0.125	0.175	0.075	0.125	0.2	0.14	0.075	nc	nc	nc	nc	13.5	15	80.5	nc	6.5	55
	RPD %		200%	200%	200%	200%	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	120%	143%	67%	120%	100%	71%	67%	nc	nc	nc	nc	67%	53%	98%	nc	46%	95%
Trip	TS-S4		-	-	-	-	99%	98%	99%	98%	99%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Spike	25/02/22																																	

Result outside of QA/QC acceptance criteria

Groundwater & Surface Water Results Summary Tables

ABBREVIATIONS AND EXPLANATIONS

Abbreviations used in the Tables:

ADWG: AustralianDrinking Water Guidelines
ANZG Australian and New Zealand Guidelines
B(a)P: Benzo(a)pyrene
CRC: Cooperative Research Centre
ESLs: Ecological Screening Levels
GIL: Groundwater Investigation Levels
HILs: Health Investigation Levels
HSLs: Health Screening Levels
HSL-SSA: Health Screening Level-SiteSpecific Assessment
NA: Not Analysed
NC: Not Calculated
NEPM: National Environmental Protection Measure
NHMRC: National Health and Medical Research Council
NL: Not Limiting
NSL: No Set Limit
OCP: Organochlorine Pesticides
OPP: Organophosphorus Pesticides
PAHs: Polycyclic Aromatic Hydrocarbons
ppm: Parts per million
PCBs: Polychlorinated Biphenyls
PCE: Perchloroethylene (Tetrachloroethylene or Tetrachloroethene)
PQL: Practical Quantitation Limit
RS: Rinsate Sample
RSL: Regional Screening Levels
SAC: Site Assessment Criteria
SSA: Site Specific Assessment
SSHSLs Site Specific Health Screening Levels
TB: Trip Blank
TCA: 1,1,1 Trichloroethane (methyl chloroform)
TCE: Trichloroethylene (Trichloroethene)
TS: Trip Spike
TRH: Total Recoverable Hydrocarbons
UCL: Upper Level Confidence Limit on Mean Value
USEPA United States Environmental Protection Agency
VOCC: Volatile Organic Chlorinated Compounds
WHO: World Health Organisation

Table Specific Explanations:

Groundwater Ecology Tables:

- 95% refers to a concentration that has been derived to protect 95% of aquatic species

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TABLE G1
SUMMARY OF GROUNDWATER LABORATORY RESULTS COMPARED TO ECOLOGICAL GILs SAC
All results in µg/L unless stated otherwise.

	PQL Envirolab Services	ANZG 2018 Fresh Waters	SAMPLES																		
			MW6	MW6 [LAB_DUP]	MW10	MW10 [LAB_DUP]	MW28	MW37	MW41	MW46	MW59	MW82	SW1	SW1 [LAB_DUP]	SW2	SW3	WDUP1	WDUP1 [LAB_DUP]	WDUP2	WDUP3	WDUP4	WDUP4 [LAB_DUP]
Inorganic Compounds and Parameters																						
pH		6.5 - 8.5	6.8	6.7	6.6	NA	5.8	6.7	6.1	7	6.1	5.2	7.6	7.5	7.5	7.3	NA	NA	NA	NA	NA	NA
Electrical Conductivity (µS/cm)	1	NSL	**360**	**360**	**200**	NA	**94**	**470**	**470**	**1800**	**690**	**8200**	**190**	**180**	**180**	**180**	NA	NA	NA	NA	NA	NA
Metals and Metalloids																						
Arsenic (As III)	1	24	<1	<1	**1**	NA	<1	<1	<1	**2**	<1	<1	<1	<1	<1	<1	<1	[NT]	<1	<1	<1	NA
Cadmium	0.1	0.2	<0.1	**0.1**	<0.1	NA	**0.1**	<0.1	<0.1	<0.1	**0.2**	**47**	<0.1	<0.1	<0.1	<0.1	**46**	[NT]	<0.1	<0.1	**0.1**	NA
Chromium (SAC for Cr III adopted)	1	3.3	<1	<1	**2**	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	[NT]	<1	<1	<1	NA
Copper	1	1.4	<1	<1	**3**	NA	<1	<1	<1	<1	<1	**17**	<1	<1	<1	<1	**16**	[NT]	<1	<1	**1**	NA
Lead	1	3.4	<1	<1	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	[NT]	<1	<1	<1	NA
Total Mercury (inorganic)	0.05	0.06	<0.05	<0.05	<0.05	NA	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	**2**	<0.05	**2**	NA
Nickel	1	11	<1	<1	**2**	NA	**2**	<1	**3**	**2**	**22**	**1500**	**1**	**1**	**1**	**1**	**1500**	[NT]	**18**	**1**	**5**	NA
Zinc	1	8	**14**	**14**	**7**	NA	**18**	**5**	**48**	**49**	**68**	**5800**	**4**	**3**	**4**	**6**	**5700**	[NT]	<0.05	**6**	<0.05	NA
Monocyclic Aromatic Hydrocarbons (BTEX Compounds)																						
Benzene	1	950	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
Toluene	1	180	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
Ethylbenzene	1	80	<1	NA	**1**	**2**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
m+p-xylene	2	75	<2	NA	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	NA	<2	<2	<2	<2
o-xylene	1	350	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
Total xylenes	2	NSL	<2	NA	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	NA	<2	<2	<2	<2
Volatile Organic Compounds (VOCs), including chlorinated VOCs																						
Dichlorodifluoromethane	10	NSL	<10	NA	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	NA	<10	<10	<10	<10
Chloromethane	10	NSL	<10	NA	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	NA	<10	<10	<10	<10
Vinyl Chloride	10	100	<10	NA	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	NA	<10	<10	<10	<10
Bromomethane	10	NSL	<10	NA	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	NA	<10	<10	<10	<10
Chloroethane	10	NSL	<10	NA	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	NA	<10	<10	<10	<10
Trichlorofluoromethane	10	NSL	<10	NA	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	NA	<10	<10	<10	<10
1,1-Dichloroethene	1	700	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
Trans-1,2-dichloroethene	1	NSL	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
1,1-dichloroethane	1	90	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
Cis-1,2-dichloroethene	1	NSL	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
Bromochloromethane	1	NSL	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
Chloroform	1	370	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
2,2-dichloropropane	1	NSL	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
1,2-dichloroethane	1	1900	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
1,1,1-trichloroethane	1	270	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
1,1-dichloropropene	1	NSL	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
Cyclohexane	1	NSL	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
Carbon tetrachloride	1	240	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
Benzene	1	950	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
Dibromomethane	1	NSL	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
1,2-dichloropropane	1	900	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
Trichloroethene	1	330	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
Bromodichloromethane	1	NSL	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
trans-1,3-dichloropropene	1	NSL	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
cis-1,3-dichloropropene	1	NSL	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
1,1,2-trichloroethane	1	6500	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
Toluene	1	180	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
1,3-dichloropropane	1	1100	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
Dibromochloromethane	1	NSL	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
1,2-dibromoethane	1	NSL	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
Tetrachloroethene	1	70	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
1,1,1,2-tetrachloroethane	1	NSL	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
Chlorobenzene	1	55	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
Ethylbenzene	1	80	<1	NA	**1**	**2**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
Bromoform	1	NSL	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
m+p-xylene	2	75	<2	NA	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	NA	<2	<2	<2	<2
Styrene	1	NSL	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
1,1,2,2-tetrachloroethane	1	400	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
o-xylene	1	350	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
1,2,3-trichloropropane	1	NSL	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
Isopropylbenzene	1	30	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
Bromobenzene	1	NSL	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
n-propyl benzene	1	NSL	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
2-chlorotoluene	1	NSL	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
4-chlorotoluene	1	NSL	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
1,3,5-trimethyl benzene	1	NSL	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
Tert-butyl benzene	1	NSL	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
1,2,4-trimethyl benzene	1	NSL	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
1,3-dichlorobenzene	1	260	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
Sec-butyl benzene	1	NSL	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
1,4-dichlorobenzene	1	60	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
4-isopropyl toluene	1	NSL	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
1,2-dichlorobenzene	1	160	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
n-butyl benzene	1	NSL	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
1,2-dibromo-3-chloropropane	1	NSL	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
1,2,4-trichlorobenzene	1	85	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
Hexachlorobutadiene	1	NSL	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
1,2,3-trichlorobenzene	1	3	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
Polycyclic Aromatic Hydrocarbons (PAHs)																						
Naphthalene	0.2	16	<0.2	<0.2	<0.2	NA	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	NA	<0.2	<0.2	<0.2	NA	<0.1	<0.2	<0.1	NA
Acenaphthylene	0.1	NSL	<0.1	<0.1	<0.1	NA	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	NA	<0.1	<0.1	<0.1	NA	<0.1	<0.1	<0.1	NA
Acenaphthene	0.1	NSL	<0.1	<0.1	<0.1	NA	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	NA	<0.1	<0.1	<0.1	NA	<0.1	<0.1	<0.1	NA
Fluorene	0.1	NSL	<0.1	<0.1	<0.1	NA	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	NA	<0.1	<0.1	<0.1	NA	<0.1	<0.1	<0.1	NA
Phenanthrene	0.1	0.6	<0.1	<0.1	<0.1	NA	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	NA	<0.1	<0.1	<0.1	NA	<0.1	<0.1	<0.1	NA
Anthracene	0.1	0.01	<0.1	<0.1	<0.1	NA	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	NA	<0.1	<0.1	<0.1	NA	<0.1	<0.1	<0.1	NA
Fluoranthene	0.1	1	<0.1	<0.1	<0.1	NA	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	NA	<0.1	<0.1	<0.1	NA	<0.1	<0.1	<0.1	NA
Pyrene	0.1	NSL	<0.1	<0.1	<0.1	NA	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	NA	<0.1	<0.1	<0.1	NA	<0.1	<0.1	<0.1	NA
Benzo(a)anthracene	0.1	NSL	<0.1	<0.1	<0.1	NA	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	NA	<0.1	<0.1	<0.1	NA	<0.1	<0.1	<0.1	NA
Chrysene	0.1	NSL	<0.1	<0.1	<0.1	NA	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	NA	<0.1	<0.1	<0.1	NA	<0.1	<0.1	<0.1	NA
Benzo(b,j+k)fluoranthene	0.2	NSL	<0.2	<0.2	<0.2	NA	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	NA	<0.2	<0.2	<0.2	NA	<0.2	<0.2	<0.2	NA
Benzo(a)pyrene	0.1	0.1	<0.1	<0.1	<0.1	NA	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	NA	<0.1	<0.1	<0.1	NA	<0.1	<0.1	<0.1	NA
Indeno(1,2,3-c,d)pyrene	0.1	NSL	<0.1	<0.1	<0.1	NA	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	NA	<0.1	<0.1	<0.1	NA	<0.1	<0.1	<0.1	NA
Dibenzo(a,h)anthracene	0.1	NSL	<0.1	<0.1	<0.1	NA	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	NA	<0.1	<0.1	<0.1	NA	<0.1	<0.1	<0.1	NA
Benzo(g,h,i)perylene	0.1	NSL	<0.1	<0.1	<0.1	NA	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	NA	<0.1	<0.1	<0.1	NA	<0.1	<0.1	<0.1	NA
Total Recoverable Hydrocarbons (TRHs)																						
TRH F1	10	NSL	<10	NA	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	NA	<10	<10	<10	<10
TRH F2	50	NSL	<50	NA	<50	NA	<50	<50	<50	<50	<50	<50	<50	NA	<50	<50	<50	NA	<50	<50	<50	NA
TRH F3	100	NSL	<100	<100	<100	NA	<100	<100	<100	<100	<100	<100	<100	NA	<100	<100	<100	NA	<100	<100	<100	NA
TRH F4	100	NSL	<100	<100	<100	NA	<100	<100	<100	<100	<100	<100	<100	NA	<100	<100	<100	NA	<100	<100	<100	NA

Concentration above the SAC — **VALUE**
Concentration above the PQL — **Bold**
GIL >PQL — Red

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TABLE G2
SUMMARY OF GROUNDWATER LABORATORY RESULTS COMPARED TO HUMAN CONTACT GILs
All results in µg/L unless stated otherwise.

	PQL Envirolab Services	Recreational (10 x NHMRC ADWG)	SAMPLES																		
			MW6	MW6 [LAB_DUP]	MW10	MW10 [LAB_DUP]	MW28	MW37	MW41	MW46	MW59	MW82	SW1	SW1 [LAB_DUP]	SW2	SW3	WDUP1	WDUP1 [LAB_DUP]	WDUP2	WDUP3	WDUP4	WDUP4 [LAB_DUP]
Inorganic Compounds and Parameters																						
pH	-	Not Applicable	6.8	6.7	6.6	NA	5.8	6.7	6.1	7	6.1	5.2	7.6	7.5	7.5	7.3	NA	NA	NA	NA	NA	NA
Electrical Conductivity (µS/cm)	1	NSL	**360**	**360**	**200**	NA	**94**	**470**	**470**	**1800**	**690**	**8200**	**190**	**180**	**180**	**180**	NA	NA	NA	NA	NA	NA
Metals and Metalloids																						
Arsenic (As III)	1	100	<1	<1	**1**	NA	<1	<1	<1	**2**	<1	<1	<1	<1	<1	<1	<1	[NT]	<1	<1	<1	NA
Cadmium	0.1	20	<0.1	**0.1**	<0.1	NA	**0.1**	<0.1	<0.1	<0.1	**0.2**	**47**	<0.1	<0.1	<0.1	<0.1	**46**	[NT]	<0.1	<0.1	**0.1**	NA
Chromium (total)	1	500	<1	<1	**2**	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	[NT]	<1	<1	<1	NA
Copper	1	20000	<1	<1	**3**	NA	<1	<1	<1	<1	<1	**17**	<1	<1	<1	<1	**16**	[NT]	<1	<1	**1**	NA
Lead	1	100	<1	<1	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	[NT]	<1	<1	<1	NA
Total Mercury (inorganic)	0.05	10	<0.05	<0.05	<0.05	NA	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	**2**	<0.05	**2**	NA
Nickel	1	200	<1	<1	**2**	NA	**2**	<1	**3**	**2**	**22**	**1500**	**1**	**1**	**1**	**1**	**1500**	[NT]	**18**	**1**	**5**	NA
Zinc	1	30000	**14**	**14**	**7**	NA	**18**	**5**	**48**	**49**	**68**	**5800**	**4**	**3**	**4**	**6**	**5700**	[NT]	<0.05	**6**	<0.05	NA
Monocyclic Aromatic Hydrocarbons (BTEX Compounds)																						
Benzene	1	10	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
Toluene	1	8000	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
Ethylbenzene	1	3000	<1	NA	**1**	**2**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
m+p-xylene	2	NSL	<2	NA	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	NA	<2	<2	<2	<2
o-xylene	1	NSL	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
Total xylenes	2	6000	<2	NA	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	NA	<2	<2	<2	<2
Volatile Organic Compounds (VOCs), including chlorinated VOCs																						
Dichlorodifluoromethane	10	NSL	<10	NA	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	NA	<10	<10	<10	<10
Chloromethane	10	NSL	<10	NA	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	NA	<10	<10	<10	<10
Vinyl Chloride	10	3	<10	NA	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	NA	<10	<10	<10	<10
Bromomethane	10	NSL	<10	NA	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	NA	<10	<10	<10	<10
Chloroethane	10	NSL	<10	NA	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	NA	<10	<10	<10	<10
Trichlorofluoromethane	10	NSL	<10	NA	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	NA	<10	<10	<10	<10
1,1-Dichloroethene	1	300	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
Trans-1,2-dichloroethene	1	600	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
1,1-dichloroethane	1	NSL	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
Cis-1,2-dichloroethene	1	600	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
Bromochloromethane	1	2500	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
Chloroform	1		<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
2,2-dichloropropane	1	NSL	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
1,2-dichloroethane	1	30	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
1,1,1-trichloroethane	1	NSL	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
1,1-dichloropropene	1	NSL	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
Cyclohexane	1	NSL	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
Carbon tetrachloride	1	30	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
Benzene	1	10	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
Dibromomethane	1	NSL	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
1,2-dichloropropane	1	NSL	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
Trichloroethene	1	NSL	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
Bromodichloromethane	1	NSL	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
trans-1,3-dichloropropene	1	1000	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
cis-1,3-dichloropropene	1	1000	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
1,1,2-trichloroethane	1	NSL	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
Toluene	1	8000	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
1,3-dichloropropane	1	NSL	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
Dibromochloromethane	1	NSL	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
1,2-dibromoethane	1	NSL	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
Tetrachloroethene	1	500	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
1,1,1,2-tetrachloroethane	1	NSL	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
Chlorobenzene	1	3000	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
Ethylbenzene	1	3000	<1	NA	**1**	**2**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
Bromoform	1	NSL	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
m+p-xylene	2	NSL	<2	NA	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	NA	<2	<2	<2	<2
Styrene	1	300	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
1,1,2,2-tetrachloroethane	1	NSL	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
o-xylene	1	NSL	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
1,2,3-trichloropropane	1	NSL	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
Isopropylbenzene	1	NSL	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
Bromobenzene	1	NSL	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
n-propyl benzene	1	NSL	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
2-chlorotoluene	1	NSL	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
4-chlorotoluene	1	NSL	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
1,3,5-trimethyl benzene	1	NSL	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
Tert-butyl benzene	1	NSL	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
1,2,4-trimethyl benzene	1	NSL	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
1,3-dichlorobenzene	1	200	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
Sec-butyl benzene	1	NSL	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
1,4-dichlorobenzene	1	400	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
4-isopropyl toluene	1	NSL	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
1,2-dichlorobenzene	1	15000	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
n-butyl benzene	1	NSL	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
1,2-dibromo-3-chloropropane	1	NSL	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
1,2,4-trichlorobenzene	1	300	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
1,2,3-trichlorobenzene	1		<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
Hexachlorobutadiene	1	7	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
Polycyclic Aromatic Hydrocarbons (PAHs)																						
Naphthalene	0.2	NSL	<0.2	<0.2	<0.2	NA	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	NA	<0.2	<0.2	<0.2	NA	<0.1	<0.2	<0.1	NA
Acenaphthylene	0.1	NSL	<0.1	<0.1	<0.1	NA	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	NA	<0.1	<0.1	<0.1	NA	<0.1	<0.1	<0.1	NA
Acenaphthene	0.1	NSL	<0.1	<0.1	<0.1	NA	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	NA	<0.1	<0.1	<0.1	NA	<0.1	<0.1	<0.1	NA
Fluorene	0.1	NSL	<0.1	<0.1	<0.1	NA	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	NA	<0.1	<0.1	<0.1	NA	<0.1	<0.1	<0.1	NA
Phenanthrene	0.1	NSL	<0.1	<0.1	<0.1	NA	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	NA	<0.1	<0.1	<0.1	NA	<0.1	<0.1	<0.1	NA
Anthracene	0.1	NSL	<0.1	<0.1	<0.1	NA	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	NA	<0.1	<0.1	<0.1	NA	<0.1	<0.1	<0.1	NA
Fluoranthene	0.1	NSL	<0.1	<0.1	<0.1	NA	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	NA	<0.1	<0.1	<0.1	NA	<0.1	<0.1	<0.1	NA
Pyrene	0.1	NSL	<0.1	<0.1	<0.1	NA	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	NA	<0.1	<0.1	<0.1	NA	<0.1	<0.1	<0.1	NA
Benzo(a)anthracene	0.1	NSL	<0.1	<0.1	<0.1	NA	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	NA	<0.1	<0.1	<0.1	NA	<0.1	<0.1	<0.1	NA
Chrysene	0.1	NSL	<0.1	<0.1	<0.1	NA	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	NA	<0.1	<0.1	<0.1	NA	<0.1	<0.1	<0.1	NA
Benzo(b,j+k)fluoranthene	0.2	NSL	<0.2	<0.2	<0.2	NA	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	NA	<0.2	<0.2	<0.2	NA	<0.2	<0.2	<0.2	NA
Benzo(a)pyrene	0.1	0.1	<0.1	<0.1	<0.1	NA	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	NA	<0.1	<0.1	<0.1	NA	<0.1	<0.1	<0.1	NA
Indeno(1,2,3-c,d)pyrene	0.1	NSL	<0.1	<0.1	<0.1	NA	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	NA	<0.1	<0.1	<0.1	NA	<0.1	<0.1	<0.1	NA
Dibenzo(a,h)anthracene	0.1	NSL	<0.1	<0.1	<0.1	NA	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	NA	<0.1	<0.1	<0.1	NA	<0.1	<0.1	<0.1	NA
Benzo(g,h,i)perylene	0.1	NSL	<0.1	<0.1	<0.1	NA	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	NA	<0.1	<0.1	<0.1	NA	<0.1	<0.1	<0.1	NA
Total Recoverable Hydrocarbons (TRHs)																						
TRH F1	10	NSL	<10	NA	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	NA	<10	<10	<10	<10
TRH F2	50	NSL	<50	NA	<50	NA	<50	<50	<50	<50	<50	<50	<50	NA	<50	<50	<50	NA	<50	<50	<50	NA
TRH F3	100	NSL	<100	<100	<100	NA	<100	<100	<100	<100	<100	<100	<100	NA	<100	<100	<100	NA	<100	<100	<100	NA
TRH F4	100	NSL	<100	<100	<100	NA	<100	<100	<100	<100	<100	<100	<100	NA	<100	<100	<100	NA	<100	<100	<100	NA

Concentration above the SAC — **VALUE**
Concentration above the PQL — **Bold**
GIL >PQL — Red

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TABLE G3
GROUNDWATER LABORATORY RESULTS COMPARED TO HSLs
All data in µg/L unless stated otherwise

				C_6-C_{10} (F1)	>C_{10}-C_{16} (F2)	Benzene	Toluene	Ethylbenzene	Xylenes	Naphthalene	PID
PQL - Envirolab Services				10	50	1	1	1	2	1	
NEPM 2013 - Land Use Category				HSL-A/B: LOW/HIGH DENSITY RESIDENTIAL							
Sample Reference	**Water Depth**	**Depth Category**	**Soil Category**								
MW6	0.8	0m to <2m	sand	<10	<50	<1	<1	<1	<2	<1	0.6
MW6 - [LAB_DUP]	0.8	0m to <2m	sand	NA	[NT]	NA	NA	NA	NA	NA	NA
MW10	0	0m to <2m	sand	<10	<50	<1	<1	**1**	<2	<1	0
MW10 - [LAB_DUP]	0	0m to <2m	sand	<10	NA	<1	<1	**2**	<2	<1	NA
MW28	0.2	0m to <2m	sand	<10	<50	<1	<1	<1	<2	<1	0.1
MW37	0.9	0m to <2m	sand	<10	<50	<1	<1	<1	<2	<1	0.5
MW41	0.9	0m to <2m	sand	<10	<50	<1	<1	<1	<2	<1	0.1
MW46	2.82	2m to <4m	sand	<10	<50	<1	<1	<1	<2	<1	NA
MW59	2.3	2m to <4m	sand	<10	<50	<1	<1	<1	<2	<1	0.7
MW82	2.6	2m to <4m	sand	<10	<50	<1	<1	<1	<2	<1	0.5
SW1	0	0m to <2m	sand	<10	<50	<1	<1	<1	<2	<1	NA
SW1 - [LAB_DUP]	0	0m to <2m	sand	<10	[NT]	<1	<1	<1	<2	<1	NA
SW2	0	0m to <2m	sand	<10	<50	<1	<1	<1	<2	<1	NA
SW3	0	0m to <2m	sand	<10	<50	<1	<1	<1	<2	<1	NA
WDUP1	2.6	2m to <4m	sand	<10	<50	<1	<1	<1	<2	<1	NA
WDUP2	0.2	0m to <2m	sand	<10	<50	<1	<1	<1	<2	<1	NA
WDUP3	0	0m to <2m	sand	<10	<50	<1	<1	<1	<2	<1	NA
WDUP4	0	0m to <2m	sand	<10	<50	<1	<1	<1	<2	<1	NA
WDUP4 - [LAB_DUP]	0	0m to <2m	sand	<10	NA	<1	<1	<1	<2	<1	NA
Total Number of Samples				18	15	18	18	18	18	18	7
Maximum Value				<PQL	<PQL	<PQL	<PQL	2	<PQL	<PQL	0.7

Concentration above the SAC **VALUE**
Site specific assesment (SSA) required **VALUE**
Concentration above the PQL **Bold**
The guideline corresponding to the elevated value is highlighted in grey in the Groundwater Assessment Criteria Table below

HSL GROUNDWATER ASSESSMENT CRITERIA

Sample Reference	**Water Depth**	**Depth Category**	**Soil Category**	C_6-C_{10} (F1)	>C_{10}-C_{16} (F2)	Benzene	Toluene	Ethylbenzene	Xylenes	Naphthalene
MW6	0.8	0m to <2m	sand	SSA	SSA	SSA	SSA	SSA	SSA	SSA
MW6 - [LAB_DUP]	0.8	0m to <2m	sand	NA	SSA	NA	NA	NA	NA	NA
MW10	0	0m to <2m	sand	SSA	SSA	SSA	SSA	SSA	SSA	SSA
MW10 - [LAB_DUP]	0	0m to <2m	sand	SSA	NA	SSA	SSA	SSA	SSA	SSA
MW28	0.2	0m to <2m	sand	SSA	SSA	SSA	SSA	SSA	SSA	SSA
MW37	0.9	0m to <2m	sand	SSA	SSA	SSA	SSA	SSA	SSA	SSA
MW41	0.9	0m to <2m	sand	SSA	SSA	SSA	SSA	SSA	SSA	SSA
MW46	2.82	2m to <4m	sand	1000	1000	800	NL	NL	NL	NL
MW59	2.3	2m to <4m	sand	1000	1000	800	NL	NL	NL	NL
MW82	2.6	2m to <4m	sand	1000	1000	800	NL	NL	NL	NL
SW1	0	0m to <2m	sand	SSA	SSA	SSA	SSA	SSA	SSA	SSA
SW1 - [LAB_DUP]	0	0m to <2m	sand	SSA	SSA	SSA	SSA	SSA	SSA	SSA
SW2	0	0m to <2m	sand	SSA	SSA	SSA	SSA	SSA	SSA	SSA
SW3	0	0m to <2m	sand	SSA	SSA	SSA	SSA	SSA	SSA	SSA
WDUP1	2.6	2m to <4m	sand	1000	1000	800	NL	NL	NL	NL
WDUP2	0.2	0m to <2m	sand	SSA	SSA	SSA	SSA	SSA	SSA	SSA
WDUP3	0	0m to <2m	sand	SSA	SSA	SSA	SSA	SSA	SSA	SSA
WDUP4	0	0m to <2m	sand	SSA	SSA	SSA	SSA	SSA	SSA	SSA
WDUP4 - [LAB_DUP]	0	0m to <2m	sand	SSA	NA	SSA	SSA	SSA	SSA	SSA

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TABLE G4
GROUNDWATER LABORATORY RESULTS COMPARED TO SITE SPECIFIC HSLs - RISK ASSESSMENT
All results in µg/L unless stated otherwise.

	PQL	NHMRC	WHO 2008	USEPA RSL	SAMPLES																		
	Envirolab	ADWG 2011		Tapwater	MW6	MW6	MW10	MW10	MW28	MW37	MW41	MW46	MW59	MW82	SW1	SW1	SW2	SW3	WDUP1	WDUP2	WDUP3	WDUP4	WDUP4
	Services			2017		[LAB_DUP]		[LAB_DUP]								[LAB_DUP]							[LAB_DUP]
Total Recoverable Hydrocarbons (TRH)																							
C_6-C_9 Aliphatics (assessed using F1)	10	-	15000	-	<10	NA	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
>C_9-C_{14} Aliphatics (assessed using F2)	50	-	100	-	<50	[NT]	<50	NA	<50	<50	<50	<50	<50	<50	<50	[NT]	<50	<50	<50	<50	<50	<50	NA
Monocyclic Aromatic Hydrocarbons (BTEX Compounds)																							
Benzene	1	1	-	-	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Toluene	1	800	-	-	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Ethylbenzene	1	300	-	-	<1	NA	**1**	**2**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Total xylenes	2	600	-	-	<2	NA	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Polycyclic Aromatic Hydrocarbons (PAHs)																							
Naphthalene	1	-	-	6.1	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Volatile Organic Compounds (VOCs), including chlorinated VOCs																							
Dichlorodifluoromethane	10	-	-	-	<10	NA	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Chloromethane	10	-	-	-	<10	NA	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Vinyl Chloride	10	0.3	-	-	<10	NA	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Bromomethane	10	-	-	-	<10	NA	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Chloroethane	10	-	-	-	<10	NA	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Trichlorofluoromethane	10	-	-	-	<10	NA	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
1,1-Dichloroethene	1	30	-	-	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trans-1,2-dichloroethene	1	60	-	-	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-dichloroethane	1	-	-	-	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Cis-1,2-dichloroethene	1	60	-	-	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromochloromethane	1	250	-	-	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroform	1		-	-	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
2,2-dichloropropane	1	-	-	-	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dichloroethane	1	3	-	-	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,1-trichloroethane	1	-	-	-	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-dichloropropene	1	-	-	-	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Cyclohexane	1	-	-	-	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	1	3	-	-	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Benzene	1	1	-	-	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Dibromomethane	1	-	-	-	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dichloropropane	1	-	-	-	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	1	-	-	-	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromodichloromethane	1	-	-	-	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
trans-1,3-dichloropropene	1	100	-	-	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
cis-1,3-dichloropropene	1	100	-	-	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2-trichloroethane	1	-	-	-	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Toluene	1	800	-	-	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,3-dichloropropane	1	-	-	-	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Dibromochloromethane	1	-	-	-	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dibromoethane	1	-	-	-	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	1	50	-	-	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,1,2-tetrachloroethane	1	-	-	-	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chlorobenzene	1	300	-	-	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Ethylbenzene	1	300	-	-	<1	NA	**1**	**2**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromoform	1	-	-	-	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
m+p-xylene	2	-	-	-	<2	NA	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Styrene	1	30	-	-	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2,2-tetrachloroethane	1	-	-	-	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
o-xylene	1	-	-	-	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,3-trichloropropane	1	-	-	-	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Isopropylbenzene	1	-	-	-	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromobenzene	1	-	-	-	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
n-propyl benzene	1	-	-	-	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
2-chlorotoluene	1	-	-	-	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
4-chlorotoluene	1	-	-	-	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,3,5-trimethyl benzene	1	-	-	-	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Tert-butyl benzene	1	-	-	-	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,4-trimethyl benzene	1	-	-	-	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,3-dichlorobenzene	1	20	-	-	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Sec-butyl benzene	1	-	-	-	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,4-dichlorobenzene	1	40	-	-	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
4-isopropyl toluene	1	-	-	-	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dichlorobenzene	1	1500	-	-	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
n-butyl benzene	1	-	-	-	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dibromo-3-chloropropane	1	-	-	-	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,4-trichlorobenzene	1	30	-	-	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,3-trichlorobenzene	1		-	-	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Hexachlorobutadiene	1	0.7	-	-	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1

Concentration above the SAC — **VALUE**
Concentration above the PQL — **Bold**
GIL >PQL — Red

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TABLE G5
SUMMARY OF PFAS CONCENTRATIONS IN GROUNDWATER - ECOLOGY
All results in µg/L unless stated otherwise.

	PQL Envirolab Services	NEMP 2020 99% Freshwater	SAMPLES														
			MW6	MW6 [LAB_DUP]	MW10	MW28	MW37	MW41	MW46	MW59	MW82	SW1	SW1 [LAB_DUP]	SW2	SW3	WDUP1	WDUP2
PFAS Compound																	
Perfluorobutanesulfonic acid	0.0004	NSL	**0.0055**	**0.0053**	**0.0007**	<0.0004	**0.003**	**0.003**	<0.0004	<0.0004	<0.0004	**0.002**	**0.002**	**0.002**	**0.002**	<0.0004	<0.0004
Perfluoropentanesulfonic acid	0.001	NSL	**0.002**	**0.002**	<0.001	<0.001	<0.001	**0.001**	<0.001	<0.001	<0.001	**0.001**	**0.001**	**0.001**	**0.001**	<0.001	<0.001
Perfluorohexanesulfonic acid - PFHxS	0.0002	NSL	**0.0087**	**0.0082**	**0.001**	**0.0003**	**0.0065**	**0.0046**	<0.0002	<0.0002	<0.0002	**0.0092**	**0.0082**	**0.009**	**0.009**	<0.0002	**0.0002**
Perfluoroheptanesulfonic acid	0.001	NSL	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Perfluorooctanesulfonic acid PFOS	0.0002	0.00023	**0.0062**	**0.0059**	**0.001**	**0.0003**	**0.018**	**0.0041**	**0.0003**	<0.0002	<0.0002	**0.0068**	**0.0067**	**0.0074**	**0.0071**	<0.0002	**0.0002**
Perfluorodecanesulfonic acid	0.002	NSL	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Perfluorobutanoic acid	0.002	NSL	**0.054**	**0.053**	<0.02	<0.02	**0.032**	**0.033**	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.002
Perfluoropentanoic acid	0.002	NSL	**0.006**	**0.006**	**0.003**	<0.002	**0.02**	**0.008**	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Perfluorohexanoic acid	0.0004	NSL	**0.0065**	**0.0062**	**0.0008**	<0.0004	**0.017**	**0.0068**	**0.0005**	**0.003**	<0.0004	**0.002**	**0.002**	**0.002**	**0.002**	<0.0004	<0.0004
Perfluoroheptanoic acid	0.0004	NSL	**0.004**	**0.003**	**0.0006**	<0.0004	**0.0096**	**0.0055**	<0.0004	<0.0004	<0.0004	<0.0004	**0.0005**	**0.0005**	**0.0004**	<0.0004	<0.0004
Perfluorooctanoic acid PFOA	0.0002	19	**0.0086**	**0.0082**	**0.0007**	<0.0002	**0.024**	**0.0061**	**0.0004**	<0.0002	<0.0002	**0.001**	**0.001**	**0.001**	**0.001**	<0.0002	<0.0002
Perfluorononanoic acid	0.001	NSL	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Perfluorodecanoic acid	0.002	NSL	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Perfluoroundecanoic acid	0.002	NSL	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Perfluorododecanoic acid	0.005	NSL	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Perfluorotridecanoic acid	0.01	NSL	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorotetradecanoic acid	0.05	NSL	<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	<0.05
4:2 FTS	0.001	NSL	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
6:2 FTS	0.0004	NSL	**0.0041**	**0.004**	**0.001**	**0.0006**	**0.0007**	**0.0054**	<0.0004	**0.052**	**0.001**	<0.0004	<0.0004	<0.0004	<0.0004	**0.002**	<0.0004
8:2 FTS	0.0004	NSL	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004
10:2 FTS	0.002	NSL	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Perfluorooctane sulfonamide	0.01	NSL	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
N-Methyl perfluorooctane sulfonamide	0.005	NSL	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
N-Ethyl perfluorooctanesulfon amide	0.01	NSL	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
N-Me perfluorooctanesulfonamid oethanol	0.005	NSL	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
N-Et perfluorooctanesulfonamid oethanol	0.05	NSL	<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	<0.05
MePerfluorooctanesulf-amid oacetic acid	0.002	NSL	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
EtPerfluorooctanesulf-amid oacetic acid	0.002	NSL	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Total Positive PFHxS & PFOS	0.0002	NSL	**0.015**	**0.014**	**0.002**	**0.0006**	**0.025**	**0.0087**	**0.0003**	<0.0002	<0.0002	**0.016**	**0.015**	**0.016**	**0.016**	<0.0002	**0.0005**
Total Positive PFOS & PFOA	0.0002	NSL	**0.015**	**0.014**	**0.002**	**0.0003**	**0.042**	**0.01**	**0.0007**	<0.0002	<0.0002	**0.0081**	**0.008**	**0.0084**	**0.0083**	<0.0002	**0.0002**
Total Positive PFAS	0.0002	NSL	**0.1**	**0.1**	**0.009**	**0.001**	**0.13**	**0.077**	**0.001**	**0.055**	**0.001**	**0.022**	**0.022**	**0.023**	**0.023**	**0.002**	**0.0005**

Positive PFAS result **Bold**
PFAS result above the SAC **Bold**

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TABLE G6
SUMMARY OF PFAS CONCENTRATIONS IN GROUNDWATER - HUMAN HEALTH
All results in µg/L unless stated otherwise.

	PQL Envirolab Services	NEMP 2020 Recreational	SAMPLES														
			MW6	MW6 [LAB_DUP]	MW10	MW28	MW37	MW41	MW46	MW59	MW82	SW1	SW1 [LAB_DUP]	SW2	SW3	WDUP1	WDUP2
PFAS Compound																	
Perfluorobutanesulfonic acid	0.0004	NSL	**0.0055**	**0.0053**	**0.0007**	<0.0004	**0.003**	**0.003**	<0.0004	<0.0004	<0.0004	**0.002**	**0.002**	**0.002**	**0.002**	<0.0004	<0.0004
Perfluoropentanesulfonic acid	0.001	NSL	**0.002**	**0.002**	<0.001	<0.001	<0.001	**0.001**	<0.001	<0.001	<0.001	**0.001**	**0.001**	**0.001**	**0.001**	<0.001	<0.001
Perfluorohexanesulfonic acid - PFHxS	0.0002	NSL	**0.0087**	**0.0082**	**0.001**	**0.0003**	**0.0065**	**0.0046**	<0.0002	<0.0002	<0.0002	**0.0092**	**0.0082**	**0.009**	**0.009**	<0.0002	**0.0002**
Perfluoroheptanesulfonic acid	0.001	NSL	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Perfluorooctanesulfonic acid PFOS	0.0002	NSL	**0.0062**	**0.0059**	**0.001**	**0.0003**	**0.018**	**0.0041**	**0.0003**	<0.0002	<0.0002	**0.0068**	**0.0067**	**0.0074**	**0.0071**	<0.0002	**0.0002**
Perfluorodecanesulfonic acid	0.002	NSL	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Perfluorobutanoic acid	0.002	NSL	**0.054**	**0.053**	<0.02	<0.02	**0.032**	**0.033**	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.002
Perfluoropentanoic acid	0.002	NSL	**0.006**	**0.006**	**0.003**	<0.002	**0.02**	**0.008**	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Perfluorohexanoic acid	0.0004	NSL	**0.0065**	**0.0062**	**0.0008**	<0.0004	**0.017**	**0.0068**	**0.0005**	**0.003**	<0.0004	**0.002**	**0.002**	**0.002**	**0.002**	<0.0004	<0.0004
Perfluoroheptanoic acid	0.0004	NSL	**0.004**	**0.003**	**0.0006**	<0.0004	**0.0096**	**0.0055**	<0.0004	<0.0004	<0.0004	<0.0004	**0.0005**	**0.0005**	**0.0004**	<0.0004	<0.0004
Perfluorooctanoic acid PFOA	0.0002	10	**0.0086**	**0.0082**	**0.0007**	<0.0002	**0.024**	**0.0061**	**0.0004**	<0.0002	<0.0002	**0.001**	**0.001**	**0.001**	**0.001**	<0.0002	<0.0002
Perfluorononanoic acid	0.001	NSL	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Perfluorodecanoic acid	0.002	NSL	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Perfluoroundecanoic acid	0.002	NSL	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Perfluorododecanoic acid	0.005	NSL	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Perfluorotridecanoic acid	0.01	NSL	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorotetradecanoic acid	0.05	NSL	<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	<0.05
4:2 FTS	0.001	NSL	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
6:2 FTS	0.0004	NSL	**0.0041**	**0.004**	**0.001**	**0.0006**	**0.0007**	**0.0054**	<0.0004	**0.052**	**0.001**	<0.0004	<0.0004	<0.0004	<0.0004	**0.002**	<0.0004
8:2 FTS	0.0004	NSL	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004
10:2 FTS	0.002	NSL	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Perfluorooctane sulfonamide	0.01	NSL	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
N-Methyl perfluorooctane sulfonamide	0.005	NSL	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
N-Ethyl perfluorooctanesulfon amide	0.01	NSL	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
N-Me perfluorooctanesulfonamid oethanol	0.005	NSL	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
N-Et perfluorooctanesulfonamid oethanol	0.05	NSL	<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	<0.05
MePerfluorooctanesulf-amid oacetic acid	0.002	NSL	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
EtPerfluorooctanesulf-amid oacetic acid	0.002	NSL	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Total Positive PFHxS & PFOS	0.0002	2	**0.015**	**0.014**	**0.002**	**0.0006**	**0.025**	**0.0087**	**0.0003**	<0.0002	<0.0002	**0.016**	**0.015**	**0.016**	**0.016**	<0.0002	**0.0005**
Total Positive PFOS & PFOA	0.0002	NSL	**0.015**	**0.014**	**0.002**	**0.0003**	**0.042**	**0.01**	**0.0007**	<0.0002	<0.0002	**0.0081**	**0.008**	**0.0084**	**0.0083**	<0.0002	**0.0002**
Total Positive PFAS	0.0002	NSL	**0.1**	**0.1**	**0.009**	**0.001**	**0.13**	**0.077**	**0.001**	**0.055**	**0.001**	**0.022**	**0.022**	**0.023**	**0.023**	**0.002**	**0.0005**

Positive PFAS result **Bold**
PFAS result above the SAC **Bold**

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TABLE Q1
GROUNDWATER QA/QC SUMMARY

		Dichlorodifluoromethane	Chloromethane	Vinyl Chloride	Bromomethane	Chloroethane	Trichlorofluoromethane	1,1-Dichloroethene	Trans-1,2-dichloroethene	1,1-dichloroethane	Cis-1,2-dichloroethene	Bromochloromethane	Chloroform	2,2-dichloropropane	1,2-dichloroethane	1,1,1-trichloroethane	1,1-dichloropropene	Cyclohexane	Carbon tetrachloride	Benzene	Dibromomethane	1,2-dichloropropane	Trichloroethene	Bromodichloromethane	trans-1,3-dichloropropene	cis-1,3-dichloropropene	1,1,2-trichloroethane	Toluene	1,3-dichloropropane	Dibromochloromethane	1,2-dibromoethane	Tetrachloroethene	1,1,1,2-tetrachloroethane	Chlorobenzene	Ethylbenzene	Bromoform	m+p-xylene	Styrene	1,1,2,2-tetrachloroethane	o-xylene	1,2,3-trichloropropane	Isopropylbenzene	Bromobenzene	n-propyl benzene	2-chlorotoluene	4-chlorotoluene	1,3,5-trimethyl benzene	Tert-butyl benzene	1,2,4-trimethyl benzene	1,3-dichlorobenzene	Sec-butyl benzene	1,4-dichlorobenzene	4-isopropyl toluene	1,2-dichlorobenzene	n-butyl benzene	1,2-dibromo-3-chloropropane	1,2,4-trichlorobenzene	Hexachlorobutadiene	1,2,3-trichlorobenzene
	PQL Envirolab SYD	*10*	*10*	*10*	*10*	*10*	*10*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*2*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*
	PQL Envirolab VIC	*10*	*10*	*10*	*10*	*10*	*10*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*2*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*
Intra laboratory duplicate	MW82	<10	<10	<10	<10	<10	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	WDUP1	<10	<10	<10	<10	<10	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	MEAN	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc
	RPD %	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc
Inter laboratory duplicate	MW28	<10	<10	<10	<10	<10	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	WDUP2	<10	<10	<10	<10	<10	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	MEAN	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc
	RPD %	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc
Intra laboratory duplicate	SW3	<10	<10	<10	<10	<10	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	WDUP3	<10	<10	<10	<10	<10	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	MEAN	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc
	RPD %	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc
Inter laboratory duplicate	SW1	<10	<10	<10	<10	<10	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	WDUP4	<10	<10	<10	<10	<10	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	MEAN	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc
	RPD %	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc
Field Blank	TB-W1 7/03/2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Field Blank	TB-W2 18/03/2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

		TRH C6 - C10	TRH >C10-C16	TRH >C16-C34	TRH >C34-C40	Benzene	Toluene	Ethylbenzene	m+p-xylene	o-Xylene	Naphthalene	Acenaphthylene	Acenaph-thene	Fluorene	Phenanthrene	Anthracene	Fluoranthene	Pyrene	Benzo(a)anthracene	Chrysene	Benzo(b,j+k)fluoranthene	Benzo(a)pyrene	Indeno(1,2,3-c,d)pyrene	Dibenzo(a,h)anthra-cene	Benzo(g,h,i)perylene	Arsenic	Cadmium	Chromium VI	Copper	Lead	Mercury	Nickel	Zinc
	PQL Envirolab SYD	*10*	*50*	*100*	*100*	*1*	*1*	*1*	*2*	*1*	*0.2*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.2*	*0.1*	*0.1*	*0.1*	*0.1*	*1*	*0.1*	*1*	*1*	*1*	*0.05*	*1*	*1*
	PQL Envirolab VIC	*10*	*50*	*100*	*100*	*1.0*	*1.0*	*1.0*	*2.0*	*1.0*	*0.2*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.2*	*0.1*	*0.1*	*0.1*	*0.1*	*1*	*0.1*	*1*	*1*	*1*	*0.05*	*1*	*1*
Intra laboratory duplicate	MW82	<10	<50	<100	<100	<1	<1	<1	<2	<1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<1	47	<1	17	<1	<0.05	1500	5800
	WDUP1	<10	<50	<100	<100	<1	<1	<1	<2	<1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<1	46	<1	16	<1	<0.05	1500	5700
	MEAN	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	46.5	nc	16.5	nc	nc	1500	5750
	RPD %	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	2%	nc	6%	nc	nc	0%	2%
Inter laboratory duplicate	MW28	<10	<50	<100	<100	<1	<1	<1	<2	<1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<1	0.1	<1	<1	<1	<0.05	2	18
	WDUP2	<10	<50	<100	<100	<1	<1	<1	<2	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<1	<1	<1	2	18	<0.05
	MEAN	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	0.075	nc	nc	nc	1.0125	10	9.25
	RPD %	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	67%	nc	nc	nc	195%	160%	189%
Intra laboratory duplicate	SW3	<10	<50	<100	<100	<1	<1	<1	<2	<1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<1	<1	<1	<0.05	1	6
	WDUP3	<10	<50	<100	<100	<1	<1	<1	<2	<1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<1	<1	<1	<0.05	1	6
	MEAN	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	1	6
	RPD %	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	0%	0%
Inter laboratory duplicate	SW1	<10	<50	<100	<100	<1	<1	<1	<2	<1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<1	<1	<1	<0.05	1	4
	WDUP4	<10	<50	<100	<100	<1	<1	<1	<2	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<1	0.1	<1	1	<1	2	5	<0.05
	MEAN	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	0.075	nc	0.75	nc	1.0125	3	2.25
	RPD %	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	67%	nc	67%	nc	195%	133%	156%
Trip Spike	TS-W1 7/03/2022	-	-	-	-	83%	86%	101%	94%	95%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trip Spike	TS-W2 18/03/2022	-	-	-	-	83%	103%	105%	100%	103%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Field Blank	TB-W1 7/03/2022	<10	-	-	-	<1	<1	<1	<2	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Field Blank	TB-W2 18/03/2022	-	-	-	-	<1	<1	<1	<2	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Result outside of QA/QC acceptance criteria Value

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TABLE Q2
SUMMARY OF PFAS FIELD QA/QC IN GROUNDWATER
Units are µg/L unless stated otherwise.

		Perfluorobutanesulfonic acid	Perfluoropentanesulfonic acid	Perfluorohexanesulfonic acid - PFHxS	Perfluoroheptanesulfonic acid	Perfluorooctanesulfonic acid PFOS	Perfluorodecanesulfonic acid	Perfluorobutanoic acid	Perfluoropentanoic acid	Perfluorohexanoic acid	Perfluoroheptanoic acid	Perfluorooctanoic acid PFOA	Perfluorononanoic acid	Perfluorodecanoic acid	Perfluoroundecanoic acid	Perfluorododecanoic acid	Perfluorotridecanoic acid	Perfluorotetradecanoic acid	4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	Perfluorooctane sulfonamide	N-Methyl perfluorooctane sulfonamide	N-Ethyl perfluorooctanesulfon amide	N-Me perfluorooctanesulfonamid oethanol	N-Et perfluorooctanesulfonamid oethanol	MePerfluorooctanesulf-amid oacetic acid	EtPerfluorooctanesulf-amid oacetic acid	Total Positive PFHxS & PFOS	Total Positive PFOS & PFOA	Total Positive PFAS
PQL Envirolab		*0.0004*	*0.001*	*0.002*	*0.001*	*0.0002*	*0.002*	*0.002*	*0.002*	*0.0004*	*0.0004*	*0.0002*	*0.001*	*0.002*	*0.002*	*0.005*	*0.01*	*0.05*	*0.001*	*0.001*	*0.004*	*0.002*	*0.01*	*0.005*	*0.01*	*0.005*	*0.05*	*0.05*	*0.02*	*0.0002*	*0.0002*	*0.001*
PQL Envirolab VIC		*0.0004*	*0.001*	*0.002*	*0.001*	*0.0002*	*0.002*	*0.002*	*0.002*	*0.0004*	*0.0004*	*0.0002*	*0.001*	*0.002*	*0.002*	*0.005*	*0.01*	*0.05*	*0.001*	*0.001*	*0.004*	*0.002*	*0.01*	*0.005*	*0.01*	*0.005*	*0.05*	*0.05*	*0.02*	*0.0002*	*0.0002*	*0.001*
Intra laboratory duplicate	MW82	<0.0004	<0.001	<0.0002	<0.001	<0.0002	<0.002	<0.02	<0.002	<0.0004	<0.0004	<0.0002	<0.001	<0.002	<0.002	<0.005	<0.01	<0.05	<0.001	0.001	<0.0004	<0.002	<0.01	<0.005	<0.01	<0.005	<0.05	<0.002	<0.002	<0.0002	<0.0002	0.001
	WDUP1	<0.0004	<0.001	<0.0002	<0.001	<0.0002	<0.002	<0.02	<0.002	<0.0004	<0.0004	<0.0002	<0.001	<0.002	<0.002	<0.005	<0.01	<0.05	<0.001	0.002	<0.0004	<0.002	<0.01	<0.005	<0.01	<0.005	<0.05	<0.002	<0.002	<0.0002	<0.0002	0.002
	MEAN	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	0.0015	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	0.0015
	RPD %	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	67%	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	67%
Inter laboratory duplicate	MW28	<0.0004	<0.001	0.0003	<0.001	0.0003	<0.002	<0.02	<0.002	<0.0004	<0.0004	<0.0002	<0.001	<0.002	<0.002	<0.005	<0.01	<0.05	<0.001	0.0006	<0.0004	<0.002	<0.01	<0.005	<0.01	<0.005	<0.05	<0.002	<0.002	0.0006	0.0003	0.001
	WDUP2	<0.0004	<0.001	0.0002	<0.001	0.0002	<0.002	<0.002	<0.002	<0.0004	<0.0004	<0.0002	<0.001	<0.002	<0.002	<0.005	<0.01	<0.05	<0.001	<0.0004	<0.0004	<0.002	<0.01	<0.005	<0.01	<0.005	<0.05	<0.002	<0.002	0.0005	0.0002	0.0005
	MEAN	nc	nc	0.0003	nc	0.0003	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	0.0253	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	0.0006	0.0003	0.0008
	RPD %	nc	nc	40%	nc	40%	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	195%	nc	nc	nc	nc	nc	nc	nc	nc	nc	18%	40%	67%
Field Blank	TBPFAS-W1 7/03/2022	<0.0004	<0.001	<0.0002	<0.001	<0.0002	<0.002	<0.002	<0.002	<0.0004	<0.0004	<0.0002	<0.001	<0.002	<0.002	<0.005	<0.01	<0.05	<0.001	<0.0004	<0.0004	<0.002	<0.01	<0.005	<0.01	<0.005	<0.05	<0.002	<0.002	<0.0002	<0.0002	<0.0002
Field Blank	PFASTB-W2 18/03/2022	<0.0004	<0.001	<0.0002	<0.001	<0.0002	<0.002	<0.002	<0.002	<0.0004	<0.0004	<0.0002	<0.001	<0.002	<0.002	<0.005	<0.01	<0.05	<0.001	<0.0004	<0.0004	<0.002	<0.01	<0.005	<0.01	<0.005	<0.05	<0.002	<0.002	<0.0002	<0.0002	<0.0002

Result outside of QA/QC acceptance criteria Value

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Appendix D: Borehole and Test Pit Logs

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Log No. TP3 **1/1**

SDUP6: 0-0.1m

Client: HALCYON HOTELS PTY LTD

Project: PROPOSED COMMERCIAL DEVELOPMENT

Location: THE MALTINGS, 2 COLO STREET, MITTAGONG, NSW

Job No.: E33051B **Method:** TEST PIT **R.L. Surface:** N/A

Date: 21/2/22 **Datum:** -

Plant Type: JKX **Logged/Checked by:** N.M./V.B.

Groundwater Record	SAMPLES ES	SAMPLES ASS	SAMPLES ASB	SAMPLES PFAS	SAMPLES DB	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
							0			FILL: Silty clayey sand, fine to medium grained, brown, trace of slag, ironstone gravel, clay nodules, plastic, glass and ceramic fragments, and root fibres.	M			GRASS COVER SCREEN: 11.71kg 0-0.1m, NO FCF SCREEN: 12.24kg 0.1-0.5m, NO FCF
							0.5			FILL: Silty clay, medium to high plasticity, light brown grey, trace of ash, slag, ironstone and sandstone gravel, and aluminum and ceramic fragments.	w<PL			SCREEN: 10.51kg 0.5-1.0m, NO FCF
▶							1		CI-CH	Silty CLAY: medium to high plasticity, brown mottled red and light grey, trace of ironstone gravel, and root fibres.	w>PL			RESIDUAL
							1.5							
										END OF TEST PIT AT 1.6m				
							2							
							2.5							
							3							
							3.5							

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Log No. **TP4** **1/1**

Client: HALCYON HOTELS PTY LTD

Project: PROPOSED COMMERCIAL DEVELOPMENT

Location: THE MALTINGS, 2 COLO STREET, MITTAGONG, NSW

Job No.: E33051B **Method:** TEST PIT **R.L. Surface:** N/A

Date: 21/2/22 **Datum:** -

Plant Type: JKX **Logged/Checked by:** N.M./V.B.

Groundwater Record	SAMPLES ES	SAMPLES ASS	SAMPLES ASB	SAMPLES PFAS	SAMPLES DB	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
							0			FILL: Silty clayey sand, fine to medium grained, brown, trace of ash, slag, igneous and sandstone gravel, glass, metal, plastic, tile and concrete fragments, and root fibres.	M			GRASS COVER SCREEN: 10.5kg 0-0.1m, NO FCF
							0.5			FILL: Silty clay, medium to high plasticity, brown and light grey, trace of ironstone gravel, glass and ash.	w<PL			SCREEN: 10.22kg 0.1-0.3m, NO FCF SCREEN: 10.16kg 0.3-0.6m, NO FCF
							1			FILL: Silty clayey sand, fine to medium grained, grey, trace of igneous, ironstone and sandstone gravel, glass, ash, slag, and root fibres.	M			SCREEN: 11.66kg 0.65-1.35m, NO FCF
▶							1.5			Silty sandy CLAY: low to medium plasticity, brown mottled red.	w>PL			ALLUVIAL
							2			END OF TEST PIT AT 1.9m				
							2.5							
							3							
							3.5							

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Log No. **TP5** **1/1**

Client: HALCYON HOTELS PTY LTD

Project: PROPOSED COMMERCIAL DEVELOPMENT

Location: THE MALTINGS, 2 COLO STREET, MITTAGONG, NSW

Job No.: E33051B **Method:** TEST PIT **R.L. Surface:** N/A

Date: 18/2/22 **Datum:** -

Plant Type: 6T EXCAVATOR **Logged/Checked by:** H.W./V.B.

Groundwater Record	SAMPLES ES	SAMPLES ASS	SAMPLES ASB	SAMPLES PFAS	SAMPLES DB	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
							0			FILL: Silty clay, low to medium plasticity, yellow brown, trace of sandstone gravel and cobbles, brick fragments and plastic.	w>PL			GRASS COVER SCREEN: 14.56kg 0-0.1m, NO FCF SCREEN: 11.01kg 0.1-1.1m, NO FCF
							0.5							
▶							1		CL-CI	Sandy CLAY: low to medium plasticity, yellow brown.	w>PL			ALLUVIAL
							1.5							
							2			END OF TEST PIT AT 2.0m				
							2.5							
							3							
							3.5							

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Log No. BH6 **1/1**

SDUP20: 0-0.1m

Client: HALCYON HOTELS PTY LTD

Project: PROPOSED COMMERCIAL DEVELOPMENT

Location: THE MALTINGS, 2 COLO STREET, MITTAGONG, NSW

Job No.: E33051B **Method:** SPIRAL AUGER **R.L. Surface:** N/A

Date: 25/2/22 **Datum:** -

Plant Type: JK305 **Logged/Checked by:** H.W./V.B.

Groundwater Record	SAMPLES ES	SAMPLES ASS	SAMPLES ASB	SAMPLES PFAS	SAMPLES DB	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
							0			FILL: Gravelly clay, low plasticity, dark grey, medium to coarse grained slag, trace of ironstone gravel, wood and root fibres.	w>PL			GRASS COVER SCREEN: 10.0kg 0-0.1m, NO FCF SCREEN: 4.58kg 0.1-0.8m, NO FCF
						N = 5 4,3,2	0.5							
							1			Sandy CLAY: low to medium plasticity, yellow brown, fine to medium grained sand.	w>PL			RESIDUAL
▶						N = 4 2,2,2	1.5			as above, but yellow brown mottled orange brown.				GROUNDWATER MONITORING WELL INSTALLED TO 2.9m. CLASS 18 MACHINE SLOTTED 50mm DIA. PVC STANDPIPE 1.0m TO 2.9m. CASING 0m TO 1.0m. 2mm SAND FILTER PACK 0.5m TO 2.9m. BENTONITE SEAL 0m TO 0.5m. BACKFILLED WITH SAND TO THE SURFACE. COMPLETED WITH STANDPIPE.
							2							
							2.5		-	SANDSTONE: fine to medium grained, grey and yellow brown.	SW-DW			HIGH 'TC' BIT RESISTANCE
							3			END OF BOREHOLE AT 2.9m				'TC' BIT REFUSAL
							3.5							

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Log No. **TP7** **1/1**

SDUP5: 0-0.1m

Client: HALCYON HOTELS PTY LTD

Project: PROPOSED COMMERCIAL DEVELOPMENT

Location: THE MALTINGS, 2 COLO STREET, MITTAGONG, NSW

Job No.: E33051B **Method:** TEST PIT **R.L. Surface:** N/A

Date: 18/2/22 **Datum:** -

Plant Type: 6T EXCAVATOR **Logged/Checked by:** H.W./V.B.

Groundwater Record	SAMPLES ES	SAMPLES ASS	SAMPLES ASB	SAMPLES PFAS	SAMPLES DB	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
DRY ON COMPLE-TION	■		■	■			0			FILL: Gravelly sand, fine to medium grained, dark brown, fine to medium grained igneous gravel and slag, trace of sandstone and siltstone gravel, glass, root fibres and ash.	M			GRASS COVER SCREEN: 12.53kg 0-0.1m, NO FCF
									SC	Clayey SAND: fine to medium grained, yellow brown.	M			SCREEN: 11.83kg 0.1-0.3m, NO FCF ALLUVIAL
	■		■				0.5							
							1			END OF TEST PIT AT 1.1m				
							1.5							
							2							
							2.5							
							3							
							3.5							

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Log No. **TP8** **1/1**

Client: HALCYON HOTELS PTY LTD

Project: PROPOSED COMMERCIAL DEVELOPMENT

Location: THE MALTINGS, 2 COLO STREET, MITTAGONG, NSW

Job No.: E33051B **Method:** TEST PIT **R.L. Surface:** N/A

Date: 18/2/22 **Datum:** -

Plant Type: 6T EXCAVATOR **Logged/Checked by:** H.W./V.B.

Groundwater Record	SAMPLES ES	SAMPLES ASS	SAMPLES ASB	SAMPLES PFAS	SAMPLES DB	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
DRY ON COMPLE-TION	■		■	■	■		0			FILL: Gravelly sand, fine to medium grained, dark brown, fine to medium grained igneous gravel, and slag, trace of igneous gravel and cobbles, brick and terracotta tile fragments, coal, glass, slag and ash.	M			GRASS COVER SCREEN: 13.16kg 0-0.1m, NO FCF SCREEN: 13.50kg 0.1-0.4m, NO FCF
							0.5			END OF TEST PIT AT 0.4m				BUCKET REFUSAL ON SANDSTONE BEDROCK
							1							
							1.5							
							2							
							2.5							
							3							
							3.5							

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Log No. **TP9** **1/1**

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Client: HALCYON HOTELS PTY LTD

Project: PROPOSED COMMERCIAL DEVELOPMENT

Location: THE MALTINGS, 2 COLO STREET, MITTAGONG, NSW

Job No.: E33051B **Method:** TEST PIT **R.L. Surface:** N/A

Date: 18/2/22 **Datum:** -

Plant Type: 6T EXCAVATOR **Logged/Checked by:** H.W./V.B.

Groundwater Record	SAMPLES ES	SAMPLES ASS	SAMPLES ASB	SAMPLES PFAS	SAMPLES DB	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
DRY ON COMPLE-TION							0			FILL: Gravelly sand, fine to medium grained, dark brown, fine to medium grained igneous gravel and slag, trace of glass, timber and root fibres.	D			GRASS COVER SCREEN: 12.63kg 0-0.1m, NO FCF
							0.5		CL-CI	Sandy CLAY: low to medium plasticity, yellow brown mottled orange brown, fine grained sand.	w<PL			SCREEN: 11.71kg 0.1-0.3m, NO FCF RESIDUAL
							1			END OF TEST PIT AT 1.0m				
							1.5							
							2							
							2.5							
							3							
							3.5							

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Log No. BH10 **1/1**

Client: HALCYON HOTELS PTY LTD

Project: PROPOSED COMMERCIAL DEVELOPMENT

Location: THE MALTINGS, 2 COLO STREET, MITTAGONG, NSW

Job No.: E33051B **Method:** SPIRAL AUGER **R.L. Surface:** N/A

Date: 25/2/22 **Datum:** -

Plant Type: JK305 **Logged/Checked by:** H.W./V.B.

Groundwater Record	SAMPLES ES	SAMPLES ASS	SAMPLES ASB	SAMPLES PFAS	SAMPLES DB	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
	■		■	■	■		0			FILL: Clayey gravelly sand, medium to coarse grained, dark brown, fine to medium grained slag, trace of igneous gravel, sand ash.	M			GRASS COVER SCREEN: 10.88kg 0-0.1m, NO FCF
	■		■	■	■					FILL: Silty clay, medium to high plasticity, brown, trace of sand, slag and ash.				SCREEN: 3.45kg 0.1-0.5m NO FCF
	■		■	■	■	N = 7 2,3,4	0.5		CI-CH	Silty CLAY: medium to high plasticity, yellow brown mottled orange brown, trace of sand, and root fibres.	w>PL			RESIDUAL GROUNDWATER MONITORING WELL INSTALLED TO 2.3m. CLASS 18 MACHINE SLOTTED 50mm DIA. PVC STANDPIPE 1.0m TO 2.3m. CASING 0m TO 1. 0m. 2mm SAND FILTER PACK 0.5m TO 2.5m. BENTONITE SEAL 0m TO 0.5m. BACKFILLED WITH SAND TO THE SURFACE. COMPLETED WITH A CONCRETED GATIC COVER.
▶	■		■	■	■	N > 4 4,4/50mm	1							
						REFUSAL	1.5		-	SANDSTONE: fine to medium grained, grey and yellow brown.				
							2							
										END OF BOREHOLE AT 2.3m				'TC' BIT REFUSAL IN SANDSTONE BEDROCK
							2.5							
							3							
							3.5							

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Log No. **TP13** **1/1**

Client: HALCYON HOTELS PTY LTD

Project: PROPOSED COMMERCIAL DEVELOPMENT

Location: THE MALTINGS, 2 COLO STREET, MITTAGONG, NSW

Job No.: E33051B **Method:** TEST PIT **R.L. Surface:** N/A

Date: 21/2/22 **Datum:** -

Plant Type: JKX **Logged/Checked by:** N.M./V.B.

Groundwater Record	SAMPLES ES	SAMPLES ASS	SAMPLES ASB	SAMPLES PFAS	SAMPLES DB	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
DRY ON COMPLE-TION							0			FILL:Silty clayey sand, fine to medium grained, brown, trace of igneous gravel, brick fragments, and root fibres.	M			GRASS COVER SCREEN: 11.77kg 0-0.1m, NO FCF SCREEN: 10.85kg 0.1-0.4m, NO FCF
							0.5		SM	Silty SAND: fine to medium grained, brown, trace of quartz gravel.	W			ALLUVIAL STRONG ORGANIC ODOUR
							1							
							1.5			END OF TEST PIT AT 1.5m				
							2							
							2.5							
							3							
							3.5							

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Log No. TP14 **1/1**

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Client: HALCYON HOTELS PTY LTD

Project: PROPOSED COMMERCIAL DEVELOPMENT

Location: THE MALTINGS, 2 COLO STREET, MITTAGONG, NSW

Job No.: E33051B **Method:** TEST PIT **R.L. Surface:** N/A

Date: 21/2/22 **Datum:** -

Plant Type: JKX **Logged/Checked by:** N.M./V.B.

Groundwater Record	SAMPLES ES	SAMPLES ASS	SAMPLES ASB	SAMPLES PFAS	SAMPLES DB	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
DRY ON COMPLE-TION							0			FILL: Gravelly sand, fine to medium grained, brown, course grained igneous gravel, trace of slag, concrete and root fibres.	M			GRASS COVER SCREEN: 10.61kg 0-0.1m, NO FCF SCREEN: 10.41kg 0.1-0.6m, NO FCF
							0.5		CL-CI	Silty CLAY: low to medium plasticity, brown, trace of ironstone gravel, and root fibres.	w>PL			ALLUVIAL STRONG ORGANIC ODOUR
							1							
							1.5			END OF TEST PIT AT 1.35m				
							2							
							2.5							
							3							
							3.5							

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Log No. TP15 **1/1**

SDUP7: 0-0.1m

Client: HALCYON HOTELS PTY LTD

Project: PROPOSED COMMERCIAL DEVELOPMENT

Location: THE MALTINGS, 2 COLO STREET, MITTAGONG, NSW

Job No.: E33051B **Method:** TEST PIT **R.L. Surface:** N/A

Date: 21/2/22 **Datum:** -

Plant Type: JKX **Logged/Checked by:** N.M./V.B.

Groundwater Record	SAMPLES ES	SAMPLES ASS	SAMPLES ASB	SAMPLES PFAS	SAMPLES DB	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
							0			FILL: Silty clayey sand, fine to medium grained, brown, trace of quartz, igneous, ironstone, sandstone and siltstone gravel, brick, concrete and ceramic fragments, and root fibres.	M			LEAF LITTER COVER SCREEN: 10.91kg 0-0.1m, NO FCF SCREEN: 10.36kg 0.1-0.7m, NO FCF
							0.5							
▶							1		CL-CI	Silty CLAY: low to medium plasticity, grey brown, trace of sand, ironstone gravel, and root fibres.	w>PL			ALLUVIAL STRONG ORGANIC ODOUR
										END OF BOREHOLE AT 1.3m				CERAMIC STORMWATER PIPE OBSERVED AT 1.2m DEPTH
							1.5							
							2							
							2.5							
							3							
							3.5							

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Log No. **TP16** **1/1**

Client: HALCYON HOTELS PTY LTD

Project: PROPOSED COMMERCIAL DEVELOPMENT

Location: THE MALTINGS, 2 COLO STREET, MITTAGONG, NSW

Job No.: E33051B **Method:** TEST PIT **R.L. Surface:** N/A

Date: 21/2/22 **Datum:** -

Plant Type: JKX **Logged/Checked by:** H.W./V.B.

Groundwater Record	SAMPLES ES	SAMPLES ASS	SAMPLES ASB	SAMPLES PFAS	SAMPLES DB	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
DRY ON COMPLE-TION	■		■		■		0			FILL: Silty sand, fine to medium grained, with bark, trace of sandstone gravel, and wood.	M			MULCH COVER
										FILL: Silty sand, fine to medium grained, brown, trace of igneous gravel, slag and coal.	D			SCREEN: 10.31kg 0-0.1m, NO FCF
							0.5							SCREEN: 11.80kg 0.1-0.5m, NO FCF
										FILL: Sandy clay, low to medium plasticity, yellow brown, trace of ironstone gravel, steel, coal, ash and root fibres.	w≈PL			SCREEN: 12.62kg 0.5-0.7m, NO FCF
							1		CI-CH	Sandy CLAY: medium to high plasticity, yellow brown mottled orange brown, fine to medium grained sand, trace of ironstone gravel.	w≈PL			ALLUVIAL
										END OF TEST PIT AT 1.3m				
							1.5							
							2							
							2.5							
							3							
							3.5							

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Log No. TP17 **1/1**

SDUP9: 0-0.1m

Client: HALCYON HOTELS PTY LTD

Project: PROPOSED COMMERCIAL DEVELOPMENT

Location: THE MALTINGS, 2 COLO STREET, MITTAGONG, NSW

Job No.: E33051B **Method:** TEST PIT **R.L. Surface:** N/A

Date: 22/2/22 **Datum:** -

Plant Type: JKX **Logged/Checked by:** N.M./V.B.

Groundwater Record	SAMPLES ES	SAMPLES ASS	SAMPLES ASB	SAMPLES PFAS	SAMPLES DB	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
DRY ON COMPLE-TION	■		■	■	■		0			FILL: Silty clayey sand, fine to medium grained, brown, trace of igneous and ironstone gravel, concrete, metal, asphaltic concrete, bricks, plastic and PVC fragments, and root fibres.	M			LEAF LITTER COVER SCREEN: 12.62kg 0-0.1m, NO FCF SCREEN: 13.88kg 0.1-0.45m, NO FCF
	■		■	■	■		0.5			FILL: Silty sandy clay, low to medium plasticity, brown, trace of igneous, ironstone and quartz gravel, glass, brick, ceramic, plastic and PVC fragments, and root fibres.	w<PL			SCREEN: 12.19kg 0.45-0.8m, NO FCF
	■		■				1		CL-CI	Silty CLAY: low to medium plasticity, brown mottled orange, trace of ironstone gravel, and root fibres.	w≈PL			RESIDUAL
							1.5			END OF TEST PIT AT 1.2m				
							2							
							2.5							
							3							
							3.5							

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Log No. **TP18** **1/1**

Client: HALCYON HOTELS PTY LTD

Project: PROPOSED COMMERCIAL DEVELOPMENT

Location: THE MALTINGS, 2 COLO STREET, MITTAGONG, NSW

Job No.: E33051B **Method:** TEST PIT **R.L. Surface:** N/A

Date: 22/2/22 **Datum:** -

Plant Type: JKX **Logged/Checked by:** N.M./V.B.

Groundwater Record	SAMPLES ES	SAMPLES ASS	SAMPLES ASB	SAMPLES PFAS	SAMPLES DB	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
DRY ON COMPLE-TION	■		■		■		0			FILL: Silty gravelly sand, fine to medium grained, grey, course grained igneous gravel, trace of clay nodules, ash, slag, brick and plastic.	M			SCREEN: 12.41kg 0-0.1m, NO FCF
														SCREEN: 10kg 0.1-0.3m, NO FCF
	■		■							FILL: Silty sandy clay, low to medium plasticity, brown, trace of ironstone gravel, ash, slag, brick, wood and plastic.	w<PL			SCREEN: 14.99kg 0.3-0.75m, NO FCF
							0.5							
	■		■						CL-CI	Silty CLAY: low to medium plasticity, brown mottled red, trace of ironstone gravel.	w≈PL			RESIDUAL
							1							
										END OF TEST PIT AT 1.1m				
							1.5							
							2							
							2.5							
							3							
							3.5							

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Log No. **BH19** **1/1**

Client: HALCYON HOTELS PTY LTD

Project: PROPOSED COMMERCIAL DEVELOPMENT

Location: THE MALTINGS, 2 COLO STREET, MITTAGONG, NSW

Job No.: E33051B **Method:** HAND AUGER **R.L. Surface:** N/A

Date: 24/2/22 **Datum:** -

Plant Type: - **Logged/Checked by:** N.M./V.B.

Groundwater Record	SAMPLES ES	SAMPLES ASS	SAMPLES ASB	SAMPLES PFAS	SAMPLES DB	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
DRY ON COMPLE-TION	■		■	■			0			FILL: Silty sandy clay, low to medium plasticity, brown, trace of igneous gravel, ash glass, and root fibres.	w<PL			INSUFFICIENT RETURN FOR BULK QUANTIFICATION SAMPLING
	■		■	■			0.5		CL-CI	Silty sandy CLAY: low to medium plasticity, brown, trace of ironstone gravel, and root fibres.	w<PL			RESIDUAL
										END OF BOREHOLE AT 0.6m				
							1							
							1.5							
							2							
							2.5							
							3							
							3.5							

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Log No. TP20 **1/1**

SDUP4: 0-0.1m

Client: HALCYON HOTELS PTY LTD

Project: PROPOSED COMMERCIAL DEVELOPMENT

Location: THE MALTINGS, 2 COLO STREET, MITTAGONG, NSW

Job No.: E33051B **Method:** TEST PIT **R.L. Surface:** N/A

Date: 18/2/22 **Datum:** -

Plant Type: 6T EXCAVATOR **Logged/Checked by:** H.W./V.B.

Groundwater Record	SAMPLES ES	SAMPLES ASS	SAMPLES ASB	SAMPLES PFAS	SAMPLES DB	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
DRY ON COMPLE-TION							0			FILL: Gravelly sand, fine to medium grained, dark brown, fine to medium grained slag, trace of igneous gravel brick fragments, and roots.	D			LEAF COVER SCREEN: 11.39kg 0-0.1m, NO FCF SCREEN: 10.54kg 0.1-0.5m, NO FCF
							0.5		CL-CI	Silty CLAY: low to medium plasticity, yellow brown mottled grey, trace of sand.	w≈PL			ALLUVIAL
							1			END OF TEST PIT AT 1.1m				
							1.5							
							2							
							2.5							
							3							
							3.5							

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Log No. **TP21** **1/1**

Client: HALCYON HOTELS PTY LTD

Project: PROPOSED COMMERCIAL DEVELOPMENT

Location: THE MALTINGS, 2 COLO STREET, MITTAGONG, NSW

Job No.: E33051B **Method:** TEST PIT **R.L. Surface:** N/A

Date: 18/2/22 **Datum:** -

Plant Type: 6T EXCAVATOR **Logged/Checked by:** H.W./V.B.

Groundwater Record	SAMPLES ES	SAMPLES ASS	SAMPLES ASB	SAMPLES PFAS	SAMPLES DB	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
							0			FILL: Silty sandy clay, low plasticity, brown, fine to medium grained sand, trace of igneous gravel and cobbles, bricks, timber, plastic, ash and slag.	w≈PL			GRASS COVER SCREEN: 17.53kg 0-0.1m, FCF1 FCF2 OBSERVED IN SPOIL
							0.5							SCREEN: 10.31kg 0.1-0.6m, FCF3
									CL-CI	Sandy CLAY: low to medium plasticity, yellow brown mottled orange brown, fine to medium grained sand.	w≈PL			ALLUVIAL
▶							1		SC	Clayey SAND: fine to medium grained, yellow brown.	W			
							1.5							
										END OF TEST PIT AT 1.6m				
							2							
							2.5							
							3							
							3.5							

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Log No. **TP22** **1/1**

Client: HALCYON HOTELS PTY LTD

Project: PROPOSED COMMERCIAL DEVELOPMENT

Location: THE MALTINGS, 2 COLO STREET, MITTAGONG, NSW

Job No.: E33051B **Method:** TEST PIT **R.L. Surface:** N/A

Date: 23/2/22 **Datum:** -

Plant Type: JKX **Logged/Checked by:** N.M./V.B.

Groundwater Record	SAMPLES ES	SAMPLES ASS	SAMPLES ASB	SAMPLES PFAS	SAMPLES DB	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
DRY ON COMPLE-TION							0			FILL: Silty sandy clay, low to medium plasticity, trace of ash, igneous, ironstone and quartz gravel, metal, glass and plastic.	w≈PL			GRASS COVER SCREEN: 10.68kg 0-0.1m, FCF1, FCF2 SCREEN: 11.54kg 0.1-0.5, FCF1
							0.5			FILL: Gravelly sand, fine to medium grained sand, grey, coarse grained igneous gravel, with ash, trace of slag, clay nodules, coal, and siltstone gravel.	D			SCREEN: 12.52kg 0.5-0.7, NO FCF
									CL-CI	Silty sandy CLAY: Silty sandy clay, low to medium plasticity, brown, trace of ironstone gravel.	w>PL			RESIDUAL
							1							
							1.5							
										END OF TEST PIT AT 1.6m				
							2							
							2.5							
							3							
							3.5							

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Log No. **TP23** **1/1**

Client: HALCYON HOTELS PTY LTD

Project: PROPOSED COMMERCIAL DEVELOPMENT

Location: THE MALTINGS, 2 COLO STREET, MITTAGONG, NSW

Job No.: E33051B **Method:** TEST PIT **R.L. Surface:** N/A

Date: 24/2/22 **Datum:** -

Plant Type: JKX **Logged/Checked by:** N.M./V.B.

Groundwater Record	SAMPLES ES	SAMPLES ASS	SAMPLES ASB	SAMPLES PFAS	SAMPLES DB	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
							0			FILL: Silty sandy clay, low to medium plasticity, brown, trace of igneous and ironstone gravel, ash, timber, and root fibres.	wPL			GRASS COVER
							0.5			FILL: Silty sandy clay, low to medium plasticity, brown, trace of sandstone cobbles, igneous, ironstone and sandstone gravel, and root fibres.				SCREEN: 13.31kg 0-0.1m, FCF1 SCREEN: 13.42kg 0.1-0.9, NO FCF
▶							1		CI-CH	Silty sandy CLAY: medium to high plasticity, brown mottled grey, red and yellow, trace of ironstone gravel, and root fibres.	w≈PL			RESIDUAL
							1.5				w>PL			
										END OF TEST PIT AT 1.6m				
							2							
							2.5							
							3							
							3.5							

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Log No. TP24 **1/1**

SDUP16: 0-0.1m

Client: HALCYON HOTELS PTY LTD

Project: PROPOSED COMMERCIAL DEVELOPMENT

Location: THE MALTINGS, 2 COLO STREET, MITTAGONG, NSW

Job No.: E33051B **Method:** TEST PIT **R.L. Surface:** N/A

Date: 24/2/22 **Datum:** -

Plant Type: JKX **Logged/Checked by:** N.M./V.B.

Groundwater Record	SAMPLES ES	SAMPLES ASS	SAMPLES ASB	SAMPLES PFAS	SAMPLES DB	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
							0			FILL: Silty clayey sand, fine to medium grained, brown, trace of igneous and ironstone gravel, brick fragments, metal, and root fibres.	M			GRASS COVER
											w≈PL			SCREEN: 11.22kg 0-0.1m, NO FCF
							0.5			FILL: Silty sandy clay, low to medium plasticity, brown, trace of igneous and ironstone gravel, brick fragments, glass, plastic, and root fibres.				SCREEN: 10.3kg 0.1-0.9m, NO FCF
							1		CI-CH	Silty sandy CLAY: medium to high plasticity, brown mottled grey and red, trace of igneous and ironstone gravel.	w≈PL			RESIDUAL
▶							1.5				w>PL			
										END OF TEST PIT AT 1.7m				
							2							
							2.5							
							3							
							3.5							

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Log No. **TP25** 1/1

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Client: HALCYON HOTELS PTY LTD

Project: PROPOSED COMMERCIAL DEVELOPMENT

Location: THE MALTINGS, 2 COLO STREET, MITTAGONG, NSW

Job No.: E33051B **Method:** TEST PIT **R.L. Surface:** N/A

Date: 17/2/22 **Datum:** -

Plant Type: 6T EXCAVATOR **Logged/Checked by:** N.M./V.B.

Groundwater Record	SAMPLES ES	SAMPLES ASS	SAMPLES ASB	SAMPLES PFAS	SAMPLES DB	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
DRY ON COMPLE-TION	■		■		■		0			FILL: Silty sandy clay, low to medium plasticity, brown, fine to medium grained sand, trace of igneous, ironstone and sandstone gravel, concrete and metal and brick fragments, ash, slag and root fibres.	w<PL			SCREEN: 13.18kg 0-0.6m, NO FCF
	■		■				0.5		CI-CH	Silty sandy CLAY: medium to high plasticity, brown, trace of root fibres.	w<PL			RESIDUAL
							1			END OF TEST PIT AT 1.0m				
							1.5							
							2							
							2.5							
							3							
							3.5							

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Log No. TP26
1/1

SDUP2: 0-0.1m

Client: HALCYON HOTELS PTY LTD

Project: PROPOSED COMMERCIAL DEVELOPMENT

Location: THE MALTINGS, 2 COLO STREET, MITTAGONG, NSW

Job No.: E33051B **Method:** TEST PIT **R.L. Surface:** N/A

Date: 17/2/22 **Datum:** -

Plant Type: 6T EXCAVATOR **Logged/Checked by:** N.M./V.B.

Groundwater Record	SAMPLES ES	SAMPLES ASS	SAMPLES ASB	SAMPLES PFAS	SAMPLES DB	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
DRY ON COMPLE-TION	■		■		■		0			FILL: Silty sandy clay, low to medium plasticity, brown, trace of igneous, ironstone and sandstone gravel, roots, root fibres, ash and slag.	w<PL			SCREEN: 10.73kg 0-0.35m, NO FCF
	■		■				0.5		CI-CH	Silty sandy CLAY: medium to high plasticity, brown.	w<PL			RESIDUAL
										END OF TEST PIT AT 0.75m				
							1							
							1.5							
							2							
							2.5							
							3							
							3.5							

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Log No. **TP27** **1/1**

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Client: HALCYON HOTELS PTY LTD

Project: PROPOSED COMMERCIAL DEVELOPMENT

Location: THE MALTINGS, 2 COLO STREET, MITTAGONG, NSW

Job No.: E33051B **Method:** TEST PIT **R.L. Surface:** N/A

Date: 17/2/22 **Datum:** -

Plant Type: 6T EXCAVATOR **Logged/Checked by:** N.M./V.B.

Groundwater Record	SAMPLES ES	SAMPLES ASS	SAMPLES ASB	SAMPLES PFAS	SAMPLES DB	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
DRY ON COMPLE-TION	■		■		■		0			FILL: Silty sandy clay, low to medium plasticity, brown, trace of igneous and sandstone gravel, concrete and brick fragments, root fibres, ash and slag.	w<PL			SCREEN: 17.15kg 0-0.5m, NO FCF
	■		■				0.5		CL-CI	Silty sandy CLAY: low to medium plasticity, brown mottled grey, trace of root fibres.	w<PL			RESIDUAL
							1			END OF TEST PIT AT 1.0m				
							1.5							
							2							
							2.5							
							3							
							3.5							

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Log No. BH28 **1/2**

SDUP21: 0-0.1m

Client: HALCYON HOTELS PTY LTD

Project: PROPOSED COMMERCIAL DEVELOPMENT

Location: THE MALTINGS, 2 COLO STREET, MITTAGONG, NSW

Job No.: E33051B **Method:** SPIRAL AUGER **R.L. Surface:** N/A

Date: 24/2/22 **Datum:** -

Plant Type: JK305 **Logged/Checked by:** H.W./V.B.

Groundwater Record	SAMPLES ES	SAMPLES ASS	SAMPLES ASB	SAMPLES PFAS	SAMPLES DB	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
							0			FILL: Silty clay, low to medium plasticity, dark brown, trace of sand, root fibres and ash.	w>PL			GRASS COVER SCREEN: 10.83kg 0-0.1m, NO FCF SCREEN: 3.7kg 0.1-0.4m, NO FCF
							0.5		SC	Clayey SAND: fine to medium grained, yellow brown.	M			ALLUVIAL
							1.5		CL0CI	Sandy CLAY: low to medium plasticity, yellow brown, fine to medium grained sand.	w>PL			
							2.5		-	SANDSTONE: fine to medium grained, yellow brown.	SW-DW			
							3.5							

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Log No. BH28 2/2

SDUP21: 0-0.1m

Client: HALCYON HOTELS PTY LTD

Project: PROPOSED COMMERCIAL DEVELOPMENT

Location: THE MALTINGS, 2 COLO STREET, MITTAGONG, NSW

Job No.: E33051B **Method:** SPIRAL AUGER **R.L. Surface:** N/A

Date: 24/2/22 **Datum:** -

Plant Type: JK305 **Logged/Checked by:** H.W./V.B.

Groundwater Record	SAMPLES ES	SAMPLES ASS	SAMPLES ASB	SAMPLES PFAS	SAMPLES DB	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
										SANDSTONE: as above	SW-DW			
										END OF TEST PIT AT 3.6m				'TC' BIT REFUSAL ON SANDSTONE BEDROCK GROUNDWATER MONITORING WELL INSTALLED TO 3.6m. CLASS 18 MACHINE SLOTTED 50mm DIA. PVC STANDPIPE 1.0m TO 3.6m. CASING 0m TO 1.0m. 2mm SAND FILTER PACK 1.0m TO 3.6m. BENTONITE SEAL 0m TO 0.5m. BACKFILLED WITH SAND TO THE SURFACE. COMPLETED WITH STANDPIPE.

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Log No. **TP29** 1/1

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Client: HALCYON HOTELS PTY LTD

Project: PROPOSED COMMERCIAL DEVELOPMENT

Location: THE MALTINGS, 2 COLO STREET, MITTAGONG, NSW

Job No.: E33051B **Method:** TEST PIT **R.L. Surface:** N/A

Date: 17/2/22 **Datum:** -

Plant Type: 6T EXCAVATOR **Logged/Checked by:** A.D./V.B.

Groundwater Record	SAMPLES ES	SAMPLES ASS	SAMPLES ASB	SAMPLES PFAS	SAMPLES DB	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
DRY ON COMPLE-TION	■		■		■		0			FILL: Silty sandy clay, low to medium plasticity, brown, trace of igneous, ironstone and sandstone gravel, ceramic fragments, root fibres, ash and slag.	w<PL			SCREEN: 12.69kg 0-0.4m, NO FCF
	■		■				0.5		CI-CH	Silty sandy CLAY: medium to high plasticity, brown.	w<PL			RESIDUAL
										END OF TEST PIT AT 0.9m				
							1							
							1.5							
							2							
							2.5							
							3							
							3.5							

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Log No. **TP30** **1/1**

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Client: HALCYON HOTELS PTY LTD

Project: PROPOSED COMMERCIAL DEVELOPMENT

Location: THE MALTINGS, 2 COLO STREET, MITTAGONG, NSW

Job No.: E33051B **Method:** TEST PIT **R.L. Surface:** N/A

Date: 17/2/22 **Datum:** -

Plant Type: 6T EXCAVATOR **Logged/Checked by:** A.D./V.B.

Groundwater Record	SAMPLES ES	SAMPLES ASS	SAMPLES ASB	SAMPLES PFAS	SAMPLES DB	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
DRY ON COMPLE-TION	■		■		■		0			FILL: Silty sandy clay, fine to medium grained, brown, trace of sandstone gravel, concrete, aluminum, plastic, root fibres, ash and slag.	w<PL			SCREEN: 18.13kg 0-0.15, NO FCF
	■		■							FILL: Silty sandy clay, medium to high plasticity, grey, trace of root fibres, ash and slag.				
	■		■				0.5		CI-CH	Silty sandy CLAY: medium to high plasticity, brown mottled grey.	w<PL			RESIDUAL
							1			END OF TEST PIT AT 1.0m				
							1.5							
							2							
							2.5							
							3							
							3.5							

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Log No. TP31 **1/1**

SDUP1: 0-0.1m

Client: HALCYON HOTELS PTY LTD

Project: PROPOSED COMMERCIAL DEVELOPMENT

Location: THE MALTINGS, 2 COLO STREET, MITTAGONG, NSW

Job No.: E33051B **Method:** TEST PIT **R.L. Surface:** N/A

Date: 17/2/22 **Datum:** -

Plant Type: 6T EXCAVATOR **Logged/Checked by:** A.D./V.B.

Groundwater Record	SAMPLES ES	SAMPLES ASS	SAMPLES ASB	SAMPLES PFAS	SAMPLES DB	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
DRY ON COMPLE-TION	■	■	■		■		0			FILL: Silty clayey sand, fine to medium grained, brown, trace of sandstone gravel, concrete and brick fragments, root fibres and ash.	M			SCREEN: 11.33kg 0-0.3m, NO FCF
	■						0.5			Silty sandy CLAY: medium to high plasticity, grey.	w≈PL			RESIDUAL
	■									as above, but orange brown.				
							1			END OF TEST PIT AT 0.95m				
							1.5							
							2							
							2.5							
							3							
							3.5							

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Log No. **TP34** **1/1**

Client: HALCYON HOTELS PTY LTD

Project: PROPOSED COMMERCIAL DEVELOPMENT

Location: THE MALTINGS, 2 COLO STREET, MITTAGONG, NSW

Job No.: E33051B **Method:** TEST PIT **R.L. Surface:** N/A

Date: 21/2/22 **Datum:** -

Plant Type: JKX **Logged/Checked by:** N.M./V.B.

Groundwater Record	SAMPLES ES	SAMPLES ASS	SAMPLES ASB	SAMPLES PFAS	SAMPLES DB	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
							0			FILL: Silty sand, fine to medium grained, brown, trace of ironstone, quartz and sandstone gravel, and root fibres.	M			GRASS COVER SCREEN: 10.12kg 0-0.1m, NO FCF SCREEN: 14.31kg 0.1-0.7m, NO FCF
							0.5							
							1		CI-CL	Sandy CLAY: low to medium plasticity, brown, trace of sandstone gravel, and ash.	w>PL			ALLUVIAL
							1.5							
										END OF TEST PIT AT 1.65m				
							2							
							2.5							
							3							
							3.5							

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Log No. **TP35** **1/1**

Client: HALCYON HOTELS PTY LTD

Project: PROPOSED COMMERCIAL DEVELOPMENT

Location: THE MALTINGS, 2 COLO STREET, MITTAGONG, NSW

Job No.: E33051B **Method:** TEST PIT **R.L. Surface:** N/A

Date: 21/2/22 **Datum:** -

Plant Type: JKX **Logged/Checked by:** N.M./V.B.

Groundwater Record	SAMPLES ES	SAMPLES ASS	SAMPLES ASB	SAMPLES PFAS	SAMPLES DB	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
							0			FILL: Silty sandy clay, low to medium plasticity, brown, trace of ironstone and quartz gravel, and root fibres.	w<PL			GRASS COVER SCREEN: 13.26kg 0-0.1m, NO FCF SCREEN: 15.31kg 0.1-0.8m, NO FCF
							0.5							
▶							1		CL-CI	Sandy CLAY: low to medium plasticity, brown, trace of root fibres.	w>PL			RESIDUAL
							1.5			END OF TEST PIT AT 1.4m				
							2							
							2.5							
							3							
							3.5							

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Log No. TP36 1/1

SDUP8: 0-0.1m

Client: HALCYON HOTELS PTY LTD

Project: PROPOSED COMMERCIAL DEVELOPMENT

Location: THE MALTINGS, 2 COLO STREET, MITTAGONG, NSW

Job No.: E33051B **Method:** TEST PIT **R.L. Surface:** N/A

Date: 21/2/22 **Datum:** -

Plant Type: JKX **Logged/Checked by:** N.M./V.B.

Groundwater Record	SAMPLES ES	SAMPLES ASS	SAMPLES ASB	SAMPLES PFAS	SAMPLES DB	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
DRY ON COMPLE-TION	■		■		■		0			FILL: Silty sand, fine to medium grained, brown, trace of igneous, quartz and sandstone gravel, clay nodules, coal, and slag.	M			GRASS COVER SCREEN: 12.44kg 0-0.1m, NO FCF
							0.5			FILL: Silty gravelly sand, fine to medium grained, brown, coarse grained igneous gravel, trace of quartz gravel, ash, slag, clay nodules, coal, brick fragments, and root fibres.				SCREEN: 11.43kg 0.1-0.8m, NO FCF
	■		■				1		CI-CH	Silty CLAY: medium to high plasticity, brown, trace of ironstone gravel, and root fibres.	w>PL			RESIDUAL
							1.5			END OF TEST PIT AT 1.4m				
							2							
							2.5							
							3							
							3.5							

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Log No. BH37 **1/2**

Client: HALCYON HOTELS PTY LTD

Project: PROPOSED COMMERCIAL DEVELOPMENT

Location: THE MALTINGS, 2 COLO STREET, MITTAGONG, NSW

Job No.: E33051B **Method:** SPIRAL AUGER **R.L. Surface:** N/A

Date: 24/2/22 **Datum:** -

Plant Type: JK305 **Logged/Checked by:** H.W./V.B.

Groundwater Record	SAMPLES ES	SAMPLES ASS	SAMPLES ASB	SAMPLES PFAS	SAMPLES DB	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
							0			FILL: Sandy clay, low plasticity, dark brown, fine to medium grained sand, with slag, trace of terracotta fragments, plastic, and root fibres.	w>PL			GRASS COVER SCREEN: 10.54kg 0-0.1m, NO FCF SCREEN: 5.69kg 0.1-0.9m, NO FCF
						N = 3 1,2,1	0.5							
							1		CI-CH	Silty CLAY: medium to high plasticity, yellow brown, with sand.	w>PL			ALLUVIAL
▶						N = 2 1,1,1	1.5		CL-CI	Sandy CLAY: low to medium plasticity, brown, fine to medium grained sand.				
							2							
						N = 7 0,3,4	2.5							
							3							
							3.5							

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Log No. **BH37** **2/2**

Client: HALCYON HOTELS PTY LTD

Project: PROPOSED COMMERCIAL DEVELOPMENT

Location: THE MALTINGS, 2 COLO STREET, MITTAGONG, NSW

Job No.: E33051B **Method:** SPIRAL AUGER **R.L. Surface:** N/A

Date: 24/2/22 **Datum:** -

Plant Type: JK305 **Logged/Checked by:** H.W./V.B.

Groundwater Record	SAMPLES ES	SAMPLES ASS	SAMPLES ASB	SAMPLES PFAS	SAMPLES DB	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
	■									Sandy CLAY: low to medium plasticity, brown, fine to medium grained sand.	w>PL			
							4			END OF BOREHOLE AT 3.7m				'TC' BIT REFUSAL GROUNDWATER MONITORING WELL INSTALLED TO 3.7m. CLASS 18 MACHINE SLOTTED 50mm DIA. PVC STANDPIPE 1.0m TO 3.7m. CASING 0m TO 1.0m. 2mm SAND FILTER PACK 1.0m TO 3.7m. BENTONITE SEAL 0.5m TO 1.0m. BACKFILLED WITH SAND TO THE SURFACE. COMPLETED WITH A CONCRETED GATIC COVER.
							4.5							
							5							
							5.5							
							6							
							6.5							
							7							

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Log No. TP38 **1/1**

Client: HALCYON HOTELS PTY LTD

Project: PROPOSED COMMERCIAL DEVELOPMENT

Location: THE MALTINGS, 2 COLO STREET, MITTAGONG, NSW

Job No.: E33051B **Method:** TEST PIT **R.L. Surface:** N/A

Date: 22/2/22 **Datum:** -

Plant Type: JKX **Logged/Checked by:** N.M./V.B.

Groundwater Record	SAMPLES ES	SAMPLES ASS	SAMPLES ASB	SAMPLES PFAS	SAMPLES DB	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
DRY ON COMPLE-TION							0			FILL: Silty sand, fine to medium grained, brown, trace of igneous and siltstone gravel, glass, slag and root fibres.	M			GRASS COVER SCREEN: 11.57kg 0-0.1m, NO FCF
							0.5			FILL: Gravelly sand, fine to medium grained, brown, coarse grained igneous gravel, trace of siltstone gravel, slag, glass, brick and concrete fragments, and root fibres.				SCREEN: 10.65kg 0.1-0.6m, NO FCF
							1			FILL: Clayey gravelly sand, grey brown, course grained igneous gravel, trace of clay nodules, ash and slag, metal, glass, ceramic and brick fragments.				SCREEN: 11.35kg 0.6-1.2m, NO FCF
							1.5		CL-CI	Silty CLAY: low to medium plasticity, brown mottled grey, trace of ironstone gravel.	w<PL			
							2			Sandy silty CLAY: low to medium plasticity, grey mottled brown, trace of root fibres.	w>PL			
										END OF TEST PIT AT 2.0m				
							2.5							
							3							
							3.5							

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Log No. **TP39** **1/1**

Client: HALCYON HOTELS PTY LTD

Project: PROPOSED COMMERCIAL DEVELOPMENT

Location: THE MALTINGS, 2 COLO STREET, MITTAGONG, NSW

Job No.: E33051B **Method:** TEST PIT **R.L. Surface:** N/A

Date: 22/2/22 **Datum:** -

Plant Type: JKX **Logged/Checked by:** N.M./V.B.

Groundwater Record	SAMPLES ES	SAMPLES ASS	SAMPLES ASB	SAMPLES PFAS	SAMPLES DB	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
DRY ON COMPLE-TION	■		■		■		0			FILL: Silty sand, fine to medium grained, brown, trace of igneous, quartz and ironstone gravel, metal and concrete and slag.	M			LEAF LITTER COVER SCREEN: 13.52kg 0-0.1m, NO FCF
							0.5			FILL: Gravelly sand, fine to medium grained, grey, course grained igneous gravel, trace of slag and ash.				SCREEN: 10.58kg 0.1-0.6m, NO FCF
										FILL: Clayey gravelly sand, fine to medium grained, grey, course grained igneous gravel, trace of slag, brick, concrete, metal and plastic fragments, and root fibres.				SCREEN: 14.10kg 0.6-1.0m,
							1			FILL: Silty clayey sand, fine to medium grained, brown, trace of igneous, ironstone and quartz gravel, wood metal, and root fibres.				SCREEN: 12.65kg 1.0-1.4m, NO FCF
							1.5		CL-CI	Sandy silty CLAY: low to medium plasticity, grey mottled brown, trace of root fibres.	w>PL			ALLUVIAL
										END OF TEST PIT AT 1.75m				
							2							
							2.5							
							3							
							3.5							

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Log No. TP40 **1/1**

SDUP10: 0-0.1m

Client: HALCYON HOTELS PTY LTD

Project: PROPOSED COMMERCIAL DEVELOPMENT

Location: THE MALTINGS, 2 COLO STREET, MITTAGONG, NSW

Job No.: E33051B **Method:** TEST PIT **R.L. Surface:** N/A

Date: 22/2/22 **Datum:** -

Plant Type: JKX **Logged/Checked by:** N.M./V.B.

Groundwater Record	SAMPLES ES	SAMPLES ASS	SAMPLES ASB	SAMPLES PFAS	SAMPLES DB	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
							0			FILL: Gravelly sand, fine to medium grained, brown, coarse grained igneous gravel, trace of rail ballast, igneous, quartz and sandstone gravel, plastic, brick fragments and ash.	M			GRAVEL COVER SCREEN: 12.84kg 0-0.1m, NO FCF
							0.5			FILL: Silty gravelly sand, fine to medium grained, brown, coarse grained igneous gravel, trace of rail ballast, ironstone gravel and clay nodules.	w<PL			SCREEN: 12.61kg 0.1-0.4m, NO FCF SCREEN: 11.28kg 0.4-1.1m, NO FCF
							1			FILL: Silty clay, low to medium plasticity, brown, mottled red and dark grey, trace of ironstone and siltstone gravel, ash and glass.				
										FILL: Silty clay, low to medium plasticity, dark grey.	w>PL			SCREEN: 13.13kg 1.1-1.4kg, NO FCF
							1.5		CL-CI	Silty sandy CLAY: low to medium plasticity, grey, trace of root fibres.	w>PL			ALLUVIAL
							2			END OF TEST PIT AT 1.9m				
							2.5							
							3							
							3.5							

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Log No. BH41 **1/1**

Client: HALCYON HOTELS PTY LTD

Project: PROPOSED COMMERCIAL DEVELOPMENT

Location: THE MALTINGS, 2 COLO STREET, MITTAGONG, NSW

Job No.: E33051B **Method:** SPIRAL AUGER **R.L. Surface:** N/A

Date: 25/2/22 **Datum:** -

Plant Type: JK305 **Logged/Checked by:** H.W./V.B.

Groundwater Record	SAMPLES ES	SAMPLES ASS	SAMPLES ASB	SAMPLES PFAS	SAMPLES DB	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
DRY ON COMPLE-TION							0			FILL: Gravelly clay, low to medium plasticity, dark brown, fine to medium grained slag, trace of quartz gravel, brick fragments and root fibres.	w>PL			GRASS COVER
									CI-CH		w≈PL			SCREEN: 11.25kg 0-0.1m, FCF1 AND FCF2
							0.5			Silty CLAY: medium to high plasticity, yellow brown and orange brown, trace of sand and ironstone gravel.				ALLUVIAL
						N = 6 3,2,4	1		CI-CH	Sandy CLAY: medium to high plasticity, grey, fine to medium grained sand.				
						N = 6 3,3,3	1.5			as above, but yellow brown mottled orange brown.				
							2							
							2.5		-	SANDSTONE: yellow brown.	SW-DW			
							3			END OF BOREHOLE AT 3.0m				
							3.5							

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Log No. **TP42** **1/1**

Client: HALCYON HOTELS PTY LTD

Project: PROPOSED COMMERCIAL DEVELOPMENT

Location: THE MALTINGS, 2 COLO STREET, MITTAGONG, NSW

Job No.: E33051B **Method:** TEST PIT **R.L. Surface:** N/A

Date: 18/2/22 **Datum:** -

Plant Type: 6T EXCAVATOR **Logged/Checked by:** H.W./V.B.

Groundwater Record	SAMPLES ES	SAMPLES ASS	SAMPLES ASB	SAMPLES PFAS	SAMPLES DB	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
DRY ON COMPLE-TION							0			FILL: Sandy clay, low plasticity, brown, trace of brick and concrete fragments, glass, wood, ash and slag.	w<PL			SCREEN: 12.58kg 0-0.1m, NO FCF SCREEN: 10.43kg 0.1-0.6, NO FCF
							0.5		CL	Sandy CLAY: low plasticity, yellow brown, fine grained sand.	w≈PL			ALLUVIAL
							1		CI-CH	Silty CLAY: medium to high plasticity, yellow brown mottled orange brown, trace of sand and ironstone gravel.				
										END OF TEST PIT AT 1.1m				
							1.5							
							2							
							2.5							
							3							
							3.5							

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Log No. TP43 **1/1**

SDUP3: 0-0.1m

Client: HALCYON HOTELS PTY LTD

Project: PROPOSED COMMERCIAL DEVELOPMENT

Location: THE MALTINGS, 2 COLO STREET, MITTAGONG, NSW

Job No.: E33051B **Method:** TEST PIT **R.L. Surface:** N/A

Date: 18/2/22 **Datum:** -

Plant Type: 6T EXCAVATOR **Logged/Checked by:** H.W./V.B.

Groundwater Record	SAMPLES ES	SAMPLES ASS	SAMPLES ASB	SAMPLES PFAS	SAMPLES DB	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
DRY ON COMPLE-TION							0			FILL: Silty clay, low to medium plasticity, brown, trace of ironstone and sandstone gravel, clay nodules, glass, ash and slag.	w<PL			GRASS COVER SCREEN: 13.56kg 0-0.1m, NO FCF SCREEN: 11.82kg 0.1-0.6m, NO FCF
							0.5		SC	Clayey SAND: fine to medium grained, yellow brown.	M			ALLUVIAL
							1			END OF TEST PIT AT 1.1m				
							1.5							
							2							
							2.5							
							3							
							3.5							

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Log No. **TP44** **1/1**

Client: HALCYON HOTELS PTY LTD

Project: PROPOSED COMMERCIAL DEVELOPMENT

Location: THE MALTINGS, 2 COLO STREET, MITTAGONG, NSW

Job No.: E33051B **Method:** TEST PIT **R.L. Surface:** N/A

Date: 17/2/22 **Datum:** -

Plant Type: 6T EXCAVATOR **Logged/Checked by:** H.W./V.B.

Groundwater Record	SAMPLES ES	SAMPLES ASS	SAMPLES ASB	SAMPLES PFAS	SAMPLES DB	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
DRY ON COMPLE-TION	■		■		■		0			FILL: Sandy silty clay, low to medium plasticity, brown, trace of root fibres and slag.	w<PL			GRASS COVER SCREEN: 10.79KG 0-0.3m, NO FCF
	■		■				0.5		CI-CH	Silty sandy CLAY: medium to high plasticity, brown.	w≈PL			RESIDUAL
										END OF BOREHOLE AT 0.6m				
							1							
							1.5							
							2							
							2.5							
							3							
							3.5							

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Log No. TP45 **1/1**

SDUP13: 0-0.1m

Client: HALCYON HOTELS PTY LTD

Project: PROPOSED COMMERCIAL DEVELOPMENT

Location: THE MALTINGS, 2 COLO STREET, MITTAGONG, NSW

Job No.: E33051B **Method:** TEST PIT **R.L. Surface:** N/A

Date: 23/2/22 **Datum:** -

Plant Type: JKX **Logged/Checked by:** N.M./V.B.

Groundwater Record	SAMPLES ES	SAMPLES ASS	SAMPLES ASB	SAMPLES PFAS	SAMPLES DB	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
	■		■		■		0			FILL: Silty sandy clay, low to medium plasticity, brown, trace of igneous and ironstone gravel, root fibres, ash and slag.	w≈PL			GRASS COVER SCREEN: 11.18kg 0-0.1m, NO FCF SCREEN: 12.22kg 0.1-0.5m, NO FCF
	■		■		■		0.5		CI-CH	Silty sandy CLAY: medium to high platicity, brown mottled red, trace of ironstone gravel, and root fibres.	w≈PL			RESIDUAL
							1			END OF TEST PIT AT 1.05m				
							1.5							
							2							
							2.5							
							3							
							3.5							

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Log No. BH46 1/2

SDUP17: 0-0.1m

Client: HALCYON HOTELS PTY LTD

Project: PROPOSED COMMERCIAL DEVELOPMENT

Location: THE MALTINGS, 2 COLO STREET, MITTAGONG, NSW

Job No.: E33051B **Method:** SPIRAL AUGER **R.L. Surface:** N/A

Date: 24/2/22 **Datum:** -

Plant Type: JK305 **Logged/Checked by:** H.W./V.B.

Groundwater Record	SAMPLES ES	SAMPLES ASS	SAMPLES ASB	SAMPLES PFAS	SAMPLES DB	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
							0			FILL: Silty clay, low to medium plasticity, dark brown, trace of ironstone gravel, glass, slag and root fibres.	w≈PL			GRASS COVER SCREEN: 10.8kg 0-0.1m, NO FCF SCREEN: 6.87kg 0.1-0.7m, NO FCF
						N = 7 2,3,4	0.5		CI-CH	Silty CLAY: medium to high plasticity, yellow brown mottled orange brown, trace of ironstone and sandstone gravel.	w<PL			RESIDUAL
						N = 13 6,5,8	1.5		CL-CI	Sandy CLAY: low to medium plasticity, yellow brown and orange brown, fine to medium grained sand, trace of ironstone gravel.				
						N = 30 15,14,16	2.5		-	Extremely Weathered sandstone: silty CLAY, medium to high plasticity, yellow brown and grey.	XW			
							3							
							3.5							

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Log No. BH46 2/2

SDUP17: 0-0.1m

Client: HALCYON HOTELS PTY LTD

Project: PROPOSED COMMERCIAL DEVELOPMENT

Location: THE MALTINGS, 2 COLO STREET, MITTAGONG, NSW

Job No.: E33051B **Method:** SPIRAL AUGER **R.L. Surface:** N/A

Date: 24/2/22 **Datum:** -

Plant Type: JK305 **Logged/Checked by:** H.W./V.B.

Groundwater Record	SAMPLES ES	SAMPLES ASS	SAMPLES ASB	SAMPLES PFAS	SAMPLES DB	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
▶							4 4.5 5 5.5 6		-	SILTSTONE: grey	SW-DW			GROUNDWATER MONITORING WELL INSTALLED TO 6.0m. CLASS 18 MACHINE SLOTTED 50mm DIA. PVC STANDPIPE 2.0m TO 6.0m. CASING 0m TO 2. 0m. 2mm SAND FILTER PACK 1.5m TO 6.0m. BENTONITE SEAL 1.0m TO 1.5m. BACKFILLED WITH SAND TO THE SURFACE. COMPLETED WITH A CONCRETED GATIC COVER.
							6 6.5 7			END OF BOREHOLE AT 6.0m				

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Log No. TP47 **1/1**

SDUP12: 0-0.1m

Client: HALCYON HOTELS PTY LTD

Project: PROPOSED COMMERCIAL DEVELOPMENT

Location: THE MALTINGS, 2 COLO STREET, MITTAGONG, NSW

Job No.: E33051B **Method:** TEST PIT **R.L. Surface:** N/A

Date: 22/2/22 **Datum:** -

Plant Type: JKX **Logged/Checked by:** N.M./V.B.

Groundwater Record	SAMPLES ES	SAMPLES ASS	SAMPLES ASB	SAMPLES PFAS	SAMPLES DB	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
DRY ON COMPLE-TION	■		■		■		0			FILL: Silty clayey sand, fine to medium grained, brown, trace of quartz gravel, slag and root fibres.	M			GRASS COVER
										FILL: Silty sandy clay, low to medium plasticity, brown, trace of ironstone and quartz gravel, and glass fragments.	w<PL			SCREEN: 11.7kg 0-0.1m, NO FCF SCREEN: 12.64kg 0.1-0.8m, NO FCF
							0.5							
									CL-CI	Silty CLAY: low to medium plasticity, brown mottled red, trace of ironstone gravel, and root fibres.	w≈PL			RESIDUAL
							1							
										END TEST PIT AT 1.3m				
							1.5							
							2							
							2.5							
							3							
							3.5							

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Log No. TP48 **1/1**

Client: HALCYON HOTELS PTY LTD

Project: PROPOSED COMMERCIAL DEVELOPMENT

Location: THE MALTINGS, 2 COLO STREET, MITTAGONG, NSW

Job No.: E33051B **Method:** TEST PIT **R.L. Surface:** N/A

Date: 22/2/22 **Datum:** -

Plant Type: JKX **Logged/Checked by:** N.M./V.B.

Groundwater Record	SAMPLES ES	SAMPLES ASS	SAMPLES ASB	SAMPLES PFAS	SAMPLES DB	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
DRY ON COMPLE-TION							0			FILL: Silty sand, fine to medium grained, brown, trace of igneous, ironstone, quartz and siltstone gravel, slag ceramic and tile fragments.	M w<PL			GRASS COVER SCREEN: 10.71kg 0-0.1m, NO FCF
							0.5			FILL: Silty sandy clay, low to medium plasticity, brown, trace of ironstone, quartz and siltstone gravel, and root fibres.				SCREEN: 11.25kg 0.1-0.9m, NO FCF
							1			FILL: Silty clay, medium to high plasticity, brown and light grey, trace of ironstone, quartz, sandstone and siltstone gravel, ash and root fibres.				SCREEN: 11.71kg 0.9-1.4m, NO FCF
							1.5		CL-CI	Silty sandy CLAY: low to medium plasticity, grey, trace of root fibres.	w<PL			ALLUVIAL
										END OF TEST PIT AT 1.7m				
							2							
							2.5							
							3							
							3.5							

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Log No. **TP49** **1/1**

Client: HALCYON HOTELS PTY LTD

Project: PROPOSED COMMERCIAL DEVELOPMENT

Location: THE MALTINGS, 2 COLO STREET, MITTAGONG, NSW

Job No.: E33051B **Method:** TEST PIT **R.L. Surface:** N/A

Date: 22/2/22 **Datum:** -

Plant Type: JKX **Logged/Checked by:** N.M./V.B.

Groundwater Record	SAMPLES ES	SAMPLES ASS	SAMPLES ASB	SAMPLES PFAS	SAMPLES DB	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
DRY ON COMPLE-TION							0			FILL: Silty sand, fine to medium grained, brown, trace of igneous and ironstone gravel, ash, slag and root fibres.	M			GRASS COVER SCREEN: 11.2kg 0-0.1m, NO FCF
										FILL: Silty clayey sand, fine to medium grained, grey, trace of igneous, ironstone and quartz gravel, clayey nodules, slag and root fibres.	w<PL			SCREEN: 13.92kg 0.1-0.3m, NO FCF
							0.5			FILL: Silty sandy clay, low to medium plasticity, brown, trace of igneous, sandstone and siltstone gravel, wood, PVC, concrete, siltstone, slag and root fibres.				SCREEN: 13.73kg 0.3-1.5m, NO FCF
							1							
							1.5		CL-CI	Silty CLAY: low to medium plasticity, grey, trace of root fibres.	w>PL			STRONG ORGANIC ODOUR
									SC	Silty clayey SAND: fine to medium grained, grey, trace of ironstone gravel, and root fibres.	W			
							2			END OF TEST PIT AT 2.0m				
							2.5							
							3							
							3.5							

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Log No. TP50 **1/1**

SDUP11: 0-0.1m

Client: HALCYON HOTELS PTY LTD

Project: PROPOSED COMMERCIAL DEVELOPMENT

Location: THE MALTINGS, 2 COLO STREET, MITTAGONG, NSW

Job No.: E33051B **Method:** TEST PIT **R.L. Surface:** N/A

Date: 22/2/22 **Datum:** -

Plant Type: JKX **Logged/Checked by:** N.M./V.B.

Groundwater Record	SAMPLES ES	SAMPLES ASS	SAMPLES ASB	SAMPLES PFAS	SAMPLES DB	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
DRY ON COMPLE-TION	■		■		■		0			FILL: Silty sand, fine to medium grained, brown, trace of igneous, ironstone and quartz gravel, slag and root fibres.	M			GRASS COVER SCREEN: 11.20kg 0.1-0.5m, FCF1
										FILL: Gravelly sand, fine to medium grained, grey, coarse grained igneous gravel, trace of slag and clay nodules.				SCREEN: 11.96kg 0.1-0.5m, NO FCF
							0.5			FILL: Silty clay, low to medium plasticity, brown, trace of igneous, ironstone and sandstone gravel, wood fragments, ash, slag and root fibres.	w<PL			SCREEN: 13.05kg 0.5-0.8m, NO FCF
									CI-CH	Silty CLAY: medium to high plasticity, brown, trace of ironstone gravel, siltstone and root fibres.	w<PL			RESIDUAL
							1							
										END OF TEST PIT AT 1.2m				FCF FRAGMENTS FOUND ON SURFACE
							1.5							
							2							
							2.5							
							3							
							3.5							

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Log No. **TP51** **1/1**

Client: HALCYON HOTELS PTY LTD

Project: PROPOSED COMMERCIAL DEVELOPMENT

Location: THE MALTINGS, 2 COLO STREET, MITTAGONG, NSW

Job No.: E33051B **Method:** TEST PIT **R.L. Surface:** N/A

Date: 22/2/22 **Datum:** -

Plant Type: JKX **Logged/Checked by:** N.M./V.B.

Groundwater Record	SAMPLES ES	SAMPLES ASS	SAMPLES ASB	SAMPLES PFAS	SAMPLES DB	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
							0			FILL: Silty sand, fine to medium grained, brown, trace of quartz gravel, glass, wood, slag and root fibres.	M w<PL			GRASS COVER SCREEN: 11.08kg 0-0.1m, NO FCF
							0.5			FILL: Silty sandy clay, low to medium plasticity, brown, trace of igneous, ironstone and sandstone gravel, brick fragments, slag and root fibres.				SCREEN: 11.72kg 0.1-0.6m, NO FCF
							1			FILL: Silty clay, low to medium plasticity, brown mottled red and dark grey, trace of igneous, ironstone, sandstone and siltstone gravel, brick fragments, and root fibres.				SCREEN: 10.83kg 0.6-1.1m, NO FCF
							1.5		CL-CI	Silty CLAY: low to medium plasticity, grey mottled brown, trace of ironstone gravel, with siltstone.	w≈PL			RESIDUAL
							2			END OF TEST PIT AT 1.6m				
							2.5							
							3							
							3.5							

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Log No. **TP52** **1/1**

Client: HALCYON HOTELS PTY LTD

Project: PROPOSED COMMERCIAL DEVELOPMENT

Location: THE MALTINGS, 2 COLO STREET, MITTAGONG, NSW

Job No.: E33051B **Method:** TEST PIT **R.L. Surface:** N/A

Date: 22/2/22 **Datum:** -

Plant Type: JKX **Logged/Checked by:** N.M./V.B.

Groundwater Record	SAMPLES ES	SAMPLES ASS	SAMPLES ASB	SAMPLES PFAS	SAMPLES DB	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
DRY ON COMPLE-TION	■		■		■		0			FILL: Silty sand, fine to medium grained, brown, trace of igneous, ironstone and quartz gravel, slag, ceramic fragments, and root fibres.	M			GRASS COVER
									CL-CI		w<PL			SCREEN: 10.53kg 0-0.1m, NO FCF
	■		■				0.5			Silty CLAY: low to medium plasticity, brown mottled red, trace of root fibres.				RESIDUAL
										END OF TEST PIT AT 0.75m				
							1							
							1.5							
							2							
							2.5							
							3							
							3.5							

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Log No. **BH53** **1/1**

Client: HALCYON HOTELS PTY LTD

Project: PROPOSED COMMERCIAL DEVELOPMENT

Location: THE MALTINGS, 2 COLO STREET, MITTAGONG, NSW

Job No.: E33051B **Method:** HAND AUGER **R.L. Surface:** N/A

Date: 24/2/22 **Datum:** -

Plant Type: - **Logged/Checked by:** N.M./V.B.

Groundwater Record	SAMPLES ES	SAMPLES ASS	SAMPLES ASB	SAMPLES PFAS	SAMPLES DB	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
DRY ON COMPLE-TION	■		■				0			FILL: Silty clay, low to medium plasticity, brown, trace of root fibres.	w<PL			GRASS COVER
	■		■						CI-CH	Silty CLAY: medium to high plasticity, brown mottled red and grey and yellow, trace of root fibres.	w<PL			INSUFFICIENT RETURN FOR BULK QUANTIFICATION SAMPLING
														RESIDUAL
							0.5			END OF BOREHOLE AT 0.45m				
							1							
							1.5							
							2							
							2.5							
							3							
							3.5							

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Log No. **TP54** **1/1**

Client: HALCYON HOTELS PTY LTD

Project: PROPOSED COMMERCIAL DEVELOPMENT

Location: THE MALTINGS, 2 COLO STREET, MITTAGONG, NSW

Job No.: E33051B **Method:** TEST PIT **R.L. Surface:** N/A

Date: 24/2/22 **Datum:** -

Plant Type: JKX **Logged/Checked by:** N.M./V.B.

Groundwater Record	SAMPLES ES	SAMPLES ASS	SAMPLES ASB	SAMPLES PFAS	SAMPLES DB	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
DRY ON COMPLE-TION	■		■		■		0			FILL: Silty sandy clay, low to medium plasticity, brown, trace of igneous, ironstone and sandstone gravel, slag, metal, and root fibres.	w<PL			GRASS COVER SCREEN: 10kg 0-0.1m, NO FCF SCREEN: 10kg 0.1-0.9m, NO FCF
	■		■		■		0.5							
	■		■		■		1		CI-CH	Silty CLAY: medium to high plasticity, brown mottled grey, trace of ironstone gravel, and root fibres.	w<PL			RESIDUAL
	■		■		■		1.5			END OF TEST PIT AT 1.5m				
							2							
							2.5							
							3							
							3.5							

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Log No. **TP56** **1/1**

Client: HALCYON HOTELS PTY LTD

Project: PROPOSED COMMERCIAL DEVELOPMENT

Location: THE MALTINGS, 2 COLO STREET, MITTAGONG, NSW

Job No.: E33051B **Method:** TEST PIT **R.L. Surface:** N/A

Date: 23/2/22 **Datum:** -

Plant Type: JKX **Logged/Checked by:** N.M./V.B.

Groundwater Record	SAMPLES ES	SAMPLES ASS	SAMPLES ASB	SAMPLES PFAS	SAMPLES DB	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
	■		■		■		0			FILL: Silty sandy clay, low to medium plasticity, brown, trace of igneous and ironstone gravel, grinding dish, ceramic fragments, building rubble(concrete fragments), glass, and root fibres.	w≈PL			GRASS COVER SCREEN: 12.53kg 0-0.1m, NO FCF SCREEN: 12.11kg 0.1-0.4m, NO FCF
	■		■		■		0.5		CI-CH	Silty CLAY: medium to high plasticity, brown mottled red and grey, trace of ironstone gravel, and root fibres.	w≈PL			RESIDUAL
										END OF TEST PIT AT 0.8m				
							1							
							1.5							
							2							
							2.5							
							3							
							3.5							

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Log No. **TP57** **1/1**

Client: HALCYON HOTELS PTY LTD

Project: PROPOSED COMMERCIAL DEVELOPMENT

Location: THE MALTINGS, 2 COLO STREET, MITTAGONG, NSW

Job No.: E33051B **Method:** TEST PIT **R.L. Surface:** N/A

Date: 23/2/22 **Datum:** -

Plant Type: JKX **Logged/Checked by:** N.M./V.B.

Groundwater Record	SAMPLES ES	SAMPLES ASS	SAMPLES ASB	SAMPLES PFAS	SAMPLES DB	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
	■		■		■		0			FILL: Silty sandy clay, low to medium plasticity, brown, trace igneous and ironstone gravel, slag and root fibres.	w≈PL			GRASS COVER
	■		■		■				CI-CH	Silty CLAY: medium to high plasticity, brown mottled grey, trace of ironstone gravel, and root fibres.	w≈PL			SCREEN: 11.97kg 0-0.1m, NO FCF
	■		■				0.5							SCREEN: 11.57kg 0.1-0.2m, NO FCF
														RESIDUAL
										END OF TEST PIT AT 0.7m				
							1							
							1.5							
							2							
							2.5							
							3							
							3.5							

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Log No. TP58 **1/1**

SDUP14: 0-0.1m

Client: HALCYON HOTELS PTY LTD

Project: PROPOSED COMMERCIAL DEVELOPMENT

Location: THE MALTINGS, 2 COLO STREET, MITTAGONG, NSW

Job No.: E33051B **Method:** TEST PIT **R.L. Surface:** N/A

Date: 23/2/22 **Datum:** -

Plant Type: JKX **Logged/Checked by:** N.M./V.B.

Groundwater Record	SAMPLES ES	SAMPLES ASS	SAMPLES ASB	SAMPLES PFAS	SAMPLES DB	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
							0			FILL: Silty sandy clay, low to medium plasticity, brown, trace of ironstone gravel, brick fragments, and root fibres.	w≈PL			GRASS CPVER SCREEN: 10.0kg 0-0.1m, NO FCF SCREEN: 13.08kg 0.1-0.4m, NO FCF
							0.5		CI-CH	Silty CLAY: medium to high plasticity, red mottled grey and brown, trace of root fibres.	w<PL			RESIDUAL
							1			END OF TEST PIT AT 0.9m				
							1.5							
							2							
							2.5							
							3							
							3.5							

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Log No. BH59 **1/2**

Client: HALCYON HOTELS PTY LTD

Project: PROPOSED COMMERCIAL DEVELOPMENT

Location: THE MALTINGS, 2 COLO STREET, MITTAGONG, NSW

Job No.: E33051B **Method:** SPIRAL AUGER **R.L. Surface:** N/A

Date: 24/2/22 **Datum:** -

Plant Type: JK305 **Logged/Checked by:** H.W./V.B.

Groundwater Record	SAMPLES ES	SAMPLES ASS	SAMPLES ASB	SAMPLES PFAS	SAMPLES DB	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
DRY ON COMPLE-TION	■		■				0			FILL: Silty clay, medium to high plasticity, brown, trace of igneous and ironstone gravel, and root fibres.	w>PL			GRASS COVER
									CI-CH		CI-CH			SCREEN: 11.14kg 0-0.1m, NO FCF
										Silty CLAY: medium to high plasticity, yellow brown mottled orange brown, trace of sand, ironstone gravel, and root fibres.				RESIDUAL
	■		■			N = 15 4,6,9	0.5							
							1							
	■		■			N = 13 6,6,7	1.5			as above, but without sand.				
							2							
							2.5							
							3							
	■		■			N = 28 4,11,17			-	Extremely Weathered siltstone: silty CLAY, medium to high plasticity, grey and yellow brown.	XW			
							3.5							

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Log No. **BH59** **2/2**

Client: HALCYON HOTELS PTY LTD

Project: PROPOSED COMMERCIAL DEVELOPMENT

Location: THE MALTINGS, 2 COLO STREET, MITTAGONG, NSW

Job No.: E33051B **Method:** SPIRAL AUGER **R.L. Surface:** N/A

Date: 24/2/22 **Datum:** -

Plant Type: JK305 **Logged/Checked by:** H.W./V.B.

Groundwater Record	SAMPLES ES	SAMPLES ASS	SAMPLES ASB	SAMPLES PFAS	SAMPLES DB	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
										Extremely Weathered siltstone: as above	XW			
							4			SILTSTONE: grey.	SW-DW			
							4.5							
							5			END OF BOREHOLE AT 5.0m				'TC' BIT REFUSAL IN SILTSTONE BEDROCK GROUNDWATER MONITORING WELL INSTALLED TO 5.0m. CLASS 18 MACHINE SLOTTED 50mm DIA. PVC STANDPIPE 1.0m TO 5.0m. CASING 0m TO 1.0m. 2mm SAND FILTER PACK 1.0m TO 5.0m. BENTONITE SEAL 0.5m TO 1.0m. BACKFILLED WITH SAND TO THE SURFACE. COMPLETED WITH STANDPIPE.
							5.5							
							6							
							6.5							
							7							

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Log No. **TP60** **1/1**

Client: HALCYON HOTELS PTY LTD

Project: PROPOSED COMMERCIAL DEVELOPMENT

Location: THE MALTINGS, 2 COLO STREET, MITTAGONG, NSW

Job No.: E33051B **Method:** TEST PIT **R.L. Surface:** N/A

Date: 23/2/22 **Datum:** -

Plant Type: JKX **Logged/Checked by:** N.M./V.B.

Groundwater Record	SAMPLES ES	SAMPLES ASS	SAMPLES ASB	SAMPLES PFAS	SAMPLES DB	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
DRY ON COMPLE-TION	■		■		■		0			FILL: Silty sandy clay, low to medium plasticity, brown, trace of igneous and ironstone gravel, slag, glass, ceramic, concrete fragments, and root fibres.	w≈PL			GRASS COVER SCREEN: 12.92kg 0-0.1m, NO FCF
									CI-CH	FILL: Silty clay, medium to high plasticity, brown and yellow grey, trace of brick and concrete fragments.	w≈PL			SCREEN: 13.49kg 0-0.1m, NO FCF
	■		■		■		0.5			Silty CLAY: medium to high plasticity, brown mottled red, trace of igneous gravel, and root fibres.				RESIDUAL
										END OF TEST PIT AT 0.7m				
							1							
							1.5							
							2							
							2.5							
							3							
							3.5							

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Log No. TP61 **1/1**

SDUP15: 0-0.1m

Client: HALCYON HOTELS PTY LTD

Project: PROPOSED COMMERCIAL DEVELOPMENT

Location: THE MALTINGS, 2 COLO STREET, MITTAGONG, NSW

Job No.: E33051B **Method:** TEST PIT **R.L. Surface:** N/A

Date: 23/2/22 **Datum:** -

Plant Type: JKX **Logged/Checked by:** N.M./V.B.

Groundwater Record	SAMPLES ES	SAMPLES ASS	SAMPLES ASB	SAMPLES PFAS	SAMPLES DB	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
							0			FILL: Silty sandy clay, low to medium plasticity, brown, trace of igneous and ironstone gravel, metal, brick, ceramic, wood, ash, slag, and root fibres.	w≈PL			GRASS COVER SCREEN: 10.53kg 0-0.1m, NO FCF
									CI-CH	Silty CLAY: medium to high plasticity, brown mottled red, trace of igneous gravel, wood and root fibres.	w≈PL			SCREEN: 12.43kg 0.1-0.25m, NO FCF RESIDUAL
							0.5			as above, but brown.				
							1							
										END OF TEST PIT AT 1.2m				
							1.5							
							2							
							2.5							
							3							
							3.5							

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Log No. **TP67** **1/1**

Client: HALCYON HOTELS PTY LTD

Project: PROPOSED COMMERCIAL DEVELOPMENT

Location: THE MALTINGS, 2 COLO STREET, MITTAGONG, NSW

Job No.: E33051B **Method:** TEST PIT **R.L. Surface:** N/A

Date: 23/2/22 **Datum:** -

Plant Type: JKX **Logged/Checked by:** N.M./V.B.

Groundwater Record	SAMPLES ES	SAMPLES ASS	SAMPLES ASB	SAMPLES PFAS	SAMPLES DB	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
DRY ON COMPLE-TION	■		■		■		0		-	FILL: Silty clayey sand, fine to medium grained, brown, trace of siltstone gravel, plastic, ceramic and concrete fragments, and root fibres.	W XW/w≈PL			GRASS COVER SCREEN: 11.27kg 0-0.05m, FCF1
										Extremely Weathered siltstone: silty clayey SAND: fine to medium grained, grey mottled brown, with medium to high plasticity clay, grey mottled yellow.				RESIDUAL
							0.5			END OF TEST PIT AT 0.4m				
							1							
							1.5							
							2							
							2.5							
							3							
							3.5							

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Log No. **TP68** **1/1**

Client: HALCYON HOTELS PTY LTD

Project: PROPOSED COMMERCIAL DEVELOPMENT

Location: THE MALTINGS, 2 COLO STREET, MITTAGONG, NSW

Job No.: E33051B **Method:** TEST PIT **R.L. Surface:** N/A

Date: 23/2/22 **Datum:** -

Plant Type: JKX **Logged/Checked by:** N.M./V.B.

Groundwater Record	SAMPLES ES	SAMPLES ASS	SAMPLES ASB	SAMPLES PFAS	SAMPLES DB	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
DRY ON COMPLETION	■		■		■		0		-	FILL: Gravelly clayey sand, fine to medium grained, brown, trace of ironstone and siltstone gravel, and glass	W XW/w<PL			SCREEN: 14.32kg 0-0.05m, NO FCF
										Extremely Weathered siltstone: silty CLAY, low to medium plasticity, grey and red brown mottled yellow.				RESIDUAL
							0.5			END OF TEST PIT AT 0.4m				
							1							
							1.5							
							2							
							2.5							
							3							
							3.5							

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Log No. **TP69** **1/1**

Client: HALCYON HOTELS PTY LTD

Project: PROPOSED COMMERCIAL DEVELOPMENT

Location: THE MALTINGS, 2 COLO STREET, MITTAGONG, NSW

Job No.: E33051B **Method:** TEST PIT **R.L. Surface:** N/A

Date: 23/2/22 **Datum:** -

Plant Type: JKX **Logged/Checked by:** N.M./V.B.

Groundwater Record	SAMPLES ES	SAMPLES ASS	SAMPLES ASB	SAMPLES PFAS	SAMPLES DB	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
DRY ON COMPLE-TION	■		■		■		0			FILL: Silty sandy clay, low to medium plasticity, brown, trace of igneous and ironstone gravel, glass and root fibres.	w<PL			GRASS COVER
									CI-CH	Silty CLAY: medium to high plasticity, brown mottled grey and yellow, trace of igneous gravel, and root fibres.	w≈PL			SCREEN: 11.23kg 0-0.1m, NO FCF
							0.5							RESIDUAL
										END OF TEST PIT AT 0.8m				
							1							
							1.5							
							2							
							2.5							
							3							
							3.5							

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Log No. TP76 **1/1**

SDUP14: 0-0.1m

Client: HALCYON HOTELS PTY LTD

Project: PROPOSED COMMERCIAL DEVELOPMENT

Location: THE MALTINGS, 2 COLO STREET, MITTAGONG, NSW

Job No.: E33051B **Method:** TEST PIT **R.L. Surface:** N/A

Date: 24/2/22 **Datum:** -

Plant Type: JKX **Logged/Checked by:** N.M./V.B.

Groundwater Record	SAMPLES ES	SAMPLES ASS	SAMPLES ASB	SAMPLES PFAS	SAMPLES DB	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
DRY ON COMPLE-TION	■		■		■		0			FILL: Silty sandy clay, low to medium plasticity, brown, trace of ironstone gravel, brick fragments, and root fibres.	w≈PL			GRASS COVER SCREEN: 10kg 0-0.1m, NO FCF SCREEN: 13.08kg 0.1-0.4m, NO FCF
							0.5		CI-CH	Silty CLAY: medium to high plasticity, red mottled grey and brown, trace of root fibres.	w<PL			RESIDUAL
							1			END OF TEST PIT AT 0.9m				
							1.5							
							2							
							2.5							
							3							
							3.5							

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ENVIRONMENTAL LOG

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Log No. BH82 1/2

SDUP18: 0-0.1m

Client: HALCYON HOTELS PTY LTD

Project: PROPOSED COMMERCIAL DEVELOPMENT

Location: THE MALTINGS, 2 COLO STREET, MITTAGONG, NSW

Job No.: E33051B **Method:** SPIRAL AUGER **R.L. Surface:** N/A

Date: 24/2/22 **Datum:** -

Plant Type: JK305 **Logged/Checked by:** H.W./V.B.

Groundwater Record	SAMPLES ES	SAMPLES ASS	SAMPLES ASB	SAMPLES PFAS	SAMPLES DB	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
DRY ON COMPLE-TION							0			FILL: Silty clay, medium to high plasticity, brown, trace of igneous and siltstone gravel, brick and concrete fragments, slag and ash.	w>PL			GRASS COVER SCREEN: 10.05kg 0-0.1m, NO FCF SCREEN: 3.90kg 0.1-0.5m, NO FCF
							0.5		CI-CH	Silty CLAY: medium to high plasticity, yellow brown mottled orange brown, trace of ironstone gravel.	w<PL			RESIDUAL
						N = 12 4,5,7			-	Extremely Weathered siltstone: silty CLAY, low to medium plasticity, grey, trace of iron indurated bands.	XW			
						N = 36 17,18,18	1							
							1.5							
							2							
										SITSTONE: grey.	SW-DW			
							2.5							
							3							
							3.5							

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ENVIRONMENTAL LOG

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Log No. BH82 2/2

SDUP18: 0-0.1m

Client: HALCYON HOTELS PTY LTD

Project: PROPOSED COMMERCIAL DEVELOPMENT

Location: THE MALTINGS, 2 COLO STREET, MITTAGONG, NSW

Job No.: E33051B **Method:** SPIRAL AUGER **R.L. Surface:** N/A

Date: 24/2/22 **Datum:** -

Plant Type: JK305 **Logged/Checked by:** H.W./V.B.

Groundwater Record	SAMPLES ES	SAMPLES ASS	SAMPLES ASB	SAMPLES PFAS	SAMPLES DB	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
							4			SITSTONE: grey.	SW-DW			
							4.5							
							5							
							5.5							
							6			END OF BOREHOLE AT 6.0m				GROUNDWATER MONITORING WELL INSTALLED TO 6.0m. CLASS 18 MACHINE SLOTTED 50mm DIA. PVC STANDPIPE 1.0m TO 6.0m. CASING 0m TO 1.0m. 2mm SAND FILTER PACK 0.5m TO 6.0m. BENTONITE SEAL 0m TO 0.5m. B COMPLETED WITH STANDPIPE.
							6.5							
							7							

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ENVIRONMENTAL LOG

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Log No. **BH83** **1/1**

Client: HALCYON HOTELS PTY LTD

Project: PROPOSED COMMERCIAL DEVELOPMENT

Location: THE MALTINGS, 2 COLO STREET, MITTAGONG, NSW

Job No.: E33051B **Method:** HAND AUGER **R.L. Surface:** N/A

Date: 24/2/22 **Datum:** -

Plant Type: - **Logged/Checked by:** N.M./V.B.

Groundwater Record	SAMPLES ES	SAMPLES ASS	SAMPLES ASB	SAMPLES PFAS	SAMPLES DB	Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
DRY ON COMPLE-TION	■		■		■		0		CL-CI	FILL: Sandy gravel, medium to coarse grained, igneous, dark grey, fine to medium grained sand, trace of clay nodules, glass and brick fragments.	M w<PL			SCREEN: 17.43kg 0-0.05m, NO FCF
										Silty CLAY: low to medium plasticity, brown mottled grey.				RESIDUAL
										END OF BOREHOLE AT 0.14m				HAND AUGER REFUSAL
							0.5							
							1							
							1.5							
							2							
							2.5							
							3							
							3.5							

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ENVIRONMENTAL LOGS EXPLANATION NOTES

INTRODUCTION

These notes have been provided to amplify the environmental report in regard to classification methods, field procedures and certain matters relating to the logging of soil and rock. Not all notes are necessarily relevant to all reports.

Where geotechnical borehole logs are utilised for environmental purpose, reference should also be made to the explanatory notes included in the geotechnical report. Environmental logs are not suitable for geotechnical purposes.

The ground is a product of continuing natural and man-made processes and therefore exhibits a variety of characteristics and properties which vary from place to place and can change with time. Environmental studies include gathering and assimilating limited facts about these characteristics and properties in order to understand or predict the behaviour of the ground on a particular site under certain conditions. This report may contain such facts obtained by inspection, excavation, probing, sampling, testing or other means of investigation. If so, they are directly relevant only to the ground at the place where and time when the investigation was carried out.

DESCRIPTION AND CLASSIFICATION METHODS

The methods of description and classification of soils and rocks used in this report are based on Australian Standard 1726:2017 *'Geotechnical Site Investigations'*. In general, descriptions cover the following properties – soil or rock type, colour, structure, strength or density, and inclusions. Identification and classification of soil and rock involves judgement and the Company infers accuracy only to the extent that is common in current geoenvironmental practice.

Soil types are described according to the predominating particle size and behaviour as set out in the attached soil classification table qualified by the grading of other particles present (eg. sandy clay) as set out below:

Soil Classification	Particle Size
Clay	< 0.002mm
Silt	0.002 to 0.075mm
Sand	0.075 to 2.36mm
Gravel	2.36 to 63mm
Cobbles	63 to 200mm
Boulders	> 200mm

Non-cohesive soils are classified on the basis of relative density, generally from the results of Standard Penetration Test (SPT) as below:

Relative Density	SPT 'N' Value (blows/300mm)
Very loose (VL)	< 4
Loose (L)	4 to 10
Medium dense (MD)	10 to 30
Dense (D)	30 to 50
Very Dense (VD)	> 50

Cohesive soils are classified on the basis of strength (consistency) either by use of a hand penetrometer, vane shear, laboratory testing and/or tactile engineering examination. The strength terms are defined as follows.

Classification	Unconfined Compressive Strength (kPa)	Indicative Undrained Shear Strength (kPa)
Very Soft (VS)	≤ 25	≤ 12
Soft (S)	> 25 and ≤ 50	> 12 and ≤ 25
Firm (F)	> 50 and ≤ 100	> 25 and ≤ 50
Stiff (St)	> 100 and ≤ 200	> 50 and ≤ 100
Very Stiff (VSt)	> 200 and ≤ 400	> 100 and ≤ 200
Hard (Hd)	> 400	> 200
Friable (Fr)	Strength not attainable – soil crumbles	

Rock types are classified by their geological names, together with descriptive terms regarding weathering, strength, defects, etc. Where relevant, further information regarding rock classification is given in the text of the report. In the Sydney Basin, 'shale' is used to describe fissile mudstone, with a weakness parallel to bedding. Rocks with alternating inter-laminations of different grain size (eg. siltstone/claystone and siltstone/fine grained sandstone) are referred to as 'laminite'.

INVESTIGATION METHODS

The following is a brief summary of investigation methods currently adopted by the Company and some comments on their use and application. All methods except test pits, hand auger drilling and portable Dynamic Cone Penetrometers require the use of a mechanical rig which is commonly mounted on a truck chassis or track base.

Test Pits: These are normally excavated with a backhoe or a tracked excavator, allowing close examination of the insitu soils and 'weaker' bedrock if it is safe to descend into the pit. The depth of penetration is limited to about 3m for a backhoe and up to 6m for a large excavator. Limitations of test pits are the problems associated with disturbance and difficulty of reinstatement and the consequent effects on close-by structures. Care must be taken if construction is to be carried out near test pit locations to either properly recompact the backfill during construction or to design and construct the

structure so as not to be adversely affected by poorly compacted backfill at the test pit location.

Hand Auger Drilling: A borehole of 50mm to 100mm diameter is advanced by manually operated equipment. Refusal of the hand auger can occur on a variety of materials such as obstructions within any fill, tree roots, hard clay, gravel or ironstone, cobbles and boulders, and does not necessarily indicate rock level.

Continuous Spiral Flight Augers: The borehole is advanced using 75mm to 115mm diameter continuous spiral flight augers, which are withdrawn at intervals to allow sampling and insitu testing. This is a relatively economical means of drilling in clays and in sands above the water table. Samples are returned to the surface by the flights or may be collected after withdrawal of the auger flights, but they can be very disturbed and layers may become mixed. Information from the auger sampling (as distinct from specific sampling by SPTs or undisturbed samples) is of limited reliability due to mixing or softening of samples by groundwater, or uncertainties as to the original depth of the samples. Augering below the groundwater table is of even lesser reliability than augering above the water table.

Rock Augering: Use can be made of a Tungsten Carbide (TC) bit for auger drilling into rock to indicate rock quality and continuity by variation in drilling resistance and from examination of recovered rock cuttings. This method of investigation is quick and relatively inexpensive but provides only an indication of the likely rock strength and predicted values may be in error by a strength order. Where rock strengths may have a significant impact on construction feasibility or costs, then further investigation by means of cored boreholes may be warranted.

Wash Boring: The borehole is usually advanced by a rotary bit, with water being pumped down the drill rods and returned up the annulus, carrying the drill cuttings. Only major changes in stratification can be assessed from the cuttings, together with some information from "feel" and rate of penetration.

Mud Stabilised Drilling: Either Wash Boring or Continuous Core Drilling can use drilling mud as a circulating fluid to stabilise the borehole. The term 'mud' encompasses a range of products ranging from bentonite to polymers. The mud tends to mask the cuttings and reliable identification is only possible from intermittent intact sampling (eg. from SPT and U50 samples) or from rock coring, etc.

Continuous Core Drilling: A continuous core sample is obtained using a diamond tipped core barrel. Provided full core recovery is achieved (which is not always possible in very low strength rocks and granular soils), this technique provides a very reliable (but relatively expensive) method of investigation. In rocks, NMLC or HQ triple tube core barrels, which give a core of about 50mm and 61mm diameter, respectively, is usually used with water flush. The length of core recovered is compared to the length drilled and any length not recovered is shown as NO CORE. The location of NO CORE recovery is determined on site by the supervising engineer; where the location is uncertain, the loss is placed at the bottom of the drill run.

Standard Penetration Tests: Standard Penetration Tests (SPT) are used mainly in non-cohesive soils, but can also be used in cohesive soils, as a means of indicating density or strength and also of obtaining a relatively undisturbed sample. The test procedure is described in Australian Standard 1289.6.3.1–2004 (R2016) *'Methods of Testing Soils for Engineering Purposes, Soil Strength and Consolidation Tests – Determination of the Penetration Resistance of a Soil – Standard Penetration Test (SPT)'*.

The test is carried out in a borehole by driving a 50mm diameter split sample tube with a tapered shoe, under the impact of a 63.5kg hammer with a free fall of 760mm. It is normal for the tube to be driven in three successive 150mm increments and the 'N' value is taken as the number of blows for the last 300mm. In dense sands, very hard clays or weak rock, the full 450mm penetration may not be practicable and the test is discontinued.

The test results are reported in the following form:

- In the case where full penetration is obtained with successive blow counts for each 150mm of, say, 4, 6 and 7 blows, as

  N = 13
  4, 6, 7

- In a case where the test is discontinued short of full penetration, say after 15 blows for the first 150mm and 30 blows for the next 40mm, as

  N > 30
  15, 30/40mm

The results of the test can be related empirically to the engineering properties of the soil.

A modification to the SPT is where the same driving system is used with a solid 60° tipped steel cone of the same diameter as the SPT hollow sampler. The solid cone can be continuously driven for some distance in soft clays or loose sands, or may be used where damage would otherwise occur to the SPT. The results of this Solid Cone Penetration Test (SCPT) are shown as 'N_c' on the borehole logs, together with the number of blows per 150mm penetration.

LOGS

The borehole or test pit logs presented herein are an interpretation of the subsurface conditions, and their reliability will depend to some extent on the frequency of sampling and the method of drilling or excavation. Ideally, continuous undisturbed sampling or core drilling will enable the most reliable assessment, but is not always practicable or possible to justify on economic grounds. In any case, the boreholes or test pits represent only a very small sample of the total subsurface conditions.

The terms and symbols used in preparation of the logs are defined in the following pages.

Interpretation of the information shown on the logs, and its application to design and construction, should therefore take into account the spacing of boreholes or test pits, the method of drilling or excavation, the frequency of sampling and testing and the possibility of other than 'straight line' variations between the boreholes or test pits. Subsurface conditions between boreholes or test pits may vary significantly from conditions encountered at the borehole or test pit locations.

GROUNDWATER

Where groundwater levels are measured in boreholes, there are several potential problems:

- Although groundwater may be present, in low permeability soils it may enter the hole slowly or perhaps not at all during the time it is left open.
- A localised perched water table may lead to an erroneous indication of the true water table.
- Water table levels will vary from time to time with seasons or recent weather changes and may not be the same at the time of construction.
- The use of water or mud as a drilling fluid will mask any groundwater inflow. Water has to be blown out of the hole and drilling mud must be washed out of the hole or 'reverted' chemically if reliable water observations are to be made.

More reliable measurements can be made by installing standpipes which are read after the groundwater level has stabilised at intervals ranging from several days to perhaps weeks for low permeability soils. Piezometers, sealed in a particular stratum, may be advisable in low permeability soils or where there may be interference from perched water tables or surface water.

FILL

The presence of fill materials can often be determined only by the inclusion of foreign objects (eg. bricks, steel, etc) or by distinctly unusual colour, texture or fabric. Identification of the extent of fill materials will also depend on investigation methods and frequency. Where natural soils similar to those at the site are used for fill, it may be difficult with limited testing and sampling to reliably assess the extent of the fill.

The presence of fill materials is usually regarded with caution as the possible variation in density and material type is much greater than with natural soil deposits. Consequently, there is an increased risk of adverse environmental characteristics or behaviour. If the volume and nature of fill is of importance to a project, then frequent test pit excavations are preferable to boreholes.

LABORATORY TESTING

Laboratory testing has not been undertaken to confirm the soil classification and rock strengths indicated on the environmental logs unless noted in the report.

SYMBOL LEGENDS

SOIL


FILL


TOPSOIL


CLAY (CL, CI, CH)


SILT (ML, MH)


SAND (SP, SW)


GRAVEL (GP, GW)


SANDY CLAY (CL, CI, CH)


SILTY CLAY (CL, CI, CH)


CLAYEY SAND (SC)


SILTY SAND (SM)


GRAVELLY CLAY (CL, CI, CH)


CLAYEY GRAVEL (GC)


SANDY SILT (ML, MH)


PEAT AND HIGHLY ORGANIC SOILS (Pt)

ROCK


CONGLOMERATE


SANDSTONE


SHALE/MUDSTONE


SILTSTONE


CLAYSTONE


COAL


LAMINITE


LIMESTONE


PHYLLITE, SCHIST


TUFF


GRANITE, GABBRO


DOLERITE, DIORITE


BASALT, ANDESITE


QUARTZITE

OTHER MATERIALS


BRICKS OR PAVERS


CONCRETE


ASPHALTIC CONCRETE

CLASSIFICATION OF COARSE AND FINE GRAINED SOILS

Major Divisions		Group Symbol	Typical Names	Field Classification of Sand and Gravel	Laboratory Classification	
Coarse grained soil (more than 65% of soil excluding oversize fraction is greater than 0.075mm)	GRAVEL (more than half of coarse fraction is larger than 2.36mm	GW	Gravel and gravel-sand mixtures, little or no fines	Wide range in grain size and substantial amounts of all intermediate sizes, not enough fines to bind coarse grains, no dry strength	≤ 5% fines	$C_u > 4$ $1 < C_c < 3$
		GP	Gravel and gravel-sand mixtures, little or no fines, uniform gravels	Predominantly one size or range of sizes with some intermediate sizes missing, not enough fines to bind coarse grains, no dry strength	≤ 5% fines	Fails to comply with above
		GM	Gravel-silt mixtures and gravel-sand-silt mixtures	'Dirty' materials with excess of non-plastic fines, zero to medium dry strength	≥ 12% fines, fines are silty	Fines behave as silt
		GC	Gravel-clay mixtures and gravel-sand-clay mixtures	'Dirty' materials with excess of plastic fines, medium to high dry strength	≥ 12% fines, fines are clayey	Fines behave as clay
	SAND (more than half of coarse fraction is smaller than 2.36mm)	SW	Sand and gravel-sand mixtures, little or no fines	Wide range in grain size and substantial amounts of all intermediate sizes, not enough fines to bind coarse grains, no dry strength	≤ 5% fines	$C_u > 6$ $1 < C_c < 3$
		SP	Sand and gravel-sand mixtures, little or no fines	Predominantly one size or range of sizes with some intermediate sizes missing, not enough fines to bind coarse grains, no dry strength	≤ 5% fines	Fails to comply with above
		SM	Sand-silt mixtures	'Dirty' materials with excess of non-plastic fines, zero to medium dry strength	≥ 12% fines, fines are silty	N/A
		SC	Sand-clay mixtures	'Dirty' materials with excess of plastic fines, medium to high dry strength	≥ 12% fines, fines are clayey	

Major Divisions		Group Symbol	Typical Names	Field Classification of Silt and Clay			Laboratory Classification
				Dry Strength	Dilatancy	Toughness	% < 0.075mm
ine grained soils (more than 35% of soil excluding oversize fraction is less than 0.075mm)	SILT and CLAY (low to medium plasticity)	ML	Inorganic silt and very fine sand, rock flour, silty or clayey fine sand or silt with low plasticity	None to low	Slow to rapid	Low	Below A line
		CL, CI	Inorganic clay of low to medium plasticity, gravelly clay, sandy clay	Medium to high	None to slow	Medium	Above A line
		OL	Organic silt	Low to medium	Slow	Low	Below A line
	SILT and CLAY (high plasticity)	MH	Inorganic silt	Low to medium	None to slow	Low to medium	Below A line
		CH	Inorganic clay of high plasticity	High to very high	None	High	Above A line
		OH	Organic clay of medium to high plasticity, organic silt	Medium to high	None to very slow	Low to medium	Below A line
	Highly organic soil	Pt	Peat, highly organic soil	–	–	–	–

Laboratory Classification Criteria

A well graded coarse grained soil is one for which the coefficient of uniformity $Cu > 4$ and the coefficient of curvature $1 < C_c < 3$. Otherwise, the soil is poorly graded. These coefficients are given by:

$$C_U = \frac{D_{60}}{D_{10}} \qquad and \qquad C_C = \frac{(D_{30})^2}{D_{10}\, D_{60}}$$

Where D_{10}, D_{30} and D_{60} are those grain sizes for which 10%, 30% and 60% of the soil grains, respectively, are smaller.

NOTES:

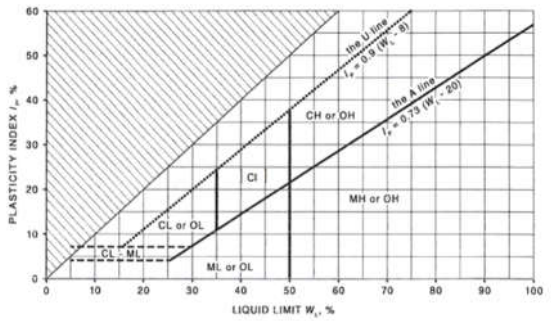
1 For a coarse grained soil with a fines content between 5% and 12%, the soil is given a dual classification comprising the two group symbols separated by a dash; for example, for a poorly graded gravel with between 5% and 12% silt fines, the classification is GP-GM.

2 Where the grading is determined from laboratory tests, it is defined by coefficients of curvature (C_c) and uniformity (C_u) derived from the particle size distribution curve.

3 Clay soils with liquid limits > 35% and ≤ 50% may be classified as being of medium plasticity.

4 The U line on the Modified Casagrande Chart is an approximate upper bound for most natural soils.

Modified Casagrande Chart for Classifying Silts and Clays according to their Behaviour



LOG SYMBOLS

Log Column	Symbol	Definition
Groundwater Record		Standing water level. Time delay following completion of drilling/excavation may be shown.
		Extent of borehole/test pit collapse shortly after drilling/excavation.
		Groundwater seepage into borehole or test pit noted during drilling or excavation.
Samples	ES	Sample taken over depth indicated, for environmental analysis.
	U50	Undisturbed 50mm diameter tube sample taken over depth indicated.
	DB	Bulk disturbed sample taken over depth indicated.
	DS	Small disturbed bag sample taken over depth indicated.
	ASB	Soil sample taken over depth indicated, for asbestos analysis.
	ASS	Soil sample taken over depth indicated, for acid sulfate soil analysis.
	SAL	Soil sample taken over depth indicated, for salinity analysis.
	PFAS	Soil sample taken over depth indicated, for analysis of Per- and Polyfluoroalkyl Substances.
Field Tests	N = 17 4, 7, 10	Standard Penetration Test (SPT) performed between depths indicated by lines. Individual figures show blows per 150mm penetration. 'Refusal' refers to apparent hammer refusal within the corresponding 150mm depth increment.
	N_c = 5 7 3R	Solid Cone Penetration Test (SCPT) performed between depths indicated by lines. Individual figures show blows per 150mm penetration for 60° solid cone driven by SPT hammer. 'R' refers to apparent hammer refusal within the corresponding 150mm depth increment.
	VNS = 25 PID = 100	Vane shear reading in kPa of undrained shear strength. Photoionisation detector reading in ppm (soil sample headspace test).
Moisture Condition (Fine Grained Soils)	w > PL $w \approx$ PL w < PL $w \approx$ LL w > LL	Moisture content estimated to be greater than plastic limit. Moisture content estimated to be approximately equal to plastic limit. Moisture content estimated to be less than plastic limit. Moisture content estimated to be near liquid limit. Moisture content estimated to be wet of liquid limit.
(Coarse Grained Soils)	D M W	DRY – runs freely through fingers. MOIST – does not run freely but no free water visible on soil surface. WET – free water visible on soil surface.
Strength (Consistency) Cohesive Soils	VS S F St VSt Hd Fr ( )	VERY SOFT – unconfined compressive strength ≤ 25kPa. SOFT – unconfined compressive strength > 25kPa and ≤ 50kPa. FIRM – unconfined compressive strength > 50kPa and ≤ 100kPa. STIFF – unconfined compressive strength > 100kPa and ≤ 200kPa. VERY STIFF – unconfined compressive strength > 200kPa and ≤ 400kPa. HARD – unconfined compressive strength > 400kPa. FRIABLE – strength not attainable, soil crumbles. Bracketed symbol indicates estimated consistency based on tactile examination or other assessment.
Density Index/ Relative Density (Cohesionless Soils)	VL L MD D VD ( )	**Density Index (I_D) Range (%)** / **SPT 'N' Value Range (Blows/300mm)** VERY LOOSE ≤ 15 / 0 – 4 LOOSE > 15 and ≤ 35 / 4 – 10 MEDIUM DENSE > 35 and ≤ 65 / 10 – 30 DENSE > 65 and ≤ 85 / 30 – 50 VERY DENSE > 85 / > 50 Bracketed symbol indicates estimated density based on ease of drilling or other assessment.

Log Column	Symbol	Definition
Hand Penetrometer Readings	300 250	Measures reading in kPa of unconfined compressive strength. Numbers indicate individual test results on representative undisturbed material unless noted otherwise.
Remarks	'V' bit	Hardened steel 'V' shaped bit.
	'TC' bit	Twin pronged tungsten carbide bit.
	T_{60}	Penetration of auger string in mm under static load of rig applied by drill head hydraulics without rotation of augers.
	Soil Origin	The geological origin of the soil can generally be described as: RESIDUAL – soil formed directly from insitu weathering of the underlying rock. No visible structure or fabric of the parent rock. EXTREMELY WEATHERED – soil formed directly from insitu weathering of the underlying rock. Material is of soil strength but retains the structure and/or fabric of the parent rock. ALLUVIAL – soil deposited by creeks and rivers. ESTUARINE – soil deposited in coastal estuaries, including sediments caused by inflowing creeks and rivers, and tidal currents. MARINE – soil deposited in a marine environment. AEOLIAN – soil carried and deposited by wind. COLLUVIAL – soil and rock debris transported downslope by gravity, with or without the assistance of flowing water. Colluvium is usually a thick deposit formed from a landslide. The description 'slopewash' is used for thinner surficial deposits. LITTORAL – beach deposited soil.

Classification of Material Weathering

Term		Abbreviation		Definition
Residual Soil		RS		Material is weathered to such an extent that it has soil properties. Mass structure and material texture and fabric of original rock are no longer visible, but the soil has not been significantly transported.
Extremely Weathered		XW		Material is weathered to such an extent that it has soil properties. Mass structure and material texture and fabric of original rock are still visible.
Highly Weathered	Distinctly Weathered (Note 1)	HW	DW	The whole of the rock material is discoloured, usually by iron staining or bleaching to the extent that the colour of the original rock is not recognisable. Rock strength is significantly changed by weathering. Some primary minerals have weathered to clay minerals. Porosity may be increased by leaching, or may be decreased due to deposition of weathering products in pores.
Moderately Weathered		MW		The whole of the rock material is discoloured, usually by iron staining or bleaching to the extent that the colour of the original rock is not recognisable, but shows little or no change of strength from fresh rock.
Slightly Weathered		SW		Rock is partially discoloured with staining or bleaching along joints but shows little or no change of strength from fresh rock.
Fresh		FR		Rock shows no sign of decomposition of individual minerals or colour changes.

NOTE 1: The term 'Distinctly Weathered' is used where it is not practicable to distinguish between 'Highly Weathered' and 'Moderately Weathered' rock. 'Distinctly Weathered' is defined as follows: *'Rock strength usually changed by weathering. The rock may be highly discoloured, usually by iron staining. Porosity may be increased by leaching, or may be decreased due to deposition of weathering products in pores'*. There is some change in rock strength.

Rock Material Strength Classification

Term	Abbreviation	Uniaxial Compressive Strength (MPa)	Guide to Strength	
			Point Load Strength Index $Is_{(50)}$ (MPa)	Field Assessment
Very Low Strength	VL	0.6 to 2	0.03 to 0.1	Material crumbles under firm blows with sharp end of pick; can be peeled with knife; too hard to cut a triaxial sample by hand. Pieces up to 30mm thick can be broken by finger pressure.
Low Strength	L	2 to 6	0.1 to 0.3	Easily scored with a knife; indentations 1mm to 3mm show in the specimen with firm blows of the pick point; has dull sound under hammer. A piece of core 150mm long by 50mm diameter may be broken by hand. Sharp edges of core may be friable and break during handling.
Medium Strength	M	6 to 20	0.3 to 1	Scored with a knife; a piece of core 150mm long by 50mm diameter can be broken by hand with difficulty.
High Strength	H	20 to 60	1 to 3	A piece of core 150mm long by 50mm diameter cannot be broken by hand but can be broken by a pick with a single firm blow; rock rings under hammer.
Very High Strength	VH	60 to 200	3 to 10	Hand specimen breaks with pick after more than one blow; rock rings under hammer.
Extremely High Strength	EH	> 200	> 10	Specimen requires many blows with geological pick to break through intact material; rock rings under hammer.

Appendix E: Laboratory Reports & COC Documents

Envirolab Services (WA) Pty Ltd trading as MPL Laboratories
ABN 53 140 099 207
16-18 Hayden Court Myaree WA 6154
ph 08 9317 2505 fax 08 9317 4163
lab@mpl.com.au
www.mpl.com.au

CERTIFICATE OF ANALYSIS 277347

Client Details

Client	JK Environments
Attention	Craig Ridley
Address	PO Box 976, NORTH RYDE BC, NSW, 1670

Sample Details

Your Reference	**E33051BR Mittagong**
Number of Samples	2 Soil
Date samples received	23/02/2022
Date completed instructions received	23/02/2022

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.

Samples were analysed as received from the client. Results relate specifically to the samples as received.

Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Please refer to the last page of this report for any comments relating to the results.

Report Details

Date results requested by	02/03/2022
Date of Issue	03/03/2022

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Asbestos Approved By
Analysed by Asbestos Approved Analyst: Lalanee Rupasinghe

Results Approved By
Heram Halim, Operations Manager
Lalanee Rupasinghe, OH Lab Analyst
Lien Tang, Assistant Operations Manager
Travis Carey, Organics - Team Leader

Authorised By

Michael Kubiak, Laboratory Manager

vTRH(C6-C10)/MBTEXN in soil			
Our Reference		277347-1	277347-2
Your Reference	UNITS	SDUP3	SDUP5
Date Sampled		18/02/2022	18/02/2022
Type of sample		Soil	Soil
Date extracted	-	24/02/2022	24/02/2022
Date analysed	-	03/03/2022	03/03/2022
TRH C_6 - C_9	mg/kg	<25	<25
TRH C_6 - C_{10}	mg/kg	<25	<25
TRH C_6-C_{10} less BTEX (F1)	mg/kg	<25	<25
MTBE	mg/kg	<0.5	<0.5
Benzene	mg/kg	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1
m+p-xylene	mg/kg	<2	<2
o-xylene	mg/kg	<1	<1
Naphthalene	mg/kg	<1	<1
Surrogate aaa-Trifluorotoluene	%	98	94

svTRH(C10-C36) in soil			
Our Reference	UNITS	277347-1	277347-2
Your Reference		SDUP3	SDUP5
Date Sampled		18/02/2022	18/02/2022
Type of sample		Soil	Soil
Date extracted	-	24/02/2022	24/02/2022
Date analysed	-	25/02/2022	25/02/2022
TRH C_{10} - C_{14}	mg/kg	<50	<50
TRH C_{15} - C_{28}	mg/kg	<100	<100
TRH C_{29} - C_{36}	mg/kg	<100	<100
TRH >C_{10} - C_{16}	mg/kg	<50	<50
TRH >C_{10} -C_{16} less N (F2)	mg/kg	<50	<50
TRH >C_{16} - C_{34}	mg/kg	<100	<100
TRH >C_{34} - C_{40}	mg/kg	<100	<100
Surrogate o-Terphenyl	%	100	103

PAHs in Soil			
Our Reference	UNITS	277347-1	277347-2
Your Reference		SDUP3	SDUP5
Date Sampled		18/02/2022	18/02/2022
Type of sample		Soil	Soil
Date extracted	-	24/02/2022	24/02/2022
Date analysed	-	25/02/2022	25/02/2022
Naphthalene	mg/kg	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5
Total Positive PAHs	mg/kg	<0.05	<0.05
Surrogate p-Terphenyl-D_{14}	%	100	99

Organochlorine Pesticides in soil		
Our Reference		277347-2
Your Reference	UNITS	SDUP5
Date Sampled		18/02/2022
Type of sample		Soil
Date extracted	-	24/02/2022
Date analysed	-	25/02/2022
Hexachlorobenzene (HCB)	mg/kg	<0.1
a-BHC	mg/kg	<0.1
b-BHC	mg/kg	<0.1
Lindane (g-BHC)	mg/kg	<0.1
d-BHC	mg/kg	<0.1
Heptachlor	mg/kg	<0.1
Aldrin	mg/kg	<0.1
Heptachlor Epoxide	mg/kg	<0.1
a-Chlordane	mg/kg	<0.1
g-Chlordane	mg/kg	<0.1
a-Endosulphan	mg/kg	<0.1
p,p'-DDE	mg/kg	<0.1
Dieldrin	mg/kg	<0.1
Endrin	mg/kg	<0.1
p,p'-DDD	mg/kg	<0.1
b-Endosulphan	mg/kg	<0.1
Endrin Aldehyde	mg/kg	<0.1
Endosulfan Sulphate	mg/kg	<0.1
p,p'-DDT	mg/kg	<0.1
Endrin Ketone	mg/kg	<0.1
Methoxychlor	mg/kg	<0.1
Surrogate 2-chlorophenol-d4	%	95

Organophosphorus Pesticides		
Our Reference		277347-2
Your Reference	UNITS	SDUP5
Date Sampled		18/02/2022
Type of sample		Soil
Date extracted	-	24/02/2022
Date analysed	-	25/02/2022
Diazinon (Dimpylate)	mg/kg	<0.1
Chlorpyrifos-methyl	mg/kg	<0.1
Ronnel	mg/kg	<0.1
Fenitrothion	mg/kg	<0.1
Malathion (Maldison)	mg/kg	<0.1
Chlorpyrifos (ethyl)	mg/kg	<0.1
Parathion (ethyl)	mg/kg	<0.1
Ethion	mg/kg	<0.1
Bromophos Ethyl	mg/kg	<0.1
Dimethoate	mg/kg	<0.1
Dichlorvos	mg/kg	<0.1
Azinphos Methyl (Guthion)	mg/kg	<0.1
Surrogate 2-chlorophenol-d4	%	95

PCBs in Soil		
Our Reference		277347-2
Your Reference	UNITS	SDUP5
Date Sampled		18/02/2022
Type of sample		Soil
Date extracted	-	24/02/2022
Date analysed	-	25/02/2022
Arochlor 1016	mg/kg	<0.1
Arochlor 1221	mg/kg	<0.1
Arochlor 1232	mg/kg	<0.1
Arochlor 1242	mg/kg	<0.1
Arochlor 1248	mg/kg	<0.1
Arochlor 1254	mg/kg	<0.1
Surrogate 2-fluorobiphenyl	%	97

Acid Extractable metals in soil			
Our Reference		277347-1	277347-2
Your Reference	UNITS	SDUP3	SDUP5
Date Sampled		18/02/2022	18/02/2022
Type of sample		Soil	Soil
Date digested	-	24/02/2022	24/02/2022
Date analysed	-	25/02/2022	25/02/2022
Arsenic	mg/kg	4	14
Cadmium	mg/kg	<0.4	0.6
Chromium	mg/kg	10	14
Copper	mg/kg	12	58
Lead	mg/kg	76	300
Mercury	mg/kg	0.2	<0.1
Nickel	mg/kg	4	14
Zinc	mg/kg	82	310

Speciated Phenols in Soil		
Our Reference		277347-2
Your Reference	UNITS	SDUP5
Date Sampled		18/02/2022
Type of sample		Soil
Date extracted	-	24/02/2022
Date analysed	-	25/02/2022
Phenol	mg/kg	<0.2
2-Chlorophenol	mg/kg	<0.2
4-Chloro-3-methylphenol	mg/kg	<5
2-Methylphenol	mg/kg	<0.2
3/4-Methylphenol	mg/kg	<0.4
2-Nitrophenol	mg/kg	<0.2
2,4-Dimethylphenol	mg/kg	<0.2
2,4-Dichlorophenol	mg/kg	<0.2
2,6-Dichlorophenol	mg/kg	<0.2
2,4,5-Trichlorophenol	mg/kg	<0.2
2,4,6-Trichlorophenol	mg/kg	<0.2
2,4-Dinitrophenol	mg/kg	<4
4-Nitrophenol	mg/kg	<4
2,3,4,6-Tetrachlorophenol	mg/kg	<0.2
2-Methyl-4,6-dinitrophenol	mg/kg	<10
Pentachlorophenol	mg/kg	<5
Surrogate Phenol-d_6	%	97
Surrogate 2-fluorophenol	%	88

Asbestos ID - soils NEPM - ASB-001			
Our Reference	UNITS	277347-1	277347-2
Your Reference		SDUP3	SDUP5
Date Sampled		18/02/2022	18/02/2022
Type of sample		Soil	Soil
Date analysed	-	25/02/2022	25/02/2022
Sample Weight	g	600	600
Sample Description	-	Soil	Soil
Asbestos ID in soil (AS4964) >0.1g/kg	-	No asbestos detected at reporting limit of 0.1g/kg	No asbestos detected at reporting limit of 0.1g/kg
Trace Analysis	-	No asbestos detected	No asbestos detected
Total Asbestos #1	g/kg	<0.1	<0.1
Asbestos ID <0.1g/kg*	-	No visible asbestos detected	No visible asbestos detected
ACM >7mm Estimation*	g	--	--
FA and AF Estimation*	g	--	--
ACM >7mm Estimation*	%(w/w)	<0.01	<0.01
FA and AF Estimation* #2	%(w/w)	<0.001	<0.001

PFAS in Soil Extended		
Our Reference		277347-2
Your Reference	UNITS	SDUP5
Date Sampled		18/02/2022
Type of sample		Soil
Date prepared	-	25/02/2022
Date analysed	-	25/02/2022
Perfluorobutanesulfonic acid	µg/kg	<0.1
Perfluoropentanesulfonic acid	µg/kg	<0.1
Perfluorohexanesulfonic acid	µg/kg	<0.1
Perfluoroheptanesulfonic acid	µg/kg	<0.1
Perfluorooctanesulfonic acid PFOS	µg/kg	0.3
Perfluorodecanesulfonic acid	µg/kg	<0.2
Perfluorobutanoic acid	µg/kg	<0.2
Perfluoropentanoic acid	µg/kg	<0.2
Perfluorohexanoic acid	µg/kg	<0.1
Perfluoroheptanoic acid	µg/kg	<0.1
Perfluorooctanoic acid PFOA	µg/kg	<0.1
Perfluorononanoic acid	µg/kg	<0.1
Perfluorodecanoic acid	µg/kg	<0.5
Perfluoroundecanoic acid	µg/kg	<0.5
Perfluorododecanoic acid	µg/kg	<0.5
Perfluorotridecanoic acid	µg/kg	<0.5
Perfluorotetradecanoic acid	µg/kg	<5
4:2 FTS	µg/kg	<0.1
6:2 FTS	µg/kg	<0.1
8:2 FTS	µg/kg	<0.2
10:2 FTS	µg/kg	<0.2
Perfluorooctane sulfonamide	µg/kg	<1
N-Methyl perfluorooctane sulfonamide	µg/kg	<1
N-Ethyl perfluorooctanesulfon -amide	µg/kg	<1
N-Me perfluorooctanesulfonamid -oethanol	µg/kg	<1
N-Et perfluorooctanesulfonamid -oethanol	µg/kg	<5
MePerfluorooctanesulf- amid oacetic acid	µg/kg	<0.2
EtPerfluorooctanesulf- amid oacetic acid	µg/kg	<0.2
Surrogate $^{13}C_8$ PFOS	%	99
Surrogate $^{13}C_2$ PFOA	%	97
Extracted ISTD $^{13}C_3$ *PFBS*	%	88
Extracted ISTD $^{18}O_2$ *PFHxS*	%	89
Extracted ISTD $^{13}C_4$ *PFOS*	%	85
Extracted ISTD 13C4 PFBA	%	85

PFAS in Soil Extended		
Our Reference		277347-2
Your Reference	UNITS	SDUP5
Date Sampled		18/02/2022
Type of sample		Soil
Extracted ISTD $^{13}C_3$ *PFPeA*	%	88
Extracted ISTD $^{13}C_2$ *PFHxA*	%	88
Extracted ISTD $^{13}C_4$ *PFHpA*	%	87
Extracted ISTD $^{13}C_4$ *PFOA*	%	89
Extracted ISTD $^{13}C_5$ *PFNA*	%	92
Extracted ISTD $^{13}C_2$ *PFDA*	%	89
Extracted ISTD $^{13}C_2$ *PFUnDA*	%	95
Extracted ISTD $^{13}C_2$ *PFDoDA*	%	106
Extracted ISTD $^{13}C_2$ *PFTeDA*	%	139
Extracted ISTD $^{13}C_2$ *4:2FTS*	%	91
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	100
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	124
Extracted ISTD $^{13}C_8$ *FOSA*	%	79
Extracted ISTD d_3 *N MeFOSA*	%	69
Extracted ISTD d_5 *N EtFOSA*	%	59
Extracted ISTD d_7 *N MeFOSE*	%	78
Extracted ISTD d_9 *N EtFOSE*	%	72
Extracted ISTD d_3 *N MeFOSAA*	%	108
Extracted ISTD d_5 *N EtFOSAA*	%	111
Total Positive PFHxS & PFOS	µg/kg	0.3
Total Positive PFOS & PFOA	µg/kg	0.3
Total Positive PFAS	µg/kg	0.3

Moisture			
Our Reference		277347-1	277347-2
Your Reference	UNITS	SDUP3	SDUP5
Date Sampled		18/02/2022	18/02/2022
Type of sample		Soil	Soil
Date prepared	-	24/02/2022	24/02/2022
Date analysed	-	25/02/2022	25/02/2022
Moisture	%	13	22

Method ID	Methodology Summary
ASB-001	Asbestos ID - Qualitative identification of asbestos in bulk samples using Polarised Light Microscopy and Dispersion Staining Techniques, including Synthetic Mineral Fibres and Organic Fibres as per Australian Standard 4964-2004.
ASB-003	Asbestos ID - Identification of asbestos in soil samples using Polarised Light Microscopy and Dispersion Staining Techniques. Minimum 500mL soil sample was analysed as recommended by "National Environment Protection (Assessment of site contamination) Measure, Schedule B1 and "The Guidelines from the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia - May 2009" with a reporting limit of 0.1g/kg (0.01% w/w) as per Australian Standard AS4964-2004. Results reported denoted with * are outside our scope of NATA accreditation. **NOTE #1** Total Asbestos g/kg was analysed and reported as per Australian Standard AS4964 (This is the sum of ACM >7mm, <7mm and FA/AF) **NOTE #2** The screening level of 0.001% w/w asbestos in soil for FA and AF only applies where the FA and AF are able to be quantified by gravimetric procedures. This screening level is not applicable to free fibres. Estimation = Estimated asbestos weight Results reported with "--" is equivalent to no visible asbestos identified using Polarised Light microscopy and Dispersion Staining Techniques.
INORG-008	Moisture content determined by heating at 105 deg C for a minimum of 12 hours.
METALS-020	Determination of various metals by ICP-AES.
METALS-021	Determination of Mercury by Cold Vapour AAS. For urine samples total Mercury is determined, however, mercury in urine is almost entirely in the inorganic form (CDC).
Org-020	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis.
Org-021	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-ECD.
Org-021	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC with dual ECD's.

Method ID	Methodology Summary
Org-021/022/025	Organophosphorus Pesticides in soil by DCM:Acetone extraction and water by DCM extraction with determination by GC-ECD/GC-MS/GC-MSMS.
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS/GC-MSMS.
Org-022/025	For soil results:- 1. 'EQ PQL'values are assuming all contributing PAHs reported as <PQL are actually at the PQL. This is the most conservative approach and can give false positive TEQs given that PAHs that contribute to the TEQ calculation may not be present. 2. 'EQ zero'values are assuming all contributing PAHs reported as <PQL are zero. This is the least conservative approach and is more susceptible to false negative TEQs when PAHs that contribute to the TEQ calculation are present but below PQL. 3. 'EQ half PQL'values are assuming all contributing PAHs reported as <PQL are half the stipulated PQL. Hence a mid-point between the most and least conservative approaches above. Note, the Total +ve PAHs PQL is reflective of the lowest individual PQL and is therefore" Total +ve PAHs" is simply a sum of the positive individual PAHs.
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS/GC-MSMS.
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS/GC-MSMS. Benzo(a)pyrene TEQ as per NEPM draft B1 Guideline on Investigation Levels for Soil and Groundwater.
Org-022/025-OCP	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS/GC-MSMS.
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.

Method ID	Methodology Summary
Org-029	Soil samples are extracted with basified Methanol. Waters and soil extracts are directly injected and/or concentrated/extracted using SPE. TCLP/ASLP leachates are centrifuged, the supernatant is then analysed (including amendment with solvent) - as per the option in AS4439.3. Analysis is undertaken with LC-MS/MS. PFAS results include the sum of branched and linear isomers where applicable. Please note that PFAS results are corrected for Extracted Internal Standards (QSM 5.3 Table B-15 terminology), which are mass labelled analytes added prior to sample preparation to assess matrix effects and verify processing of the sample. PFAS analytes without a commercially available mass labelled analogue are corrected vs a closely eluting mass labelled PFAS compound. Surrogates are also reported, in this context they are mass labelled PFAS compounds added prior to extraction but are used as monitoring compounds only (not used for result correction). Envicarb (or similar) is used discretionally to remove interfering matrix components. Please contact the laboratory if estimates of Measurement Uncertainty are required as per WA DER.

QUALITY CONTROL: vTRH(C6-C10)/MBTEXN in soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date extracted	-			24/02/2022	[NT]	[NT]	[NT]	[NT]	24/02/2022	[NT]
Date analysed	-			03/03/2022	[NT]	[NT]	[NT]	[NT]	03/03/2022	[NT]
TRH C_6 - C_9	mg/kg	25	Org-023	<25	[NT]	[NT]	[NT]	[NT]	92	[NT]
TRH C_6 - C_{10}	mg/kg	25	Org-023	<25	[NT]	[NT]	[NT]	[NT]	92	[NT]
MTBE	mg/kg	0.5	Org-023	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzene	mg/kg	0.2	Org-023	<0.2	[NT]	[NT]	[NT]	[NT]	90	[NT]
Toluene	mg/kg	0.5	Org-023	<0.5	[NT]	[NT]	[NT]	[NT]	93	[NT]
Ethylbenzene	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	93	[NT]
m+p-xylene	mg/kg	2	Org-023	<2	[NT]	[NT]	[NT]	[NT]	92	[NT]
o-xylene	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	95	[NT]
Naphthalene	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-023	105	[NT]	[NT]	[NT]	[NT]	102	[NT]

QUALITY CONTROL: svTRH(C10-C36) in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date extracted	-			24/02/2022	[NT]	[NT]	[NT]	[NT]	24/02/2022	[NT]
Date analysed	-			25/02/2022	[NT]	[NT]	[NT]	[NT]	25/02/2022	[NT]
TRH C_{10} - C_{14}	mg/kg	50	Org-020	<50	[NT]	[NT]	[NT]	[NT]	116	[NT]
TRH C_{15} - C_{28}	mg/kg	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	109	[NT]
TRH C_{29} - C_{36}	mg/kg	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	93	[NT]
TRH >C_{10} - C_{16}	mg/kg	50	Org-020	<50	[NT]	[NT]	[NT]	[NT]	113	[NT]
TRH >C_{16} - C_{34}	mg/kg	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	107	[NT]
TRH >C_{34} - C_{40}	mg/kg	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	112	[NT]
Surrogate o-Terphenyl	%		Org-020	105	[NT]	[NT]	[NT]	[NT]	97	[NT]

QUALITY CONTROL: PAHs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date extracted	-			24/02/2022	[NT]	[NT]	[NT]	[NT]	24/02/2022	[NT]
Date analysed	-			25/02/2022	[NT]	[NT]	[NT]	[NT]	25/02/2022	[NT]
Naphthalene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	83	[NT]
Acenaphthylene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Fluorene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	83	[NT]
Phenanthrene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	85	[NT]
Anthracene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	82	[NT]
Pyrene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	81	[NT]
Benzo(a)anthracene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	85	[NT]
Benzo(b,j+k)fluoranthene	mg/kg	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-022/025	<0.05	[NT]	[NT]	[NT]	[NT]	83	[NT]
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate p-Terphenyl-D_{14}	%		Org-022/025	106	[NT]	[NT]	[NT]	[NT]	98	[NT]

QUALITY CONTROL: Organochlorine Pesticides in soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date extracted	-			24/02/2022	[NT]	[NT]	[NT]	[NT]	24/02/2022	[NT]
Date analysed	-			25/02/2022	[NT]	[NT]	[NT]	[NT]	25/02/2022	[NT]
Hexachlorobenzene (HCB)	mg/kg	0.1	Org-022/025-OCP	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
a-BHC	mg/kg	0.1	Org-022/025-OCP	<0.1	[NT]	[NT]	[NT]	[NT]	79	[NT]
b-BHC	mg/kg	0.1	Org-022/025-OCP	<0.1	[NT]	[NT]	[NT]	[NT]	66	[NT]
Lindane (g-BHC)	mg/kg	0.1	Org-022/025-OCP	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
d-BHC	mg/kg	0.1	Org-022/025-OCP	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Heptachlor	mg/kg	0.1	Org-022/025-OCP	<0.1	[NT]	[NT]	[NT]	[NT]	75	[NT]
Aldrin	mg/kg	0.1	Org-022/025-OCP	<0.1	[NT]	[NT]	[NT]	[NT]	74	[NT]
Heptachlor Epoxide	mg/kg	0.1	Org-022/025-OCP	<0.1	[NT]	[NT]	[NT]	[NT]	72	[NT]
a-Chlordane	mg/kg	0.1	Org-022/025-OCP	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
g-Chlordane	mg/kg	0.1	Org-022/025-OCP	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
a-Endosulphan	mg/kg	0.1	Org-022/025-OCP	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
p,p'-DDE	mg/kg	0.1	Org-022/025-OCP	<0.1	[NT]	[NT]	[NT]	[NT]	68	[NT]
Dieldrin	mg/kg	0.1	Org-022/025-OCP	<0.1	[NT]	[NT]	[NT]	[NT]	71	[NT]
Endrin	mg/kg	0.1	Org-022/025-OCP	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
p,p'-DDD	mg/kg	0.1	Org-022/025-OCP	<0.1	[NT]	[NT]	[NT]	[NT]	76	[NT]
b-Endosulphan	mg/kg	0.1	Org-022/025-OCP	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Endrin Aldehyde	mg/kg	0.1	Org-022/025-OCP	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Endosulfan Sulphate	mg/kg	0.1	Org-022/025-OCP	<0.1	[NT]	[NT]	[NT]	[NT]	76	[NT]
p,p'-DDT	mg/kg	0.1	Org-022/025-OCP	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Endrin Ketone	mg/kg	0.1	Org-022/025-OCP	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Methoxychlor	mg/kg	0.1	Org-022/025-OCP	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate 2-chlorophenol-d4	%		Org-022/025	100	[NT]	[NT]	[NT]	[NT]	102	[NT]

QUALITY CONTROL: Organophosphorus Pesticides						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date extracted	-			24/02/2022	[NT]	[NT]	[NT]	[NT]	24/02/2022	[NT]
Date analysed	-			25/02/2022	[NT]	[NT]	[NT]	[NT]	25/02/2022	[NT]
Diazinon (Dimpylate)	mg/kg	0.1	Org-021/022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chlorpyrifos-methyl	mg/kg	0.1	Org-021/022/025	<0.1	[NT]	[NT]	[NT]	[NT]	73	[NT]
Ronnel	mg/kg	0.1	Org-021/022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Fenitrothion	mg/kg	0.1	Org-021/022/025	<0.1	[NT]	[NT]	[NT]	[NT]	66	[NT]
Malathion (Maldison)	mg/kg	0.1	Org-021/022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chlorpyrifos (ethyl)	mg/kg	0.1	Org-021/022/025	<0.1	[NT]	[NT]	[NT]	[NT]	76	[NT]
Parathion (ethyl)	mg/kg	0.1	Org-021/022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Ethion	mg/kg	0.1	Org-021/022/025	<0.1	[NT]	[NT]	[NT]	[NT]	74	[NT]
Bromophos Ethyl	mg/kg	0.1	Org-021/022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dimethoate	mg/kg	0.1	Org-021/022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dichlorvos	mg/kg	0.1	Org-021	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Azinphos Methyl (Guthion)	mg/kg	0.1	Org-021	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate 2-chlorophenol-d4	%		Org-022/025	100	[NT]	[NT]	[NT]	[NT]	102	[NT]

QUALITY CONTROL: PCBs in Soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date extracted	-			24/02/2022	[NT]	[NT]	[NT]	[NT]	24/02/2022	[NT]
Date analysed	-			25/02/2022	[NT]	[NT]	[NT]	[NT]	25/02/2022	[NT]
Arochlor 1016	mg/kg	0.1	Org-021	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Arochlor 1221	mg/kg	0.1	Org-021	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Arochlor 1232	mg/kg	0.1	Org-021	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Arochlor 1242	mg/kg	0.1	Org-021	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Arochlor 1248	mg/kg	0.1	Org-021	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Arochlor 1254	mg/kg	0.1	Org-021	<0.1	[NT]	[NT]	[NT]	[NT]	95	[NT]
Surrogate 2-fluorobiphenyl	%		Org-022/025	104	[NT]	[NT]	[NT]	[NT]	101	[NT]

QUALITY CONTROL: Acid Extractable metals in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date digested	-			24/02/2022	[NT]	[NT]	[NT]	[NT]	24/02/2022	[NT]
Date analysed	-			25/02/2022	[NT]	[NT]	[NT]	[NT]	25/02/2022	[NT]
Arsenic	mg/kg	2	METALS-020	<2	[NT]	[NT]	[NT]	[NT]	103	[NT]
Cadmium	mg/kg	0.4	METALS-020	<0.4	[NT]	[NT]	[NT]	[NT]	106	[NT]
Chromium	mg/kg	1	METALS-020	<1	[NT]	[NT]	[NT]	[NT]	104	[NT]
Copper	mg/kg	1	METALS-020	<1	[NT]	[NT]	[NT]	[NT]	103	[NT]
Lead	mg/kg	1	METALS-020	<1	[NT]	[NT]	[NT]	[NT]	105	[NT]
Mercury	mg/kg	0.1	METALS-021	<0.1	[NT]	[NT]	[NT]	[NT]	96	[NT]
Nickel	mg/kg	1	METALS-020	<1	[NT]	[NT]	[NT]	[NT]	101	[NT]
Zinc	mg/kg	1	METALS-020	<1	[NT]	[NT]	[NT]	[NT]	107	[NT]

QUALITY CONTROL: Speciated Phenols in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date extracted	-			24/02/2022	[NT]	[NT]	[NT]	[NT]	24/02/2022	[NT]
Date analysed	-			25/02/2022	[NT]	[NT]	[NT]	[NT]	25/02/2022	[NT]
Phenol	mg/kg	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	68	[NT]
2-Chlorophenol	mg/kg	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	72	[NT]
4-Chloro-3-methylphenol	mg/kg	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2-Methylphenol	mg/kg	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	73	[NT]
3/4-Methylphenol	mg/kg	0.4	Org-022/025	<0.4	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2-Nitrophenol	mg/kg	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,4-Dimethylphenol	mg/kg	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,4-Dichlorophenol	mg/kg	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,6-Dichlorophenol	mg/kg	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	71	[NT]
2,4,5-Trichlorophenol	mg/kg	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,4,6-Trichlorophenol	mg/kg	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,4-Dinitrophenol	mg/kg	4	Org-022/025	<4	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
4-Nitrophenol	mg/kg	4	Org-022/025	<4	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,3,4,6-Tetrachlorophenol	mg/kg	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2-Methyl-4,6-dinitrophenol	mg/kg	10	Org-022/025	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Pentachlorophenol	mg/kg	5	Org-022/025	<5	[NT]	[NT]	[NT]	[NT]	70	[NT]
Surrogate Phenol-d_6	%		Org-022/025	104	[NT]	[NT]	[NT]	[NT]	105	[NT]
Surrogate 2-fluorophenol	%		Org-022/025	105	[NT]	[NT]	[NT]	[NT]	102	[NT]

QUALITY CONTROL: PFAS in Soil Extended					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date prepared	-			25/02/2022	[NT]	[NT]	[NT]	[NT]	25/02/2022	[NT]
Date analysed	-			25/02/2022	[NT]	[NT]	[NT]	[NT]	25/02/2022	[NT]
Perfluorobutanesulfonic acid	µg/kg	0.1	Org-029	<0.1	[NT]	[NT]	[NT]	[NT]	95	[NT]
Perfluoropentanesulfonic acid	µg/kg	0.1	Org-029	<0.1	[NT]	[NT]	[NT]	[NT]	100	[NT]
Perfluorohexanesulfonic acid	µg/kg	0.1	Org-029	<0.1	[NT]	[NT]	[NT]	[NT]	100	[NT]
Perfluoroheptanesulfonic acid	µg/kg	0.2	Org-029	<0.2	[NT]	[NT]	[NT]	[NT]	104	[NT]
Perfluorooctanesulfonic acid PFOS	µg/kg	0.1	Org-029	<0.1	[NT]	[NT]	[NT]	[NT]	93	[NT]
Perfluorodecanesulfonic acid	µg/kg	0.2	Org-029	<0.2	[NT]	[NT]	[NT]	[NT]	80	[NT]
Perfluorobutanoic acid	µg/kg	0.2	Org-029	<0.2	[NT]	[NT]	[NT]	[NT]	100	[NT]
Perfluoropentanoic acid	µg/kg	0.2	Org-029	<0.2	[NT]	[NT]	[NT]	[NT]	94	[NT]
Perfluorohexanoic acid	µg/kg	0.1	Org-029	<0.1	[NT]	[NT]	[NT]	[NT]	103	[NT]
Perfluoroheptanoic acid	µg/kg	0.1	Org-029	<0.1	[NT]	[NT]	[NT]	[NT]	98	[NT]
Perfluorooctanoic acid PFOA	µg/kg	0.1	Org-029	<0.1	[NT]	[NT]	[NT]	[NT]	99	[NT]
Perfluorononanoic acid	µg/kg	0.1	Org-029	<0.1	[NT]	[NT]	[NT]	[NT]	98	[NT]
Perfluorodecanoic acid	µg/kg	0.5	Org-029	<0.5	[NT]	[NT]	[NT]	[NT]	102	[NT]
Perfluoroundecanoic acid	µg/kg	0.5	Org-029	<0.5	[NT]	[NT]	[NT]	[NT]	106	[NT]
Perfluorododecanoic acid	µg/kg	0.5	Org-029	<0.5	[NT]	[NT]	[NT]	[NT]	103	[NT]
Perfluorotridecanoic acid	µg/kg	0.5	Org-029	<0.5	[NT]	[NT]	[NT]	[NT]	103	[NT]
Perfluorotetradecanoic acid	µg/kg	5	Org-029	<5	[NT]	[NT]	[NT]	[NT]	88	[NT]
4:2 FTS	µg/kg	0.1	Org-029	<0.1	[NT]	[NT]	[NT]	[NT]	110	[NT]
6:2 FTS	µg/kg	0.1	Org-029	<0.1	[NT]	[NT]	[NT]	[NT]	99	[NT]
8:2 FTS	µg/kg	0.2	Org-029	<0.2	[NT]	[NT]	[NT]	[NT]	103	[NT]
10:2 FTS	µg/kg	0.2	Org-029	<0.2	[NT]	[NT]	[NT]	[NT]	100	[NT]
Perfluorooctane sulfonamide	µg/kg	1	Org-029	<1	[NT]	[NT]	[NT]	[NT]	94	[NT]
N-Methyl perfluorooctane sulfonamide	µg/kg	1	Org-029	<1	[NT]	[NT]	[NT]	[NT]	97	[NT]
N-Ethyl perfluorooctanesulfon -amide	µg/kg	1	Org-029	<1	[NT]	[NT]	[NT]	[NT]	94	[NT]
N-Me perfluorooctanesulfonamid -oethanol	µg/kg	1	Org-029	<1	[NT]	[NT]	[NT]	[NT]	104	[NT]
N-Et perfluorooctanesulfonamid -oethanol	µg/kg	5	Org-029	<5	[NT]	[NT]	[NT]	[NT]	106	[NT]
MePerfluorooctanesulf- amid oacetic acid	µg/kg	0.2	Org-029	<0.2	[NT]	[NT]	[NT]	[NT]	105	[NT]
EtPerfluorooctanesulf- amid oacetic acid	µg/kg	0.2	Org-029	<0.2	[NT]	[NT]	[NT]	[NT]	97	[NT]
Surrogate $^{13}C_8$ PFOS	%		Org-029	95	[NT]	[NT]	[NT]	[NT]	95	[NT]
Surrogate $^{13}C_2$ PFOA	%		Org-029	96	[NT]	[NT]	[NT]	[NT]	97	[NT]
Extracted ISTD $^{13}C_3$ *PFBS*	%		Org-029	94	[NT]	[NT]	[NT]	[NT]	94	[NT]

QUALITY CONTROL: PFAS in Soil Extended					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Extracted ISTD $^{18}O_2$ PFHxS	%		Org-029	93	[NT]	[NT]	[NT]	[NT]	93	[NT]
Extracted ISTD $^{13}C_4$ PFOS	%		Org-029	98	[NT]	[NT]	[NT]	[NT]	90	[NT]
Extracted ISTD 13C4 PFBA	%		Org-029	94	[NT]	[NT]	[NT]	[NT]	91	[NT]
Extracted ISTD $^{13}C_3$ PFPeA	%		Org-029	94	[NT]	[NT]	[NT]	[NT]	91	[NT]
Extracted ISTD $^{13}C_2$ PFHxA	%		Org-029	95	[NT]	[NT]	[NT]	[NT]	93	[NT]
Extracted ISTD $^{13}C_4$ PFHpA	%		Org-029	94	[NT]	[NT]	[NT]	[NT]	90	[NT]
Extracted ISTD $^{13}C_4$ PFOA	%		Org-029	94	[NT]	[NT]	[NT]	[NT]	88	[NT]
Extracted ISTD $^{13}C_5$ PFNA	%		Org-029	96	[NT]	[NT]	[NT]	[NT]	92	[NT]
Extracted ISTD $^{13}C_2$ PFDA	%		Org-029	91	[NT]	[NT]	[NT]	[NT]	88	[NT]
Extracted ISTD $^{13}C_2$ PFUnDA	%		Org-029	99	[NT]	[NT]	[NT]	[NT]	89	[NT]
Extracted ISTD $^{13}C_2$ PFDoDA	%		Org-029	107	[NT]	[NT]	[NT]	[NT]	91	[NT]
Extracted ISTD $^{13}C_2$ PFTeDA	%		Org-029	130	[NT]	[NT]	[NT]	[NT]	113	[NT]
Extracted ISTD $^{13}C_2$ 4:2FTS	%		Org-029	91	[NT]	[NT]	[NT]	[NT]	86	[NT]
Extracted ISTD $^{13}C_2$ 6:2FTS	%		Org-029	89	[NT]	[NT]	[NT]	[NT]	92	[NT]
Extracted ISTD $^{13}C_2$ 8:2FTS	%		Org-029	93	[NT]	[NT]	[NT]	[NT]	96	[NT]
Extracted ISTD $^{13}C_8$ FOSA	%		Org-029	95	[NT]	[NT]	[NT]	[NT]	91	[NT]
Extracted ISTD d_3 N MeFOSA	%		Org-029	73	[NT]	[NT]	[NT]	[NT]	89	[NT]
Extracted ISTD d_5 N EtFOSA	%		Org-029	62	[NT]	[NT]	[NT]	[NT]	93	[NT]
Extracted ISTD d_7 N MeFOSE	%		Org-029	86	[NT]	[NT]	[NT]	[NT]	84	[NT]
Extracted ISTD d_9 N EtFOSE	%		Org-029	87	[NT]	[NT]	[NT]	[NT]	86	[NT]
Extracted ISTD d_3 N MeFOSAA	%		Org-029	84	[NT]	[NT]	[NT]	[NT]	71	[NT]

QUALITY CONTROL: PFAS in Soil Extended						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Extracted ISTD d_5 *N EtFOSAA*	%		Org-029	81	[NT]	[NT]	[NT]	[NT]	56	[NT]

QUALITY CONTROL: Moisture					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			24/02/2022	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Date analysed	-			25/02/2022	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Moisture	%	0.1	INORG-008	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]

Result Definitions

NT	Not tested
NA	Test not required
INS	Insufficient sample for this test
PQL	Practical Quantitation Limit
<	Less than
>	Greater than
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
NS	Not specified
NEPM	National Environmental Protection Measure
NR	Not Reported

Quality Control Definitions

Blank	This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate	This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike	A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample)	This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike	Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011.

The recommended maximums for analytes in urine are taken from “2018 TLVs and BEIs”, as published by ACGIH (where available). Limit provided for Nickel is a precautionary guideline as per Position Paper prepared by AIOH Exposure Standards Committee, 2016.

Guideline limits for Rinse Water Quality reported as per analytical requirements and specifications of AS 4187, Amdt 2 2019, Table 7.2

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: >10xPQL - RPD acceptance criteria will vary depending on the analytes and the analytical techniques but is typically in the range 20%-50% – see ELN-P05 QA/QC tables for details; <10xPQL - RPD are higher as the results approach PQL and the estimated measurement uncertainty will statistically increase.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals (not SPOCAS); 60-140% for organics/SPOCAS (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

Measurement Uncertainty estimates are available for most tests upon request.

Samples for Microbiological analysis (not Amoeba forms) received outside of the 2-8°C temperature range do not meet the ideal cooling conditions as stated in AS2031-2012.

Report Comments

PFAS analysis performed by Envirolab Services Pty Ltd, Victoria, report reference 30110.

Envirolab Services (WA) Pty Ltd trading as MPL Laboratories
ABN 53 140 099 207
16-18 Hayden Court Myaree WA 6154
ph 08 9317 2505 fax 08 9317 4163
lab@mpl.com.au
www.mpl.com.au

SAMPLE RECEIPT ADVICE

Client Details

Client	JK Environments
Attention	Craig Ridley

Sample Login Details

Your reference	E33051BR Mittagong
MPL Reference	277347
Date Sample Received	23/02/2022
Date Instructions Received	23/02/2022
Date Results Expected to be Reported	02/03/2022

Sample Condition

Samples received in appropriate condition for analysis	Yes
No. of Samples Provided	2 Soil
Turnaround Time Requested	Standard
Temperature on Receipt (°C)	25
Cooling Method	Ice Pack
Sampling Date Provided	Yes

Comments

Nil

Please direct any queries to:

Heram Halim	Meredith Conroy
Phone: 08 9317 2505	**Phone: 08 9317 2505**
Fax: 08 9317 4163	**Fax: 08 9317 4163**
Email: hhalim@mpl.com.au	**Email: mconroy@mpl.com.au**

Analysis Underway, details on the following page:

Envirolab Services (WA) Pty Ltd trading as MPL Laboratories
ABN 53 140 099 207
16-18 Hayden Court Myaree WA 6154
ph 08 9317 2505 fax 08 9317 4163
lab@mpl.com.au
www.mpl.com.au

Sample ID	vTRH(C6-C10)/MBTEXN in soil	svTRH(C10-C36) in soil	PAHs in Soil	Organochlorine Pesticidesin soil	Organophosphorus Pesticides	PCBsin Soil	Acid Extractable metals in soil	Speciated Phenols in Soil	Asbestos ID - soils NEPM- ASB-001	PFAS in Soil Extended
SDUP3	✓	✓	✓				✓		✓	
SDUP5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

The '✓' indicates the testing you have requested. **THIS IS NOT A REPORT OF THE RESULTS.**

Additional Info

Sample storage - Waters are routinely disposed of approximately 1 month and soils approximately 2 months from receipt.
Requests for longer term sample storage must be received in writing.

COC rec'd 21/2/2022 @ 1215.

SAMPLE AND CHAIN OF CUSTODY FORM

TO:		FROM:
ENVIROLAB SERVICES PTY LTD 12 ASHLEY STREET CHATSWOOD NSW 2067 P: (02) 99106200 F: (02) 99106201 Attention: Aileen	JKE Job Number: E33051BR Date Results Required: STANDARD Page: 1 of 3	JKEnvironments REAR OF 115 WICKS ROAD MACQUARIE PARK, NSW 2113 P: 02-9888 5000 F: 02-9888 5001 Attention: Craig Ridley cridley@jkenvironments.com.au

Location:	Mittagong	Sample Preserved in Esky on Ice
Sampler:	NM/AD/HW	Tests Required

Date Sampled	Lab Ref:	Sample Number	Depth (m)	Sample Container	PID	Sample Description	Combo 6	Combo 3	Asbestos (NEPM)	Asbestos (ID)	Phenols	PFAS (Routine, Extended)	pH	CEC	Clay Content	TRH/BTEX	BTEX	Combo 3L
18/02/2022	1	TP5	0-0.1	G, A, PFAS	0	Fill: Silty Clay	X		X			X						
18/02/2022	2	TP5	0.5-0.7	G, A, PFAS	0	Fill: Silty Clay												
18/02/2022	3	TP5	1.0-1.1	G, A, PFAS	0	Fill: Silty Clay		X	X									
18/02/2022	4	TP5	1.2-1.4	G, A, PFAS	0	Sandy Clay		X										
18/02/2022	5	TP7	0-0.1	G, A, PFAS	0	Fill: Gravelly Sand	X		X		X	X						
18/02/2022	6	TP7	0.1-0.3	G, A, PFAS	0	Fill: Gravelly Sand												
18/02/2022	7	TP7	0.6-0.8	G, A, PFAS	0	Clayey Sand		X										
18/02/2022	8	TP8	0-0.1	G, A, PFAS	0	Fill: Gravelly Sand	X		X		X	X						
18/02/2022	9	TP8	0.1-0.3	G, A, PFAS	0	Fill: Gravelly Sand												
18/02/2022	10	TP9	0-0.1	G, A, PFAS	0	Fill: Gravelly Sand		X	X		X	X						
18/02/2022	11	TP9	0.1-0.3	G, A, PFAS	0	Fill: Gravelly Sand												
18/02/2022	12	TP9	0.4-0.6	G, A, PFAS	0	Sandy Clay		X										
18/02/2022	13	TP20	0-0.1	G, A, PFAS	0	Fill: Gravelly Sand	X		X		X	X						
18/02/2022	14	TP20	0.2-0.5	G, A, PFAS	0	Fill: Gravelly Sand												
18/02/2022	15	TP20	0.8-1.0	G, A, PFAS	0	Silty Clay		X										
18/02/2022	16	TP21	0-0.1	G, A, PFAS	0	Fill: Silty Sandy Clay	X		X			X						
18/02/2022	17	TP21	0.4-0.6	G, A, PFAS	0	Fill: Silty Sandy Clay			X									
18/02/2022	18	TP21	0.8-1.0	G, A, PFAS	0	Sandy Clay		X										
18/02/2022	19	TP21	1.4-1.6	G, A, PFAS	0	Clayey Sand												
17/02/2022	20	TP25	0-0.1	G, A	0	Fill: Silty Sandy Clay	X		X									
17/02/2022	21	TP25	0.2-0.4	G, A	0	Fill: Silty Sandy Clay												
17/02/2022	22	TP25	0.6-0.8	G, A	0	Silty Sandy Clay		X										
17/02/2022	23	TP26	0-0.1	G, A, PFAS	0	Fill: Silty Sandy Clay		X	X									
17/02/2022	24	TP26	0.15-0.35	G, A, PFAS	0	Fill: Silty Sandy Clay												
17/02/2022	25	TP26	0.4-0.6	G, A, PFAS	0	Silty Sandy Clay		X										

Envirolab Laboratories
Job No.- 271343 271347
Date Rec - 23/2/22
Time Rec - 11:40
Rec By - Gm
TAT Req - SAME 1 / 2 / 3 / STD
Temp - cool / ambient
Cooling - Ice / Ice Pack / None
Security Seal - Yes / No

Remarks (comments/detection limits required):

Sample Containers:
G - 250mg Glass Jar
A - Ziplock Asbestos Bag
P - Plastic Bag

Relinquished By:	Date:	Time:	Received By:	Date:
ELS Sydney Chosenan	21/02/22 1400	1400	Jason Pay 1650	18/2/22 ELS SYD

15°c ICE

SAMPLE AND CHAIN OF CUSTODY FORM

TO: ENVIROLAB SERVICES PTY LTD 12 ASHLEY STREET CHATSWOOD NSW 2067 P: (02) 99106200 F: (02) 99106201 Attention: Aileen	JKE Job Number: E33051BR Date Results Required: STANDARD Page: 2 of 3	**FROM:** JKEnvironments REAR OF 115 WICKS ROAD MACQUARIE PARK, NSW 2113 P: 02-9888 5000 F: 02-9888 5001 Attention: Craig Ridley cridley@jkenvironments.com.au

Location:	Mittagong						**Sample Preserved in Esky on Ice**												
Sampler:	NM/AD/HW						**Tests Required**												
Date Sampled	**Lab Ref:**	**Sample Number**	**Depth (m)**	**Sample Container**	**PID**	**Sample Description**	**Combo 6**	**Combo 3**	**Asbestos (NEPM)**	**Asbestos (ID)**	**Phenols**	**PFAS (Routine, Extended)**	**pH**	**CEC**	**Clay Content**	**TRH/BTEX**	**BTEX**	**Combo 3L**	
17/02/2022	26	TP27	0-0.1	G, A	0	Fill: Silty Sandy Clay	X		X										
17/02/2022	27	TP27	0.2-0.4	G, A	0	Fill: Silty Sandy Clay													
17/02/2022	28	TP27	0.5-0.7	G, A	0	Silty Sandy Clay		X											
17/02/2022	29	TP29	0-0.1	G, A	0	Fill: Silty Sandy Clay		X	X										
17/02/2022	30	TP29	0.2-0.4	G, A	0	Fill: Silty Sandy Clay													
17/02/2022	31	TP29	0.4-0.6	G, A	0	Silty Sandy Clay													
17/02/2022	32	TP30	0-0.1	G, A, PFAS	0	Fill: Silty Sandy Clay	X		X										
17/02/2022	33	TP30	0.2-0.4	G, A, PFAS	0	Fill: Silty Sandy Clay		X	X										
17/02/2022	34	TP30	0.4-0.6	G, A, PFAS	0	Silty Sandy Clay		X											
17/02/2022	35	TP31	0-0.1	G, A, PFAS	0	Fill: Silty Clayey Sand		X	X										
17/02/2022	36	TP31	0.3-0.5	G, A, PFAS	0	Silty Sandy Clay		X											
17/02/2022	37	TP31	04-0.6	G, A, PFAS	0	Silty Sandy Clay													
18/02/2022	38	TP42	0-0.1	G, A, PFAS	0	Fill: Sandy Clay	X		X			X							
18/02/2022	39	TP42	0.4-0.6	G, A, PFAS	0	Fill: Sandy Clay		X	X										
18/02/2022	40	TP42	0.6-0.8	G, A, PFAS	0	Sandy Clay		X											
18/02/2022	41	TP42	1-1.1	G, A, PFAS	0	Silty Clay													
18/02/2022	42	TP43	0-0.1	G, A, PFAS	0	Fill: Silty Clay		X	X										
18/02/2022	43	TP43	0.2-0.6	G, A, PFAS	0	Fill: Silty Clay			X										
18/02/2022	44	TP43	0.8-1.0	G, A, PFAS	0	Clayey Sand		X											
17/02/2022	45	TP44	0-0.1	G, A	0	Fill: Sandy Silty Clay	X		X										
17/02/2022	46	TP44	0.1-0.3	G, A	0	Fill: Sandy Silty Clay													
17/02/2022	47	TP44	0.3-0.6	G, A	0	Silty Sandy Clay													
17/02/2022	48	SDUP1	-	G, A	-	Duplicate		X											
17/02/2022	49	SDUP2	-	G, A	-	Duplicate		X											
18/02/2022	-	SDUP3	-	G, A	-	Duplicate		X	X		SEND TO VIC								

Remarks (comments/detection limits required):

Sample Containers:
G - 250mg Glass Jar
A - Ziplock Asbestos Bag
P - Plastic Bag

Relinquished By:	Date:	Time:	Received By:	Date:
ELS Sydney Rosemary	21/02/22	1400		18/2/22

289269

21/2/22
1215

SAMPLE AND CHAIN OF CUSTODY FORM

TO:		FROM:
ENVIROLAB SERVICES PTY LTD 12 ASHLEY STREET CHATSWOOD NSW 2067 P: (02) 99106200 F: (02) 99106201 Attention: Aileen	JKE Job Number: E33051BR Date Results Required: STANDARD Page: 3 of 3	JKEnvironments REAR OF 115 WICKS ROAD MACQUARIE PARK, NSW 2113 P: 02-9888 5000 F: 02-9888 5001 Attention: Craig Ridley cridley@jkenvironments.com.au

Location: Mittagong
Sampler: NM/AD/HW

Sample Preserved in Esky on Ice

Tests Required

Date Sampled	Lab Ref:	Sample Number	Depth (m)	Sample Container	PID	Sample Description	Combo 6	Combo 3	Asbestos (NEPM)	Asbestos (ID)	Phenols	PFAS (Routine, Extended)	pH	CEC	Clay Content	TRH/BTEX	BTEX	Combo 3L
18/02/2022	S0	SDUP4	-	G, A, PFAS	-	Duplicate	X		X		X	X						
18/02/2022	—	SDUP5	-	G, A, PFAS	-	Duplicate	X		X		X	X		SEND TO VIC				
18/02/2022	S1	TB-S1	-	G, PFAS	-	Blank						X					X	
18/02/2022	S2	TS-S1	-	G	-	Spike											X	
	S3	FCF-TP21	0-0.1	B	-	Frags												
	S4	FCF2-TP21	0 (Spoil) 0.1	B	-	↓												
↓	S5	FCF3-TP21	0.1-0.6	B	-	↓												

Extra

2

Remarks (comments/detection limits required):

Sample Containers:
G - 250mg Glass Jar
A - Ziplock Asbestos Bag
P - Plastic Bag

Relinquished By:	Date:	Time:	Received By:	Date:
ELS Sydney Closed	21/02/22	1400		18/2/22

289269

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COPY

SAMPLE INFORMATION FORM

Job No: 289269 Location: ATub, Avon Thermometer ID: T66 Temp: 15 °c Sample Received: (Cool) / Ambient / Warm

Date & Time Received: 18/2/22 1650 Completed By: JD Checked by: CH Cooling Method: (Ice) / Ice Pack / None

Sample No.	Type	Supplied by:	Water - Unpreserved: 500mL Amber	250ml Amber	100ml Amber	1L Plastic	500mL Plastic	250mL Plastic	125mL Orange Plastic Filtered	125mL Orange Plastic Unfiltered	125mL Plastic	40ml Vial	Dust Gauge	Water - Preserved: 500mL Amber H_2SO_4	40mL Vial HCl / H_2SO_4 / $NaHSO_4$	125mL Plastic HNO_3 (Filtered)	125mL Plastic HNO_3 (Not-Filtered)	60mL Plastic HNO_3 (Filtered)	125mL Plastic H_2SO_4	125mL Plastic HCl	125mL Plastic NaOH	125mL Plastic NaOH + Zinc Acetate	Sterile Jar - Micro	Solid: 250mL Jar	125mL Jar	PFAS Jar	Digiprep Tube	Bag	Petri Dish	Air: Carbon / TD Tube	Air Canister	Other / Cowl / PFAS Blood	Dried: SPOCAS / Inorg / FM / Asb (WEPM / 40g)	Asbestos subsampled: Yes / (No)
1-19, 23-25, 32-33,	S	Envlc																						1		1		1					1,3,5,8,
35-36, 42-44, 48-50	↓	↓																						↓		↓		↓					10,13,16,
																																	17,20,23,
																																	26,29,32,
																																	33,35,
20-22, 26-31, 38-41,	S	Envlc																						1				1					38,39,42,
45-47,	↓	↓																						↓				↓					43,45,50
34, 37	S	Envlc																						1		1							
51	↓	↓																							1	1							
52	↓	C																														1x10mL Vial	
53-55	M	↓																										1					

Non-conformances

19, 41 Bags ~~very~~ limited sample - JD. #53-55 extra rec'd.

No TP8 rec'd (Glass Jar/Bag), ~~two~~ extra rec'd for TP9; unable to discern, labelled A & B & B assigned to TP8 - JD photo taken.

sample 37 jar → TP31 0.8-0.9 ~~m~~

COC → TP31 0.4-0.6 assumed correct

Subcontracting / Interlab

Sample #	Bottle	Test	To Lab
SDUP3	1x250mL Jar	Combo3	MPL
SDUP5	1xPFAS Jar	Nepm	
	1xBAG	misc.	

Type: S=soil, W=water, SL=sludge, M=material, P=paint, PT=plant tissue, F=filter, else specify

Envirolab Services Pty Ltd
ABN 37 112 535 645
12 Ashley St Chatswood NSW 2067
ph 02 9910 6200 fax 02 9910 6201
customerservice@envirolab.com.au
www.envirolab.com.au

CERTIFICATE OF ANALYSIS 289269

Client Details

Client	JK Environments
Attention	C Ridley
Address	PO Box 976, North Ryde BC, NSW, 1670

Sample Details

Your Reference	**E33051BR, Mittagong**
Number of Samples	52 Soil, 3 Material
Date samples received	18/02/2022
Date completed instructions received	21/02/2022

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.

Samples were analysed as received from the client. Results relate specifically to the samples as received.

Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Please refer to the last page of this report for any comments relating to the results.

Report Details

Date results requested by	28/02/2022
Date of Issue	28/02/2022

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Asbestos Approved By
Analysed by Asbestos Approved Analyst: Lucy Zhu
Authorised by Asbestos Approved Signatory: Lucy Zhu

Results Approved By
Diego Bigolin, Inorganics Supervisor
Dragana Tomas, Senior Chemist
Hannah Nguyen, Metals Supervisor
Josh Williams, LC Supervisor
Liam Timmins, Chemist
Lucy Zhu, Asbestos Supervisor
Thomas Beenie, Lab Technician

Authorised By



Nancy Zhang, Laboratory Manager

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		289269-1	289269-3	289269-4	289269-5	289269-7
Your Reference	UNITS	TP5	TP5	TP5	TP7	TP7
Depth		0-0.1	1.0-1.1	1.2-1.4	0-0.1	0.6-0.8
Type of sample		Soil	Soil	Soil	Soil	Soil
Date Sampled		18/02/2022	18/02/2022	18/02/2022	18/02/2022	18/02/2022
Date extracted	-	23/02/2022	23/02/2022	23/02/2022	23/02/2022	23/02/2022
Date analysed	-	24/02/2022	24/02/2022	24/02/2022	24/02/2022	24/02/2022
TRH C_6 - C_9	mg/kg	<25	<25	<25	<25	<25
TRH C_6 - C_{10}	mg/kg	<25	<25	<25	<25	<25
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Naphthalene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	95	95	80	93	92

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		289269-8	289269-10	289269-12	289269-13	289269-15
Your Reference	UNITS	TP8	TP9	TP9	TP20	TP20
Depth		0-0.1	0-0.1	0.4-0.6	0-0.1	0.8-1.0
Type of sample		Soil	Soil	Soil	Soil	Soil
Date Sampled		18/02/2022	18/02/2022	18/02/2022	18/02/2022	18/02/2022
Date extracted	-	23/02/2022	23/02/2022	23/02/2022	23/02/2022	23/02/2022
Date analysed	-	24/02/2022	24/02/2022	24/02/2022	24/02/2022	24/02/2022
TRH C_6 - C_9	mg/kg	<25	<25	<25	<25	<25
TRH C_6 - C_{10}	mg/kg	<25	<25	<25	<25	<25
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Naphthalene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	89	79	87	95	84

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		289269-16	289269-18	289269-20	289269-22	289269-23
Your Reference	UNITS	TP21	TP21	TP25	TP25	TP26
Depth		0-0.1	0.8-1.0	0-0.1	0.6-0.8	0-0.1
Type of sample		Soil	Soil	Soil	Soil	Soil
Date Sampled		18/02/2022	18/02/2022	17/02/2022	17/02/2022	17/02/2022
Date extracted	-	23/02/2022	23/02/2022	23/02/2022	23/02/2022	23/02/2022
Date analysed	-	24/02/2022	24/02/2022	24/02/2022	24/02/2022	24/02/2022
TRH C_6 - C_9	mg/kg	<25	<25	<25	<25	<25
TRH C_6 - C_{10}	mg/kg	<25	<25	<25	<25	<25
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Naphthalene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	92	90	94	96	93

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		289269-25	289269-26	289269-28	289269-29	289269-32
Your Reference	UNITS	TP26	TP27	TP27	TP29	TP30
Depth		0.4-0.6	0-0.1	0.5-0.7	0-0.1	0-0.1
Type of sample		Soil	Soil	Soil	Soil	Soil
Date Sampled		17/02/2022	17/02/2022	17/02/2022	17/02/2022	17/02/2022
Date extracted	-	23/02/2022	23/02/2022	23/02/2022	23/02/2022	23/02/2022
Date analysed	-	24/02/2022	24/02/2022	24/02/2022	24/02/2022	24/02/2022
TRH C_6 - C_9	mg/kg	<25	<25	<25	<25	<25
TRH C_6 - C_{10}	mg/kg	<25	<25	<25	<25	<25
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Naphthalene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	97	97	98	92	94

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		289269-33	289269-34	289269-35	289269-36	289269-38
Your Reference	UNITS	TP30	TP30	TP31	TP31	TP42
Depth		0.2-0.4	0.4-0.6	0-0.1	0.3-0.5	0-0.1
Type of sample		Soil	Soil	Soil	Soil	Soil
Date Sampled		17/02/2022	17/02/2022	17/02/2022	17/02/2022	18/02/2022
Date extracted	-	23/02/2022	23/02/2022	23/02/2022	23/02/2022	23/02/2022
Date analysed	-	24/02/2022	24/02/2022	24/02/2022	24/02/2022	24/02/2022
TRH C_6 - C_9	mg/kg	<25	<25	<25	<25	<25
TRH C_6 - C_{10}	mg/kg	<25	<25	<25	<25	<25
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Naphthalene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	97	96	97	97	99

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		289269-39	289269-40	289269-42	289269-44	289269-45
Your Reference	UNITS	TP42	TP42	TP43	TP43	TP44
Depth		0.4-0.6	0.6-0.8	0-0.1	0.8-1.0	0-0.1
Type of sample		Soil	Soil	Soil	Soil	Soil
Date Sampled		18/02/2022	18/02/2022	18/02/2022	18/02/2022	17/02/2022
Date extracted	-	23/02/2022	23/02/2022	23/02/2022	23/02/2022	23/02/2022
Date analysed	-	24/02/2022	24/02/2022	24/02/2022	24/02/2022	24/02/2022
TRH C_6 - C_9	mg/kg	<25	<25	<25	<25	<25
TRH C_6 - C_{10}	mg/kg	<25	<25	<25	<25	<25
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Naphthalene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	93	97	98	99	98

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		289269-48	289269-49	289269-50	289269-51	289269-52
Your Reference	UNITS	SDUP1	SDUP2	SDUP4	TB-S1	TS-S1
Depth		-	-	-	-	-
Type of sample		Soil	Soil	Soil	Soil	Soil
Date Sampled		17/02/2022	17/02/2022	18/02/2022	18/02/2022	18/02/2022
Date extracted	-	23/02/2022	23/02/2022	23/02/2022	23/02/2022	23/02/2022
Date analysed	-	24/02/2022	24/02/2022	24/02/2022	24/02/2022	24/02/2022
TRH C_6 - C_9	mg/kg	<25	<25	<25	[NA]	[NA]
TRH C_6 - C_{10}	mg/kg	<25	<25	<25	[NA]	[NA]
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	<25	<25	<25	[NA]	[NA]
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	98%
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	99%
Ethylbenzene	mg/kg	<1	<1	<1	<1	99%
m+p-xylene	mg/kg	<2	<2	<2	<2	98%
o-Xylene	mg/kg	<1	<1	<1	<1	99%
Naphthalene	mg/kg	<1	<1	<1	<1	[NT]
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	[NT]
Surrogate aaa-Trifluorotoluene	%	99	100	97	102	98

svTRH (C10-C40) in Soil						
Our Reference		289269-1	289269-3	289269-4	289269-5	289269-7
Your Reference	UNITS	TP5	TP5	TP5	TP7	TP7
Depth		0-0.1	1.0-1.1	1.2-1.4	0-0.1	0.6-0.8
Type of sample		Soil	Soil	Soil	Soil	Soil
Date Sampled		18/02/2022	18/02/2022	18/02/2022	18/02/2022	18/02/2022
Date extracted	-	23/02/2022	23/02/2022	23/02/2022	23/02/2022	23/02/2022
Date analysed	-	25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
TRH C_{10} - C_{14}	mg/kg	<50	<50	<50	<50	<50
TRH C_{15} - C_{28}	mg/kg	<100	<100	<100	<100	<100
TRH C_{29} - C_{36}	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (C10-C36)	mg/kg	<50	<50	<50	<50	<50
TRH >C_{10} -C_{16}	mg/kg	<50	<50	<50	<50	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH >C_{16} -C_{34}	mg/kg	<100	<100	<100	<100	<100
TRH >C_{34} -C_{40}	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	<50	<50	<50
Surrogate o-Terphenyl	%	95	93	94	100	93

svTRH (C10-C40) in Soil						
Our Reference		289269-8	289269-10	289269-12	289269-13	289269-15
Your Reference	UNITS	TP8	TP9	TP9	TP20	TP20
Depth		0-0.1	0-0.1	0.4-0.6	0-0.1	0.8-1.0
Type of sample		Soil	Soil	Soil	Soil	Soil
Date Sampled		18/02/2022	18/02/2022	18/02/2022	18/02/2022	18/02/2022
Date extracted	-	23/02/2022	23/02/2022	23/02/2022	23/02/2022	23/02/2022
Date analysed	-	25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
TRH C_{10} - C_{14}	mg/kg	<50	<50	<50	<50	<50
TRH C_{15} - C_{28}	mg/kg	<100	<100	<100	<100	<100
TRH C_{29} - C_{36}	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (C10-C36)	mg/kg	<50	<50	<50	<50	<50
TRH >C_{10} -C_{16}	mg/kg	<50	<50	<50	<50	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH >C_{16} -C_{34}	mg/kg	150	100	<100	<100	<100
TRH >C_{34} -C_{40}	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	150	100	<50	<50	<50
Surrogate o-Terphenyl	%	99	100	97	96	96

svTRH (C10-C40) in Soil						
Our Reference		289269-16	289269-18	289269-20	289269-22	289269-23
Your Reference	UNITS	TP21	TP21	TP25	TP25	TP26
Depth		0-0.1	0.8-1.0	0-0.1	0.6-0.8	0-0.1
Type of sample		Soil	Soil	Soil	Soil	Soil
Date Sampled		18/02/2022	18/02/2022	17/02/2022	17/02/2022	17/02/2022
Date extracted	-	23/02/2022	23/02/2022	23/02/2022	23/02/2022	23/02/2022
Date analysed	-	25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
TRH C_{10} - C_{14}	mg/kg	<50	<50	<50	<50	<50
TRH C_{15} - C_{28}	mg/kg	<100	<100	<100	<100	<100
TRH C_{29} - C_{36}	mg/kg	<100	<100	<100	110	140
Total +ve TRH (C10-C36)	mg/kg	<50	<50	<50	110	140
TRH >C_{10} -C_{16}	mg/kg	<50	<50	<50	<50	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH >C_{16} -C_{34}	mg/kg	<100	<100	<100	<100	190
TRH >C_{34} -C_{40}	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	<50	<50	190
Surrogate o-Terphenyl	%	96	93	91	104	97

svTRH (C10-C40) in Soil						
Our Reference		289269-25	289269-26	289269-28	289269-29	289269-32
Your Reference	UNITS	TP26	TP27	TP27	TP29	TP30
Depth		0.4-0.6	0-0.1	0.5-0.7	0-0.1	0-0.1
Type of sample		Soil	Soil	Soil	Soil	Soil
Date Sampled		17/02/2022	17/02/2022	17/02/2022	17/02/2022	17/02/2022
Date extracted	-	23/02/2022	23/02/2022	23/02/2022	23/02/2022	23/02/2022
Date analysed	-	25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
TRH C_{10} - C_{14}	mg/kg	<50	<50	<50	<50	<50
TRH C_{15} - C_{28}	mg/kg	<100	<100	<100	<100	<100
TRH C_{29} - C_{36}	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (C10-C36)	mg/kg	<50	<50	<50	<50	<50
TRH >C_{10} -C_{16}	mg/kg	<50	<50	<50	<50	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH >C_{16} -C_{34}	mg/kg	<100	<100	<100	<100	<100
TRH >C_{34} -C_{40}	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	<50	<50	<50
Surrogate o-Terphenyl	%	94	93	103	89	87

svTRH (C10-C40) in Soil						
Our Reference		289269-33	289269-34	289269-35	289269-36	289269-38
Your Reference	UNITS	TP30	TP30	TP31	TP31	TP42
Depth		0.2-0.4	0.4-0.6	0-0.1	0.3-0.5	0-0.1
Type of sample		Soil	Soil	Soil	Soil	Soil
Date Sampled		17/02/2022	17/02/2022	17/02/2022	17/02/2022	18/02/2022
Date extracted	-	23/02/2022	23/02/2022	23/02/2022	23/02/2022	23/02/2022
Date analysed	-	25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
TRH C_{10} - C_{14}	mg/kg	<50	<50	<50	<50	<50
TRH C_{15} - C_{28}	mg/kg	<100	<100	<100	<100	<100
TRH C_{29} - C_{36}	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (C10-C36)	mg/kg	<50	<50	<50	<50	<50
TRH >C_{10} -C_{16}	mg/kg	<50	<50	<50	<50	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH >C_{16} -C_{34}	mg/kg	<100	<100	<100	<100	<100
TRH >C_{34} -C_{40}	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	<50	<50	<50
Surrogate o-Terphenyl	%	91	91	104	89	105

svTRH (C10-C40) in Soil						
Our Reference		289269-39	289269-40	289269-42	289269-44	289269-45
Your Reference	UNITS	TP42	TP42	TP43	TP43	TP44
Depth		0.4-0.6	0.6-0.8	0-0.1	0.8-1.0	0-0.1
Type of sample		Soil	Soil	Soil	Soil	Soil
Date Sampled		18/02/2022	18/02/2022	18/02/2022	18/02/2022	17/02/2022
Date extracted	-	23/02/2022	23/02/2022	23/02/2022	23/02/2022	23/02/2022
Date analysed	-	25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
TRH C_{10} - C_{14}	mg/kg	<50	<50	<50	<50	<50
TRH C_{15} - C_{28}	mg/kg	<100	<100	<100	<100	<100
TRH C_{29} - C_{36}	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (C10-C36)	mg/kg	<50	<50	<50	<50	<50
TRH >C_{10} -C_{16}	mg/kg	<50	<50	<50	<50	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH >C_{16} -C_{34}	mg/kg	<100	<100	<100	<100	<100
TRH >C_{34} -C_{40}	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	<50	<50	<50
Surrogate o-Terphenyl	%	94	88	99	104	110

svTRH (C10-C40) in Soil				
Our Reference		289269-48	289269-49	289269-50
Your Reference	UNITS	SDUP1	SDUP2	SDUP4
Depth		-	-	-
Type of sample		Soil	Soil	Soil
Date Sampled		17/02/2022	17/02/2022	18/02/2022
Date extracted	-	23/02/2022	23/02/2022	23/02/2022
Date analysed	-	25/02/2022	25/02/2022	25/02/2022
TRH C_{10} - C_{14}	mg/kg	<50	<50	<50
TRH C_{15} - C_{28}	mg/kg	<100	<100	<100
TRH C_{29} - C_{36}	mg/kg	<100	<100	<100
Total +ve TRH (C10-C36)	mg/kg	<50	<50	<50
TRH >C_{10} -C_{16}	mg/kg	<50	<50	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	mg/kg	<50	<50	<50
TRH >C_{16} -C_{34}	mg/kg	<100	<100	<100
TRH >C_{34} -C_{40}	mg/kg	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	<50
Surrogate o-Terphenyl	%	102	114	108

PAHs in Soil						
Our Reference		289269-1	289269-3	289269-4	289269-5	289269-7
Your Reference	UNITS	TP5	TP5	TP5	TP7	TP7
Depth		0-0.1	1.0-1.1	1.2-1.4	0-0.1	0.6-0.8
Type of sample		Soil	Soil	Soil	Soil	Soil
Date Sampled		18/02/2022	18/02/2022	18/02/2022	18/02/2022	18/02/2022
Date extracted	-	23/02/2022	23/02/2022	23/02/2022	23/02/2022	23/02/2022
Date analysed	-	25/02/2022	28/02/2022	28/02/2022	25/02/2022	28/02/2022
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PAH's	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate p-Terphenyl-d14	%	94	117	116	106	118

PAHs in Soil						
Our Reference		289269-8	289269-10	289269-12	289269-13	289269-15
Your Reference	UNITS	TP8	TP9	TP9	TP20	TP20
Depth		0-0.1	0-0.1	0.4-0.6	0-0.1	0.8-1.0
Type of sample		Soil	Soil	Soil	Soil	Soil
Date Sampled		18/02/2022	18/02/2022	18/02/2022	18/02/2022	18/02/2022
Date extracted	-	23/02/2022	23/02/2022	23/02/2022	23/02/2022	23/02/2022
Date analysed	-	25/02/2022	25/02/2022	28/02/2022	25/02/2022	28/02/2022
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.3	0.3	<0.1	0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.3	0.3	<0.1	<0.1	<0.1
Pyrene	mg/kg	0.3	0.3	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	0.2	0.2	<0.1	<0.1	<0.1
Chrysene	mg/kg	0.2	0.2	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	0.2	0.3	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	0.1	0.2	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PAH's	mg/kg	1.6	1.7	<0.05	0.1	<0.05
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate p-Terphenyl-d14	%	99	120	118	96	113

PAHs in Soil						
Our Reference		289269-16	289269-18	289269-20	289269-22	289269-23
Your Reference	UNITS	TP21	TP21	TP25	TP25	TP26
Depth		0-0.1	0.8-1.0	0-0.1	0.6-0.8	0-0.1
Type of sample		Soil	Soil	Soil	Soil	Soil
Date Sampled		18/02/2022	18/02/2022	17/02/2022	17/02/2022	17/02/2022
Date extracted	-	23/02/2022	23/02/2022	23/02/2022	23/02/2022	23/02/2022
Date analysed	-	25/02/2022	28/02/2022	25/02/2022	28/02/2022	28/02/2022
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	0.2	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1	0.2	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1	0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	0.1	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PAH's	mg/kg	<0.05	<0.05	0.64	<0.05	<0.05
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate p-Terphenyl-d14	%	103	115	97	116	118

PAHs in Soil						
Our Reference		289269-25	289269-26	289269-28	289269-29	289269-32
Your Reference	UNITS	TP26	TP27	TP27	TP29	TP30
Depth		0.4-0.6	0-0.1	0.5-0.7	0-0.1	0-0.1
Type of sample		Soil	Soil	Soil	Soil	Soil
Date Sampled		17/02/2022	17/02/2022	17/02/2022	17/02/2022	17/02/2022
Date extracted	-	23/02/2022	23/02/2022	23/02/2022	23/02/2022	23/02/2022
Date analysed	-	28/02/2022	25/02/2022	28/02/2022	28/02/2022	25/02/2022
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PAH's	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate p-Terphenyl-d14	%	120	97	115	122	96

PAHs in Soil						
Our Reference		289269-33	289269-34	289269-35	289269-36	289269-38
Your Reference	UNITS	TP30	TP30	TP31	TP31	TP42
Depth		0.2-0.4	0.4-0.6	0-0.1	0.3-0.5	0-0.1
Type of sample		Soil	Soil	Soil	Soil	Soil
Date Sampled		17/02/2022	17/02/2022	17/02/2022	17/02/2022	18/02/2022
Date extracted	-	23/02/2022	23/02/2022	23/02/2022	23/02/2022	23/02/2022
Date analysed	-	28/02/2022	28/02/2022	28/02/2022	28/02/2022	25/02/2022
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	<0.05	0.06
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PAH's	mg/kg	<0.05	<0.05	0.1	<0.05	0.06
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate p-Terphenyl-d14	%	117	118	116	119	94

PAHs in Soil						
Our Reference		289269-39	289269-40	289269-42	289269-44	289269-45
Your Reference	UNITS	TP42	TP42	TP43	TP43	TP44
Depth		0.4-0.6	0.6-0.8	0-0.1	0.8-1.0	0-0.1
Type of sample		Soil	Soil	Soil	Soil	Soil
Date Sampled		18/02/2022	18/02/2022	18/02/2022	18/02/2022	17/02/2022
Date extracted	-	23/02/2022	23/02/2022	23/02/2022	23/02/2022	23/02/2022
Date analysed	-	28/02/2022	28/02/2022	28/02/2022	28/02/2022	25/02/2022
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.2	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.2	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	0.2	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	0.2	<0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	0.1	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PAH's	mg/kg	1.0	<0.05	<0.05	<0.05	<0.05
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate p-Terphenyl-d14	%	119	115	116	115	93

PAHs in Soil				
Our Reference		289269-48	289269-49	289269-50
Your Reference	UNITS	SDUP1	SDUP2	SDUP4
Depth		-	-	-
Type of sample		Soil	Soil	Soil
Date Sampled		17/02/2022	17/02/2022	18/02/2022
Date extracted	-	23/02/2022	23/02/2022	23/02/2022
Date analysed	-	28/02/2022	28/02/2022	25/02/2022
Naphthalene	mg/kg	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.2	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1
Total +ve PAH's	mg/kg	0.2	<0.05	<0.05
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5
Surrogate p-Terphenyl-d14	%	115	116	87

Organochlorine Pesticides in soil						
Our Reference		289269-1	289269-5	289269-8	289269-13	289269-16
Your Reference	UNITS	TP5	TP7	TP8	TP20	TP21
Depth		0-0.1	0-0.1	0-0.1	0-0.1	0-0.1
Type of sample		Soil	Soil	Soil	Soil	Soil
Date Sampled		18/02/2022	18/02/2022	18/02/2022	18/02/2022	18/02/2022
Date extracted	-	23/02/2022	23/02/2022	23/02/2022	23/02/2022	23/02/2022
Date analysed	-	25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
HCB	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve DDT+DDD+DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	88	94	93	85	92

Organochlorine Pesticides in soil						
Our Reference		289269-20	289269-26	289269-32	289269-38	289269-45
Your Reference	UNITS	TP25	TP27	TP30	TP42	TP44
Depth		0-0.1	0-0.1	0-0.1	0-0.1	0-0.1
Type of sample		Soil	Soil	Soil	Soil	Soil
Date Sampled		17/02/2022	17/02/2022	17/02/2022	18/02/2022	17/02/2022
Date extracted	-	23/02/2022	23/02/2022	23/02/2022	23/02/2022	23/02/2022
Date analysed	-	25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
HCB	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve DDT+DDD+DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	86	82	84	85	82

Organochlorine Pesticides in soil		
Our Reference		289269-50
Your Reference	UNITS	SDUP4
Depth		-
Type of sample		Soil
Date Sampled		18/02/2022
Date extracted	-	23/02/2022
Date analysed	-	25/02/2022
alpha-BHC	mg/kg	<0.1
HCB	mg/kg	<0.1
beta-BHC	mg/kg	<0.1
gamma-BHC	mg/kg	<0.1
Heptachlor	mg/kg	<0.1
delta-BHC	mg/kg	<0.1
Aldrin	mg/kg	<0.1
Heptachlor Epoxide	mg/kg	<0.1
gamma-Chlordane	mg/kg	<0.1
alpha-chlordane	mg/kg	<0.1
Endosulfan I	mg/kg	<0.1
pp-DDE	mg/kg	<0.1
Dieldrin	mg/kg	<0.1
Endrin	mg/kg	<0.1
Endosulfan II	mg/kg	<0.1
pp-DDD	mg/kg	<0.1
Endrin Aldehyde	mg/kg	<0.1
pp-DDT	mg/kg	<0.1
Endosulfan Sulphate	mg/kg	<0.1
Methoxychlor	mg/kg	<0.1
Total +ve DDT+DDD+DDE	mg/kg	<0.1
Surrogate TCMX	%	81

Organophosphorus Pesticides in Soil						
Our Reference		289269-1	289269-5	289269-8	289269-13	289269-16
Your Reference	UNITS	TP5	TP7	TP8	TP20	TP21
Depth		0-0.1	0-0.1	0-0.1	0-0.1	0-0.1
Type of sample		Soil	Soil	Soil	Soil	Soil
Date Sampled		18/02/2022	18/02/2022	18/02/2022	18/02/2022	18/02/2022
Date extracted	-	23/02/2022	23/02/2022	23/02/2022	23/02/2022	23/02/2022
Date analysed	-	25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
Dichlorvos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dimethoate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Diazinon	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos-methyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ronnel	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fenitrothion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Malathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Parathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Bromophos-ethyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ethion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Azinphos-methyl (Guthion)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	88	94	93	85	92

Organophosphorus Pesticides in Soil						
Our Reference		289269-20	289269-26	289269-32	289269-38	289269-45
Your Reference	UNITS	TP25	TP27	TP30	TP42	TP44
Depth		0-0.1	0-0.1	0-0.1	0-0.1	0-0.1
Type of sample		Soil	Soil	Soil	Soil	Soil
Date Sampled		17/02/2022	17/02/2022	17/02/2022	18/02/2022	17/02/2022
Date extracted	-	23/02/2022	23/02/2022	23/02/2022	23/02/2022	23/02/2022
Date analysed	-	25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
Dichlorvos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dimethoate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Diazinon	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos-methyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ronnel	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fenitrothion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Malathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Parathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Bromophos-ethyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ethion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Azinphos-methyl (Guthion)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	86	82	84	85	82

Organophosphorus Pesticides in Soil		
Our Reference		289269-50
Your Reference	UNITS	SDUP4
Depth		-
Type of sample		Soil
Date Sampled		18/02/2022
Date extracted	-	23/02/2022
Date analysed	-	25/02/2022
Dichlorvos	mg/kg	<0.1
Dimethoate	mg/kg	<0.1
Diazinon	mg/kg	<0.1
Chlorpyriphos-methyl	mg/kg	<0.1
Ronnel	mg/kg	<0.1
Fenitrothion	mg/kg	<0.1
Malathion	mg/kg	<0.1
Chlorpyriphos	mg/kg	<0.1
Parathion	mg/kg	<0.1
Bromophos-ethyl	mg/kg	<0.1
Ethion	mg/kg	<0.1
Azinphos-methyl (Guthion)	mg/kg	<0.1
Surrogate TCMX	%	81

PCBs in Soil						
Our Reference		289269-1	289269-5	289269-8	289269-13	289269-16
Your Reference	UNITS	TP5	TP7	TP8	TP20	TP21
Depth		0-0.1	0-0.1	0-0.1	0-0.1	0-0.1
Type of sample		Soil	Soil	Soil	Soil	Soil
Date Sampled		18/02/2022	18/02/2022	18/02/2022	18/02/2022	18/02/2022
Date extracted	-	23/02/2022	23/02/2022	23/02/2022	23/02/2022	23/02/2022
Date analysed	-	25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
Aroclor 1016	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1221	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1232	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1242	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1248	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1254	mg/kg	<0.1	0.6	2.8	<0.1	<0.1
Aroclor 1260	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PCBs (1016-1260)	mg/kg	<0.1	0.6	2.8	<0.1	<0.1
Surrogate TCMX	%	88	94	93	85	92

PCBs in Soil						
Our Reference		289269-20	289269-26	289269-32	289269-38	289269-45
Your Reference	UNITS	TP25	TP27	TP30	TP42	TP44
Depth		0-0.1	0-0.1	0-0.1	0-0.1	0-0.1
Type of sample		Soil	Soil	Soil	Soil	Soil
Date Sampled		17/02/2022	17/02/2022	17/02/2022	18/02/2022	17/02/2022
Date extracted	-	23/02/2022	23/02/2022	23/02/2022	23/02/2022	23/02/2022
Date analysed	-	25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
Aroclor 1016	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1221	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1232	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1242	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1248	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1254	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1260	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PCBs (1016-1260)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	86	82	84	85	82

PCBs in Soil		
Our Reference		289269-50
Your Reference	UNITS	SDUP4
Depth		-
Type of sample		Soil
Date Sampled		18/02/2022
Date extracted	-	23/02/2022
Date analysed	-	25/02/2022
Aroclor 1016	mg/kg	<0.1
Aroclor 1221	mg/kg	<0.1
Aroclor 1232	mg/kg	<0.1
Aroclor 1242	mg/kg	<0.1
Aroclor 1248	mg/kg	<0.1
Aroclor 1254	mg/kg	<0.1
Aroclor 1260	mg/kg	<0.1
Total +ve PCBs (1016-1260)	mg/kg	<0.1
Surrogate TCMX	%	81

Acid Extractable metals in soil						
Our Reference		289269-1	289269-3	289269-4	289269-5	289269-7
Your Reference	UNITS	TP5	TP5	TP5	TP7	TP7
Depth		0-0.1	1.0-1.1	1.2-1.4	0-0.1	0.6-0.8
Type of sample		Soil	Soil	Soil	Soil	Soil
Date Sampled		18/02/2022	18/02/2022	18/02/2022	18/02/2022	18/02/2022
Date prepared	-	24/02/2022	24/02/2022	24/02/2022	24/02/2022	24/02/2022
Date analysed	-	24/02/2022	24/02/2022	24/02/2022	24/02/2022	24/02/2022
Arsenic	mg/kg	8	<4	<4	15	<4
Cadmium	mg/kg	<0.4	<0.4	<0.4	0.7	<0.4
Chromium	mg/kg	16	11	13	18	10
Copper	mg/kg	9	5	3	62	2
Lead	mg/kg	39	28	7	290	5
Mercury	mg/kg	<0.1	<0.1	<0.1	0.1	<0.1
Nickel	mg/kg	3	3	3	13	2
Zinc	mg/kg	30	29	19	320	4

Acid Extractable metals in soil						
Our Reference		289269-8	289269-10	289269-12	289269-13	289269-15
Your Reference	UNITS	TP8	TP9	TP9	TP20	TP20
Depth		0-0.1	0-0.1	0.4-0.6	0-0.1	0.8-1.0
Type of sample		Soil	Soil	Soil	Soil	Soil
Date Sampled		18/02/2022	18/02/2022	18/02/2022	18/02/2022	18/02/2022
Date prepared	-	24/02/2022	24/02/2022	24/02/2022	24/02/2022	24/02/2022
Date analysed	-	24/02/2022	24/02/2022	24/02/2022	24/02/2022	24/02/2022
Arsenic	mg/kg	30	17	<4	19	<4
Cadmium	mg/kg	3	2	<0.4	<0.4	<0.4
Chromium	mg/kg	22	15	21	4	21
Copper	mg/kg	140	170	5	43	7
Lead	mg/kg	630	560	11	36	10
Mercury	mg/kg	0.1	0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	14	14	3	15	6
Zinc	mg/kg	1,200	820	240	36	9

Acid Extractable metals in soil						
Our Reference		289269-16	289269-18	289269-20	289269-22	289269-23
Your Reference	UNITS	TP21	TP21	TP25	TP25	TP26
Depth		0-0.1	0.8-1.0	0-0.1	0.6-0.8	0-0.1
Type of sample		Soil	Soil	Soil	Soil	Soil
Date Sampled		18/02/2022	18/02/2022	17/02/2022	17/02/2022	17/02/2022
Date prepared	-	24/02/2022	24/02/2022	24/02/2022	24/02/2022	24/02/2022
Date analysed	-	24/02/2022	24/02/2022	24/02/2022	24/02/2022	24/02/2022
Arsenic	mg/kg	18	<4	<4	<4	<4
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	14	17	9	18	8
Copper	mg/kg	31	4	15	4	14
Lead	mg/kg	580	8	29	7	30
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	9	3	10	3	13
Zinc	mg/kg	250	10	95	7	22

Acid Extractable metals in soil						
Our Reference		289269-25	289269-26	289269-28	289269-29	289269-32
Your Reference	UNITS	TP26	TP27	TP27	TP29	TP30
Depth		0.4-0.6	0-0.1	0.5-0.7	0-0.1	0-0.1
Type of sample		Soil	Soil	Soil	Soil	Soil
Date Sampled		17/02/2022	17/02/2022	17/02/2022	17/02/2022	17/02/2022
Date prepared	-	24/02/2022	24/02/2022	24/02/2022	24/02/2022	24/02/2022
Date analysed	-	24/02/2022	24/02/2022	24/02/2022	24/02/2022	24/02/2022
Arsenic	mg/kg	<4	<4	<4	<4	<4
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	24	9	19	7	8
Copper	mg/kg	6	9	5	10	2
Lead	mg/kg	9	16	8	28	12
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	4	4	3	4	2
Zinc	mg/kg	7	14	6	55	5

Acid Extractable metals in soil						
Our Reference		289269-33	289269-34	289269-35	289269-36	289269-38
Your Reference	UNITS	TP30	TP30	TP31	TP31	TP42
Depth		0.2-0.4	0.4-0.6	0-0.1	0.3-0.5	0-0.1
Type of sample		Soil	Soil	Soil	Soil	Soil
Date Sampled		17/02/2022	17/02/2022	17/02/2022	17/02/2022	18/02/2022
Date prepared	-	24/02/2022	24/02/2022	24/02/2022	24/02/2022	24/02/2022
Date analysed	-	24/02/2022	24/02/2022	24/02/2022	24/02/2022	24/02/2022
Arsenic	mg/kg	<4	<4	6	<4	10
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	8	16	5	6	23
Copper	mg/kg	3	2	30	<1	410
Lead	mg/kg	11	10	76	5	290
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	2	3	9	2	8
Zinc	mg/kg	6	5	37	2	370

Acid Extractable metals in soil						
Our Reference		289269-39	289269-40	289269-42	289269-44	289269-45
Your Reference	UNITS	TP42	TP42	TP43	TP43	TP44
Depth		0.4-0.6	0.6-0.8	0-0.1	0.8-1.0	0-0.1
Type of sample		Soil	Soil	Soil	Soil	Soil
Date Sampled		18/02/2022	18/02/2022	18/02/2022	18/02/2022	17/02/2022
Date prepared	-	24/02/2022	24/02/2022	24/02/2022	24/02/2022	24/02/2022
Date analysed	-	24/02/2022	24/02/2022	24/02/2022	24/02/2022	24/02/2022
Arsenic	mg/kg	<4	<4	<4	<4	<4
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	8	16	13	11	8
Copper	mg/kg	24	3	20	2	7
Lead	mg/kg	67	9	100	6	73
Mercury	mg/kg	<0.1	<0.1	0.4	<0.1	<0.1
Nickel	mg/kg	6	2	4	2	3
Zinc	mg/kg	91	6	100	10	28

Acid Extractable metals in soil					
Our Reference		289269-48	289269-49	289269-50	289269-56
Your Reference	UNITS	SDUP1	SDUP2	SDUP4	TP5 - [TRIPLICATE]
Depth		-	-	-	0-0.1
Type of sample		Soil	Soil	Soil	Soil
Date Sampled		17/02/2022	17/02/2022	18/02/2022	18/02/2022
Date prepared	-	24/02/2022	24/02/2022	24/02/2022	24/02/2022
Date analysed	-	24/02/2022	24/02/2022	24/02/2022	24/02/2022
Arsenic	mg/kg	6	<4	17	6
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	4	8	21	15
Copper	mg/kg	34	15	50	9
Lead	mg/kg	68	41	49	35
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	8	16	18	4
Zinc	mg/kg	52	29	51	33

Moisture						
Our Reference		289269-1	289269-3	289269-4	289269-5	289269-7
Your Reference	UNITS	TP5	TP5	TP5	TP7	TP7
Depth		0-0.1	1.0-1.1	1.2-1.4	0-0.1	0.6-0.8
Type of sample		Soil	Soil	Soil	Soil	Soil
Date Sampled		18/02/2022	18/02/2022	18/02/2022	18/02/2022	18/02/2022
Date prepared	-	23/02/2022	23/02/2022	23/02/2022	23/02/2022	23/02/2022
Date analysed	-	24/02/2022	24/02/2022	24/02/2022	24/02/2022	24/02/2022
Moisture	%	12	11	19	12	9.2

Moisture						
Our Reference		289269-8	289269-10	289269-12	289269-13	289269-15
Your Reference	UNITS	TP8	TP9	TP9	TP20	TP20
Depth		0-0.1	0-0.1	0.4-0.6	0-0.1	0.8-1.0
Type of sample		Soil	Soil	Soil	Soil	Soil
Date Sampled		18/02/2022	18/02/2022	18/02/2022	18/02/2022	18/02/2022
Date prepared	-	23/02/2022	23/02/2022	23/02/2022	23/02/2022	23/02/2022
Date analysed	-	24/02/2022	24/02/2022	24/02/2022	24/02/2022	24/02/2022
Moisture	%	18	16	15	16	17

Moisture						
Our Reference		289269-16	289269-18	289269-20	289269-22	289269-23
Your Reference	UNITS	TP21	TP21	TP25	TP25	TP26
Depth		0-0.1	0.8-1.0	0-0.1	0.6-0.8	0-0.1
Type of sample		Soil	Soil	Soil	Soil	Soil
Date Sampled		18/02/2022	18/02/2022	17/02/2022	17/02/2022	17/02/2022
Date prepared	-	23/02/2022	23/02/2022	23/02/2022	23/02/2022	23/02/2022
Date analysed	-	24/02/2022	24/02/2022	24/02/2022	24/02/2022	24/02/2022
Moisture	%	19	15	18	16	10

Moisture						
Our Reference		289269-25	289269-26	289269-28	289269-29	289269-32
Your Reference	UNITS	TP26	TP27	TP27	TP29	TP30
Depth		0.4-0.6	0-0.1	0.5-0.7	0-0.1	0-0.1
Type of sample		Soil	Soil	Soil	Soil	Soil
Date Sampled		17/02/2022	17/02/2022	17/02/2022	17/02/2022	17/02/2022
Date prepared	-	23/02/2022	23/02/2022	23/02/2022	23/02/2022	23/02/2022
Date analysed	-	24/02/2022	24/02/2022	24/02/2022	24/02/2022	24/02/2022
Moisture	%	16	8.4	14	14	13

Moisture						
Our Reference		289269-33	289269-34	289269-35	289269-36	289269-38
Your Reference	UNITS	TP30	TP30	TP31	TP31	TP42
Depth		0.2-0.4	0.4-0.6	0-0.1	0.3-0.5	0-0.1
Type of sample		Soil	Soil	Soil	Soil	Soil
Date Sampled		17/02/2022	17/02/2022	17/02/2022	17/02/2022	18/02/2022
Date prepared	-	23/02/2022	23/02/2022	23/02/2022	23/02/2022	23/02/2022
Date analysed	-	24/02/2022	24/02/2022	24/02/2022	24/02/2022	24/02/2022
Moisture	%	11	11	12	9.9	14

Moisture						
Our Reference		289269-39	289269-40	289269-42	289269-44	289269-45
Your Reference	UNITS	TP42	TP42	TP43	TP43	TP44
Depth		0.4-0.6	0.6-0.8	0-0.1	0.8-1.0	0-0.1
Type of sample		Soil	Soil	Soil	Soil	Soil
Date Sampled		18/02/2022	18/02/2022	18/02/2022	18/02/2022	17/02/2022
Date prepared	-	23/02/2022	23/02/2022	23/02/2022	23/02/2022	23/02/2022
Date analysed	-	24/02/2022	24/02/2022	24/02/2022	24/02/2022	24/02/2022
Moisture	%	16	13	12	9.3	13

Moisture				
Our Reference		289269-48	289269-49	289269-50
Your Reference	UNITS	SDUP1	SDUP2	SDUP4
Depth		-	-	-
Type of sample		Soil	Soil	Soil
Date Sampled		17/02/2022	17/02/2022	18/02/2022
Date prepared	-	23/02/2022	23/02/2022	23/02/2022
Date analysed	-	24/02/2022	24/02/2022	24/02/2022
Moisture	%	13	10	16

Asbestos ID - soils NEPM - ASB-001						
Our Reference		289269-1	289269-3	289269-5	289269-8	289269-10
Your Reference	UNITS	TP5	TP5	TP7	TP8	TP9
Depth		0-0.1	1.0-1.1	0-0.1	0-0.1	0-0.1
Type of sample		Soil	Soil	Soil	Soil	Soil
Date Sampled		18/02/2022	18/02/2022	18/02/2022	18/02/2022	18/02/2022
Date analysed	-	28/02/2022	28/02/2022	28/02/2022	28/02/2022	28/02/2022
Sample mass tested	g	891.16	886.22	710.23	662.64	647.12
Sample Description	-	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks	Grey fine-grained soil & rocks	Grey fine-grained soil & rocks	Grey fine-grained soil & rocks
Asbestos ID in soil (AS4964) >0.1g/kg	-	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected
Trace Analysis	-	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected
Total Asbestos[#1]	g/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Asbestos ID in soil <0.1g/kg*	-	No visible asbestos detected	No visible asbestos detected	No visible asbestos detected	No visible asbestos detected	No visible asbestos detected
ACM >7mm Estimation*	g	–	–	–	–	–
FA and AF Estimation*	g	–	–	–	–	–
ACM >7mm Estimation*	%(w/w)	<0.01	<0.01	<0.01	<0.01	<0.01
FA and AF Estimation*#2	%(w/w)	<0.001	<0.001	<0.001	<0.001	<0.001

Asbestos ID - soils NEPM - ASB-001						
Our Reference		289269-13	289269-16	289269-17	289269-20	289269-23
Your Reference	UNITS	TP20	TP21	TP21	TP25	TP26
Depth		0-0.1	0-0.1	0.4-0.6	0-0.1	0-0.1
Type of sample		Soil	Soil	Soil	Soil	Soil
Date Sampled		18/02/2022	18/02/2022	18/02/2022	17/02/2022	17/02/2022
Date analysed	-	28/02/2022	28/02/2022	28/02/2022	28/02/2022	28/02/2022
Sample mass tested	g	630.37	712.9	737.51	651.45	702.28
Sample Description	-	Grey fine-grained soil & rocks	Brown fine-grained soil & rocks	Brown fine-grained soil & rocks	Brown fine-grained soil & rocks	Brown fine-grained soil & rocks
Asbestos ID in soil (AS4964) >0.1g/kg	-	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected
Trace Analysis	-	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected
Total Asbestos#1	g/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Asbestos ID in soil <0.1g/kg*	-	No visible asbestos detected	No visible asbestos detected	No visible asbestos detected	No visible asbestos detected	No visible asbestos detected
ACM >7mm Estimation*	g	–	–	–	–	–
FA and AF Estimation*	g	–	–	–	–	–
ACM >7mm Estimation*	%(w/w)	<0.01	<0.01	<0.01	<0.01	<0.01
FA and AF Estimation*#2	%(w/w)	<0.001	<0.001	<0.001	<0.001	<0.001

Asbestos ID - soils NEPM - ASB-001						
Our Reference		289269-26	289269-29	289269-32	289269-33	289269-35
Your Reference	UNITS	TP27	TP29	TP30	TP30	TP31
Depth		0-0.1	0-0.1	0-0.1	0.2-0.4	0-0.1
Type of sample		Soil	Soil	Soil	Soil	Soil
Date Sampled		17/02/2022	17/02/2022	17/02/2022	17/02/2022	17/02/2022
Date analysed	-	28/02/2022	28/02/2022	28/02/2022	28/02/2022	28/02/2022
Sample mass tested	g	740.57	643.83	793.52	847.28	779.9
Sample Description	-	Brown fine-grained soil & rocks	Brown fine-grained soil & rocks	Brown fine-grained soil & rocks	Brown fine-grained soil & rocks	Brown fine-grained soil & rocks
Asbestos ID in soil (AS4964) >0.1g/kg	-	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected
Trace Analysis	-	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected
Total Asbestos#1	g/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Asbestos ID in soil <0.1g/kg*	-	No visible asbestos detected	No visible asbestos detected	No visible asbestos detected	No visible asbestos detected	No visible asbestos detected
ACM >7mm Estimation*	g	–	–	–	–	–
FA and AF Estimation*	g	–	–	–	–	–
ACM >7mm Estimation*	%(w/w)	<0.01	<0.01	<0.01	<0.01	<0.01
FA and AF Estimation*#2	%(w/w)	<0.001	<0.001	<0.001	<0.001	<0.001

Asbestos ID - soils NEPM - ASB-001						
Our Reference		289269-38	289269-39	289269-42	289269-43	289269-45
Your Reference	UNITS	TP42	TP42	TP43	TP43	TP44
Depth		0-0.1	0.4-0.6	0-0.1	0.2-0.6	0-0.1
Type of sample		Soil	Soil	Soil	Soil	Soil
Date Sampled		18/02/2022	18/02/2022	18/02/2022	18/02/2022	17/02/2022
Date analysed	-	28/02/2022	28/02/2022	28/02/2022	28/02/2022	28/02/2022
Sample mass tested	g	770.05	747.39	859.47	805.53	636.72
Sample Description	-	Brown fine-grained soil & rocks	Brown fine-grained soil & rocks	Brown fine-grained soil & rocks	Brown fine-grained soil & rocks	Brown fine-grained soil & rocks
Asbestos ID in soil (AS4964) >0.1g/kg	-	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected
Trace Analysis	-	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected
Total Asbestos[#1]	g/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Asbestos ID in soil <0.1g/kg*	-	No visible asbestos detected	No visible asbestos detected	No visible asbestos detected	No visible asbestos detected	No visible asbestos detected
ACM >7mm Estimation*	g	–	–	–	–	–
FA and AF Estimation*	g	–	–	–	–	–
ACM >7mm Estimation*	%(w/w)	<0.01	<0.01	<0.01	<0.01	<0.01
FA and AF Estimation*#2	%(w/w)	<0.001	<0.001	<0.001	<0.001	<0.001

Asbestos ID - soils NEPM - ASB-001		
Our Reference		289269-50
Your Reference	UNITS	SDUP4
Depth		-
Type of sample		Soil
Date Sampled		18/02/2022
Date analysed	-	28/02/2022
Sample mass tested	g	648.97
Sample Description	-	Grey fine-grained soil & rocks
Asbestos ID in soil (AS4964) >0.1g/kg	-	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected
Trace Analysis	-	No asbestos detected
Total Asbestos[#1]	g/kg	<0.1
Asbestos ID in soil <0.1g/kg*	-	No visible asbestos detected
ACM >7mm Estimation*	g	–
FA and AF Estimation*	g	–
ACM >7mm Estimation*	%(w/w)	<0.01
FA and AF Estimation*#2	%(w/w)	<0.001

PFAS in Soils Extended						
Our Reference		289269-1	289269-5	289269-8	289269-10	289269-13
Your Reference	UNITS	TP5	TP7	TP8	TP9	TP20
Depth		0-0.1	0-0.1	0-0.1	0-0.1	0-0.1
Type of sample		Soil	Soil	Soil	Soil	Soil
Date Sampled		18/02/2022	18/02/2022	18/02/2022	18/02/2022	18/02/2022
Date prepared	-	24/02/2022	24/02/2022	24/02/2022	24/02/2022	24/02/2022
Date analysed	-	24/02/2022	24/02/2022	24/02/2022	24/02/2022	24/02/2022
Perfluorobutanesulfonic acid	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluoropentanesulfonic acid	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorohexanesulfonic acid - PFHxS	µg/kg	<0.1	<0.1	<0.1	<0.1	0.3
Perfluoroheptanesulfonic acid	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorooctanesulfonic acid PFOS	µg/kg	0.2	0.4	0.2	1.5	1.5
Perfluorodecanesulfonic acid	µg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Perfluorobutanoic acid	µg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Perfluoropentanoic acid	µg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Perfluorohexanoic acid	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluoroheptanoic acid	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorooctanoic acid PFOA	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorononanoic acid	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorodecanoic acid	µg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Perfluoroundecanoic acid	µg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Perfluorododecanoic acid	µg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Perfluorotridecanoic acid	µg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Perfluorotetradecanoic acid	µg/kg	<5	<5	<5	<5	<5
4:2 FTS	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
6:2 FTS	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
8:2 FTS	µg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
10:2 FTS	µg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Perfluorooctane sulfonamide	µg/kg	<1	<1	<1	<1	<1
N-Methyl perfluorooctane sulfonamide	µg/kg	<1	<1	<1	<1	<1
N-Ethyl perfluorooctanesulfon amide	µg/kg	<1	<1	<1	<1	<1
N-Me perfluorooctanesulfonamid oethanol	µg/kg	<1	<1	<1	<1	<1
N-Et perfluorooctanesulfonamid oethanol	µg/kg	<5	<5	<5	<5	<5
MePerfluorooctanesulf- amid oacetic acid	µg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
EtPerfluorooctanesulf amid oacetic acid	µg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Surrogate $^{13}C_8$ *PFOS*	%	98	95	100	100	100
Surrogate $^{13}C_2$ *PFOA*	%	100	105	101	96	98
Extracted ISTD $^{13}C_3$ *PFBS*	%	101	96	102	99	92
Extracted ISTD $^{18}O_2$ *PFHxS*	%	104	107	104	104	104
Extracted ISTD $^{13}C_4$ *PFOS*	%	105	106	105	103	101

PFAS in Soils Extended						
Our Reference		289269-1	289269-5	289269-8	289269-10	289269-13
Your Reference	UNITS	TP5	TP7	TP8	TP9	TP20
Depth		0-0.1	0-0.1	0-0.1	0-0.1	0-0.1
Type of sample		Soil	Soil	Soil	Soil	Soil
Date Sampled		18/02/2022	18/02/2022	18/02/2022	18/02/2022	18/02/2022
Extracted ISTD $^{13}C_4$ *PFBA*	%	96	95	98	94	92
Extracted ISTD $^{13}C_3$ *PFPeA*	%	99	102	104	99	96
Extracted ISTD $^{13}C_2$ *PFHxA*	%	104	106	111	105	109
Extracted ISTD $^{13}C_4$ *PFHpA*	%	108	109	116	112	110
Extracted ISTD $^{13}C_4$ *PFOA*	%	107	100	112	108	107
Extracted ISTD $^{13}C_5$ *PFNA*	%	105	109	116	113	102
Extracted ISTD $^{13}C_2$ *PFDA*	%	112	130	127	132	125
Extracted ISTD $^{13}C_2$ *PFUnDA*	%	84	117	124	132	122
Extracted ISTD $^{13}C_2$ *PFDoDA*	%	106	143	138	145	145
Extracted ISTD $^{13}C_2$ *PFTeDA*	%	111	111	117	116	112
Extracted ISTD $^{13}C_2$ *4:2FTS*	%	108	108	113	115	105
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	116	124	126	144	123
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	130	159	139	169	132
Extracted ISTD $^{13}C_8$ *FOSA*	%	108	108	115	105	112
Extracted ISTD d_3 *N MeFOSA*	%	101	106	108	106	109
Extracted ISTD d_5 *N EtFOSA*	%	108	106	110	100	107
Extracted ISTD d_7 *N MeFOSE*	%	104	109	110	101	106
Extracted ISTD d_9 *N EtFOSE*	%	102	104	105	103	107
Extracted ISTD d_3 *N MeFOSAA*	%	91	111	106	108	103
Extracted ISTD d_5 *N EtFOSAA*	%	78	109	116	118	118
Total Positive PFHxS & PFOS	µg/kg	0.2	0.4	0.2	1.5	1.8
Total Positive PFOS & PFOA	µg/kg	0.2	0.4	0.2	1.5	1.5
Total Positive PFAS	µg/kg	0.2	0.4	0.2	1.5	1.8

PFAS in Soils Extended					
Our Reference		289269-16	289269-38	289269-50	289269-51
Your Reference	UNITS	TP21	TP42	SDUP4	TB-S1
Depth		0-0.1	0-0.1	-	-
Type of sample		Soil	Soil	Soil	Soil
Date Sampled		18/02/2022	18/02/2022	18/02/2022	18/02/2022
Date prepared	-	24/02/2022	24/02/2022	24/02/2022	24/02/2022
Date analysed	-	24/02/2022	24/02/2022	24/02/2022	24/02/2022
Perfluorobutanesulfonic acid	µg/kg	<0.1	<0.1	<0.1	<0.1
Perfluoropentanesulfonic acid	µg/kg	<0.1	<0.1	<0.1	<0.1
Perfluorohexanesulfonic acid - PFHxS	µg/kg	<0.1	<0.1	0.2	<0.1
Perfluoroheptanesulfonic acid	µg/kg	<0.1	<0.1	<0.1	<0.1
Perfluorooctanesulfonic acid PFOS	µg/kg	0.5	0.3	1.0	0.1
Perfluorodecanesulfonic acid	µg/kg	<0.2	<0.2	<0.2	<0.2
Perfluorobutanoic acid	µg/kg	<0.2	<0.2	<0.2	<0.2
Perfluoropentanoic acid	µg/kg	<0.2	<0.2	<0.2	<0.2
Perfluorohexanoic acid	µg/kg	<0.1	<0.1	<0.1	<0.1
Perfluoroheptanoic acid	µg/kg	<0.1	<0.1	<0.1	<0.1
Perfluorooctanoic acid PFOA	µg/kg	<0.1	<0.1	<0.1	<0.1
Perfluorononanoic acid	µg/kg	<0.1	<0.1	<0.1	<0.1
Perfluorodecanoic acid	µg/kg	<0.5	<0.5	<0.5	<0.5
Perfluoroundecanoic acid	µg/kg	<0.5	<0.5	<0.5	<0.5
Perfluorododecanoic acid	µg/kg	<0.5	<0.5	<0.5	<0.5
Perfluorotridecanoic acid	µg/kg	<0.5	<0.5	<0.5	<0.5
Perfluorotetradecanoic acid	µg/kg	<5	<5	<5	<5
4:2 FTS	µg/kg	<0.1	<0.1	<0.1	<0.1
6:2 FTS	µg/kg	<0.1	<0.1	<0.1	<0.1
8:2 FTS	µg/kg	<0.2	<0.2	<0.2	<0.2
10:2 FTS	µg/kg	<0.2	<0.2	<0.2	<0.2
Perfluorooctane sulfonamide	µg/kg	<1	<1	<1	<1
N-Methyl perfluorooctane sulfonamide	µg/kg	<1	<1	<1	<1
N-Ethyl perfluorooctanesulfon amide	µg/kg	<1	<1	<1	<1
N-Me perfluorooctanesulfonamid oethanol	µg/kg	<1	<1	<1	<1
N-Et perfluorooctanesulfonamid oethanol	µg/kg	<5	<5	<5	<5
MePerfluorooctanesulf- amid oacetic acid	µg/kg	<0.2	<0.2	<0.2	<0.2
EtPerfluorooctanesulf amid oacetic acid	µg/kg	<0.2	<0.2	<0.2	<0.2
Surrogate $^{13}C_8$ *PFOS*	%	99	102	101	99
Surrogate $^{13}C_2$ *PFOA*	%	109	98	100	102
Extracted ISTD $^{13}C_3$ *PFBS*	%	94	100	98	103
Extracted ISTD $^{18}O_2$ *PFHxS*	%	100	104	101	111
Extracted ISTD $^{13}C_4$ *PFOS*	%	101	100	103	112

PFAS in Soils Extended					
Our Reference		289269-16	289269-38	289269-50	289269-51
Your Reference	UNITS	TP21	TP42	SDUP4	TB-S1
Depth		0-0.1	0-0.1	-	-
Type of sample		Soil	Soil	Soil	Soil
Date Sampled		18/02/2022	18/02/2022	18/02/2022	18/02/2022
Extracted ISTD $^{13}C_4$ *PFBA*	%	92	94	92	100
Extracted ISTD $^{13}C_3$ *PFPeA*	%	97	101	101	107
Extracted ISTD $^{13}C_2$ *PFHxA*	%	107	108	109	114
Extracted ISTD $^{13}C_4$ *PFHpA*	%	104	110	113	118
Extracted ISTD $^{13}C_4$ *PFOA*	%	104	108	111	119
Extracted ISTD $^{13}C_5$ *PFNA*	%	103	112	108	112
Extracted ISTD $^{13}C_2$ *PFDA*	%	119	117	128	135
Extracted ISTD $^{13}C_2$ *PFUnDA*	%	97	81	131	128
Extracted ISTD $^{13}C_2$ *PFDoDA*	%	133	110	154	141
Extracted ISTD $^{13}C_2$ *PFTeDA*	%	111	113	113	118
Extracted ISTD $^{13}C_2$ *4:2FTS*	%	111	110	113	122
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	128	122	127	133
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	150	130	147	145
Extracted ISTD $^{13}C_8$ *FOSA*	%	108	107	111	120
Extracted ISTD d_3 *N MeFOSA*	%	105	104	111	115
Extracted ISTD d_5 *N EtFOSA*	%	104	106	108	116
Extracted ISTD d_7 *N MeFOSE*	%	105	98	110	114
Extracted ISTD d_9 *N EtFOSE*	%	103	103	113	116
Extracted ISTD d_3 *N MeFOSAA*	%	114	100	119	108
Extracted ISTD d_5 *N EtFOSAA*	%	93	78	125	116
Total Positive PFHxS & PFOS	µg/kg	0.5	0.3	1.2	0.1
Total Positive PFOS & PFOA	µg/kg	0.5	0.3	1.0	0.1
Total Positive PFAS	µg/kg	0.5	0.3	1.2	0.1

Misc Soil - Inorg						
Our Reference		289269-5	289269-8	289269-10	289269-13	289269-50
Your Reference	UNITS	TP7	TP8	TP9	TP20	SDUP4
Depth		0-0.1	0-0.1	0-0.1	0-0.1	-
Type of sample		Soil	Soil	Soil	Soil	Soil
Date Sampled		18/02/2022	18/02/2022	18/02/2022	18/02/2022	18/02/2022
Date prepared	-	23/02/2022	23/02/2022	23/02/2022	23/02/2022	23/02/2022
Date analysed	-	23/02/2022	23/02/2022	23/02/2022	23/02/2022	23/02/2022
Total Phenolics (as Phenol)	mg/kg	<5	<5	<5	<5	<5

Asbestos ID - materials				
Our Reference		289269-53	289269-54	289269-55
Your Reference	UNITS	FCF-TP21	FCF2-TP21(spoil)	FCF3-TP21
Depth		0-0.1	0-0.1	0.1-0.6
Type of sample		Material	Material	Material
Date Sampled		.	.	.
Date analysed	-	24/02/2022	24/02/2022	24/02/2022
Mass / Dimension of Sample	-	5.95g	2.83g	1.61g
Sample Description	-	Grey fibre cement material	Beige fibre cement material	Grey fibre cement material
Asbestos ID in materials	-	Chrysotile asbestos detected	No asbestos detected Organic fibres detected	Chrysotile asbestos detected
Trace Analysis	-	[NT]	No asbestos detected	[NT]

Method ID	Methodology Summary
ASB-001	Asbestos ID - Qualitative identification of asbestos in bulk samples using Polarised Light Microscopy and Dispersion Staining Techniques including Synthetic Mineral Fibre and Organic Fibre as per Australian Standard 4964-2004.
ASB-001	Asbestos ID - Identification of asbestos in soil samples using Polarised Light Microscopy and Dispersion Staining Techniques. Minimum 500mL soil sample was analysed as recommended by "National Environment Protection (Assessment of site contamination) Measure, Schedule B1 and "The Guidelines from the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia - May 2009" with a reporting limit of 0.1g/kg (0.01% w/w) as per Australian Standard AS4964-2004. Results reported denoted with * are outside our scope of NATA accreditation. **NOTE** #1 Total Asbestos g/kg was analysed and reported as per Australian Standard AS4964 (This is the sum of ACM >7mm, <7mm and FA/AF) **NOTE** #2 The screening level of 0.001% w/w asbestos in soil for FA and AF only applies where the FA and AF are able to be quantified by gravimetric procedures. This screening level is not applicable to free fibres. Estimation = Estimated asbestos weight Results reported with "--" is equivalent to no visible asbestos identified using Polarised Light microscopy and Dispersion Staining Techniques.
Inorg-008	Moisture content determined by heating at 105+/-5 °C for a minimum of 12 hours.
Inorg-031	Total Phenolics by segmented flow analyser (in line distillation with colourimetric finish). Solids are extracted in a caustic media prior to analysis.
Metals-020	Determination of various metals by ICP-AES.
Metals-021	Determination of Mercury by Cold Vapour AAS.
Org-020	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis.

Method ID	Methodology Summary
Org-020	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis. Note, the Total +ve TRH PQL is reflective of the lowest individual PQL and is therefore "Total +ve TRH" is simply a sum of the positive individual TRH fractions (>C10-C40).
Org-021	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-ECD.
Org-021	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-ECD. Note, the Total +ve PCBs PQL is reflective of the lowest individual PQL and is therefore" Total +ve PCBs" is simply a sum of the positive individual PCBs.
Org-022	Determination of VOCs sampled onto coconut shell charcoal sorbent tubes, that can be desorbed using carbon disulphide, and analysed by GC-MS.
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS/GC-MSMS.
Org-022/025	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-MS/GC-MSMS. Note, the Total +ve reported DDD+DDE+DDT PQL is reflective of the lowest individual PQL and is therefore simply a sum of the positive individually report DDD+DDE+DDT.
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS and/or GC-MS/MS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013. For soil results:- 1. 'EQ PQL'values are assuming all contributing PAHs reported as <PQL are actually at the PQL. This is the most conservative approach and can give false positive TEQs given that PAHs that contribute to the TEQ calculation may not be present. 2. 'EQ zero'values are assuming all contributing PAHs reported as <PQL are zero. This is the least conservative approach and is more susceptible to false negative TEQs when PAHs that contribute to the TEQ calculation are present but below PQL. 3. 'EQ half PQL'values are assuming all contributing PAHs reported as <PQL are half the stipulated PQL. Hence a mid-point between the most and least conservative approaches above. Note, the Total +ve PAHs PQL is reflective of the lowest individual PQL and is therefore "Total +ve PAHs" is simply a sum of the positive individual PAHs.
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS.
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater. Note, the Total +ve Xylene PQL is reflective of the lowest individual PQL and is therefore "Total +ve Xylenes" is simply a sum of the positive individual Xylenes.

Method ID	Methodology Summary
Org-029	Soil samples are extracted with basified Methanol. Waters and soil extracts are directly injected and/or concentrated/extracted using SPE. TCLPs/ASLP leachates are centrifuged, the supernatant is then analysed (including amendment with solvent) - as per the option in AS4439.3. Analysis is undertaken with LC-MS/MS. PFAS results include the sum of branched and linear isomers where applicable. Please note that PFAS results are corrected for Extracted Internal Standards (QSM 5.3 Table B-15 terminology), which are mass labelled analytes added prior to sample preparation to assess matrix effects and verify processing of the sample. PFAS analytes without a commercially available mass labelled analogue are corrected vs a closely eluting mass labelled PFAS compound. Surrogates are also reported, in this context they are mass labelled PFAS compounds added prior to extraction but are used as monitoring compounds only (not used for result correction). Envicarb (or similar) is used discretionally to remove interfering matrix components. Please contact the laboratory if estimates of Measurement Uncertainty are required as per WA DER.

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-4	289269-5
Date extracted	-			23/02/2022	1	23/02/2022	23/02/2022		23/02/2022	23/02/2022
Date analysed	-			24/02/2022	1	24/02/2022	24/02/2022		24/02/2022	24/02/2022
TRH C_6 - C_9	mg/kg	25	Org-023	<25	1	<25	<25	0	99	91
TRH C_6 - C_{10}	mg/kg	25	Org-023	<25	1	<25	<25	0	99	91
Benzene	mg/kg	0.2	Org-023	<0.2	1	<0.2	<0.2	0	98	90
Toluene	mg/kg	0.5	Org-023	<0.5	1	<0.5	<0.5	0	99	92
Ethylbenzene	mg/kg	1	Org-023	<1	1	<1	<1	0	94	87
m+p-xylene	mg/kg	2	Org-023	<2	1	<2	<2	0	101	93
o-Xylene	mg/kg	1	Org-023	<1	1	<1	<1	0	100	93
Naphthalene	mg/kg	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-023	102	1	95	96	1	99	88

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-5	289269-33
Date extracted	-			[NT]	16	23/02/2022	23/02/2022		23/02/2022	23/02/2022
Date analysed	-			[NT]	16	24/02/2022	24/02/2022		24/02/2022	24/02/2022
TRH C_6 - C_9	mg/kg	25	Org-023	[NT]	16	<25	<25	0	100	90
TRH C_6 - C_{10}	mg/kg	25	Org-023	[NT]	16	<25	<25	0	100	90
Benzene	mg/kg	0.2	Org-023	[NT]	16	<0.2	<0.2	0	103	90
Toluene	mg/kg	0.5	Org-023	[NT]	16	<0.5	<0.5	0	103	93
Ethylbenzene	mg/kg	1	Org-023	[NT]	16	<1	<1	0	94	85
m+p-xylene	mg/kg	2	Org-023	[NT]	16	<2	<2	0	101	91
o-Xylene	mg/kg	1	Org-023	[NT]	16	<1	<1	0	101	91
Naphthalene	mg/kg	1	Org-023	[NT]	16	<1	<1	0	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-023	[NT]	16	92	95	3	101	88

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	32	23/02/2022	23/02/2022		[NT]	[NT]
Date analysed	-			[NT]	32	24/02/2022	24/02/2022		[NT]	[NT]
TRH C_6 - C_9	mg/kg	25	Org-023	[NT]	32	<25	<25	0	[NT]	[NT]
TRH C_6 - C_{10}	mg/kg	25	Org-023	[NT]	32	<25	<25	0	[NT]	[NT]
Benzene	mg/kg	0.2	Org-023	[NT]	32	<0.2	<0.2	0	[NT]	[NT]
Toluene	mg/kg	0.5	Org-023	[NT]	32	<0.5	<0.5	0	[NT]	[NT]
Ethylbenzene	mg/kg	1	Org-023	[NT]	32	<1	<1	0	[NT]	[NT]
m+p-xylene	mg/kg	2	Org-023	[NT]	32	<2	<2	0	[NT]	[NT]
o-Xylene	mg/kg	1	Org-023	[NT]	32	<1	<1	0	[NT]	[NT]
Naphthalene	mg/kg	1	Org-023	[NT]	32	<1	<1	0	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-023	[NT]	32	94	96	2	[NT]	[NT]

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	40	23/02/2022	23/02/2022		[NT]	[NT]
Date analysed	-			[NT]	40	24/02/2022	24/02/2022		[NT]	[NT]
TRH C_6 - C_9	mg/kg	25	Org-023	[NT]	40	<25	<25	0	[NT]	[NT]
TRH C_6 - C_{10}	mg/kg	25	Org-023	[NT]	40	<25	<25	0	[NT]	[NT]
Benzene	mg/kg	0.2	Org-023	[NT]	40	<0.2	<0.2	0	[NT]	[NT]
Toluene	mg/kg	0.5	Org-023	[NT]	40	<0.5	<0.5	0	[NT]	[NT]
Ethylbenzene	mg/kg	1	Org-023	[NT]	40	<1	<1	0	[NT]	[NT]
m+p-xylene	mg/kg	2	Org-023	[NT]	40	<2	<2	0	[NT]	[NT]
o-Xylene	mg/kg	1	Org-023	[NT]	40	<1	<1	0	[NT]	[NT]
Naphthalene	mg/kg	1	Org-023	[NT]	40	<1	<1	0	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-023	[NT]	40	97	97	0	[NT]	[NT]

QUALITY CONTROL: svTRH (C10-C40) in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-4	289269-5
Date extracted	-			23/02/2022	1	23/02/2022	23/02/2022		23/02/2022	23/02/2022
Date analysed	-			24/02/2022	1	25/02/2022	25/02/2022		24/02/2022	25/02/2022
TRH C_{10} - C_{14}	mg/kg	50	Org-020	<50	1	<50	<50	0	88	88
TRH C_{15} - C_{28}	mg/kg	100	Org-020	<100	1	<100	<100	0	95	105
TRH C_{29} - C_{36}	mg/kg	100	Org-020	<100	1	<100	<100	0	109	118
TRH >C_{10} -C_{16}	mg/kg	50	Org-020	<50	1	<50	<50	0	88	88
TRH >C_{16} -C_{34}	mg/kg	100	Org-020	<100	1	<100	<100	0	95	105
TRH >C_{34} -C_{40}	mg/kg	100	Org-020	<100	1	<100	<100	0	109	118
Surrogate o-Terphenyl	%		Org-020	93	1	95	97	2	94	110

QUALITY CONTROL: svTRH (C10-C40) in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-5	289269-33
Date extracted	-			[NT]	16	23/02/2022	23/02/2022		23/02/2022	23/02/2022
Date analysed	-			[NT]	16	25/02/2022	25/02/2022		24/02/2022	25/02/2022
TRH C_{10} - C_{14}	mg/kg	50	Org-020	[NT]	16	<50	<50	0	94	86
TRH C_{15} - C_{28}	mg/kg	100	Org-020	[NT]	16	<100	<100	0	104	101
TRH C_{29} - C_{36}	mg/kg	100	Org-020	[NT]	16	<100	<100	0	127	90
TRH >C_{10} -C_{16}	mg/kg	50	Org-020	[NT]	16	<50	<50	0	94	86
TRH >C_{16} -C_{34}	mg/kg	100	Org-020	[NT]	16	<100	<100	0	104	101
TRH >C_{34} -C_{40}	mg/kg	100	Org-020	[NT]	16	<100	<100	0	127	90
Surrogate o-Terphenyl	%		Org-020	[NT]	16	96	93	3	98	121

QUALITY CONTROL: svTRH (C10-C40) in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	32	23/02/2022	23/02/2022		[NT]	[NT]
Date analysed	-			[NT]	32	25/02/2022	25/02/2022		[NT]	[NT]
TRH C_{10} - C_{14}	mg/kg	50	Org-020	[NT]	32	<50	<50	0	[NT]	[NT]
TRH C_{15} - C_{28}	mg/kg	100	Org-020	[NT]	32	<100	<100	0	[NT]	[NT]
TRH C_{29} - C_{36}	mg/kg	100	Org-020	[NT]	32	<100	<100	0	[NT]	[NT]
TRH >C_{10} -C_{16}	mg/kg	50	Org-020	[NT]	32	<50	<50	0	[NT]	[NT]
TRH >C_{16} -C_{34}	mg/kg	100	Org-020	[NT]	32	<100	<100	0	[NT]	[NT]
TRH >C_{34} -C_{40}	mg/kg	100	Org-020	[NT]	32	<100	<100	0	[NT]	[NT]
Surrogate o-Terphenyl	%		Org-020	[NT]	32	87	91	4	[NT]	[NT]

QUALITY CONTROL: svTRH (C10-C40) in Soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	40	23/02/2022	23/02/2022		[NT]	[NT]
Date analysed	-			[NT]	40	25/02/2022	25/02/2022		[NT]	[NT]
TRH C_{10} - C_{14}	mg/kg	50	Org-020	[NT]	40	<50	<50	0	[NT]	[NT]
TRH C_{15} - C_{28}	mg/kg	100	Org-020	[NT]	40	<100	<100	0	[NT]	[NT]
TRH C_{29} - C_{36}	mg/kg	100	Org-020	[NT]	40	<100	<100	0	[NT]	[NT]
TRH >C_{10} -C_{16}	mg/kg	50	Org-020	[NT]	40	<50	<50	0	[NT]	[NT]
TRH >C_{16} -C_{34}	mg/kg	100	Org-020	[NT]	40	<100	<100	0	[NT]	[NT]
TRH >C_{34} -C_{40}	mg/kg	100	Org-020	[NT]	40	<100	<100	0	[NT]	[NT]
Surrogate o-Terphenyl	%		Org-020	[NT]	40	88	105	18	[NT]	[NT]

QUALITY CONTROL: PAHs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-4	289269-5
Date extracted	-			23/02/2022	1	23/02/2022	23/02/2022		23/02/2022	23/02/2022
Date analysed	-			25/02/2022	1	25/02/2022	25/02/2022		25/02/2022	25/02/2022
Naphthalene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	108	113
Acenaphthylene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	118	107
Fluorene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	112	109
Phenanthrene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	118	108
Anthracene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	122	110
Pyrene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	118	109
Benzo(a)anthracene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	76	73
Benzo(b,j+k)fluoranthene	mg/kg	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-022/025	<0.05	1	<0.05	<0.05	0	114	108
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	120	1	94	100	6	98	88

QUALITY CONTROL: PAHs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-5	289269-33
Date extracted	-			[NT]	16	23/02/2022	23/02/2022		23/02/2022	23/02/2022
Date analysed	-			[NT]	16	25/02/2022	25/02/2022		25/02/2022	25/02/2022
Naphthalene	mg/kg	0.1	Org-022/025	[NT]	16	<0.1	<0.1	0	70	68
Acenaphthylene	mg/kg	0.1	Org-022/025	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-022/025	[NT]	16	<0.1	<0.1	0	69	68
Fluorene	mg/kg	0.1	Org-022/025	[NT]	16	<0.1	<0.1	0	74	72
Phenanthrene	mg/kg	0.1	Org-022/025	[NT]	16	<0.1	<0.1	0	73	72
Anthracene	mg/kg	0.1	Org-022/025	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-022/025	[NT]	16	<0.1	<0.1	0	73	70
Pyrene	mg/kg	0.1	Org-022/025	[NT]	16	<0.1	<0.1	0	73	71
Benzo(a)anthracene	mg/kg	0.1	Org-022/025	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-022/025	[NT]	16	<0.1	<0.1	0	66	64
Benzo(b,j+k)fluoranthene	mg/kg	0.2	Org-022/025	[NT]	16	<0.2	<0.2	0	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-022/025	[NT]	16	<0.05	<0.05	0	88	80
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-022/025	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-022/025	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-022/025	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	[NT]	16	103	102	1	106	105

QUALITY CONTROL: PAHs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	32	23/02/2022	23/02/2022		[NT]	[NT]
Date analysed	-			[NT]	32	25/02/2022	25/02/2022		[NT]	[NT]
Naphthalene	mg/kg	0.1	Org-022/025	[NT]	32	<0.1	<0.1	0	[NT]	[NT]
Acenaphthylene	mg/kg	0.1	Org-022/025	[NT]	32	<0.1	<0.1	0	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-022/025	[NT]	32	<0.1	<0.1	0	[NT]	[NT]
Fluorene	mg/kg	0.1	Org-022/025	[NT]	32	<0.1	<0.1	0	[NT]	[NT]
Phenanthrene	mg/kg	0.1	Org-022/025	[NT]	32	<0.1	<0.1	0	[NT]	[NT]
Anthracene	mg/kg	0.1	Org-022/025	[NT]	32	<0.1	<0.1	0	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-022/025	[NT]	32	<0.1	<0.1	0	[NT]	[NT]
Pyrene	mg/kg	0.1	Org-022/025	[NT]	32	<0.1	<0.1	0	[NT]	[NT]
Benzo(a)anthracene	mg/kg	0.1	Org-022/025	[NT]	32	<0.1	<0.1	0	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-022/025	[NT]	32	<0.1	<0.1	0	[NT]	[NT]
Benzo(b,j+k)fluoranthene	mg/kg	0.2	Org-022/025	[NT]	32	<0.2	<0.2	0	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-022/025	[NT]	32	<0.05	<0.05	0	[NT]	[NT]
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-022/025	[NT]	32	<0.1	<0.1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-022/025	[NT]	32	<0.1	<0.1	0	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-022/025	[NT]	32	<0.1	<0.1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	[NT]	32	96	81	17	[NT]	[NT]

QUALITY CONTROL: PAHs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	40	23/02/2022	23/02/2022		[NT]	[NT]
Date analysed	-			[NT]	40	28/02/2022	28/02/2022		[NT]	[NT]
Naphthalene	mg/kg	0.1	Org-022/025	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Acenaphthylene	mg/kg	0.1	Org-022/025	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-022/025	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Fluorene	mg/kg	0.1	Org-022/025	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Phenanthrene	mg/kg	0.1	Org-022/025	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Anthracene	mg/kg	0.1	Org-022/025	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-022/025	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Pyrene	mg/kg	0.1	Org-022/025	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Benzo(a)anthracene	mg/kg	0.1	Org-022/025	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-022/025	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Benzo(b,j+k)fluoranthene	mg/kg	0.2	Org-022/025	[NT]	40	<0.2	<0.2	0	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-022/025	[NT]	40	<0.05	<0.05	0	[NT]	[NT]
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-022/025	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-022/025	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-022/025	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	[NT]	40	115	115	0	[NT]	[NT]

QUALITY CONTROL: Organochlorine Pesticides in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-4	289269-5
Date extracted	-			23/02/2022	1	23/02/2022	23/02/2022		23/02/2022	23/02/2022
Date analysed	-			25/02/2022	1	25/02/2022	25/02/2022		25/02/2022	25/02/2022
alpha-BHC	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	100	104
HCB	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
beta-BHC	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	103	106
gamma-BHC	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Heptachlor	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	105	105
delta-BHC	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Aldrin	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	89	89
Heptachlor Epoxide	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	110	106
gamma-Chlordane	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
alpha-chlordane	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Endosulfan I	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
pp-DDE	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	115	111
Dieldrin	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	120	114
Endrin	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	98	105
Endosulfan II	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
pp-DDD	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	96	102
Endrin Aldehyde	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
pp-DDT	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Endosulfan Sulphate	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	94	120
Methoxychlor	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-022/025	78	1	88	90	2	87	84

QUALITY CONTROL: Organochlorine Pesticides in soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	16	23/02/2022	23/02/2022		[NT]	[NT]
Date analysed	-			[NT]	16	25/02/2022	25/02/2022		[NT]	[NT]
alpha-BHC	mg/kg	0.1	Org-022/025	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
HCB	mg/kg	0.1	Org-022/025	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
beta-BHC	mg/kg	0.1	Org-022/025	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
gamma-BHC	mg/kg	0.1	Org-022/025	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
Heptachlor	mg/kg	0.1	Org-022/025	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
delta-BHC	mg/kg	0.1	Org-022/025	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
Aldrin	mg/kg	0.1	Org-022/025	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
Heptachlor Epoxide	mg/kg	0.1	Org-022/025	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
gamma-Chlordane	mg/kg	0.1	Org-022/025	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
alpha-chlordane	mg/kg	0.1	Org-022/025	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
Endosulfan I	mg/kg	0.1	Org-022/025	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
pp-DDE	mg/kg	0.1	Org-022/025	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
Dieldrin	mg/kg	0.1	Org-022/025	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
Endrin	mg/kg	0.1	Org-022/025	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
Endosulfan II	mg/kg	0.1	Org-022/025	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
pp-DDD	mg/kg	0.1	Org-022/025	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
Endrin Aldehyde	mg/kg	0.1	Org-022/025	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
pp-DDT	mg/kg	0.1	Org-022/025	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
Endosulfan Sulphate	mg/kg	0.1	Org-022/025	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
Methoxychlor	mg/kg	0.1	Org-022/025	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-022/025	[NT]	16	92	89	3	[NT]	[NT]

QUALITY CONTROL: Organochlorine Pesticides in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	32	23/02/2022	23/02/2022		[NT]	[NT]
Date analysed	-			[NT]	32	25/02/2022	25/02/2022		[NT]	[NT]
alpha-BHC	mg/kg	0.1	Org-022/025	[NT]	32	<0.1	<0.1	0	[NT]	[NT]
HCB	mg/kg	0.1	Org-022/025	[NT]	32	<0.1	<0.1	0	[NT]	[NT]
beta-BHC	mg/kg	0.1	Org-022/025	[NT]	32	<0.1	<0.1	0	[NT]	[NT]
gamma-BHC	mg/kg	0.1	Org-022/025	[NT]	32	<0.1	<0.1	0	[NT]	[NT]
Heptachlor	mg/kg	0.1	Org-022/025	[NT]	32	<0.1	<0.1	0	[NT]	[NT]
delta-BHC	mg/kg	0.1	Org-022/025	[NT]	32	<0.1	<0.1	0	[NT]	[NT]
Aldrin	mg/kg	0.1	Org-022/025	[NT]	32	<0.1	<0.1	0	[NT]	[NT]
Heptachlor Epoxide	mg/kg	0.1	Org-022/025	[NT]	32	<0.1	<0.1	0	[NT]	[NT]
gamma-Chlordane	mg/kg	0.1	Org-022/025	[NT]	32	<0.1	<0.1	0	[NT]	[NT]
alpha-chlordane	mg/kg	0.1	Org-022/025	[NT]	32	<0.1	<0.1	0	[NT]	[NT]
Endosulfan I	mg/kg	0.1	Org-022/025	[NT]	32	<0.1	<0.1	0	[NT]	[NT]
pp-DDE	mg/kg	0.1	Org-022/025	[NT]	32	<0.1	<0.1	0	[NT]	[NT]
Dieldrin	mg/kg	0.1	Org-022/025	[NT]	32	<0.1	<0.1	0	[NT]	[NT]
Endrin	mg/kg	0.1	Org-022/025	[NT]	32	<0.1	<0.1	0	[NT]	[NT]
Endosulfan II	mg/kg	0.1	Org-022/025	[NT]	32	<0.1	<0.1	0	[NT]	[NT]
pp-DDD	mg/kg	0.1	Org-022/025	[NT]	32	<0.1	<0.1	0	[NT]	[NT]
Endrin Aldehyde	mg/kg	0.1	Org-022/025	[NT]	32	<0.1	<0.1	0	[NT]	[NT]
pp-DDT	mg/kg	0.1	Org-022/025	[NT]	32	<0.1	<0.1	0	[NT]	[NT]
Endosulfan Sulphate	mg/kg	0.1	Org-022/025	[NT]	32	<0.1	<0.1	0	[NT]	[NT]
Methoxychlor	mg/kg	0.1	Org-022/025	[NT]	32	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-022/025	[NT]	32	84	86	2	[NT]	[NT]

QUALITY CONTROL: Organophosphorus Pesticides in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-4	289269-5
Date extracted	-			23/02/2022	1	23/02/2022	23/02/2022		23/02/2022	23/02/2022
Date analysed	-			25/02/2022	1	25/02/2022	25/02/2022		25/02/2022	25/02/2022
Dichlorvos	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	93	101
Dimethoate	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Diazinon	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Chlorpyriphos-methyl	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Ronnel	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	110	110
Fenitrothion	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	68	63
Malathion	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	81	97
Chlorpyriphos	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	112	112
Parathion	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	67	62
Bromophos-ethyl	mg/kg	0.1	Org-022	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Ethion	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	66	83
Azinphos-methyl (Guthion)	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-022/025	78	1	88	90	2	87	84

QUALITY CONTROL: Organophosphorus Pesticides in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	16	23/02/2022	23/02/2022		[NT]	[NT]
Date analysed	-			[NT]	16	25/02/2022	25/02/2022		[NT]	[NT]
Dichlorvos	mg/kg	0.1	Org-022/025	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
Dimethoate	mg/kg	0.1	Org-022/025	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
Diazinon	mg/kg	0.1	Org-022/025	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
Chlorpyriphos-methyl	mg/kg	0.1	Org-022/025	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
Ronnel	mg/kg	0.1	Org-022/025	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
Fenitrothion	mg/kg	0.1	Org-022/025	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
Malathion	mg/kg	0.1	Org-022/025	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
Chlorpyriphos	mg/kg	0.1	Org-022/025	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
Parathion	mg/kg	0.1	Org-022/025	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
Bromophos-ethyl	mg/kg	0.1	Org-022	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
Ethion	mg/kg	0.1	Org-022/025	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
Azinphos-methyl (Guthion)	mg/kg	0.1	Org-022/025	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-022/025	[NT]	16	92	89	3	[NT]	[NT]

QUALITY CONTROL: Organophosphorus Pesticides in Soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	32	23/02/2022	23/02/2022		[NT]	[NT]
Date analysed	-			[NT]	32	25/02/2022	25/02/2022		[NT]	[NT]
Dichlorvos	mg/kg	0.1	Org-022/025	[NT]	32	<0.1	<0.1	0	[NT]	[NT]
Dimethoate	mg/kg	0.1	Org-022/025	[NT]	32	<0.1	<0.1	0	[NT]	[NT]
Diazinon	mg/kg	0.1	Org-022/025	[NT]	32	<0.1	<0.1	0	[NT]	[NT]
Chlorpyriphos-methyl	mg/kg	0.1	Org-022/025	[NT]	32	<0.1	<0.1	0	[NT]	[NT]
Ronnel	mg/kg	0.1	Org-022/025	[NT]	32	<0.1	<0.1	0	[NT]	[NT]
Fenitrothion	mg/kg	0.1	Org-022/025	[NT]	32	<0.1	<0.1	0	[NT]	[NT]
Malathion	mg/kg	0.1	Org-022/025	[NT]	32	<0.1	<0.1	0	[NT]	[NT]
Chlorpyriphos	mg/kg	0.1	Org-022/025	[NT]	32	<0.1	<0.1	0	[NT]	[NT]
Parathion	mg/kg	0.1	Org-022/025	[NT]	32	<0.1	<0.1	0	[NT]	[NT]
Bromophos-ethyl	mg/kg	0.1	Org-022	[NT]	32	<0.1	<0.1	0	[NT]	[NT]
Ethion	mg/kg	0.1	Org-022/025	[NT]	32	<0.1	<0.1	0	[NT]	[NT]
Azinphos-methyl (Guthion)	mg/kg	0.1	Org-022/025	[NT]	32	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-022/025	[NT]	32	84	86	2	[NT]	[NT]

QUALITY CONTROL: PCBs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-4	289269-5
Date extracted	-			23/02/2022	1	23/02/2022	23/02/2022		23/02/2022	23/02/2022
Date analysed	-			25/02/2022	1	25/02/2022	25/02/2022		25/02/2022	25/02/2022
Aroclor 1016	mg/kg	0.1	Org-021	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1221	mg/kg	0.1	Org-021	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1232	mg/kg	0.1	Org-021	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1242	mg/kg	0.1	Org-021	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1248	mg/kg	0.1	Org-021	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1254	mg/kg	0.1	Org-021	<0.1	1	<0.1	<0.1	0	126	80
Aroclor 1260	mg/kg	0.1	Org-021	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-021	78	1	88	90	2	87	84

QUALITY CONTROL: PCBs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	5	23/02/2022	23/02/2022		[NT]	[NT]
Date analysed	-			[NT]	5	25/02/2022	25/02/2022		[NT]	[NT]
Aroclor 1016	mg/kg	0.1	Org-021	[NT]	5	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1221	mg/kg	0.1	Org-021	[NT]	5	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1232	mg/kg	0.1	Org-021	[NT]	5	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1242	mg/kg	0.1	Org-021	[NT]	5	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1248	mg/kg	0.1	Org-021	[NT]	5	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1254	mg/kg	0.1	Org-021	[NT]	5	0.6	0.7	15	[NT]	[NT]
Aroclor 1260	mg/kg	0.1	Org-021	[NT]	5	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-021	[NT]	5	94	75	22	[NT]	[NT]

QUALITY CONTROL: PCBs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	16	23/02/2022	23/02/2022		[NT]	[NT]
Date analysed	-			[NT]	16	25/02/2022	25/02/2022		[NT]	[NT]
Aroclor 1016	mg/kg	0.1	Org-021	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1221	mg/kg	0.1	Org-021	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1232	mg/kg	0.1	Org-021	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1242	mg/kg	0.1	Org-021	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1248	mg/kg	0.1	Org-021	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1254	mg/kg	0.1	Org-021	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1260	mg/kg	0.1	Org-021	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-021	[NT]	16	92	89	3	[NT]	[NT]

QUALITY CONTROL: PCBs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	32	23/02/2022	23/02/2022		[NT]	[NT]
Date analysed	-			[NT]	32	25/02/2022	25/02/2022		[NT]	[NT]
Aroclor 1016	mg/kg	0.1	Org-021	[NT]	32	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1221	mg/kg	0.1	Org-021	[NT]	32	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1232	mg/kg	0.1	Org-021	[NT]	32	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1242	mg/kg	0.1	Org-021	[NT]	32	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1248	mg/kg	0.1	Org-021	[NT]	32	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1254	mg/kg	0.1	Org-021	[NT]	32	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1260	mg/kg	0.1	Org-021	[NT]	32	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-021	[NT]	32	84	86	2	[NT]	[NT]

QUALITY CONTROL: Acid Extractable metals in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-4	289269-5
Date prepared	-			24/02/2022	1	24/02/2022	24/02/2022		24/02/2022	24/02/2022
Date analysed	-			24/02/2022	1	24/02/2022	24/02/2022		24/02/2022	24/02/2022
Arsenic	mg/kg	4	Metals-020	<4	1	8	6	29	121	97
Cadmium	mg/kg	0.4	Metals-020	<0.4	1	<0.4	<0.4	0	115	89
Chromium	mg/kg	1	Metals-020	<1	1	16	13	21	115	83
Copper	mg/kg	1	Metals-020	<1	1	9	11	20	115	99
Lead	mg/kg	1	Metals-020	<1	1	39	40	3	117	#
Mercury	mg/kg	0.1	Metals-021	<0.1	1	<0.1	<0.1	0	109	87
Nickel	mg/kg	1	Metals-020	<1	1	3	6	67	115	93
Zinc	mg/kg	1	Metals-020	<1	1	30	47	44	119	#

QUALITY CONTROL: Acid Extractable metals in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-5	289269-33
Date prepared	-			[NT]	16	24/02/2022	24/02/2022		24/02/2022	24/02/2022
Date analysed	-			[NT]	16	24/02/2022	24/02/2022		24/02/2022	24/02/2022
Arsenic	mg/kg	4	Metals-020	[NT]	16	18	19	5	127	103
Cadmium	mg/kg	0.4	Metals-020	[NT]	16	<0.4	<0.4	0	121	102
Chromium	mg/kg	1	Metals-020	[NT]	16	14	13	7	122	109
Copper	mg/kg	1	Metals-020	[NT]	16	31	39	23	121	115
Lead	mg/kg	1	Metals-020	[NT]	16	580	400	37	124	109
Mercury	mg/kg	0.1	Metals-021	[NT]	16	<0.1	<0.1	0	120	109
Nickel	mg/kg	1	Metals-020	[NT]	16	9	11	20	122	106
Zinc	mg/kg	1	Metals-020	[NT]	16	250	280	11	128	108

QUALITY CONTROL: Acid Extractable metals in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	32	24/02/2022	24/02/2022		[NT]	[NT]
Date analysed	-			[NT]	32	24/02/2022	24/02/2022		[NT]	[NT]
Arsenic	mg/kg	4	Metals-020	[NT]	32	<4	<4	0	[NT]	[NT]
Cadmium	mg/kg	0.4	Metals-020	[NT]	32	<0.4	<0.4	0	[NT]	[NT]
Chromium	mg/kg	1	Metals-020	[NT]	32	8	8	0	[NT]	[NT]
Copper	mg/kg	1	Metals-020	[NT]	32	2	3	40	[NT]	[NT]
Lead	mg/kg	1	Metals-020	[NT]	32	12	11	9	[NT]	[NT]
Mercury	mg/kg	0.1	Metals-021	[NT]	32	<0.1	<0.1	0	[NT]	[NT]
Nickel	mg/kg	1	Metals-020	[NT]	32	2	3	40	[NT]	[NT]
Zinc	mg/kg	1	Metals-020	[NT]	32	5	8	46	[NT]	[NT]

QUALITY CONTROL: Acid Extractable metals in soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	40	24/02/2022	24/02/2022		[NT]	[NT]
Date analysed	-			[NT]	40	24/02/2022	24/02/2022		[NT]	[NT]
Arsenic	mg/kg	4	Metals-020	[NT]	40	<4	<4	0	[NT]	[NT]
Cadmium	mg/kg	0.4	Metals-020	[NT]	40	<0.4	<0.4	0	[NT]	[NT]
Chromium	mg/kg	1	Metals-020	[NT]	40	16	17	6	[NT]	[NT]
Copper	mg/kg	1	Metals-020	[NT]	40	3	3	0	[NT]	[NT]
Lead	mg/kg	1	Metals-020	[NT]	40	9	9	0	[NT]	[NT]
Mercury	mg/kg	0.1	Metals-021	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Nickel	mg/kg	1	Metals-020	[NT]	40	2	2	0	[NT]	[NT]
Zinc	mg/kg	1	Metals-020	[NT]	40	6	6	0	[NT]	[NT]

QUALITY CONTROL: PFAS in Soils Extended						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	289269-5
Date prepared	-			24/02/2022	1	24/02/2022	24/02/2022		24/02/2022	24/02/2022
Date analysed	-			24/02/2022	1	24/02/2022	24/02/2022		24/02/2022	24/02/2022
Perfluorobutanesulfonic acid	µg/kg	0.1	Org-029	<0.1	1	<0.1	<0.1	0	104	100
Perfluoropentanesulfonic acid	µg/kg	0.1	Org-029	<0.1	1	<0.1	<0.1	0	101	102
Perfluorohexanesulfonic acid - PFHxS	µg/kg	0.1	Org-029	<0.1	1	<0.1	<0.1	0	104	99
Perfluoroheptanesulfonic acid	µg/kg	0.1	Org-029	<0.1	1	<0.1	<0.1	0	108	101
Perfluorooctanesulfonic acid PFOS	µg/kg	0.1	Org-029	<0.1	1	0.2	0.3	40	104	102
Perfluorodecanesulfonic acid	µg/kg	0.2	Org-029	<0.2	1	<0.2	<0.2	0	94	90
Perfluorobutanoic acid	µg/kg	0.2	Org-029	<0.2	1	<0.2	<0.2	0	109	106
Perfluoropentanoic acid	µg/kg	0.2	Org-029	<0.2	1	<0.2	<0.2	0	107	107
Perfluorohexanoic acid	µg/kg	0.1	Org-029	<0.1	1	<0.1	<0.1	0	104	103
Perfluoroheptanoic acid	µg/kg	0.1	Org-029	<0.1	1	<0.1	<0.1	0	99	93
Perfluorooctanoic acid PFOA	µg/kg	0.1	Org-029	<0.1	1	<0.1	<0.1	0	101	102
Perfluorononanoic acid	µg/kg	0.1	Org-029	<0.1	1	<0.1	<0.1	0	107	103
Perfluorodecanoic acid	µg/kg	0.5	Org-029	<0.5	1	<0.5	<0.5	0	101	104
Perfluoroundecanoic acid	µg/kg	0.5	Org-029	<0.5	1	<0.5	<0.5	0	103	107
Perfluorododecanoic acid	µg/kg	0.5	Org-029	<0.5	1	<0.5	<0.5	0	105	100
Perfluorotridecanoic acid	µg/kg	0.5	Org-029	<0.5	1	<0.5	<0.5	0	99	106
Perfluorotetradecanoic acid	µg/kg	5	Org-029	<5	1	<5	<5	0	110	108
4:2 FTS	µg/kg	0.1	Org-029	<0.1	1	<0.1	<0.1	0	103	104
6:2 FTS	µg/kg	0.1	Org-029	<0.1	1	<0.1	<0.1	0	98	92
8:2 FTS	µg/kg	0.2	Org-029	<0.2	1	<0.2	<0.2	0	102	95
10:2 FTS	µg/kg	0.2	Org-029	<0.2	1	<0.2	<0.2	0	102	139
Perfluorooctane sulfonamide	µg/kg	1	Org-029	<1	1	<1	<1	0	96	92
N-Methyl perfluorooctane sulfonamide	µg/kg	1	Org-029	<1	1	<1	<1	0	103	101
N-Ethyl perfluorooctanesulfon amide	µg/kg	1	Org-029	<1	1	<1	<1	0	104	100
N-Me perfluorooctanesulfonamid oethanol	µg/kg	1	Org-029	<1	1	<1	<1	0	116	103
N-Et perfluorooctanesulfonamid oethanol	µg/kg	5	Org-029	<5	1	<5	<5	0	103	99
MePerfluorooctanesulf- amid oacetic acid	µg/kg	0.2	Org-029	<0.2	1	<0.2	<0.2	0	112	108
EtPerfluorooctanesulf amid oacetic acid	µg/kg	0.2	Org-029	<0.2	1	<0.2	<0.2	0	103	102
Surrogate $^{13}C_8$ *PFOS*	%		Org-029	101	1	98	99	1	98	105
Surrogate $^{13}C_2$ *PFOA*	%		Org-029	100	1	100	104	4	98	97

QUALITY CONTROL: PFAS in Soils Extended						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	289269-5
Extracted ISTD $^{13}C_3$ *PFBS*	%		Org-029	109	1	101	98	3	108	98
Extracted ISTD $^{18}O_2$ *PFHxS*	%		Org-029	117	1	104	108	4	111	102
Extracted ISTD $^{13}C_4$ *PFOS*	%		Org-029	114	1	105	103	2	114	99
Extracted ISTD $^{13}C_4$ *PFBA*	%		Org-029	103	1	96	95	1	102	93
Extracted ISTD $^{13}C_3$ *PFPeA*	%		Org-029	107	1	99	100	1	108	97
Extracted ISTD $^{13}C_2$ *PFHxA*	%		Org-029	114	1	104	107	3	114	104
Extracted ISTD $^{13}C_4$ *PFHpA*	%		Org-029	116	1	108	102	6	112	107
Extracted ISTD $^{13}C_4$ *PFOA*	%		Org-029	118	1	107	103	4	122	105
Extracted ISTD $^{13}C_5$ *PFNA*	%		Org-029	124	1	105	101	4	118	107
Extracted ISTD $^{13}C_2$ *PFDA*	%		Org-029	128	1	112	107	5	116	118
Extracted ISTD $^{13}C_2$ *PFUnDA*	%		Org-029	110	1	84	67	23	121	113
Extracted ISTD $^{13}C_2$ *PFDoDA*	%		Org-029	124	1	106	99	7	119	143
Extracted ISTD $^{13}C_2$ *PFTeDA*	%		Org-029	112	1	111	109	2	117	114
Extracted ISTD $^{13}C_2$ *4:2FTS*	%		Org-029	113	1	108	109	1	111	105
Extracted ISTD $^{13}C_2$ *6:2FTS*	%		Org-029	129	1	116	112	4	122	126
Extracted ISTD $^{13}C_2$ *8:2FTS*	%		Org-029	131	1	130	112	15	122	142
Extracted ISTD $^{13}C_8$ *FOSA*	%		Org-029	123	1	108	104	4	116	105
Extracted ISTD d_3 *N MeFOSA*	%		Org-029	117	1	101	98	3	117	105
Extracted ISTD d_5 *N EtFOSA*	%		Org-029	119	1	108	106	2	116	107
Extracted ISTD d_7 *N MeFOSE*	%		Org-029	122	1	104	101	3	111	104

QUALITY CONTROL: PFAS in Soils Extended						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	289269-5
Extracted ISTD d_9 *N EtFOSE*	%		Org-029	111	1	102	104	2	114	105
Extracted ISTD d_3 *N MeFOSAA*	%		Org-029	101	1	91	91	0	104	108
Extracted ISTD d_5 *N EtFOSAA*	%		Org-029	110	1	78	71	9	108	103

QUALITY CONTROL: PFAS in Soils Extended						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	16	24/02/2022	24/02/2022		[NT]	[NT]
Date analysed	-			[NT]	16	24/02/2022	24/02/2022		[NT]	[NT]
Perfluorobutanesulfonic acid	µg/kg	0.1	Org-029	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
Perfluoropentanesulfonic acid	µg/kg	0.1	Org-029	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
Perfluorohexanesulfonic acid - PFHxS	µg/kg	0.1	Org-029	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
Perfluoroheptanesulfonic acid	µg/kg	0.1	Org-029	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
Perfluorooctanesulfonic acid PFOS	µg/kg	0.1	Org-029	[NT]	16	0.5	0.6	18	[NT]	[NT]
Perfluorodecanesulfonic acid	µg/kg	0.2	Org-029	[NT]	16	<0.2	<0.2	0	[NT]	[NT]
Perfluorobutanoic acid	µg/kg	0.2	Org-029	[NT]	16	<0.2	<0.2	0	[NT]	[NT]
Perfluoropentanoic acid	µg/kg	0.2	Org-029	[NT]	16	<0.2	<0.2	0	[NT]	[NT]
Perfluorohexanoic acid	µg/kg	0.1	Org-029	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
Perfluoroheptanoic acid	µg/kg	0.1	Org-029	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
Perfluorooctanoic acid PFOA	µg/kg	0.1	Org-029	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
Perfluorononanoic acid	µg/kg	0.1	Org-029	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
Perfluorodecanoic acid	µg/kg	0.5	Org-029	[NT]	16	<0.5	<0.5	0	[NT]	[NT]
Perfluoroundecanoic acid	µg/kg	0.5	Org-029	[NT]	16	<0.5	<0.5	0	[NT]	[NT]
Perfluorododecanoic acid	µg/kg	0.5	Org-029	[NT]	16	<0.5	<0.5	0	[NT]	[NT]
Perfluorotridecanoic acid	µg/kg	0.5	Org-029	[NT]	16	<0.5	<0.5	0	[NT]	[NT]
Perfluorotetradecanoic acid	µg/kg	5	Org-029	[NT]	16	<5	<5	0	[NT]	[NT]
4:2 FTS	µg/kg	0.1	Org-029	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
6:2 FTS	µg/kg	0.1	Org-029	[NT]	16	<0.1	<0.1	0	[NT]	[NT]
8:2 FTS	µg/kg	0.2	Org-029	[NT]	16	<0.2	<0.2	0	[NT]	[NT]
10:2 FTS	µg/kg	0.2	Org-029	[NT]	16	<0.2	<0.2	0	[NT]	[NT]
Perfluorooctane sulfonamide	µg/kg	1	Org-029	[NT]	16	<1	<1	0	[NT]	[NT]
N-Methyl perfluorooctane sulfonamide	µg/kg	1	Org-029	[NT]	16	<1	<1	0	[NT]	[NT]
N-Ethyl perfluorooctanesulfon amide	µg/kg	1	Org-029	[NT]	16	<1	<1	0	[NT]	[NT]
N-Me perfluorooctanesulfonamid oethanol	µg/kg	1	Org-029	[NT]	16	<1	<1	0	[NT]	[NT]
N-Et perfluorooctanesulfonamid oethanol	µg/kg	5	Org-029	[NT]	16	<5	<5	0	[NT]	[NT]
MePerfluorooctanesulf- amid oacetic acid	µg/kg	0.2	Org-029	[NT]	16	<0.2	<0.2	0	[NT]	[NT]
EtPerfluorooctanesulf amid oacetic acid	µg/kg	0.2	Org-029	[NT]	16	<0.2	<0.2	0	[NT]	[NT]
Surrogate $^{13}C_8$ *PFOS*	%		Org-029	[NT]	16	99	99	0	[NT]	[NT]
Surrogate $^{13}C_2$ *PFOA*	%		Org-029	[NT]	16	109	102	7	[NT]	[NT]

QUALITY CONTROL: PFAS in Soils Extended					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Extracted ISTD $^{13}C_3$ *PFBS*	%		Org-029	[NT]	16	94	93	1	[NT]	[NT]
Extracted ISTD $^{18}O_2$ *PFHxS*	%		Org-029	[NT]	16	100	102	2	[NT]	[NT]
Extracted ISTD $^{13}C_4$ *PFOS*	%		Org-029	[NT]	16	101	102	1	[NT]	[NT]
Extracted ISTD $^{13}C_4$ *PFBA*	%		Org-029	[NT]	16	92	92	0	[NT]	[NT]
Extracted ISTD $^{13}C_3$ *PFPeA*	%		Org-029	[NT]	16	97	97	0	[NT]	[NT]
Extracted ISTD $^{13}C_2$ *PFHxA*	%		Org-029	[NT]	16	107	102	5	[NT]	[NT]
Extracted ISTD $^{13}C_4$ *PFHpA*	%		Org-029	[NT]	16	104	111	7	[NT]	[NT]
Extracted ISTD $^{13}C_4$ *PFOA*	%		Org-029	[NT]	16	104	105	1	[NT]	[NT]
Extracted ISTD $^{13}C_5$ *PFNA*	%		Org-029	[NT]	16	103	106	3	[NT]	[NT]
Extracted ISTD $^{13}C_2$ *PFDA*	%		Org-029	[NT]	16	119	123	3	[NT]	[NT]
Extracted ISTD $^{13}C_2$ *PFUnDA*	%		Org-029	[NT]	16	97	103	6	[NT]	[NT]
Extracted ISTD $^{13}C_2$ *PFDoDA*	%		Org-029	[NT]	16	133	135	1	[NT]	[NT]
Extracted ISTD $^{13}C_2$ *PFTeDA*	%		Org-029	[NT]	16	111	116	4	[NT]	[NT]
Extracted ISTD $^{13}C_2$ *4:2FTS*	%		Org-029	[NT]	16	111	109	2	[NT]	[NT]
Extracted ISTD $^{13}C_2$ *6:2FTS*	%		Org-029	[NT]	16	128	134	5	[NT]	[NT]
Extracted ISTD $^{13}C_2$ *8:2FTS*	%		Org-029	[NT]	16	150	158	5	[NT]	[NT]
Extracted ISTD $^{13}C_8$ *FOSA*	%		Org-029	[NT]	16	108	106	2	[NT]	[NT]
Extracted ISTD d_3 *N MeFOSA*	%		Org-029	[NT]	16	105	103	2	[NT]	[NT]
Extracted ISTD d_5 *N EtFOSA*	%		Org-029	[NT]	16	104	105	1	[NT]	[NT]
Extracted ISTD d_7 *N MeFOSE*	%		Org-029	[NT]	16	105	107	2	[NT]	[NT]

QUALITY CONTROL: PFAS in Soils Extended					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Extracted ISTD d_9 *N EtFOSE*	%		Org-029	[NT]	16	103	108	5	[NT]	[NT]
Extracted ISTD d_3 *N MeFOSAA*	%		Org-029	[NT]	16	114	108	5	[NT]	[NT]
Extracted ISTD d_5 *N EtFOSAA*	%		Org-029	[NT]	16	93	104	11	[NT]	[NT]

QUALITY CONTROL: Misc Soil - Inorg						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	289269-8
Date prepared	-			23/02/2022	5	23/02/2022	23/02/2022		23/02/2022	23/02/2022
Date analysed	-			23/02/2022	5	23/02/2022	23/02/2022		23/02/2022	23/02/2022
Total Phenolics (as Phenol)	mg/kg	5	Inorg-031	<5	5	<5	<5	0	100	100

Result Definitions

NT	Not tested
NA	Test not required
INS	Insufficient sample for this test
PQL	Practical Quantitation Limit
<	Less than
>	Greater than
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
NS	Not specified
NEPM	National Environmental Protection Measure
NR	Not Reported

Quality Control Definitions

Blank	This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate	This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike	A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample)	This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike	Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011.

The recommended maximums for analytes in urine are taken from “2018 TLVs and BEIs”, as published by ACGIH (where available). Limit provided for Nickel is a precautionary guideline as per Position Paper prepared by AIOH Exposure Standards Committee, 2016.

Guideline limits for Rinse Water Quality reported as per analytical requirements and specifications of AS 4187, Amdt 2 2019, Table 7.2

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: >10xPQL - RPD acceptance criteria will vary depending on the analytes and the analytical techniques but is typically in the range 20%-50% – see ELN-P05 QA/QC tables for details; <10xPQL - RPD are higher as the results approach PQL and the estimated measurement uncertainty will statistically increase.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals (not SPOCAS); 60-140% for organics/SPOCAS (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

Measurement Uncertainty estimates are available for most tests upon request.

Analysis of aqueous samples typically involves the extraction/digestion and/or analysis of the liquid phase only (i.e. NOT any settled sediment phase but inclusive of suspended particles if present), unless stipulated on the Envirolab COC and/or by correspondence. Notable exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, total recoverable metals and PFAS where solids are included by default.

Samples for Microbiological analysis (not Amoeba forms) received outside of the 2-8°C temperature range do not meet the ideal cooling conditions as stated in AS2031-2012.

Report Comments

Acid Extractable Metals in Soil:
- The laboratory RPD acceptance criteria has been exceeded for 289269-1 for Zn. Therefore a triplicate result has been issued as laboratory sample number 289269-56.
- # Percent recovery is not applicable due to the high concentration of the element/s in the sample/s. However an acceptable recovery was obtained for the LCS.

Asbestos-ID in soil: NEPM
This report is consistent with the reporting recommendations in the National Environment Protection (Assessment of Site Contamination) Measure, Schedule B1, May 2013. This is reported outside our scope of NATA accreditation.

Envirolab Services Pty Ltd
ABN 37 112 535 645
12 Ashley St Chatswood NSW 2067
ph 02 9910 6200 fax 02 9910 6201
customerservice@envirolab.com.au
www.envirolab.com.au

SAMPLE RECEIPT ADVICE

Client Details

Client	JK Environments
Attention	C Ridley

Sample Login Details

Your reference	E33051BR, Mittagong
Envirolab Reference	289269
Date Sample Received	18/02/2022
Date Instructions Received	21/02/2022
Date Results Expected to be Reported	28/02/2022

Sample Condition

Samples received in appropriate condition for analysis	Yes
No. of Samples Provided	52 Soil, 3 Material
Turnaround Time Requested	Standard
Temperature on Receipt (°C)	15
Cooling Method	Ice
Sampling Date Provided	YES

Comments

Nil

Please direct any queries to:

Aileen Hie	Jacinta Hurst
Phone: 02 9910 6200	**Phone: 02 9910 6200**
Fax: 02 9910 6201	**Fax: 02 9910 6201**
Email: ahie@envirolab.com.au	**Email: jhurst@envirolab.com.au**

Analysis Underway, details on the following page:

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ABN 37 112 535 645
12 Ashley St Chatswood NSW 2067
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customerservice@envirolab.com.au
www.envirolab.com.au

Sample ID	vTRH(C6-C10)/BTEXN in Soil	svTRH (C10-C40) in Soil	PAHs in Soil	Organochlorine Pesticides in soil	Organophosphorus Pesticides in Soil	PCBs in Soil	Acid Extractable metalsin soil	Asbestos ID - soils NEPM - ASB-001	PFAS in Soils Extended	Misc Soil - Inorg	Asbestos ID - materials	On Hold
TP5-0-0.1	✓	✓	✓	✓	✓	✓	✓	✓	✓			
TP5-0.5-0.7												✓
TP5-1.0-1.1	✓	✓	✓				✓	✓				
TP5-1.2-1.4	✓	✓	✓				✓					
TP7-0-0.1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
TP7-0.1-0.3												✓
TP7-0.6-0.8	✓	✓	✓				✓					
TP8-0-0.1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
TP8-0.1-0.3												✓
TP9-0-0.1	✓	✓	✓				✓	✓	✓	✓		
TP9-0.1-0.3												✓
TP9-0.4-0.6	✓	✓	✓				✓					
TP20-0-0.1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
TP20-0.2-0.5												✓
TP20-0.8-1.0	✓	✓	✓				✓					
TP21-0-0.1	✓	✓	✓	✓	✓	✓	✓	✓	✓			
TP21-0.4-0.6								✓				
TP21-0.8-1.0	✓	✓	✓				✓					
TP21-1.4-1.6												✓
TP25-0-0.1	✓	✓	✓	✓	✓	✓	✓	✓				
TP25-0.2-0.4												✓
TP25-0.6-0.8	✓	✓	✓				✓					
TP26-0-0.1	✓	✓	✓				✓	✓				
TP26-0.15-0.35												✓
TP26-0.4-0.6	✓	✓	✓				✓					
TP27-0-0.1	✓	✓	✓	✓	✓	✓	✓	✓				
TP27-0.2-0.4												✓
TP27-0.5-0.7	✓	✓	✓				✓					
TP29-0-0.1	✓	✓	✓				✓	✓				
TP29-0.2-0.4												✓
TP29-0.4-0.6												✓
TP30-0-0.1	✓	✓	✓	✓	✓	✓	✓	✓				

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Sample ID	vTRH(C6-C10)/BTEXN in Soil	svTRH (C10-C40) in Soil	PAHs in Soil	Organochlorine Pesticides in soil	Organophosphorus Pesticides in Soil	PCBs in Soil	Acid Extractable metalsin soil	Asbestos ID - soils NEPM - ASB-001	PFAS in Soils Extended	Misc Soil - Inorg	Asbestos ID - materials	On Hold
TP30-0.2-0.4	✓	✓	✓				✓	✓				
TP30-0.4-0.6	✓	✓	✓				✓					
TP31-0-0.1	✓	✓	✓				✓	✓				
TP31-0.3-0.5	✓	✓	✓				✓					
TP31-0.8-0.95												✓
TP42-0-0.1	✓	✓	✓	✓	✓	✓	✓	✓	✓			
TP42-0.4-0.6	✓	✓	✓				✓	✓				
TP42-0.6-0.8	✓	✓	✓				✓					
TP42-1-1.1												✓
TP43-0-0.1	✓	✓	✓				✓	✓				
TP43-0.2-0.6								✓				
TP43-0.8-1.0	✓	✓	✓				✓					
TP44-0-0.1	✓	✓	✓	✓	✓	✓	✓	✓				
TP44-0.1-0.3												✓
TP44-0.3-0.6												✓
SDUP1	✓	✓	✓				✓					
SDUP2	✓	✓	✓				✓					
SDUP4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
TB-S1	✓								✓			
TS-S1	✓											
FCF-TP21-0-0.1											✓	
FCF2-TP21(spoil) -0-0.1											✓	
FCF3-TP21-0.1-0.6											✓	

The '✓' indicates the testing you have requested. **THIS IS NOT A REPORT OF THE RESULTS.**

Additional Info

Sample storage - Waters are routinely disposed of approximately 1 month and soils approximately 2 months from receipt.
Requests for longer term sample storage must be received in writing.
Please contact the laboratory immediately if observed settled sediment present in water samples is to be included in the extraction and/or analysis (exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, Total Recoverable metals and PFAS analysis where solids are included by default.
TAT for Micro is dependent on incubation. This varies from 3 to 6 days.

COC rec'd 21/2/2022 @ 1215.

SAMPLE AND CHAIN OF CUSTODY FORM

TO:		FROM:
ENVIROLAB SERVICES PTY LTD	JKE Job Number: E33051BR	JKEnvironments
12 ASHLEY STREET		REAR OF 115 WICKS ROAD
CHATSWOOD NSW 2067		MACQUARIE PARK, NSW 2113
P: (02) 99106200	Date Results Required: STANDARD	P: 02-9888 5000 F: 02-9888 5001
F: (02) 99106201		Attention: Craig Ridley
Attention: Aileen	Page: 1 of 3	cridley@jkenvironments.com.au

Location:	Mittagong	Sample Preserved in Esky on Ice
Sampler:	NM/AD/HW	Tests Required

Date Sampled	Lab Ref:	Sample Number	Depth (m)	Sample Container	PID	Sample Description	Combo 6	Combo 3	Asbestos (NEPM)	Asbestos (ID)	Phenols	PFAS (Routine, Extended)	pH	CEC	Clay Content	TRH/BTEX	BTEX	Combo 3L
18/02/2022	1	TP5	0-0.1	G, A, PFAS	0	Fill: Silty Clay	X		X			X						
18/02/2022	2	TP5	0.5-0.7	G, A, PFAS	0	Fill: Silty Clay												
18/02/2022	3	TP5	1.0-1.1	G, A, PFAS	0	Fill: Silty Clay		X	X									
18/02/2022	4	TP5	1.2-1.4	G, A, PFAS	0	Sandy Clay		X										
18/02/2022	5	TP7	0-0.1	G, A, PFAS	0	Fill: Gravelly Sand	X		X		X	X						
18/02/2022	6	TP7	0.1-0.3	G, A, PFAS	0	Fill: Gravelly Sand												
18/02/2022	7	TP7	0.6-0.8	G, A, PFAS	0	Clayey Sand		X										
18/02/2022	8	TP8	0-0.1	G, A, PFAS	0	Fill: Gravelly Sand	X		X		X	X						
18/02/2022	9	TP8	0.1-0.3	G, A, PFAS	0	Fill: Gravelly Sand												
18/02/2022	10	TP9	0-0.1	G, A, PFAS	0	Fill: Gravelly Sand		X	X		X	X						
18/02/2022	11	TP9	0.1-0.3	G, A, PFAS	0	Fill: Gravelly Sand												
18/02/2022	12	TP9	0.4-0.6	G, A, PFAS	0	Sandy Clay		X										
18/02/2022	13	TP20	0-0.1	G, A, PFAS	0	Fill: Gravelly Sand	X		X		X	X						
18/02/2022	14	TP20	0.2-0.5	G, A, PFAS	0	Fill: Gravelly Sand												
18/02/2022	15	TP20	0.8-1.0	G, A, PFAS	0	Silty Clay		X										
18/02/2022	16	TP21	0-0.1	G, A, PFAS	0	Fill: Silty Sandy Clay	X		X			X						
18/02/2022	17	TP21	0.4-0.6	G, A, PFAS	0	Fill: Silty Sandy Clay			X									
18/02/2022	18	TP21	0.8-1.0	G, A, PFAS	0	Sandy Clay		X										
18/02/2022	19	TP21	1.4-1.6	G, A, PFAS	0	Clayey Sand												
17/02/2022	20	TP25	0-0.1	G, A	0	Fill: Silty Sandy Clay	X		X									
17/02/2022	21	TP25	0.2-0.4	G, A	0	Fill: Silty Sandy Clay												
17/02/2022	22	TP25	0.6-0.8	G, A	0	Silty Sandy Clay		X										
17/02/2022	23	TP26	0-0.1	G, A, PFAS	0	Fill: Silty Sandy Clay		X	X									
17/02/2022	24	TP26	0.15-0.35	G, A, PFAS	0	Fill: Silty Sandy Clay												
17/02/2022	25	TP26	0.4-0.6	G, A, PFAS	0	Silty Sandy Clay		X										

Remarks (comments/detection limits required):

Sample Containers:
G - 250mg Glass Jar
A - Ziplock Asbestos Bag
P - Plastic Bag

Relinquished By:	Date:	Time:	Received By: Jason Pay	Date: 18/2/22
			JM 1650	ELS Syd

15°C ICE

SAMPLE AND CHAIN OF CUSTODY FORM

TO:		FROM:
ENVIROLAB SERVICES PTY LTD 12 ASHLEY STREET CHATSWOOD NSW 2067 P: (02) 99106200 F: (02) 99106201 Attention: Aileen	JKE Job Number: E33051BR Date Results Required: STANDARD Page: 2 of 3	JKEnvironments REAR OF 115 WICKS ROAD MACQUARIE PARK, NSW 2113 P: 02-9888 5000 F: 02-9888 5001 Attention: Craig Ridley cridley@jkenvironments.com.au

Location:	Mittagong	Sample Preserved in Esky on Ice
Sampler:	NM/AD/HW	Tests Required

Date Sampled	Lab Ref:	Sample Number	Depth (m)	Sample Container	PID	Sample Description	Combo 6	Combo 3	Asbestos (NEPM)	Asbestos (ID)	Phenols	PFAS (Routine, Extended)	pH	CEC	Clay Content	TRH/BTEX	BTEX	Combo 3L
17/02/2022	26	TP27	0-0.1	G, A	0	Fill: Silty Sandy Clay	X		X									
17/02/2022	27	TP27	0.2-0.4	G, A	0	Fill: Silty Sandy Clay												
17/02/2022	28	TP27	0.5-0.7	G, A	0	Silty Sandy Clay		X										
17/02/2022	29	TP29	0-0.1	G, A	0	Fill: Silty Sandy Clay		X	X									
17/02/2022	30	TP29	0.2-0.4	G, A	0	Fill: Silty Sandy Clay												
17/02/2022	31	TP29	0.4-0.6	G, A	0	Silty Sandy Clay												
17/02/2022	32	TP30	0-0.1	G, A, PFAS	0	Fill: Silty Sandy Clay	X		X									
17/02/2022	33	TP30	0.2-0.4	G, A, PFAS	0	Fill: Silty Sandy Clay		X	X									
17/02/2022	34	TP30	0.4-0.6	G, A, PFAS	0	Silty Sandy Clay		X										
17/02/2022	35	TP31	0-0.1	G, A, PFAS	0	Fill: Silty Clayey Sand		X	X									
17/02/2022	36	TP31	0.3-0.5	G, A, PFAS	0	Silty Sandy Clay		X										
17/02/2022	37	TP31	04-0.6	G, A, PFAS	0	Silty Sandy Clay												
18/02/2022	38	TP42	0-0.1	G, A, PFAS	0	Fill: Sandy Clay	X		X			X						
18/02/2022	39	TP42	0.4-0.6	G, A, PFAS	0	Fill: Sandy Clay		X	X									
18/02/2022	40	TP42	0.6-0.8	G, A, PFAS	0	Sandy Clay		X										
18/02/2022	41	TP42	1-1.1	G, A, PFAS	0	Silty Clay												
18/02/2022	42	TP43	0-0.1	G, A, PFAS	0	Fill: Silty Clay		X	X									
18/02/2022	43	TP43	0.2-0.6	G, A, PFAS	0	Fill: Silty Clay			X									
18/02/2022	44	TP43	0.8-1.0	G, A, PFAS	0	Clayey Sand		X										
17/02/2022	45	TP44	0-0.1	G, A	0	Fill: Sandy Silty Clay	X		X									
17/02/2022	46	TP44	0.1-0.3	G, A	0	Fill: Sandy Silty Clay												
17/02/2022	47	TP44	0.3-0.6	G, A	0	Silty Sandy Clay												
17/02/2022	48	SDUP1	-	G, A	-	Duplicate		X										
17/02/2022	49	SDUP2	-	G, A	-	Duplicate		X										
18/02/2022	—	SDUP3	-	G, A	-	Duplicate		X	X		SEND TO VIC							

Remarks (comments/detection limits required):	Sample Containers: G - 250mg Glass Jar A - Ziplock Asbestos Bag P - Plastic Bag

Relinquished By:	Date:	Time:	Received By:	Date:
			DH	18/2/22

289269

21/2/22
1215

SAMPLE AND CHAIN OF CUSTODY FORM

TO:		FROM:
ENVIROLAB SERVICES PTY LTD	JKE Job Number: E33051BR	JKEnvironments
12 ASHLEY STREET		REAR OF 115 WICKS ROAD
CHATSWOOD NSW 2067		MACQUARIE PARK, NSW 2113
P: (02) 99106200	Date Results Required: STANDARD	P: 02-9888 5000 F: 02-9888 5001
F: (02) 99106201		Attention: Craig Ridley
Attention: Alleen	Page: 3 of 3	cridley@jkenvironments.com.au

Location:	Mittagong						Sample Preserved in Esky on Ice											
Sampler:	NM/AD/HW						Tests Required											
Date Sampled	Lab Ref:	Sample Number	Depth (m)	Sample Container	PID	Sample Description	Combo 6	Combo 3	Asbestos (NEPM)	Asbestos (ID)	Phenols	PFAS (Routine, Extended)	pH	CEC	Clay Content	TRH/BTEX	BTEX	Combo 3L
18/02/2022	S0	SDUP4	-	G, A, PFAS	-	Duplicate	X		X		X	X						
18/02/2022	—	SDUP5	-	G, A, PFAS	-	Duplicate	X		X		X	X		SEND TO VIC				
18/02/2022	S1	TB-S1	-	G, PFAS	-	Blank						X					X	
18/02/2022	S2	TS-S1	-	G	-	Spike											X	
Extra	S3	FCF-TP21	0-0.1	B	—	Frag												
	S4	FCF2TP21 (Split)	0-0.1	B	—	↓												
✓	S5	FCF3-TP21	0.1-0.6	B	—	✓												

Remarks (comments/detection limits required):	Sample Containers: G - 250mg Glass Jar A - Ziplock Asbestos Bag P - Plastic Bag			
Relinquished By:	Date:	Time:	Received By: JDH	Date: 18/2/22

289269

Envirolab Services Pty Ltd
ABN 37 112 535 645
12 Ashley St Chatswood NSW 2067
ph 02 9910 6200 fax 02 9910 6201
customerservice@envirolab.com.au
www.envirolab.com.au

CERTIFICATE OF ANALYSIS 289269-A

Client Details

Client	JK Environments
Attention	C Ridley
Address	PO Box 976, North Ryde BC, NSW, 1670

Sample Details

Your Reference	**E33051BR, Mittagong**
Number of Samples	additional analysis
Date samples received	18/02/2022
Date completed instructions received	09/03/2022

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.

Samples were analysed as received from the client. Results relate specifically to the samples as received.

Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Please refer to the last page of this report for any comments relating to the results.

Report Details

Date results requested by	16/03/2022
Date of Issue	16/03/2022

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Results Approved By
Diego Bigolin, Inorganics Supervisor
Hannah Nguyen, Metals Supervisor
Josh Williams, LC Supervisor

Authorised By



Nancy Zhang, Laboratory Manager

Misc Inorg - Soil				
Our Reference		289269-A-8	289269-A-16	289269-A-38
Your Reference	UNITS	TP8	TP21	TP42
Depth		0-0.1	0-0.1	0-0.1
Type of sample		Soil	Soil	Soil
Date Sampled		18/02/2022	18/02/2022	18/02/2022
Date prepared	-	11/03/2022	11/03/2022	11/03/2022
Date analysed	-	11/03/2022	11/03/2022	11/03/2022
pH 1:5 soil:$CaCl_2$	pH Units	6.2	6.3	7.2
Total Organic Carbon (Walkley Black)	mg/kg	63,000	26,000	17,000

CEC				
Our Reference		289269-A-8	289269-A-16	289269-A-38
Your Reference	UNITS	TP8	TP21	TP42
Depth		0-0.1	0-0.1	0-0.1
Type of sample		Soil	Soil	Soil
Date Sampled		18/02/2022	18/02/2022	18/02/2022
Date prepared	-	16/03/2022	16/03/2022	16/03/2022
Date analysed	-	16/03/2022	16/03/2022	16/03/2022
Exchangeable Ca	meq/100g	9.3	9.2	13
Exchangeable K	meq/100g	0.1	0.2	0.3
Exchangeable Mg	meq/100g	0.4	0.7	0.9
Exchangeable Na	meq/100g	<0.1	<0.1	<0.1
Cation Exchange Capacity	meq/100g	9.9	10	14

TCLP Preparation - Acid						
Our Reference		289269-A-1	289269-A-8	289269-A-10	289269-A-13	289269-A-16
Your Reference	UNITS	TP5	TP8	TP9	TP20	TP21
Depth		0-0.1	0-0.1	0-0.1	0-0.1	0-0.1
Type of sample		Soil	Soil	Soil	Soil	Soil
Date Sampled		18/02/2022	18/02/2022	18/02/2022	18/02/2022	18/02/2022
pH of soil for fluid# determ.	pH units	5.5	5.5	5.7	6.0	5.5
pH of soil TCLP (after HCl)	pH units	1.6	1.6	1.6	1.6	1.6
Extraction fluid used	-	1	1	1	1	1
pH of final Leachate	pH units	4.9	4.9	4.9	4.9	4.9

TCLP Preparation - Acid		
Our Reference		289269-A-38
Your Reference	UNITS	TP42
Depth		0-0.1
Type of sample		Soil
Date Sampled		18/02/2022
pH of soil for fluid# determ.	pH units	6.0
pH of soil TCLP (after HCl)	pH units	1.6
Extraction fluid used	-	1
pH of final Leachate	pH units	4.9

Metals from Leaching Fluid pH 2.9 or 5				
Our Reference		289269-A-8	289269-A-16	289269-A-38
Your Reference	UNITS	TP8	TP21	TP42
Depth		0-0.1	0-0.1	0-0.1
Type of sample		Soil	Soil	Soil
Date Sampled		18/02/2022	18/02/2022	18/02/2022
Date extracted	-	16/03/2022	16/03/2022	16/03/2022
Date analysed	-	16/03/2022	16/03/2022	16/03/2022
Lead	mg/L	0.09	0.50	0.2

PFAS in TCLP Extended					
Our Reference		289269-A-1	289269-A-10	289269-A-13	289269-A-16
Your Reference	UNITS	TP5	TP9	TP20	TP21
Depth		0-0.1	0-0.1	0-0.1	0-0.1
Type of sample		Soil	Soil	Soil	Soil
Date Sampled		18/02/2022	18/02/2022	18/02/2022	18/02/2022
Date prepared	-	16/03/2022	16/03/2022	16/03/2022	16/03/2022
Date analysed	-	16/03/2022	16/03/2022	16/03/2022	16/03/2022
Perfluorobutanesulfonic acid	µg/L	<0.01	<0.01	<0.01	<0.01
Perfluoropentanesulfonic acid	µg/L	<0.01	<0.01	<0.01	<0.01
Perfluorohexanesulfonic acid - PFHxS	µg/L	<0.01	<0.01	<0.01	<0.01
Perfluoroheptanesulfonic acid	µg/L	<0.01	<0.01	<0.01	<0.01
Perfluorooctanesulfonic acid PFOS	µg/L	<0.01	<0.01	<0.01	<0.01
Perfluorodecanesulfonic acid	µg/L	<0.02	<0.02	<0.02	<0.02
Perfluorobutanoic acid	µg/L	<0.02	<0.02	<0.02	<0.02
Perfluoropentanoic acid	µg/L	<0.02	<0.02	<0.02	<0.02
Perfluorohexanoic acid	µg/L	<0.01	<0.01	<0.01	<0.01
Perfluoroheptanoic acid	µg/L	<0.01	<0.01	<0.01	<0.01
Perfluorooctanoic acid PFOA	µg/L	<0.01	<0.01	<0.01	<0.01
Perfluorononanoic acid	µg/L	<0.01	<0.01	<0.01	<0.01
Perfluorodecanoic acid	µg/L	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid	µg/L	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid	µg/L	<0.05	<0.05	<0.05	<0.05
Perfluorotridecanoic acid	µg/L	<0.1	<0.1	<0.1	<0.1
Perfluorotetradecanoic acid	µg/L	<0.5	<0.5	<0.5	<0.5
4:2 FTS	µg/L	<0.01	<0.01	<0.01	<0.01
6:2 FTS	µg/L	<0.01	<0.01	<0.01	<0.01
8:2 FTS	µg/L	<0.02	<0.02	<0.02	<0.02
10:2 FTS	µg/L	<0.02	<0.02	<0.02	<0.02
Perfluorooctane sulfonamide	µg/L	<0.1	<0.1	<0.1	<0.1
N-Methyl perfluorooctane sulfonamide	µg/L	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctanesulfon amide	µg/L	<0.1	<0.1	<0.1	<0.1
N-Me perfluorooctanesulfonamid oethanol	µg/L	<0.05	<0.05	<0.05	<0.05
N-Et perfluorooctanesulfonamid oethanol	µg/L	<0.5	<0.5	<0.5	<0.5
MePerfluorooctanesulf- amid oacetic aci	µg/L	<0.02	<0.02	<0.02	<0.02
EtPerfluorooctanesulf- amid oacetic acid	µg/L	<0.02	<0.02	<0.02	<0.02
Surrogate $^{13}C_8$ *PFOS*	%	101	106	106	106
Surrogate $^{13}C_2$ *PFOA*	%	103	103	101	102
Extracted ISTD $^{13}C_3$ *PFBS*	%	109	110	109	110
Extracted ISTD $^{18}O_2$ *PFHxS*	%	103	111	107	110
Extracted ISTD $^{13}C_4$ *PFOS*	%	113	109	112	113

PFAS in TCLP Extended					
Our Reference		289269-A-1	289269-A-10	289269-A-13	289269-A-16
Your Reference	UNITS	TP5	TP9	TP20	TP21
Depth		0-0.1	0-0.1	0-0.1	0-0.1
Type of sample		Soil	Soil	Soil	Soil
Date Sampled		18/02/2022	18/02/2022	18/02/2022	18/02/2022
Extracted ISTD $^{13}C_4$ *PFBA*	%	72	55	44	81
Extracted ISTD $^{13}C_3$ *PFPeA*	%	87	75	66	91
Extracted ISTD $^{13}C_2$ *PFHxA*	%	105	94	85	113
Extracted ISTD $^{13}C_4$ *PFHpA*	%	98	93	84	98
Extracted ISTD $^{13}C_4$ *PFOA*	%	111	100	99	116
Extracted ISTD $^{13}C_5$ *PFNA*	%	111	105	96	116
Extracted ISTD $^{13}C_2$ *PFDA*	%	96	90	84	106
Extracted ISTD $^{13}C_2$ *PFUnDA*	%	92	93	85	111
Extracted ISTD $^{13}C_2$ *PFDoDA*	%	99	93	84	103
Extracted ISTD $^{13}C_2$ *PFTeDA*	%	65	67	58	67
Extracted ISTD $^{13}C_2$ *4:2FTS*	%	67	51	40	77
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	85	71	61	91
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	83	74	68	101
Extracted ISTD $^{13}C_8$ *FOSA*	%	125	130	133	123
Extracted ISTD d_3 *N MeFOSA*	%	107	110	114	108
Extracted ISTD d_5 *N EtFOSA*	%	114	114	112	111
Extracted ISTD d_7 *N MeFOSE*	%	104	103	98	98
Extracted ISTD d_9 *N EtFOSE*	%	97	102	107	102
Extracted ISTD d_3 *N MeFOSAA*	%	71	59	54	82
Extracted ISTD d_5 *N EtFOSAA*	%	86	77	72	85
Total Positive PFHxS & PFOS	µg/L	<0.01	<0.01	<0.01	<0.01
Total Positive PFOS & PFOA	µg/L	<0.01	<0.01	<0.01	<0.01
Total Positive PFAS	µg/L	<0.01	<0.01	<0.01	<0.01

Method ID	Methodology Summary
Inorg-001	pH - Measured using pH meter and electrode in accordance with APHA latest edition, 4500-H+. Please note that the results for water analyses are indicative only, as analysis outside of the APHA storage times.
INORG-004	Toxicity Characteristic Leaching Procedure (TCLP) using Zero Headspace Extraction (zHE) using AS4439 and USEPA 1311.
Inorg-004	Toxicity Characteristic Leaching Procedure (TCLP) using AS 4439 and USEPA 1311. Please note that the mass used may be scaled down from default based on sample mass available. Samples are stored at 2-6oC before and after leachate preparation.
Inorg-036	Total Organic Carbon or Matter - A titrimetric method that measures the oxidisable organic content of soils.
Metals-020	Determination of various metals by ICP-AES following buffer determination as per USEPA 1311 and hence AS 4439.3. Extraction Fluid 1 refers to the pH 5.0 buffer and Extraction Fluid 2 is the pH 2.9 buffer.
Metals-020	Determination of exchangeable cations and cation exchange capacity in soils using 1M Ammonium Chloride exchange and ICP-OES analytical finish.
Org-029	Soil samples are extracted with basified Methanol. Waters and soil extracts are directly injected and/or concentrated/extracted using SPE. TCLPs/ASLP leachates are centrifuged, the supernatant is then analysed (including amendment with solvent) - as per the option in AS4439.3. Analysis is undertaken with LC-MS/MS. PFAS results include the sum of branched and linear isomers where applicable. Please note that PFAS results are corrected for Extracted Internal Standards (QSM 5.3 Table B-15 terminology), which are mass labelled analytes added prior to sample preparation to assess matrix effects and verify processing of the sample. PFAS analytes without a commercially available mass labelled analogue are corrected vs a closely eluting mass labelled PFAS compound. Surrogates are also reported, in this context they are mass labelled PFAS compounds added prior to extraction but are used as monitoring compounds only (not used for result correction). Envicarb (or similar) is used discretionally to remove interfering matrix components. Please contact the laboratory if estimates of Measurement Uncertainty are required as per WA DER.

QUALITY CONTROL: Misc Inorg - Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date prepared	-			11/03/2022	8	11/03/2022	11/03/2022		11/03/2022	[NT]
Date analysed	-			11/03/2022	8	11/03/2022	11/03/2022		11/03/2022	[NT]
pH 1:5 soil:$CaCl_2$	pH Units		Inorg-001	[NT]	8	6.2	[NT]		100	[NT]
Total Organic Carbon (Walkley Black)	mg/kg	1000	Inorg-036	<1000	8	63000	65000	3	89	[NT]

QUALITY CONTROL: CEC						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date prepared	-			16/03/2022	38	16/03/2022	16/03/2022		16/03/2022	[NT]
Date analysed	-			16/03/2022	38	16/03/2022	16/03/2022		16/03/2022	[NT]
Exchangeable Ca	meq/100g	0.1	Metals-020	<0.1	38	13	12	8	102	[NT]
Exchangeable K	meq/100g	0.1	Metals-020	<0.1	38	0.3	0.3	0	107	[NT]
Exchangeable Mg	meq/100g	0.1	Metals-020	<0.1	38	0.9	0.9	0	98	[NT]
Exchangeable Na	meq/100g	0.1	Metals-020	<0.1	38	<0.1	<0.1	0	114	[NT]

QUALITY CONTROL: Metals from Leaching Fluid pH 2.9 or 5					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date extracted	-			16/03/2022	[NT]	[NT]	[NT]	[NT]	16/03/2022	[NT]
Date analysed	-			16/03/2022	[NT]	[NT]	[NT]	[NT]	16/03/2022	[NT]
Lead	mg/L	0.03	Metals-020	<0.03	[NT]	[NT]	[NT]	[NT]	100	[NT]

QUALITY CONTROL: PFAS in TCLP Extended					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date prepared	-			16/03/2022	[NT]	[NT]	[NT]	[NT]	16/03/2022	[NT]
Date analysed	-			16/03/2022	[NT]	[NT]	[NT]	[NT]	16/03/2022	[NT]
Perfluorobutanesulfonic acid	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	113	[NT]
Perfluoropentanesulfonic acid	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	113	[NT]
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	115	[NT]
Perfluoroheptanesulfonic acid	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	120	[NT]
Perfluorooctanesulfonic acid PFOS	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	116	[NT]
Perfluorodecanesulfonic acid	µg/L	0.02	Org-029	<0.02	[NT]	[NT]	[NT]	[NT]	105	[NT]
Perfluorobutanoic acid	µg/L	0.02	Org-029	<0.02	[NT]	[NT]	[NT]	[NT]	118	[NT]
Perfluoropentanoic acid	µg/L	0.02	Org-029	<0.02	[NT]	[NT]	[NT]	[NT]	110	[NT]
Perfluorohexanoic acid	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	112	[NT]
Perfluoroheptanoic acid	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	115	[NT]
Perfluorooctanoic acid PFOA	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	111	[NT]
Perfluorononanoic acid	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	106	[NT]
Perfluorodecanoic acid	µg/L	0.02	Org-029	<0.02	[NT]	[NT]	[NT]	[NT]	111	[NT]
Perfluoroundecanoic acid	µg/L	0.02	Org-029	<0.02	[NT]	[NT]	[NT]	[NT]	103	[NT]
Perfluorododecanoic acid	µg/L	0.05	Org-029	<0.05	[NT]	[NT]	[NT]	[NT]	115	[NT]
Perfluorotridecanoic acid	µg/L	0.1	Org-029	<0.1	[NT]	[NT]	[NT]	[NT]	89	[NT]
Perfluorotetradecanoic acid	µg/L	0.5	Org-029	<0.5	[NT]	[NT]	[NT]	[NT]	116	[NT]
4:2 FTS	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	118	[NT]
6:2 FTS	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	116	[NT]
8:2 FTS	µg/L	0.02	Org-029	<0.02	[NT]	[NT]	[NT]	[NT]	112	[NT]
10:2 FTS	µg/L	0.02	Org-029	<0.02	[NT]	[NT]	[NT]	[NT]	82	[NT]
Perfluorooctane sulfonamide	µg/L	0.1	Org-029	<0.1	[NT]	[NT]	[NT]	[NT]	112	[NT]
N-Methyl perfluorooctane sulfonamide	µg/L	0.05	Org-029	<0.05	[NT]	[NT]	[NT]	[NT]	113	[NT]
N-Ethyl perfluorooctanesulfon amide	µg/L	0.1	Org-029	<0.1	[NT]	[NT]	[NT]	[NT]	114	[NT]
N-Me perfluorooctanesulfonamid oethanol	µg/L	0.05	Org-029	<0.05	[NT]	[NT]	[NT]	[NT]	128	[NT]
N-Et perfluorooctanesulfonamid oethanol	µg/L	0.5	Org-029	<0.5	[NT]	[NT]	[NT]	[NT]	111	[NT]
MePerfluorooctanesulf- amid oacetic aci	µg/L	0.02	Org-029	<0.02	[NT]	[NT]	[NT]	[NT]	123	[NT]
EtPerfluorooctanesulf- amid oacetic acid	µg/L	0.02	Org-029	<0.02	[NT]	[NT]	[NT]	[NT]	111	[NT]
Surrogate $^{13}C_8$ *PFOS*	%		Org-029	101	[NT]	[NT]	[NT]	[NT]	102	[NT]
Surrogate $^{13}C_2$ *PFOA*	%		Org-029	101	[NT]	[NT]	[NT]	[NT]	99	[NT]

QUALITY CONTROL: PFAS in TCLP Extended					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Extracted ISTD $^{13}C_3$ *PFBS*	%		Org-029	96	[NT]	[NT]	[NT]	[NT]	99	[NT]
Extracted ISTD $^{18}O_2$ *PFHxS*	%		Org-029	101	[NT]	[NT]	[NT]	[NT]	99	[NT]
Extracted ISTD $^{13}C_4$ *PFOS*	%		Org-029	97	[NT]	[NT]	[NT]	[NT]	100	[NT]
Extracted ISTD $^{13}C_4$ *PFBA*	%		Org-029	84	[NT]	[NT]	[NT]	[NT]	81	[NT]
Extracted ISTD $^{13}C_3$ *PFPeA*	%		Org-029	90	[NT]	[NT]	[NT]	[NT]	86	[NT]
Extracted ISTD $^{13}C_2$ *PFHxA*	%		Org-029	94	[NT]	[NT]	[NT]	[NT]	100	[NT]
Extracted ISTD $^{13}C_4$ *PFHpA*	%		Org-029	95	[NT]	[NT]	[NT]	[NT]	89	[NT]
Extracted ISTD $^{13}C_4$ *PFOA*	%		Org-029	102	[NT]	[NT]	[NT]	[NT]	104	[NT]
Extracted ISTD $^{13}C_5$ *PFNA*	%		Org-029	102	[NT]	[NT]	[NT]	[NT]	101	[NT]
Extracted ISTD $^{13}C_2$ *PFDA*	%		Org-029	99	[NT]	[NT]	[NT]	[NT]	91	[NT]
Extracted ISTD $^{13}C_2$ *PFUnDA*	%		Org-029	91	[NT]	[NT]	[NT]	[NT]	103	[NT]
Extracted ISTD $^{13}C_2$ *PFDoDA*	%		Org-029	93	[NT]	[NT]	[NT]	[NT]	91	[NT]
Extracted ISTD $^{13}C_2$ *PFTeDA*	%		Org-029	58	[NT]	[NT]	[NT]	[NT]	61	[NT]
Extracted ISTD $^{13}C_2$ *4:2FTS*	%		Org-029	69	[NT]	[NT]	[NT]	[NT]	71	[NT]
Extracted ISTD $^{13}C_2$ *6:2FTS*	%		Org-029	82	[NT]	[NT]	[NT]	[NT]	86	[NT]
Extracted ISTD $^{13}C_2$ *8:2FTS*	%		Org-029	91	[NT]	[NT]	[NT]	[NT]	87	[NT]
Extracted ISTD $^{13}C_8$ *FOSA*	%		Org-029	110	[NT]	[NT]	[NT]	[NT]	109	[NT]
Extracted ISTD d_3 *N MeFOSA*	%		Org-029	99	[NT]	[NT]	[NT]	[NT]	100	[NT]
Extracted ISTD d_5 *N EtFOSA*	%		Org-029	96	[NT]	[NT]	[NT]	[NT]	100	[NT]
Extracted ISTD d_7 *N MeFOSE*	%		Org-029	85	[NT]	[NT]	[NT]	[NT]	96	[NT]

QUALITY CONTROL: PFAS in TCLP Extended						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Extracted ISTD d_9 *N EtFOSE*	%		Org-029	99	[NT]	[NT]	[NT]	[NT]	92	[NT]
Extracted ISTD d_3 *N MeFOSAA*	%		Org-029	76	[NT]	[NT]	[NT]	[NT]	72	[NT]
Extracted ISTD d_5 *N EtFOSAA*	%		Org-029	86	[NT]	[NT]	[NT]	[NT]	83	[NT]

Result Definitions

NT	Not tested
NA	Test not required
INS	Insufficient sample for this test
PQL	Practical Quantitation Limit
<	Less than
>	Greater than
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
NS	Not specified
NEPM	National Environmental Protection Measure
NR	Not Reported

Quality Control Definitions

Blank	This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate	This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike	A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample)	This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike	Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011.

The recommended maximums for analytes in urine are taken from “2018 TLVs and BEIs”, as published by ACGIH (where available). Limit provided for Nickel is a precautionary guideline as per Position Paper prepared by AIOH Exposure Standards Committee, 2016.

Guideline limits for Rinse Water Quality reported as per analytical requirements and specifications of AS 4187, Amdt 2 2019, Table 7.2

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: >10xPQL - RPD acceptance criteria will vary depending on the analytes and the analytical techniques but is typically in the range 20%-50% – see ELN-P05 QA/QC tables for details; <10xPQL - RPD are higher as the results approach PQL and the estimated measurement uncertainty will statistically increase.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals (not SPOCAS); 60-140% for organics/SPOCAS (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

Measurement Uncertainty estimates are available for most tests upon request.

Analysis of aqueous samples typically involves the extraction/digestion and/or analysis of the liquid phase only (i.e. NOT any settled sediment phase but inclusive of suspended particles if present), unless stipulated on the Envirolab COC and/or by correspondence. Notable exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, total recoverable metals and PFAS where solids are included by default.

Samples for Microbiological analysis (not Amoeba forms) received outside of the 2-8°C temperature range do not meet the ideal cooling conditions as stated in AS2031-2012.

Report Comments

For PFAS Extracted Internal Standards denoted with # or outside the 50-150% acceptance range, the respective target analyte results may be unaffected, in other circumstances the PQL has been raised to accommodate the outlier(s).

Envirolab Services Pty Ltd
ABN 37 112 535 645
12 Ashley St Chatswood NSW 2067
ph 02 9910 6200 fax 02 9910 6201
customerservice@envirolab.com.au
www.envirolab.com.au

SAMPLE RECEIPT ADVICE

Client Details

Client	JK Environments
Attention	C Ridley

Sample Login Details

Your reference	E33051BR, Mittagong
Envirolab Reference	289269-A
Date Sample Received	18/02/2022
Date Instructions Received	09/03/2022
Date Results Expected to be Reported	16/03/2022

Sample Condition

Samples received in appropriate condition for analysis	Yes
No. of Samples Provided	additional analysis
Turnaround Time Requested	Standard
Temperature on Receipt (°C)	15
Cooling Method	Ice
Sampling Date Provided	YES

Comments

Nil

Please direct any queries to:

Aileen Hie	Jacinta Hurst
Phone: 02 9910 6200	**Phone: 02 9910 6200**
Fax: 02 9910 6201	**Fax: 02 9910 6201**
Email: ahie@envirolab.com.au	**Email: jhurst@envirolab.com.au**

Analysis Underway, details on the following page:

Envirolab Services Pty Ltd
ABN 37 112 535 645
12 Ashley St Chatswood NSW 2067
ph 02 9910 6200 fax 02 9910 6201
customerservice@envirolab.com.au
www.envirolab.com.au

Sample ID	Misc Inorg - Soil	CEC	TCLP Preparation - Acid	Lead	PFAS in TCLP Extended	On Hold
TP5-0-0.1			✓		✓	
TP5-0.5-0.7						✓
TP5-1.0-1.1						✓
TP5-1.2-1.4						✓
TP7-0-0.1						✓
TP7-0.1-0.3						✓
TP7-0.6-0.8						✓
TP8-0-0.1	✓	✓	✓	✓		
TP8-0.1-0.3						✓
TP9-0-0.1			✓		✓	
TP9-0.1-0.3						✓
TP9-0.4-0.6						✓
TP20-0-0.1			✓		✓	
TP20-0.2-0.5						✓
TP20-0.8-1.0						✓
TP21-0-0.1	✓	✓	✓	✓	✓	
TP21-0.4-0.6						✓
TP21-0.8-1.0						✓
TP21-1.4-1.6						✓
TP25-0-0.1						✓
TP25-0.2-0.4						✓
TP25-0.6-0.8						✓
TP26-0-0.1						✓
TP26-0.15-0.35						✓
TP26-0.4-0.6						✓
TP27-0-0.1						✓
TP27-0.2-0.4						✓
TP27-0.5-0.7						✓
TP29-0-0.1						✓
TP29-0.2-0.4						✓
TP29-0.4-0.6						✓
TP30-0-0.1						✓

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Sample ID	Misc Inorg - Soil	CEC	TCLP Preparation - Acid	Lead	PFAS in TCLP Extended	On Hold
TP30-0.2-0.4						✓
TP30-0.4-0.6						✓
TP31-0-0.1						✓
TP31-0.3-0.5						✓
TP31-0.8-0.95						✓
TP42-0-0.1	✓	✓	✓	✓		
TP42-0.4-0.6						✓
TP42-0.6-0.8						✓
TP42-1-1.1						✓
TP43-0-0.1						✓
TP43-0.2-0.6						✓
TP43-0.8-1.0						✓
TP44-0-0.1						✓
TP44-0.1-0.3						✓
TP44-0.3-0.6						✓
SDUP1						✓
SDUP2						✓
SDUP4						✓
TB-S1						✓
TS-S1						✓
FCF-TP21-0-0.1						✓
FCF2-TP21(spoil) -0-0.1						✓
FCF3-TP21-0.1-0.6						✓
TP5 - [TRIPLICATE]-0-0.1						✓

The '✓' indicates the testing you have requested. **THIS IS NOT A REPORT OF THE RESULTS.**

Additional Info

Sample storage - Waters are routinely disposed of approximately 1 month and soils approximately 2 months from receipt.
Requests for longer term sample storage must be received in writing.
Please contact the laboratory immediately if observed settled sediment present in water samples is to be included in the extraction and/or analysis (exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, Total Recoverable metals and PFAS analysis where solids are included by default.
TAT for Micro is dependent on incubation. This varies from 3 to 6 days.

Ming To

Subject: FW: Results for Registration 289269 E33051BR, Mittagong

Ref: 289269-A
TAT: Standard
Due: 16/03/2022
MT.

289269-A

From: Craig Ridley <CRidley@jkenvironments.com.au>
Sent: Wednesday, 9 March 2022 5:37 PM
To: Nancy Zhang <NZhang@envirolab.com.au>
Subject: RE: Results for Registration 289269 E33051BR, Mittagong

CAUTION: This email originated from outside of the organisation. Do not act on instructions, click links or open attachments unless you recognise the sender and know the content is authentic and safe.

Hi Nancy,

Can we please organise the following additional analysis on this sample batch. Standard turnaround please.

	Sample ID	Lab Reference	Test Required
1	TP5 (0-0.1m)	289269-1	TCLP PFAS
8	TP8 (0-0.1m)	289269-8	~~CEC~~, ~~pH (CaCl2)~~, ~~TOC~~, TCLP lead
10	TP9 (0-0.1m)	289269-10	TCLP PFAS
13	TP20 (0-0.1m)	289269-13	TCLP PFAS
16	TP21 (0-0.1m)	289269-16	~~CEC~~, ~~pH (CaCl2)~~, ~~TOC~~, TCLP lead, TCLP PFAS.
38	TP42 (0-0.1m)	289269-38	~~CEC~~, ~~pH (CaCl2)~~, ~~TOC~~, TCLP lead

Please call if there are any issues.

Regards
Craig Ridley
Senior Environmental Scientist

T: +612 9888 5000
D: 0421 856 992
E: cridley@jkenvironments.com.au
www.jkenvironments.com.au

PO Box 976
NORTH RYDE BC NSW 1670
115 Wicks Road
MACQUARIE PARK NSW 2113

JKEnvironments

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From: Nancy Zhang <NZhang@envirolab.com.au>
Sent: Monday, 28 February 2022 6:45 PM
To: Craig Ridley <CRidley@jkenvironments.com.au>
Subject: Results for Registration 289269 E33051BR, Mittagong

Envirolab Services (WA) Pty Ltd trading as MPL Laboratories
ABN 53 140 099 207
16-18 Hayden Court Myaree WA 6154
ph 08 9317 2505 fax 08 9317 4163
lab@mpl.com.au
www.mpl.com.au

CERTIFICATE OF ANALYSIS 277524

Client Details

Client	JK Environments
Attention	Craig Ridley
Address	PO Box 976, NORTH RYDE BC, NSW, 1670

Sample Details

Your Reference	**E33051BR**
Number of Samples	3 Soil
Date samples received	25/02/2022
Date completed instructions received	25/02/2022

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.

Samples were analysed as received from the client. Results relate specifically to the samples as received.

Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Please refer to the last page of this report for any comments relating to the results.

Report Details

Date results requested by	03/03/2022
Date of Issue	08/03/2022

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Asbestos Approved By
Analysed by Asbestos Approved Analyst: Sue Nash
Results Approved By
Heram Halim, Operations Manager
Tom Edwards, Occupational Hygiene and Microbiology Supervisor
Travis Carey, Organics - Team Leader

Authorised By



Michael Kubiak, Laboratory Manager

vTRH(C6-C10)/MBTEXN in soil				
Our Reference		277524-1	277524-2	277524-3
Your Reference	UNITS	SDUP11	SDUP12	SDUP14
Date Sampled		22/02/2022	22/02/2022	23/02/2022
Type of sample		Soil	Soil	Soil
Date extracted	-	28/02/2022	28/02/2022	28/02/2022
Date analysed	-	04/03/2022	04/03/2022	04/03/2022
TRH C_6 - C_9	mg/kg	<25	<25	<25
TRH C_6 - C_{10}	mg/kg	<25	<25	<25
TRH C_6-C_{10} less BTEX (F1)	mg/kg	<25	<25	<25
MTBE	mg/kg	<0.5	<0.5	<0.5
Benzene	mg/kg	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2
o-xylene	mg/kg	<1	<1	<1
Naphthalene	mg/kg	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	97	100	85

svTRH(C10-C36) in soil				
Our Reference		277524-1	277524-2	277524-3
Your Reference	UNITS	SDUP11	SDUP12	SDUP14
Date Sampled		22/02/2022	22/02/2022	23/02/2022
Type of sample		Soil	Soil	Soil
Date extracted	-	28/02/2022	28/02/2022	28/02/2022
Date analysed	-	01/03/2022	01/03/2022	01/03/2022
TRH C_{10} - C_{14}	mg/kg	<50	<50	<50
TRH C_{15} - C_{28}	mg/kg	<100	<100	<100
TRH C_{29} - C_{36}	mg/kg	<100	<100	<100
TRH >C_{10} - C_{16}	mg/kg	<50	<50	<50
TRH >C_{10} -C_{16} less N (F2)	mg/kg	<50	<50	<50
TRH >C_{16} - C_{34}	mg/kg	<100	<100	110
TRH >C_{34} - C_{40}	mg/kg	<100	<100	<100
Surrogate o-Terphenyl	%	102	102	104

PAHs in Soil				
Our Reference	UNITS	277524-1	277524-2	277524-3
Your Reference		SDUP11	SDUP12	SDUP14
Date Sampled		22/02/2022	22/02/2022	23/02/2022
Type of sample		Soil	Soil	Soil
Date extracted	-	28/02/2022	28/02/2022	28/02/2022
Date analysed	-	02/03/2022	02/03/2022	02/03/2022
Naphthalene	mg/kg	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.3	<0.1	<0.1
Pyrene	mg/kg	0.3	<0.1	<0.1
Benzo(a)anthracene	mg/kg	0.2	<0.1	<0.1
Chrysene	mg/kg	0.2	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	0.5	<0.2	<0.2
Benzo(a)pyrene	mg/kg	0.27	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	0.2	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	0.2	<0.1	<0.1
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5
Total Positive PAHs	mg/kg	2.3	<0.05	<0.05
Surrogate p-Terphenyl-D_{14}	%	104	103	106

Organochlorine Pesticides in soil		
Our Reference	UNITS	277524-1
Your Reference		SDUP11
Date Sampled		22/02/2022
Type of sample		Soil
Date extracted	-	28/02/2022
Date analysed	-	02/03/2022
Hexachlorobenzene (HCB)	mg/kg	<0.1
a-BHC	mg/kg	<0.1
b-BHC	mg/kg	<0.1
Lindane (g-BHC)	mg/kg	<0.1
d-BHC	mg/kg	<0.1
Heptachlor	mg/kg	<0.1
Aldrin	mg/kg	<0.1
Heptachlor Epoxide	mg/kg	<0.1
a-Chlordane	mg/kg	<0.1
g-Chlordane	mg/kg	<0.1
a-Endosulphan	mg/kg	<0.1
p,p'-DDE	mg/kg	<0.1
Dieldrin	mg/kg	<0.1
Endrin	mg/kg	<0.1
p,p'-DDD	mg/kg	<0.1
b-Endosulphan	mg/kg	<0.1
Endrin Aldehyde	mg/kg	<0.1
Endosulfan Sulphate	mg/kg	<0.1
p,p'-DDT	mg/kg	<0.1
Endrin Ketone	mg/kg	<0.1
Methoxychlor	mg/kg	<0.1
Surrogate 2-chlorophenol-d4	%	92

Organophosphorus Pesticides		
Our Reference		277524-1
Your Reference	UNITS	SDUP11
Date Sampled		22/02/2022
Type of sample		Soil
Date extracted	-	28/02/2022
Date analysed	-	02/03/2022
Diazinon (Dimpylate)	mg/kg	<0.1
Chlorpyrifos-methyl	mg/kg	<0.1
Ronnel	mg/kg	<0.1
Fenitrothion	mg/kg	<0.1
Malathion (Maldison)	mg/kg	<0.1
Chlorpyrifos (ethyl)	mg/kg	<0.1
Parathion (ethyl)	mg/kg	<0.1
Ethion	mg/kg	<0.1
Bromophos Ethyl	mg/kg	<0.1
Dimethoate	mg/kg	<0.1
Dichlorvos	mg/kg	<0.1
Azinphos Methyl (Guthion)	mg/kg	<0.1
Surrogate 2-chlorophenol-d4	%	92

PCBs in Soil		
Our Reference		277524-1
Your Reference	UNITS	SDUP11
Date Sampled		22/02/2022
Type of sample		Soil
Date extracted	-	28/02/2022
Date analysed	-	02/03/2022
Arochlor 1016	mg/kg	<0.1
Arochlor 1221	mg/kg	<0.1
Arochlor 1232	mg/kg	<0.1
Arochlor 1242	mg/kg	<0.1
Arochlor 1248	mg/kg	<0.1
Arochlor 1254	mg/kg	<0.1
Surrogate 2-fluorobiphenyl	%	99

17 Metals in soil				
Our Reference	UNITS	277524-1	277524-2	277524-3
Your Reference		SDUP11	SDUP12	SDUP14
Date Sampled		22/02/2022	22/02/2022	23/02/2022
Type of sample		Soil	Soil	Soil
Date digested	-	01/03/2022	01/03/2022	01/03/2022
Date analysed	-	01/03/2022	01/03/2022	01/03/2022
Arsenic	mg/kg	6	6	9
Boron	mg/kg	<3	<3	<3
Barium	mg/kg	160	110	170
Beryllium	mg/kg	<1	<1	<1
Cadmium	mg/kg	<0.4	<0.4	<0.4
Chromium	mg/kg	8	14	17
Copper	mg/kg	45	12	20
Cobalt	mg/kg	6	9	13
Mercury	mg/kg	<0.1	<0.1	<0.1
Manganese	mg/kg	160	230	1,500
Molybdenum	mg/kg	2	1	1
Nickel	mg/kg	7	9	13
Lead	mg/kg	140	61	46
Antimony	mg/kg	<7	<7	<7
Selenium	mg/kg	<2	<2	<2
Tin	mg/kg	3	3	3
Zinc	mg/kg	160	93	66

Moisture				
Our Reference		277524-1	277524-2	277524-3
Your Reference	UNITS	SDUP11	SDUP12	SDUP14
Date Sampled		22/02/2022	22/02/2022	23/02/2022
Type of sample		Soil	Soil	Soil
Date prepared	-	28/02/2022	28/02/2022	28/02/2022
Date analysed	-	02/03/2022	02/03/2022	02/03/2022
Moisture	%	24	15	30

Asbestos ID - soils NEPM - ASB-001			
Our Reference	UNITS	277524-1	277524-3
Your Reference		SDUP11	SDUP14
Date Sampled		22/02/2022	23/02/2022
Type of sample		Soil	Soil
Date analysed	-	02/03/2022	02/03/2022
Sample Weight	g	540	361
Sample Description	-	Soil	Soil
Asbestos ID in soil (AS4964) >0.1g/kg	-	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected
Trace Analysis	-	No asbestos detected	No asbestos detected
Total Asbestos #1	g/kg	<0.1	<0.1
Asbestos ID <0.1g/kg*	-	No visible asbestos detected	No visible asbestos detected
ACM >7mm Estimation*	g	--	--
FA and AF Estimation*	g	--	--
ACM >7mm Estimation*	%(w/w)	<0.01	<0.01
FA and AF Estimation* #2	%(w/w)	<0.001	<0.001

Method ID	Methodology Summary
ASB-001	Asbestos ID - Qualitative identification of asbestos in bulk samples using Polarised Light Microscopy and Dispersion Staining Techniques, including Synthetic Mineral Fibres and Organic Fibres as per Australian Standard 4964-2004.
ASB-003	Asbestos ID - Identification of asbestos in soil samples using Polarised Light Microscopy and Dispersion Staining Techniques. Minimum 500mL soil sample was analysed as recommended by "National Environment Protection (Assessment of site contamination) Measure, Schedule B1 and "The Guidelines from the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia - May 2009" with a reporting limit of 0.1g/kg (0.01% w/w) as per Australian Standard AS4964-2004. Results reported denoted with * are outside our scope of NATA accreditation. **NOTE #1** Total Asbestos g/kg was analysed and reported as per Australian Standard AS4964 (This is the sum of ACM >7mm, <7mm and FA/AF) **NOTE #2** The screening level of 0.001% w/w asbestos in soil for FA and AF only applies where the FA and AF are able to be quantified by gravimetric procedures. This screening level is not applicable to free fibres. Estimation = Estimated asbestos weight Results reported with "--" is equivalent to no visible asbestos identified using Polarised Light microscopy and Dispersion Staining Techniques.
INORG-008	Moisture content determined by heating at 105 deg C for a minimum of 12 hours.
METALS-020	Determination of various metals by ICP-AES.
METALS-021	Determination of Mercury by Cold Vapour AAS. For urine samples total Mercury is determined, however, mercury in urine is almost entirely in the inorganic form (CDC).
Org-020	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis.
Org-021	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-ECD.
Org-021	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC with dual ECD's.

Method ID	Methodology Summary
Org-021/022/025	Organophosphorus Pesticides in soil by DCM:Acetone extraction and water by DCM extraction with determination by GC-ECD/GC-MS/GC-MSMS.
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS/GC-MSMS.
Org-022/025	For soil results:- 1. 'EQ PQL'values are assuming all contributing PAHs reported as <PQL are actually at the PQL. This is the most conservative approach and can give false positive TEQs given that PAHs that contribute to the TEQ calculation may not be present. 2. 'EQ zero'values are assuming all contributing PAHs reported as <PQL are zero. This is the least conservative approach and is more susceptible to false negative TEQs when PAHs that contribute to the TEQ calculation are present but below PQL. 3. 'EQ half PQL'values are assuming all contributing PAHs reported as <PQL are half the stipulated PQL. Hence a mid-point between the most and least conservative approaches above. Note, the Total +ve PAHs PQL is reflective of the lowest individual PQL and is therefore" Total +ve PAHs" is simply a sum of the positive individual PAHs.
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS/GC-MSMS.
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS/GC-MSMS. Benzo(a)pyrene TEQ as per NEPM draft B1 Guideline on Investigation Levels for Soil and Groundwater.
Org-022/025-OCP	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS/GC-MSMS.
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.

QUALITY CONTROL: vTRH(C6-C10)/MBTEXN in soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	277524-1
Date extracted	-			28/02/2022	[NT]	[NT]	[NT]	[NT]	28/02/2022	28/02/2022
Date analysed	-			04/03/2022	[NT]	[NT]	[NT]	[NT]	04/03/2022	04/03/2022
TRH C_6 - C_9	mg/kg	25	Org-023	<25	[NT]	[NT]	[NT]	[NT]	100	96
TRH C_6 - C_{10}	mg/kg	25	Org-023	<25	[NT]	[NT]	[NT]	[NT]	100	96
MTBE	mg/kg	0.5	Org-023	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzene	mg/kg	0.2	Org-023	<0.2	[NT]	[NT]	[NT]	[NT]	102	97
Toluene	mg/kg	0.5	Org-023	<0.5	[NT]	[NT]	[NT]	[NT]	104	99
Ethylbenzene	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	99	95
m+p-xylene	mg/kg	2	Org-023	<2	[NT]	[NT]	[NT]	[NT]	97	94
o-xylene	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	103	99
Naphthalene	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-023	93	[NT]	[NT]	[NT]	[NT]	96	98

QUALITY CONTROL: svTRH(C10-C36) in soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	277524-1
Date extracted	-			28/02/2022	[NT]	[NT]	[NT]	[NT]	28/02/2022	28/02/2022
Date analysed	-			01/03/2022	[NT]	[NT]	[NT]	[NT]	01/03/2022	01/03/2022
TRH C_{10} - C_{14}	mg/kg	50	Org-020	<50	[NT]	[NT]	[NT]	[NT]	100	98
TRH C_{15} - C_{28}	mg/kg	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	94	97
TRH C_{29} - C_{36}	mg/kg	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	82	104
TRH >C_{10} - C_{16}	mg/kg	50	Org-020	<50	[NT]	[NT]	[NT]	[NT]	98	97
TRH >C_{16} - C_{34}	mg/kg	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	94	102
TRH >C_{34} - C_{40}	mg/kg	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	112	87
Surrogate o-Terphenyl	%		Org-020	102	[NT]	[NT]	[NT]	[NT]	89	88

QUALITY CONTROL: PAHs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	277524-1
Date extracted	-			28/02/2022	[NT]	[NT]	[NT]	[NT]	28/02/2022	28/02/2022
Date analysed	-			02/03/2022	[NT]	[NT]	[NT]	[NT]	02/03/2022	02/03/2022
Naphthalene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	91	94
Acenaphthylene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Fluorene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	90	94
Phenanthrene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	91	105
Anthracene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	90	#
Pyrene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	91	#
Benzo(a)anthracene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	89	120
Benzo(b,j+k)fluoranthene	mg/kg	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-022/025	<0.05	[NT]	[NT]	[NT]	[NT]	88	117
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate p-Terphenyl-D_{14}	%		Org-022/025	107	[NT]	[NT]	[NT]	[NT]	95	103

QUALITY CONTROL: Organochlorine Pesticides in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	277524-1
Date extracted	-			28/02/2022	[NT]	[NT]	[NT]	[NT]	28/02/2022	28/02/2022
Date analysed	-			02/03/2022	[NT]	[NT]	[NT]	[NT]	02/03/2022	02/03/2022
Hexachlorobenzene (HCB)	mg/kg	0.1	Org-022/025-OCP	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
a-BHC	mg/kg	0.1	Org-022/025-OCP	<0.1	[NT]	[NT]	[NT]	[NT]	82	91
b-BHC	mg/kg	0.1	Org-022/025-OCP	<0.1	[NT]	[NT]	[NT]	[NT]	81	87
Lindane (g-BHC)	mg/kg	0.1	Org-022/025-OCP	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
d-BHC	mg/kg	0.1	Org-022/025-OCP	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Heptachlor	mg/kg	0.1	Org-022/025-OCP	<0.1	[NT]	[NT]	[NT]	[NT]	86	102
Aldrin	mg/kg	0.1	Org-022/025-OCP	<0.1	[NT]	[NT]	[NT]	[NT]	84	88
Heptachlor Epoxide	mg/kg	0.1	Org-022/025-OCP	<0.1	[NT]	[NT]	[NT]	[NT]	81	87
a-Chlordane	mg/kg	0.1	Org-022/025-OCP	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
g-Chlordane	mg/kg	0.1	Org-022/025-OCP	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
a-Endosulphan	mg/kg	0.1	Org-022/025-OCP	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
p,p'-DDE	mg/kg	0.1	Org-022/025-OCP	<0.1	[NT]	[NT]	[NT]	[NT]	79	87
Dieldrin	mg/kg	0.1	Org-022/025-OCP	<0.1	[NT]	[NT]	[NT]	[NT]	82	89
Endrin	mg/kg	0.1	Org-022/025-OCP	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
p,p'-DDD	mg/kg	0.1	Org-022/025-OCP	<0.1	[NT]	[NT]	[NT]	[NT]	83	95
b-Endosulphan	mg/kg	0.1	Org-022/025-OCP	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Endrin Aldehyde	mg/kg	0.1	Org-022/025-OCP	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Endosulfan Sulphate	mg/kg	0.1	Org-022/025-OCP	<0.1	[NT]	[NT]	[NT]	[NT]	87	96
p,p'-DDT	mg/kg	0.1	Org-022/025-OCP	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Endrin Ketone	mg/kg	0.1	Org-022/025-OCP	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Methoxychlor	mg/kg	0.1	Org-022/025-OCP	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate 2-chlorophenol-d4	%		Org-022/025	99	[NT]	[NT]	[NT]	[NT]	94	95

QUALITY CONTROL: Organophosphorus Pesticides					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	277524-1
Date extracted	-			28/02/2022	[NT]	[NT]	[NT]	[NT]	28/02/2022	28/02/2022
Date analysed	-			02/03/2022	[NT]	[NT]	[NT]	[NT]	02/03/2022	02/03/2022
Diazinon (Dimpylate)	mg/kg	0.1	Org-021/022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chlorpyrifos-methyl	mg/kg	0.1	Org-021/022/025	<0.1	[NT]	[NT]	[NT]	[NT]	87	96
Ronnel	mg/kg	0.1	Org-021/022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Fenitrothion	mg/kg	0.1	Org-021/022/025	<0.1	[NT]	[NT]	[NT]	[NT]	78	113
Malathion (Maldison)	mg/kg	0.1	Org-021/022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chlorpyrifos (ethyl)	mg/kg	0.1	Org-021/022/025	<0.1	[NT]	[NT]	[NT]	[NT]	87	95
Parathion (ethyl)	mg/kg	0.1	Org-021/022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Ethion	mg/kg	0.1	Org-021/022/025	<0.1	[NT]	[NT]	[NT]	[NT]	86	117
Bromophos Ethyl	mg/kg	0.1	Org-021/022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dimethoate	mg/kg	0.1	Org-021/022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dichlorvos	mg/kg	0.1	Org-021	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Azinphos Methyl (Guthion)	mg/kg	0.1	Org-021	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate 2-chlorophenol-d4	%		Org-022/025	99	[NT]	[NT]	[NT]	[NT]	94	95

QUALITY CONTROL: PCBs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	277524-1
Date extracted	-			28/02/2022	[NT]	[NT]	[NT]	[NT]	28/02/2022	28/02/2022
Date analysed	-			02/03/2022	[NT]	[NT]	[NT]	[NT]	02/03/2022	02/03/2022
Arochlor 1016	mg/kg	0.1	Org-021	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Arochlor 1221	mg/kg	0.1	Org-021	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Arochlor 1232	mg/kg	0.1	Org-021	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Arochlor 1242	mg/kg	0.1	Org-021	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Arochlor 1248	mg/kg	0.1	Org-021	<0.1	[NT]	[NT]	[NT]	[NT]	101	108
Arochlor 1254	mg/kg	0.1	Org-021	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate 2-fluorobiphenyl	%		Org-022/025	99	[NT]	[NT]	[NT]	[NT]	94	99

QUALITY CONTROL: 17 Metals in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date digested	-			01/03/2022	[NT]	[NT]	[NT]	[NT]	01/03/2022	[NT]
Date analysed	-			01/03/2022	[NT]	[NT]	[NT]	[NT]	01/03/2022	[NT]
Arsenic	mg/kg	2	METALS-020	<2	[NT]	[NT]	[NT]	[NT]	100	[NT]
Boron	mg/kg	3	METALS-020	<3	[NT]	[NT]	[NT]	[NT]	91	[NT]
Barium	mg/kg	1	METALS-020	<1	[NT]	[NT]	[NT]	[NT]	102	[NT]
Beryllium	mg/kg	1	METALS-020	<1	[NT]	[NT]	[NT]	[NT]	97	[NT]
Cadmium	mg/kg	0.4	METALS-020	<0.4	[NT]	[NT]	[NT]	[NT]	99	[NT]
Chromium	mg/kg	1	METALS-020	<1	[NT]	[NT]	[NT]	[NT]	100	[NT]
Copper	mg/kg	1	METALS-020	<1	[NT]	[NT]	[NT]	[NT]	100	[NT]
Cobalt	mg/kg	1	METALS-020	<1	[NT]	[NT]	[NT]	[NT]	99	[NT]
Mercury	mg/kg	0.1	METALS-021	<0.1	[NT]	[NT]	[NT]	[NT]	104	[NT]
Manganese	mg/kg	1	METALS-020	<1	[NT]	[NT]	[NT]	[NT]	104	[NT]
Molybdenum	mg/kg	1	METALS-020	<1	[NT]	[NT]	[NT]	[NT]	96	[NT]
Nickel	mg/kg	1	METALS-020	<1	[NT]	[NT]	[NT]	[NT]	98	[NT]
Lead	mg/kg	1	METALS-020	<1	[NT]	[NT]	[NT]	[NT]	104	[NT]
Antimony	mg/kg	7	METALS-020	<7	[NT]	[NT]	[NT]	[NT]	115	[NT]
Selenium	mg/kg	2	METALS-020	<2	[NT]	[NT]	[NT]	[NT]	95	[NT]
Tin	mg/kg	1	METALS-020	<1	[NT]	[NT]	[NT]	[NT]	101	[NT]
Zinc	mg/kg	1	METALS-020	<1	[NT]	[NT]	[NT]	[NT]	106	[NT]

QUALITY CONTROL: Moisture					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			28/02/2022	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Date analysed	-			02/03/2022	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Moisture	%	0.1	INORG-008	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]

Result Definitions

NT	Not tested
NA	Test not required
INS	Insufficient sample for this test
PQL	Practical Quantitation Limit
<	Less than
>	Greater than
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
NS	Not specified
NEPM	National Environmental Protection Measure
NR	Not Reported

Quality Control Definitions

Blank	This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate	This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike	A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample)	This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike	Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011.

The recommended maximums for analytes in urine are taken from “2018 TLVs and BEIs”, as published by ACGIH (where available). Limit provided for Nickel is a precautionary guideline as per Position Paper prepared by AIOH Exposure Standards Committee, 2016.

Guideline limits for Rinse Water Quality reported as per analytical requirements and specifications of AS 4187, Amdt 2 2019, Table 7.2

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: >10xPQL - RPD acceptance criteria will vary depending on the analytes and the analytical techniques but is typically in the range 20%-50% – see ELN-P05 QA/QC tables for details; <10xPQL - RPD are higher as the results approach PQL and the estimated measurement uncertainty will statistically increase.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals (not SPOCAS); 60-140% for organics/SPOCAS (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

Measurement Uncertainty estimates are available for most tests upon request.

Samples for Microbiological analysis (not Amoeba forms) received outside of the 2-8°C temperature range do not meet the ideal cooling conditions as stated in AS2031-2012.

Report Comments

#1ms - PAHs in Soil - # Percent recovery is not possible to report as the analytes in the sample/s have caused interference.

Envirolab Services (WA) Pty Ltd trading as MPL Laboratories
ABN 53 140 099 207
16-18 Hayden Court Myaree WA 6154
ph 08 9317 2505 fax 08 9317 4163
lab@mpl.com.au
www.mpl.com.au

SAMPLE RECEIPT ADVICE

Client Details

Client	JK Environments
Attention	Craig Ridley

Sample Login Details

Your reference	E33051BR
MPL Reference	277524
Date Sample Received	25/02/2022
Date Instructions Received	25/02/2022
Date Results Expected to be Reported	03/03/2022

Sample Condition

Samples received in appropriate condition for analysis	Yes
No. of Samples Provided	3 Soil
Turnaround Time Requested	Standard
Temperature on Receipt (°C)	27
Cooling Method	Ice Pack
Sampling Date Provided	Yes

Comments

Nil

Please direct any queries to:

Heram Halim	Meredith Conroy
Phone: 08 9317 2505	**Phone: 08 9317 2505**
Fax: 08 9317 4163	**Fax: 08 9317 4163**
Email: hhalim@mpl.com.au	**Email: mconroy@mpl.com.au**

Analysis Underway, details on the following page:

Envirolab Services (WA) Pty Ltd trading as MPL Laboratories
ABN 53 140 099 207
16-18 Hayden Court Myaree WA 6154
ph 08 9317 2505 fax 08 9317 4163
lab@mpl.com.au
www.mpl.com.au

Sample ID	vTRH(C6-C10)/MBTEXN in soil	svTRH(C10-C36) in soil	PAHs in Soil	Organochlorine Pesticidesin soil	Organophosphorus Pesticides	PCBsin Soil	17 Metals in soil	Asbestos ID - soils NEPM- ASB-001
SDUP11	✓	✓	✓	✓	✓	✓	✓	✓
SDUP12	✓	✓	✓				✓	
SDUP14	✓	✓	✓				✓	✓

The '✓' indicates the testing you have requested. **THIS IS NOT A REPORT OF THE RESULTS.**

Additional Info

Sample storage - Waters are routinely disposed of approximately 1 month and soils approximately 2 months from receipt.
Requests for longer term sample storage must be received in writing.

SAMPLE AND CHAIN OF CUSTODY FORM

TO:
ENVIROLAB SERVICES PTY LTD
12 ASHLEY STREET
CHATSWOOD NSW 2067
P: (02) 99106200
F: (02) 99106201

Attention: Aileen

JKE Job Number: E33051BR

Date Results Required: STANDARD

Page: 4 of 5

FROM:
JKEnvironments
REAR OF 115 WICKS ROAD
MACQUARIE PARK, NSW 2113
P: 02-9888 5000 F: 02-9888 5001
Attention: Craig Ridley
cridley@jkenvironments.com.au

Location: Mittagong
Sampler: NM

Sample Preserved in Esky on Ice

Tests Required

Date Sampled	Lab Ref:	Sample Number	Depth (m)	Sample Container	PID	Sample Description	Combo 6	Combo 3	Asbestos (NEPM)	Asbestos (ID)	Phenols	PFAS (Routine, Extended)	pH	CEC	Clay Content	TRH/BTEX	BTEX	Combo 3L
22/02/2022	76	TP52	0-0.1	G, A, PFAS	0	F: Silty sand	X		X		X	X						
22/02/2022	77	TP52	0.2-0.4	G, A, PFAS	0	Silty clay		X										
23/02/2022	78	TP45	0-0.1	G, A, PFAS	0	F: Silty Sandy Clay	X		X									
23/02/2022	79	TP45	0.2-0.4	G, A, PFAS	0	F: Silty Sandy Clay												
23/02/2022	80	TP45	0.6-0.8	G, A, PFAS	0	Silty Sandy Clay		X										
23/02/2022	81	TP56	0-0.1	G, A, PFAS	0	F: Silty Sandy Clay	X		X									
23/02/2022	82	TP56	0.2-0.4	G, A, PFAS	0.2	F: Silty Sandy Clay												
23/02/2022	83	TP56	0.4-0.6	G, A, PFAS	0	Silty clay		X										
23/02/2022	84	TP57	0-0.1	G, A	0	F: Silty Sandy Clay		X	X									
23/02/2022	85	TP57	0.1-0.2	G,A	0	F: Silty Sandy Clay												
23/02/2022	86	TP57	0.2-0.4	G, A	0.3	Silty clay												
23/02/2022	87	TP76	0-0.1	G,A	0	F: Silty Sandy Clay	X		X									
23/02/2022	88	TP76	0.2-0.4	G, A	0.2	F: Silty Sandy Clay												
23/02/2022	89	TP76	0.4-0.6	G,A	0	Silty clay		X										
21/02/2022	104	SDUP6	-	G, A	-	Duplicate		X	X									
21/02/2022	105	SDUP7	-	G,A	-	Duplicate												
22/02/2022	106	SDUP8	-	G,A	-	Duplicate		X										
22/02/2022	90	SDUP9	-	G, A, PFAS	-	Duplicate												
22/02/2022	91	SDUP10	-	G, A, PFAS	-	Duplicate	X		X		X	X						
1 22/02/2022	92	SDUP11	-	G, A, PFAS	-	Duplicate	X		X		SEND TO INTERLAB							
2 22/02/2022	93	SDUP12	-	G, A	-	Duplicate		X			SEND TO INTERLAB							
23/02/2022	94	SDUP13	-	G, A, PFAS	-	Duplicate												
3 23/02/2022	95	SDUP14	-	G, A	-	Duplicate		X	X		SEND TO INTERLAB							
18/02/2022	96	FCF1 - SURFACE		B	-	Fragment				X								
18/02/2022	97	FCF2 - SURFACE		B	-	Fragment				X								

Envirolab Laboratories
Job No.- 277524
Date Rec- 25/2/22
Time Rec- 14:10
Rec By:- GM
TAT Req - SAME 1 / 2 / 3 / STD
Temp - cool / ambient
Cooling - Ice / Icepack / None
Security Seal - Yes / No

Remarks (comments/detection limits required):

Sample Containers:
G - 250mg Glass Jar
A - Ziplock Asbestos Bag
P - Plastic Bag

Relinquished By:	Date:	Time:	Received By:	Date:
ELS SMD, A.BA AB	24/2/22	14:10	GM	25/2

289658

Envirolab Services Pty Ltd
ABN 37 112 535 645
12 Ashley St Chatswood NSW 2067
ph 02 9910 6200 fax 02 9910 6201
customerservice@envirolab.com.au
www.envirolab.com.au

CERTIFICATE OF ANALYSIS 289658

Client Details

Client	JK Environments
Attention	C Ridley
Address	PO Box 976, North Ryde BC, NSW, 1670

Sample Details

Your Reference	**E33051BR, Mittagong**
Number of Samples	100 Soil, 6 Material
Date samples received	23/02/2022
Date completed instructions received	24/02/2022

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.

Samples were analysed as received from the client. Results relate specifically to the samples as received.

Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Please refer to the last page of this report for any comments relating to the results.

Report Details

Date results requested by	03/03/2022
Date of Issue	03/03/2022

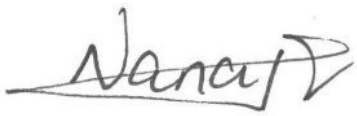
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Asbestos Approved By
Analysed by Asbestos Approved Analyst: Nyovan Moonean, Panika Wongchanda
Authorised by Asbestos Approved Signatory: Lucy Zhu

Results Approved By
Diego Bigolin, Inorganics Supervisor
Dragana Tomas, Senior Chemist
Giovanni Agosti, Group Technical Manager
Josh Williams, LC Supervisor
Lucy Zhu, Asbestos Supervisor
Thomas Beenie, Lab Technician

Authorised By



Nancy Zhang, Laboratory Manager

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		289658-1	289658-3	289658-5	289658-7	289658-8
Your Reference	UNITS	TP3	TP3	TP4	TP4	TP4
Depth		0-0.1	0.5-0.7	0-0.1	0.3-0.5	0.65-0.85
Date Sampled		21/02/2022	21/02/2022	21/02/2022	21/02/2022	21/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
Date analysed	-	25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
TRH C_6 - C_9	mg/kg	<25	<25	<25	<25	<25
TRH C_6 - C_{10}	mg/kg	<25	<25	<25	<25	<25
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Naphthalene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	101	107	94	100	106

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		289658-10	289658-12	289658-13	289658-15	289658-17
Your Reference	UNITS	TP13	TP13	TP14	TP14	TP15
Depth		0-0.1	0.4-0.6	0-0.1	0.6-0.8	0.3-0.5
Date Sampled		21/02/2022	21/02/2022	21/02/2022	21/02/2022	21/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
Date analysed	-	25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
TRH C_6 - C_9	mg/kg	<25	<25	<25	<25	<25
TRH C_6 - C_{10}	mg/kg	<25	<25	<25	<25	<25
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Naphthalene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	108	95	97	102	97

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		289658-18	289658-20	289658-21	289658-23	289658-25
Your Reference	UNITS	TP15	TP16	TP16	TP17	TP17
Depth		0.7-0.9	0.2-0.5	0.5-0.7	0-0.1	0.5-0.7
Date Sampled		21/02/2022	21/02/2022	21/02/2022	22/02/2022	22/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
Date analysed	-	25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
TRH C_6 - C_9	mg/kg	<25	<25	<25	<25	<25
TRH C_6 - C_{10}	mg/kg	<25	<25	<25	<25	<25
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Naphthalene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	85	100	107	106	107

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		289658-27	289658-28	289658-29	289658-30	289658-32
Your Reference	UNITS	TP18	TP18	TP18	TP34	TP34
Depth		0-0.1	0.3-0.5	0.75-0.95	0-0.1	0.7-0.9
Date Sampled		22/02/2022	22/02/2022	22/02/2022	21/02/2022	21/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
Date analysed	-	25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
TRH C_6 - C_9	mg/kg	<25	<25	<25	<25	<25
TRH C_6 - C_{10}	mg/kg	<25	<25	<25	<25	<25
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Naphthalene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	110	104	105	107	107

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		289658-34	289658-37	289658-38	289658-40	289658-42
Your Reference	UNITS	TP35	TP36	TP36	TP38	TP38
Depth		0-0.1	0-0.1	0.2-0.4	0-0.1	0.6-0.8
Date Sampled		21/02/2022	22/02/2022	22/02/2022	22/02/2022	22/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
Date analysed	-	25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
TRH C_6 - C_9	mg/kg	<25	<25	<25	<25	<25
TRH C_6 - C_{10}	mg/kg	<25	<25	<25	<25	<25
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Naphthalene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	106	107	107	91	106

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		289658-45	289658-46	289658-48	289658-50	289658-51
Your Reference	UNITS	TP39	TP39	TP39	TP40	TP40
Depth		0-0.1	0.2-0.4	1.0-1.2	0-0.1	0.2-0.4
Date Sampled		22/02/2022	22/02/2022	22/02/2022	22/02/2022	22/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
Date analysed	-	25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
TRH C_6 - C_9	mg/kg	<25	<25	<25	<25	<25
TRH C_6 - C_{10}	mg/kg	<25	<25	<25	<25	<25
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Naphthalene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	109	106	105	88	108

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		289658-52	289658-54	289658-55	289658-56	289658-58
Your Reference	UNITS	TP40	TP40	TP47	TP47	TP48
Depth		0.5-0.7	1.6-1.8	0-0.1	0.2-0.4	0-0.1
Date Sampled		22/02/2022	22/02/2022	22/02/2022	22/02/2022	22/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
Date analysed	-	25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
TRH C_6 - C_9	mg/kg	<25	<25	<25	<25	<25
TRH C_6 - C_{10}	mg/kg	<25	<25	<25	<25	<25
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Naphthalene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	101	112	103	92	108

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		289658-60	289658-63	289658-64	289658-66	289658-68
Your Reference	UNITS	TP48	TP49	TP49	TP49	TP50
Depth		1.0-1.2	0.1-0.3	0.4-0.6	1.5-1.7	0-0.1
Date Sampled		22/02/2022	22/02/2022	22/02/2022	22/02/2022	22/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
Date analysed	-	25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
TRH C_6 - C_9	mg/kg	<25	<25	<25	<25	<25
TRH C_6 - C_{10}	mg/kg	<25	<25	<25	<25	<25
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Naphthalene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	110	109	107	97	105

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		289658-69	289658-72	289658-73	289658-74	289658-76
Your Reference	UNITS	TP50	TP51	TP51	TP51	TP52
Depth		0.2-0.4	0-0.1	0.1-0.3	0.6-0.8	0-0.1
Date Sampled		22/02/2022	22/02/2022	22/02/2022	22/02/2022	22/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
Date analysed	-	25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
TRH C_6 - C_9	mg/kg	<25	<25	<25	<25	<25
TRH C_6 - C_{10}	mg/kg	<25	<25	<25	<25	<25
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Naphthalene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	107	102	107	106	107

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		289658-77	289658-78	289658-80	289658-81	289658-83
Your Reference	UNITS	TP52	TP45	TP45	TP56	TP56
Depth		0.2-0.4	0-0.1	0.6-0.8	0-0.1	0.4-0.6
Date Sampled		22/02/2022	23/02/2022	23/02/2022	23/02/2022	23/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
Date analysed	-	25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
TRH C_6 - C_9	mg/kg	<25	<25	<25	<25	<25
TRH C_6 - C_{10}	mg/kg	<25	<25	<25	<25	<25
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Naphthalene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	105	102	103	100	104

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		289658-84	289658-87	289658-89	289658-91	289658-102
Your Reference	UNITS	TP57	TP76	TP76	SDUP10	TS-S2
Depth		0-0.1	0-0.1	0.4-0.6	-	-
Date Sampled		23/02/2022	23/02/2022	23/02/2022	22/02/2022	23/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
Date analysed	-	25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
TRH C_6 - C_9	mg/kg	<25	<25	<25	<25	[NA]
TRH C_6 - C_{10}	mg/kg	<25	<25	<25	<25	[NA]
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	<25	<25	<25	<25	[NA]
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	99%
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	100%
Ethylbenzene	mg/kg	<1	<1	<1	<1	100%
m+p-xylene	mg/kg	<2	<2	<2	<2	100%
o-Xylene	mg/kg	<1	<1	<1	<1	100%
Naphthalene	mg/kg	<1	<1	<1	<1	[NA]
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	[NA]
Surrogate aaa-Trifluorotoluene	%	102	100	99	106	122

vTRH(C6-C10)/BTEXN in Soil				
Our Reference		289658-103	289658-104	289658-106
Your Reference	UNITS	TB-S2	SDUP6	SDUP8
Depth		-	-	-
Date Sampled		23/02/2022	21/02/2022	22/02/2022
Type of sample		Soil	Soil	Soil
Date extracted	-	25/02/2022	25/02/2022	25/02/2022
Date analysed	-	25/02/2022	25/02/2022	25/02/2022
TRH C_6 - C_9	mg/kg	<25	<25	<25
TRH C_6 - C_{10}	mg/kg	<25	<25	<25
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1
Naphthalene	mg/kg	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	110	103	108

svTRH (C10-C40) in Soil						
Our Reference		289658-1	289658-3	289658-5	289658-7	289658-8
Your Reference	UNITS	TP3	TP3	TP4	TP4	TP4
Depth		0-0.1	0.5-0.7	0-0.1	0.3-0.5	0.65-0.85
Date Sampled		21/02/2022	21/02/2022	21/02/2022	21/02/2022	21/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
Date analysed	-	26/02/2022	26/02/2022	26/02/2022	26/02/2022	26/02/2022
TRH C_{10} - C_{14}	mg/kg	<50	<50	<50	<50	<50
TRH C_{15} - C_{28}	mg/kg	100	<100	<100	<100	<100
TRH C_{29} - C_{36}	mg/kg	160	<100	<100	<100	<100
Total +ve TRH (C10-C36)	mg/kg	260	<50	<50	<50	<50
TRH >C_{10} -C_{16}	mg/kg	<50	<50	<50	<50	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH >C_{16} -C_{34}	mg/kg	210	<100	<100	<100	<100
TRH >C_{34} -C_{40}	mg/kg	130	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	340	<50	<50	<50	<50
Surrogate o-Terphenyl	%	110	108	119	101	110

svTRH (C10-C40) in Soil						
Our Reference		289658-10	289658-12	289658-13	289658-15	289658-17
Your Reference	UNITS	TP13	TP13	TP14	TP14	TP15
Depth		0-0.1	0.4-0.6	0-0.1	0.6-0.8	0.3-0.5
Date Sampled		21/02/2022	21/02/2022	21/02/2022	21/02/2022	21/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
Date analysed	-	26/02/2022	26/02/2022	26/02/2022	26/02/2022	26/02/2022
TRH C_{10} - C_{14}	mg/kg	<50	<50	<50	<50	<50
TRH C_{15} - C_{28}	mg/kg	<100	<100	<100	<100	<100
TRH C_{29} - C_{36}	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (C10-C36)	mg/kg	<50	<50	<50	<50	<50
TRH >C_{10} -C_{16}	mg/kg	<50	<50	<50	<50	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH >C_{16} -C_{34}	mg/kg	<100	<100	110	<100	110
TRH >C_{34} -C_{40}	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	110	<50	110
Surrogate o-Terphenyl	%	115	113	112	98	109

svTRH (C10-C40) in Soil						
Our Reference		289658-18	289658-20	289658-21	289658-23	289658-25
Your Reference	UNITS	TP15	TP16	TP16	TP17	TP17
Depth		0.7-0.9	0.2-0.5	0.5-0.7	0-0.1	0.5-0.7
Date Sampled		21/02/2022	21/02/2022	21/02/2022	22/02/2022	22/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
Date analysed	-	26/02/2022	26/02/2022	26/02/2022	26/02/2022	26/02/2022
TRH C_{10} - C_{14}	mg/kg	<50	55	<50	<50	<50
TRH C_{15} - C_{28}	mg/kg	<100	260	<100	<100	<100
TRH C_{29} - C_{36}	mg/kg	<100	150	<100	<100	<100
Total +ve TRH (C10-C36)	mg/kg	<50	460	<50	<50	<50
TRH >C_{10} -C_{16}	mg/kg	<50	65	<50	<50	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	mg/kg	<50	65	<50	<50	<50
TRH >C_{16} -C_{34}	mg/kg	<100	350	<100	<100	<100
TRH >C_{34} -C_{40}	mg/kg	<100	100	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	510	<50	<50	<50
Surrogate o-Terphenyl	%	116	120	108	111	110

svTRH (C10-C40) in Soil						
Our Reference		289658-27	289658-28	289658-29	289658-30	289658-32
Your Reference	UNITS	TP18	TP18	TP18	TP34	TP34
Depth		0-0.1	0.3-0.5	0.75-0.95	0-0.1	0.7-0.9
Date Sampled		22/02/2022	22/02/2022	22/02/2022	21/02/2022	21/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
Date analysed	-	26/02/2022	26/02/2022	26/02/2022	26/02/2022	26/02/2022
TRH C_{10} - C_{14}	mg/kg	<50	<50	<50	<50	<50
TRH C_{15} - C_{28}	mg/kg	<100	<100	<100	<100	<100
TRH C_{29} - C_{36}	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (C10-C36)	mg/kg	<50	<50	<50	<50	<50
TRH >C_{10} -C_{16}	mg/kg	<50	<50	<50	<50	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH >C_{16} -C_{34}	mg/kg	<100	<100	<100	<100	<100
TRH >C_{34} -C_{40}	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	<50	<50	<50
Surrogate o-Terphenyl	%	113	113	111	115	92

svTRH (C10-C40) in Soil						
Our Reference		289658-34	289658-37	289658-38	289658-40	289658-42
Your Reference	UNITS	TP35	TP36	TP36	TP38	TP38
Depth		0-0.1	0-0.1	0.2-0.4	0-0.1	0.6-0.8
Date Sampled		21/02/2022	22/02/2022	22/02/2022	22/02/2022	22/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
Date analysed	-	26/02/2022	26/02/2022	26/02/2022	26/02/2022	26/02/2022
TRH C_{10} - C_{14}	mg/kg	<50	<50	<50	<50	<50
TRH C_{15} - C_{28}	mg/kg	<100	<100	<100	110	<100
TRH C_{29} - C_{36}	mg/kg	<100	<100	<100	170	<100
Total +ve TRH (C10-C36)	mg/kg	<50	<50	<50	280	<50
TRH >C_{10} -C_{16}	mg/kg	<50	<50	<50	<50	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH >C_{16} -C_{34}	mg/kg	<100	<100	<100	230	<100
TRH >C_{34} -C_{40}	mg/kg	<100	<100	<100	120	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	<50	350	<50
Surrogate o-Terphenyl	%	94	93	95	116	94

svTRH (C10-C40) in Soil						
Our Reference		289658-45	289658-46	289658-48	289658-50	289658-51
Your Reference	UNITS	TP39	TP39	TP39	TP40	TP40
Depth		0-0.1	0.2-0.4	1.0-1.2	0-0.1	0.2-0.4
Date Sampled		22/02/2022	22/02/2022	22/02/2022	22/02/2022	22/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
Date analysed	-	26/02/2022	26/02/2022	26/02/2022	26/02/2022	26/02/2022
TRH C_{10} - C_{14}	mg/kg	<50	<50	<50	<50	<50
TRH C_{15} - C_{28}	mg/kg	<100	<100	<100	<100	<100
TRH C_{29} - C_{36}	mg/kg	120	<100	<100	<100	<100
Total +ve TRH (C10-C36)	mg/kg	120	<50	<50	<50	<50
TRH >C_{10} -C_{16}	mg/kg	<50	<50	<50	<50	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH >C_{16} -C_{34}	mg/kg	160	<100	<100	<100	<100
TRH >C_{34} -C_{40}	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	160	<50	<50	<50	<50
Surrogate o-Terphenyl	%	99	96	94	91	94

svTRH (C10-C40) in Soil						
Our Reference		289658-52	289658-54	289658-55	289658-56	289658-58
Your Reference	UNITS	TP40	TP40	TP47	TP47	TP48
Depth		0.5-0.7	1.6-1.8	0-0.1	0.2-0.4	0-0.1
Date Sampled		22/02/2022	22/02/2022	22/02/2022	22/02/2022	22/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
Date analysed	-	26/02/2022	26/02/2022	26/02/2022	26/02/2022	26/02/2022
TRH C_{10} - C_{14}	mg/kg	<50	<50	<50	<50	<50
TRH C_{15} - C_{28}	mg/kg	<100	<100	<100	<100	<100
TRH C_{29} - C_{36}	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (C10-C36)	mg/kg	<50	<50	<50	<50	<50
TRH >C_{10} -C_{16}	mg/kg	<50	<50	<50	<50	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH >C_{16} -C_{34}	mg/kg	<100	<100	<100	<100	<100
TRH >C_{34} -C_{40}	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	<50	<50	<50
Surrogate o-Terphenyl	%	91	88	92	93	109

svTRH (C10-C40) in Soil						
Our Reference		289658-60	289658-63	289658-64	289658-66	289658-68
Your Reference	UNITS	TP48	TP49	TP49	TP49	TP50
Depth		1.0-1.2	0.1-0.3	0.4-0.6	1.5-1.7	0-0.1
Date Sampled		22/02/2022	22/02/2022	22/02/2022	22/02/2022	22/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
Date analysed	-	26/02/2022	26/02/2022	26/02/2022	26/02/2022	26/02/2022
TRH C_{10} - C_{14}	mg/kg	<50	<50	<50	<50	<50
TRH C_{15} - C_{28}	mg/kg	<100	<100	<100	<100	<100
TRH C_{29} - C_{36}	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (C10-C36)	mg/kg	<50	<50	<50	<50	<50
TRH >C_{10} -C_{16}	mg/kg	<50	<50	<50	<50	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH >C_{16} -C_{34}	mg/kg	<100	<100	<100	<100	<100
TRH >C_{34} -C_{40}	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	<50	<50	<50
Surrogate o-Terphenyl	%	100	96	93	100	99

svTRH (C10-C40) in Soil						
Our Reference		289658-69	289658-72	289658-73	289658-74	289658-76
Your Reference	UNITS	TP50	TP51	TP51	TP51	TP52
Depth		0.2-0.4	0-0.1	0.1-0.3	0.6-0.8	0-0.1
Date Sampled		22/02/2022	22/02/2022	22/02/2022	22/02/2022	22/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
Date analysed	-	26/02/2022	26/02/2022	26/02/2022	26/02/2022	26/02/2022
TRH C_{10} - C_{14}	mg/kg	<50	<50	<50	<50	<50
TRH C_{15} - C_{28}	mg/kg	<100	<100	<100	<100	<100
TRH C_{29} - C_{36}	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (C10-C36)	mg/kg	<50	<50	<50	<50	<50
TRH >C_{10} -C_{16}	mg/kg	<50	<50	<50	<50	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH >C_{16} -C_{34}	mg/kg	<100	100	<100	<100	<100
TRH >C_{34} -C_{40}	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	100	<50	<50	<50
Surrogate o-Terphenyl	%	99	104	93	100	95

svTRH (C10-C40) in Soil						
Our Reference		289658-77	289658-78	289658-80	289658-81	289658-83
Your Reference	UNITS	TP52	TP45	TP45	TP56	TP56
Depth		0.2-0.4	0-0.1	0.6-0.8	0-0.1	0.4-0.6
Date Sampled		22/02/2022	23/02/2022	23/02/2022	23/02/2022	23/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
Date analysed	-	26/02/2022	26/02/2022	26/02/2022	26/02/2022	26/02/2022
TRH C_{10} - C_{14}	mg/kg	<50	<50	<50	<50	<50
TRH C_{15} - C_{28}	mg/kg	<100	<100	<100	<100	<100
TRH C_{29} - C_{36}	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (C10-C36)	mg/kg	<50	<50	<50	<50	<50
TRH >C_{10} -C_{16}	mg/kg	<50	<50	<50	<50	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH >C_{16} -C_{34}	mg/kg	<100	<100	<100	<100	<100
TRH >C_{34} -C_{40}	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	<50	<50	<50
Surrogate o-Terphenyl	%	104	100	96	101	99

svTRH (C10-C40) in Soil						
Our Reference		289658-84	289658-87	289658-89	289658-91	289658-104
Your Reference	UNITS	TP57	TP76	TP76	SDUP10	SDUP6
Depth		0-0.1	0-0.1	0.4-0.6	-	-
Date Sampled		23/02/2022	23/02/2022	23/02/2022	22/02/2022	21/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
Date analysed	-	26/02/2022	26/02/2022	26/02/2022	26/02/2022	26/02/2022
TRH C_{10} - C_{14}	mg/kg	<50	<50	<50	<50	<50
TRH C_{15} - C_{28}	mg/kg	<100	<100	<100	<100	150
TRH C_{29} - C_{36}	mg/kg	<100	<100	<100	<100	170
Total +ve TRH (C10-C36)	mg/kg	<50	<50	<50	<50	320
TRH >C_{10} -C_{16}	mg/kg	<50	<50	<50	<50	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH >C_{16} -C_{34}	mg/kg	<100	<100	<100	<100	270
TRH >C_{34} -C_{40}	mg/kg	<100	<100	<100	<100	140
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	<50	<50	410
Surrogate o-Terphenyl	%	103	102	92	94	99

svTRH (C10-C40) in Soil		
Our Reference		289658-106
Your Reference	UNITS	SDUP8
Depth		-
Date Sampled		22/02/2022
Type of sample		Soil
Date extracted	-	25/02/2022
Date analysed	-	26/02/2022
TRH C_{10} - C_{14}	mg/kg	<50
TRH C_{15} - C_{28}	mg/kg	<100
TRH C_{29} - C_{36}	mg/kg	<100
Total +ve TRH (C10-C36)	mg/kg	<50
TRH >C_{10} -C_{16}	mg/kg	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	mg/kg	<50
TRH >C_{16} -C_{34}	mg/kg	<100
TRH >C_{34} -C_{40}	mg/kg	<100
Total +ve TRH (>C10-C40)	mg/kg	<50
Surrogate o-Terphenyl	%	93

PAHs in Soil						
Our Reference		289658-1	289658-3	289658-5	289658-7	289658-8
Your Reference	UNITS	TP3	TP3	TP4	TP4	TP4
Depth		0-0.1	0.5-0.7	0-0.1	0.3-0.5	0.65-0.85
Date Sampled		21/02/2022	21/02/2022	21/02/2022	21/02/2022	21/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
Date analysed	-	25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.2	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.4	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	0.4	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	0.2	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	0.2	<0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	0.1	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PAH's	mg/kg	2.0	<0.05	<0.05	<0.05	<0.05
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate p-Terphenyl-d14	%	109	106	95	103	89

PAHs in Soil						
Our Reference		289658-10	289658-12	289658-13	289658-15	289658-17
Your Reference	UNITS	TP13	TP13	TP14	TP14	TP15
Depth		0-0.1	0.4-0.6	0-0.1	0.6-0.8	0.3-0.5
Date Sampled		21/02/2022	21/02/2022	21/02/2022	21/02/2022	21/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
Date analysed	-	25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	<0.1	0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1	0.1
Pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1	0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	<0.05	0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PAH's	mg/kg	<0.05	<0.05	<0.05	<0.05	0.67
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate p-Terphenyl-d14	%	97	87	99	101	96

PAHs in Soil						
Our Reference		289658-18	289658-20	289658-21	289658-23	289658-25
Your Reference	UNITS	TP15	TP16	TP16	TP17	TP17
Depth		0.7-0.9	0.2-0.5	0.5-0.7	0-0.1	0.5-0.7
Date Sampled		21/02/2022	21/02/2022	21/02/2022	22/02/2022	22/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
Date analysed	-	25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	0.4	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	0.2	<0.1	<0.1	<0.1
Pyrene	mg/kg	<0.1	0.2	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	0.2	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PAH's	mg/kg	<0.05	1.1	<0.05	<0.05	<0.05
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate p-Terphenyl-d14	%	81	101	95	104	91

PAHs in Soil						
Our Reference		289658-27	289658-28	289658-29	289658-30	289658-32
Your Reference	UNITS	TP18	TP18	TP18	TP34	TP34
Depth		0-0.1	0.3-0.5	0.75-0.95	0-0.1	0.7-0.9
Date Sampled		22/02/2022	22/02/2022	22/02/2022	21/02/2022	21/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
Date analysed	-	25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PAH's	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate p-Terphenyl-d14	%	89	90	83	90	100

PAHs in Soil						
Our Reference		289658-34	289658-37	289658-38	289658-40	289658-42
Your Reference	UNITS	TP35	TP36	TP36	TP38	TP38
Depth		0-0.1	0-0.1	0.2-0.4	0-0.1	0.6-0.8
Date Sampled		21/02/2022	22/02/2022	22/02/2022	22/02/2022	22/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
Date analysed	-	25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	<0.1	0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	0.08	<0.05	<0.05	0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PAH's	mg/kg	<0.05	0.2	<0.05	<0.05	0.05
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate p-Terphenyl-d14	%	93	82	99	84	90

PAHs in Soil						
Our Reference		289658-45	289658-46	289658-48	289658-50	289658-51
Your Reference	UNITS	TP39	TP39	TP39	TP40	TP40
Depth		0-0.1	0.2-0.4	1.0-1.2	0-0.1	0.2-0.4
Date Sampled		22/02/2022	22/02/2022	22/02/2022	22/02/2022	22/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
Date analysed	-	25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	0.3	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	0.1	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PAH's	mg/kg	0.52	<0.05	<0.05	<0.05	<0.05
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate p-Terphenyl-d14	%	96	96	79	89	88

PAHs in Soil						
Our Reference		289658-52	289658-54	289658-55	289658-56	289658-58
Your Reference	UNITS	TP40	TP40	TP47	TP47	TP48
Depth		0.5-0.7	1.6-1.8	0-0.1	0.2-0.4	0-0.1
Date Sampled		22/02/2022	22/02/2022	22/02/2022	22/02/2022	22/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
Date analysed	-	25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PAH's	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate p-Terphenyl-d14	%	73	83	84	80	83

PAHs in Soil						
Our Reference		289658-60	289658-63	289658-64	289658-66	289658-68
Your Reference	UNITS	TP48	TP49	TP49	TP49	TP50
Depth		1.0-1.2	0.1-0.3	0.4-0.6	1.5-1.7	0-0.1
Date Sampled		22/02/2022	22/02/2022	22/02/2022	22/02/2022	22/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
Date analysed	-	25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1	0.2
Pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	0.2
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1	0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	0.3
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	<0.05	0.2
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	0.2
Total +ve PAH's	mg/kg	<0.05	<0.05	<0.05	<0.05	1.2
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate p-Terphenyl-d14	%	88	82	94	91	98

PAHs in Soil						
Our Reference		289658-69	289658-72	289658-73	289658-74	289658-76
Your Reference	UNITS	TP50	TP51	TP51	TP51	TP52
Depth		0.2-0.4	0-0.1	0.1-0.3	0.6-0.8	0-0.1
Date Sampled		22/02/2022	22/02/2022	22/02/2022	22/02/2022	22/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
Date analysed	-	25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PAH's	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate p-Terphenyl-d14	%	93	102	89	93	101

PAHs in Soil						
Our Reference		289658-77	289658-78	289658-80	289658-81	289658-83
Your Reference	UNITS	TP52	TP45	TP45	TP56	TP56
Depth		0.2-0.4	0-0.1	0.6-0.8	0-0.1	0.4-0.6
Date Sampled		22/02/2022	23/02/2022	23/02/2022	23/02/2022	23/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
Date analysed	-	25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PAH's	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate p-Terphenyl-d14	%	91	97	94	98	98

PAHs in Soil						
Our Reference		289658-84	289658-87	289658-89	289658-91	289658-104
Your Reference	UNITS	TP57	TP76	TP76	SDUP10	SDUP6
Depth		0-0.1	0-0.1	0.4-0.6	-	-
Date Sampled		23/02/2022	23/02/2022	23/02/2022	22/02/2022	21/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
Date analysed	-	25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	<0.1	0.2
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1	0.3
Pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	0.3
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1	0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	<0.05	0.1
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	0.1
Total +ve PAH's	mg/kg	<0.05	<0.05	<0.05	<0.05	1.1
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate p-Terphenyl-d14	%	97	104	96	91	92

PAHs in Soil		
Our Reference		289658-106
Your Reference	UNITS	SDUP8
Depth		-
Date Sampled		22/02/2022
Type of sample		Soil
Date extracted	-	25/02/2022
Date analysed	-	25/02/2022
Naphthalene	mg/kg	<0.1
Acenaphthylene	mg/kg	<0.1
Acenaphthene	mg/kg	<0.1
Fluorene	mg/kg	<0.1
Phenanthrene	mg/kg	0.1
Anthracene	mg/kg	<0.1
Fluoranthene	mg/kg	0.2
Pyrene	mg/kg	0.2
Benzo(a)anthracene	mg/kg	<0.1
Chrysene	mg/kg	0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2
Benzo(a)pyrene	mg/kg	0.1
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1
Total +ve PAH's	mg/kg	0.68
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5
Surrogate p-Terphenyl-d14	%	100

Organochlorine Pesticides in soil						
Our Reference		289658-1	289658-10	289658-17	289658-23	289658-30
Your Reference	UNITS	TP3	TP13	TP15	TP17	TP34
Depth		0-0.1	0-0.1	0.3-0.5	0-0.1	0-0.1
Date Sampled		21/02/2022	21/02/2022	21/02/2022	22/02/2022	21/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
Date analysed	-	25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
HCB	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve DDT+DDD+DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	116	103	128	109	92

Organochlorine Pesticides in soil						
Our Reference		289658-37	289658-40	289658-45	289658-50	289658-55
Your Reference	UNITS	TP36	TP38	TP39	TP40	TP47
Depth		0-0.1	0-0.1	0-0.1	0-0.1	0-0.1
Date Sampled		22/02/2022	22/02/2022	22/02/2022	22/02/2022	22/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
Date analysed	-	25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
HCB	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDT	mg/kg	<0.1	0.1	<0.1	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve DDT+DDD+DDE	mg/kg	<0.1	0.2	<0.1	<0.1	<0.1
Surrogate TCMX	%	88	83	83	84	81

Organochlorine Pesticides in soil						
Our Reference		289658-58	289658-68	289658-76	289658-78	289658-81
Your Reference	UNITS	TP48	TP50	TP52	TP45	TP56
Depth		0-0.1	0-0.1	0-0.1	0-0.1	0-0.1
Date Sampled		22/02/2022	22/02/2022	22/02/2022	23/02/2022	23/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
Date analysed	-	25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
HCB	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve DDT+DDD+DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	85	98	101	98	102

Organochlorine Pesticides in soil			
Our Reference		289658-87	289658-91
Your Reference	UNITS	TP76	SDUP10
Depth		0-0.1	-
Date Sampled		23/02/2022	22/02/2022
Type of sample		Soil	Soil
Date extracted	-	25/02/2022	25/02/2022
Date analysed	-	25/02/2022	25/02/2022
alpha-BHC	mg/kg	<0.1	<0.1
HCB	mg/kg	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1
Total +ve DDT+DDD+DDE	mg/kg	<0.1	<0.1
Surrogate TCMX	%	106	88

Organophosphorus Pesticides in Soil						
Our Reference		289658-1	289658-10	289658-17	289658-23	289658-30
Your Reference	UNITS	TP3	TP13	TP15	TP17	TP34
Depth		0-0.1	0-0.1	0.3-0.5	0-0.1	0-0.1
Date Sampled		21/02/2022	21/02/2022	21/02/2022	22/02/2022	21/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
Date analysed	-	25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
Dichlorvos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dimethoate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Diazinon	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos-methyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ronnel	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fenitrothion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Malathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Parathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Bromophos-ethyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ethion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Azinphos-methyl (Guthion)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	116	103	128	109	92

Organophosphorus Pesticides in Soil						
Our Reference		289658-37	289658-40	289658-45	289658-50	289658-55
Your Reference	UNITS	TP36	TP38	TP39	TP40	TP47
Depth		0-0.1	0-0.1	0-0.1	0-0.1	0-0.1
Date Sampled		22/02/2022	22/02/2022	22/02/2022	22/02/2022	22/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
Date analysed	-	25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
Dichlorvos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dimethoate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Diazinon	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos-methyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ronnel	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fenitrothion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Malathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Parathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Bromophos-ethyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ethion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Azinphos-methyl (Guthion)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	88	83	83	84	81

Organophosphorus Pesticides in Soil						
Our Reference		289658-58	289658-68	289658-76	289658-78	289658-81
Your Reference	UNITS	TP48	TP50	TP52	TP45	TP56
Depth		0-0.1	0-0.1	0-0.1	0-0.1	0-0.1
Date Sampled		22/02/2022	22/02/2022	22/02/2022	23/02/2022	23/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
Date analysed	-	25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
Dichlorvos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dimethoate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Diazinon	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos-methyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ronnel	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fenitrothion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Malathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Parathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Bromophos-ethyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ethion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Azinphos-methyl (Guthion)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	85	98	101	98	102

Organophosphorus Pesticides in Soil			
Our Reference		289658-87	289658-91
Your Reference	UNITS	TP76	SDUP10
Depth		0-0.1	-
Date Sampled		23/02/2022	22/02/2022
Type of sample		Soil	Soil
Date extracted	-	25/02/2022	25/02/2022
Date analysed	-	25/02/2022	25/02/2022
Dichlorvos	mg/kg	<0.1	<0.1
Dimethoate	mg/kg	<0.1	<0.1
Diazinon	mg/kg	<0.1	<0.1
Chlorpyriphos-methyl	mg/kg	<0.1	<0.1
Ronnel	mg/kg	<0.1	<0.1
Fenitrothion	mg/kg	<0.1	<0.1
Malathion	mg/kg	<0.1	<0.1
Chlorpyriphos	mg/kg	<0.1	<0.1
Parathion	mg/kg	<0.1	<0.1
Bromophos-ethyl	mg/kg	<0.1	<0.1
Ethion	mg/kg	<0.1	<0.1
Azinphos-methyl (Guthion)	mg/kg	<0.1	<0.1
Surrogate TCMX	%	106	88

PCBs in Soil						
Our Reference		289658-1	289658-10	289658-17	289658-23	289658-30
Your Reference	UNITS	TP3	TP13	TP15	TP17	TP34
Depth		0-0.1	0-0.1	0.3-0.5	0-0.1	0-0.1
Date Sampled		21/02/2022	21/02/2022	21/02/2022	22/02/2022	21/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
Date analysed	-	25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
Aroclor 1016	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1221	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1232	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1242	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1248	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1254	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1260	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PCBs (1016-1260)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	116	103	128	109	92

PCBs in Soil						
Our Reference		289658-37	289658-40	289658-45	289658-50	289658-55
Your Reference	UNITS	TP36	TP38	TP39	TP40	TP47
Depth		0-0.1	0-0.1	0-0.1	0-0.1	0-0.1
Date Sampled		22/02/2022	22/02/2022	22/02/2022	22/02/2022	22/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
Date analysed	-	25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
Aroclor 1016	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1221	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1232	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1242	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1248	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1254	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1260	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PCBs (1016-1260)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	88	83	83	84	81

PCBs in Soil						
Our Reference		289658-58	289658-68	289658-76	289658-78	289658-81
Your Reference	UNITS	TP48	TP50	TP52	TP45	TP56
Depth		0-0.1	0-0.1	0-0.1	0-0.1	0-0.1
Date Sampled		22/02/2022	22/02/2022	22/02/2022	23/02/2022	23/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
Date analysed	-	25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
Aroclor 1016	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1221	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1232	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1242	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1248	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1254	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1260	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PCBs (1016-1260)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	85	98	101	98	102

PCBs in Soil			
Our Reference		289658-87	289658-91
Your Reference	UNITS	TP76	SDUP10
Depth		0-0.1	-
Date Sampled		23/02/2022	22/02/2022
Type of sample		Soil	Soil
Date extracted	-	25/02/2022	25/02/2022
Date analysed	-	25/02/2022	25/02/2022
Aroclor 1016	mg/kg	<0.1	<0.1
Aroclor 1221	mg/kg	<0.1	<0.1
Aroclor 1232	mg/kg	<0.1	<0.1
Aroclor 1242	mg/kg	<0.1	<0.1
Aroclor 1248	mg/kg	<0.1	<0.1
Aroclor 1254	mg/kg	<0.1	<0.1
Aroclor 1260	mg/kg	<0.1	<0.1
Total +ve PCBs (1016-1260)	mg/kg	<0.1	<0.1
Surrogate TCMX	%	106	88

Acid Extractable metals in soil						
Our Reference		289658-1	289658-3	289658-5	289658-7	289658-8
Your Reference	UNITS	TP3	TP3	TP4	TP4	TP4
Depth		0-0.1	0.5-0.7	0-0.1	0.3-0.5	0.65-0.85
Date Sampled		21/02/2022	21/02/2022	21/02/2022	21/02/2022	21/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
Date analysed	-	28/02/2022	28/02/2022	28/02/2022	28/02/2022	28/02/2022
Arsenic	mg/kg	<4	5	8	7	9
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	9	9	8	9	10
Copper	mg/kg	42	10	23	16	24
Lead	mg/kg	200	14	190	22	120
Mercury	mg/kg	<0.1	0.1	<0.1	0.1	<0.1
Nickel	mg/kg	12	2	9	<1	11
Zinc	mg/kg	120	26	73	5	73

Acid Extractable metals in soil						
Our Reference		289658-10	289658-12	289658-13	289658-15	289658-17
Your Reference	UNITS	TP13	TP13	TP14	TP14	TP15
Depth		0-0.1	0.4-0.6	0-0.1	0.6-0.8	0.3-0.5
Date Sampled		21/02/2022	21/02/2022	21/02/2022	21/02/2022	21/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
Date analysed	-	28/02/2022	28/02/2022	28/02/2022	28/02/2022	28/02/2022
Arsenic	mg/kg	<4	<4	<4	5	5
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	1
Chromium	mg/kg	13	12	7	25	7
Copper	mg/kg	9	4	13	8	53
Lead	mg/kg	42	4	56	11	840
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	0.3
Nickel	mg/kg	8	6	5	3	13
Zinc	mg/kg	72	11	52	26	860

Acid Extractable metals in soil						
Our Reference		289658-18	289658-20	289658-21	289658-23	289658-25
Your Reference	UNITS	TP15	TP16	TP16	TP17	TP17
Depth		0.7-0.9	0.2-0.5	0.5-0.7	0-0.1	0.5-0.7
Date Sampled		21/02/2022	21/02/2022	21/02/2022	22/02/2022	22/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
Date analysed	-	28/02/2022	28/02/2022	28/02/2022	28/02/2022	28/02/2022
Arsenic	mg/kg	<4	6	<4	<4	<4
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	26	7	13	11	14
Copper	mg/kg	6	40	2	14	19
Lead	mg/kg	15	290	8	160	200
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	0.2
Nickel	mg/kg	4	12	2	5	6
Zinc	mg/kg	110	300	9	120	310

Acid Extractable metals in soil						
Our Reference		289658-27	289658-28	289658-29	289658-30	289658-32
Your Reference	UNITS	TP18	TP18	TP18	TP34	TP34
Depth		0-0.1	0.3-0.5	0.75-0.95	0-0.1	0.7-0.9
Date Sampled		22/02/2022	22/02/2022	22/02/2022	21/02/2022	21/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
Date analysed	-	28/02/2022	28/02/2022	28/02/2022	28/02/2022	28/02/2022
Arsenic	mg/kg	<4	8	<4	5	<4
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	6	11	22	11	27
Copper	mg/kg	17	15	7	20	8
Lead	mg/kg	73	220	8	270	10
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	18	12	3	9	13
Zinc	mg/kg	39	35	10	170	29

Acid Extractable metals in soil						
Our Reference		289658-34	289658-37	289658-38	289658-40	289658-42
Your Reference	UNITS	TP35	TP36	TP36	TP38	TP38
Depth		0-0.1	0-0.1	0.2-0.4	0-0.1	0.6-0.8
Date Sampled		21/02/2022	22/02/2022	22/02/2022	22/02/2022	22/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
Date analysed	-	28/02/2022	28/02/2022	28/02/2022	28/02/2022	28/02/2022
Arsenic	mg/kg	<4	<4	<4	5	7
Cadmium	mg/kg	<0.4	<0.4	<0.4	0.6	0.7
Chromium	mg/kg	10	5	2	22	9
Copper	mg/kg	10	8	6	110	140
Lead	mg/kg	56	41	3	1,200	1,200
Mercury	mg/kg	<0.1	<0.1	<0.1	0.2	1.9
Nickel	mg/kg	6	4	14	11	18
Zinc	mg/kg	110	41	7	980	470

Acid Extractable metals in soil						
Our Reference		289658-45	289658-46	289658-48	289658-50	289658-51
Your Reference	UNITS	TP39	TP39	TP39	TP40	TP40
Depth		0-0.1	0.2-0.4	1.0-1.2	0-0.1	0.2-0.4
Date Sampled		22/02/2022	22/02/2022	22/02/2022	22/02/2022	22/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
Date analysed	-	28/02/2022	28/02/2022	28/02/2022	28/02/2022	28/02/2022
Arsenic	mg/kg	<4	<4	<4	<4	6
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	8	8	7	390	9
Copper	mg/kg	13	19	8	10	24
Lead	mg/kg	170	26	22	21	120
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	7	21	6	4	17
Zinc	mg/kg	96	18	25	54	110

Acid Extractable metals in soil						
Our Reference		289658-52	289658-54	289658-55	289658-56	289658-58
Your Reference	UNITS	TP40	TP40	TP47	TP47	TP48
Depth		0.5-0.7	1.6-1.8	0-0.1	0.2-0.4	0-0.1
Date Sampled		22/02/2022	22/02/2022	22/02/2022	22/02/2022	22/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
Date analysed	-	28/02/2022	28/02/2022	28/02/2022	28/02/2022	28/02/2022
Arsenic	mg/kg	<4	<4	<4	5	7
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	15	1	10	19	12
Copper	mg/kg	5	<1	15	18	35
Lead	mg/kg	19	3	58	57	160
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	4	<1	8	10	13
Zinc	mg/kg	11	2	77	64	110

Acid Extractable metals in soil						
Our Reference		289658-60	289658-63	289658-64	289658-66	289658-68
Your Reference	UNITS	TP48	TP49	TP49	TP49	TP50
Depth		1.0-1.2	0.1-0.3	0.4-0.6	1.5-1.7	0-0.1
Date Sampled		22/02/2022	22/02/2022	22/02/2022	22/02/2022	22/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
Date analysed	-	28/02/2022	28/02/2022	28/02/2022	28/02/2022	28/02/2022
Arsenic	mg/kg	6	<4	5	<4	<4
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	16	7	9	14	6
Copper	mg/kg	28	16	11	10	16
Lead	mg/kg	23	53	21	13	97
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	9	9	7	7	7
Zinc	mg/kg	55	76	64	26	98

Acid Extractable metals in soil						
Our Reference		289658-69	289658-72	289658-73	289658-74	289658-76
Your Reference	UNITS	TP50	TP51	TP51	TP51	TP52
Depth		0.2-0.4	0-0.1	0.1-0.3	0.6-0.8	0-0.1
Date Sampled		22/02/2022	22/02/2022	22/02/2022	22/02/2022	22/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
Date analysed	-	28/02/2022	28/02/2022	28/02/2022	28/02/2022	28/02/2022
Arsenic	mg/kg	<4	<4	4	4	<4
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	3	9	13	11	8
Copper	mg/kg	18	21	24	27	11
Lead	mg/kg	41	93	46	30	83
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	17	9	6	7	4
Zinc	mg/kg	42	100	81	81	83

Acid Extractable metals in soil						
Our Reference		289658-77	289658-78	289658-80	289658-81	289658-83
Your Reference	UNITS	TP52	TP45	TP45	TP56	TP56
Depth		0.2-0.4	0-0.1	0.6-0.8	0-0.1	0.4-0.6
Date Sampled		22/02/2022	23/02/2022	23/02/2022	23/02/2022	23/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
Date analysed	-	28/02/2022	28/02/2022	28/02/2022	28/02/2022	28/02/2022
Arsenic	mg/kg	5	11	<4	6	<4
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	17	15	16	17	22
Copper	mg/kg	9	43	30	23	35
Lead	mg/kg	15	400	21	250	14
Mercury	mg/kg	<0.1	0.4	<0.1	0.2	<0.1
Nickel	mg/kg	4	15	8	15	7
Zinc	mg/kg	14	260	42	850	42

Acid Extractable metals in soil						
Our Reference		289658-84	289658-87	289658-89	289658-91	289658-104
Your Reference	UNITS	TP57	TP76	TP76	SDUP10	SDUP6
Depth		0-0.1	0-0.1	0.4-0.6	-	-
Date Sampled		23/02/2022	23/02/2022	23/02/2022	22/02/2022	21/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
Date analysed	-	28/02/2022	28/02/2022	28/02/2022	28/02/2022	28/02/2022
Arsenic	mg/kg	6	5	4	<4	<4
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	18	19	17	180	10
Copper	mg/kg	22	18	33	17	41
Lead	mg/kg	52	28	21	23	190
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	10	11	4	5	12
Zinc	mg/kg	52	38	29	58	120

Acid Extractable metals in soil				
Our Reference		289658-106	289658-107	289658-108
Your Reference	UNITS	SDUP8	TP17 - [TRIPLICATE]	TP38 - [TRIPLICATE]
Depth		-	0-0.1	0-0.1
Date Sampled		22/02/2022	22/02/2022	22/02/2022
Type of sample		Soil	Soil	Soil
Date prepared	-	25/02/2022	25/02/2022	25/02/2022
Date analysed	-	28/02/2022	28/02/2022	28/02/2022
Arsenic	mg/kg	<4	<4	<4
Cadmium	mg/kg	<0.4	<0.4	0.6
Chromium	mg/kg	5	14	25
Copper	mg/kg	12	51	97
Lead	mg/kg	53	210	950
Mercury	mg/kg	<0.1	<0.1	0.2
Nickel	mg/kg	7	5	14
Zinc	mg/kg	79	110	970

Moisture						
Our Reference		289658-1	289658-3	289658-5	289658-7	289658-8
Your Reference	UNITS	TP3	TP3	TP4	TP4	TP4
Depth		0-0.1	0.5-0.7	0-0.1	0.3-0.5	0.65-0.85
Date Sampled		21/02/2022	21/02/2022	21/02/2022	21/02/2022	21/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
Date analysed	-	28/02/2022	28/02/2022	28/02/2022	28/02/2022	28/02/2022
Moisture	%	20	20	18	17	13

Moisture						
Our Reference		289658-10	289658-12	289658-13	289658-15	289658-17
Your Reference	UNITS	TP13	TP13	TP14	TP14	TP15
Depth		0-0.1	0.4-0.6	0-0.1	0.6-0.8	0.3-0.5
Date Sampled		21/02/2022	21/02/2022	21/02/2022	21/02/2022	21/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
Date analysed	-	28/02/2022	28/02/2022	28/02/2022	28/02/2022	28/02/2022
Moisture	%	16	20	13	12	21

Moisture						
Our Reference		289658-18	289658-20	289658-21	289658-23	289658-25
Your Reference	UNITS	TP15	TP16	TP16	TP17	TP17
Depth		0.7-0.9	0.2-0.5	0.5-0.7	0-0.1	0.5-0.7
Date Sampled		21/02/2022	21/02/2022	21/02/2022	22/02/2022	22/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
Date analysed	-	28/02/2022	28/02/2022	28/02/2022	28/02/2022	28/02/2022
Moisture	%	18	17	9.3	7.4	12

Moisture						
Our Reference		289658-27	289658-28	289658-29	289658-30	289658-32
Your Reference	UNITS	TP18	TP18	TP18	TP34	TP34
Depth		0-0.1	0.3-0.5	0.75-0.95	0-0.1	0.7-0.9
Date Sampled		22/02/2022	22/02/2022	22/02/2022	21/02/2022	21/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
Date analysed	-	28/02/2022	28/02/2022	28/02/2022	28/02/2022	28/02/2022
Moisture	%	13	11	15	12	21

Moisture						
Our Reference		289658-34	289658-37	289658-38	289658-40	289658-42
Your Reference	UNITS	TP35	TP36	TP36	TP38	TP38
Depth		0-0.1	0-0.1	0.2-0.4	0-0.1	0.6-0.8
Date Sampled		21/02/2022	22/02/2022	22/02/2022	22/02/2022	22/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
Date analysed	-	28/02/2022	28/02/2022	28/02/2022	28/02/2022	28/02/2022
Moisture	%	10	7.7	2.7	15	15

Moisture						
Our Reference		289658-45	289658-46	289658-48	289658-50	289658-51
Your Reference	UNITS	TP39	TP39	TP39	TP40	TP40
Depth		0-0.1	0.2-0.4	1.0-1.2	0-0.1	0.2-0.4
Date Sampled		22/02/2022	22/02/2022	22/02/2022	22/02/2022	22/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
Date analysed	-	28/02/2022	28/02/2022	28/02/2022	28/02/2022	28/02/2022
Moisture	%	8.9	9.0	9.5	6.7	11

Moisture						
Our Reference		289658-52	289658-54	289658-55	289658-56	289658-58
Your Reference	UNITS	TP40	TP40	TP47	TP47	TP48
Depth		0.5-0.7	1.6-1.8	0-0.1	0.2-0.4	0-0.1
Date Sampled		22/02/2022	22/02/2022	22/02/2022	22/02/2022	22/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
Date analysed	-	28/02/2022	28/02/2022	28/02/2022	28/02/2022	28/02/2022
Moisture	%	15	13	18	18	18

Moisture						
Our Reference		289658-60	289658-63	289658-64	289658-66	289658-68
Your Reference	UNITS	TP48	TP49	TP49	TP49	TP50
Depth		1.0-1.2	0.1-0.3	0.4-0.6	1.5-1.7	0-0.1
Date Sampled		22/02/2022	22/02/2022	22/02/2022	22/02/2022	22/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
Date analysed	-	28/02/2022	28/02/2022	28/02/2022	28/02/2022	28/02/2022
Moisture	%	11	7.6	10	29	20

Moisture						
Our Reference		289658-69	289658-72	289658-73	289658-74	289658-76
Your Reference	UNITS	TP50	TP51	TP51	TP51	TP52
Depth		0.2-0.4	0-0.1	0.1-0.3	0.6-0.8	0-0.1
Date Sampled		22/02/2022	22/02/2022	22/02/2022	22/02/2022	22/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
Date analysed	-	28/02/2022	28/02/2022	28/02/2022	28/02/2022	28/02/2022
Moisture	%	20	24	13	17	20

Moisture						
Our Reference		289658-77	289658-78	289658-80	289658-81	289658-83
Your Reference	UNITS	TP52	TP45	TP45	TP56	TP56
Depth		0.2-0.4	0-0.1	0.6-0.8	0-0.1	0.4-0.6
Date Sampled		22/02/2022	23/02/2022	23/02/2022	23/02/2022	23/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
Date analysed	-	28/02/2022	28/02/2022	28/02/2022	28/02/2022	28/02/2022
Moisture	%	11	25	23	30	24

Moisture						
Our Reference		289658-84	289658-87	289658-89	289658-91	289658-104
Your Reference	UNITS	TP57	TP76	TP76	SDUP10	SDUP6
Depth		0-0.1	0-0.1	0.4-0.6	-	-
Date Sampled		23/02/2022	23/02/2022	23/02/2022	22/02/2022	21/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
Date analysed	-	28/02/2022	28/02/2022	28/02/2022	28/02/2022	28/02/2022
Moisture	%	27	24	20	9.6	21

Moisture		
Our Reference		289658-106
Your Reference	UNITS	SDUP8
Depth		-
Date Sampled		22/02/2022
Type of sample		Soil
Date prepared	-	25/02/2022
Date analysed	-	28/02/2022
Moisture	%	1.1

Asbestos ID - soils NEPM - ASB-001						
Our Reference		289658-1	289658-3	289658-5	289658-10	289658-13
Your Reference	UNITS	TP3	TP3	TP4	TP13	TP14
Depth		0-0.1	0.5-0.7	0-0.1	0-0.1	0-0.1
Date Sampled		21/02/2022	21/02/2022	21/02/2022	21/02/2022	21/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date analysed	-	01-03/03/2022	01-03/03/2022	01-03/03/2022	01-03/03/2022	01-03/03/2022
Sample mass tested	g	506.2	821.42	593.91	696.77	796.26
Sample Description	-	Brown fine-grained soil & rocks	Brown fine-grained soil & rocks	Brown fine-grained soil & rocks	Brown fine-grained soil & rocks	Brown fine-grained soil & rocks
Asbestos ID in soil (AS4964) >0.1g/kg	-	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected
Trace Analysis	-	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected
Total Asbestos[#1]	g/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Asbestos ID in soil <0.1g/kg*	-	No visible asbestos detected	No visible asbestos detected	No visible asbestos detected	No visible asbestos detected	No visible asbestos detected
ACM >7mm Estimation*	g	–	–	–	–	–
FA and AF Estimation*	g	–	–	–	–	–
ACM >7mm Estimation*	%(w/w)	<0.01	<0.01	<0.01	<0.01	<0.01
FA and AF Estimation*#2	%(w/w)	<0.001	<0.001	<0.001	<0.001	<0.001

Asbestos ID - soils NEPM - ASB-001						
Our Reference		289658-17	289658-19	289658-20	289658-21	289658-23
Your Reference	UNITS	TP15	TP16	TP16	TP16	TP17
Depth		0.3-0.5	0-0.1	0.2-0.5	0.5-0.7	0-0.1
Date Sampled		21/02/2022	21/02/2022	21/02/2022	21/02/2022	22/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date analysed	-	01-03/03/2022	01-03/03/2022	01-03/03/2022	01-03/03/2022	01-03/03/2022
Sample mass tested	g	619.24	457.1	636.3	831.43	837.61
Sample Description	-	Brown fine-grained soil & rocks	Brown fine-grained soil & rocks	Brown fine-grained soil & rocks	Brown fine-grained soil & rocks	Brown fine-grained soil & rocks
Asbestos ID in soil (AS4964) >0.1g/kg	-	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected
Trace Analysis	-	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected
Total Asbestos[#1]	g/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Asbestos ID in soil <0.1g/kg*	-	No visible asbestos detected	No visible asbestos detected	No visible asbestos detected	No visible asbestos detected	No visible asbestos detected
ACM >7mm Estimation*	g	–	–	–	–	–
FA and AF Estimation*	g	–	–	–	–	–
ACM >7mm Estimation*	%(w/w)	<0.01	<0.01	<0.01	<0.01	<0.01
FA and AF Estimation*#2	%(w/w)	<0.001	<0.001	<0.001	<0.001	<0.001

Asbestos ID - soils NEPM - ASB-001						
Our Reference		289658-25	289658-27	289658-28	289658-30	289658-34
Your Reference	UNITS	TP17	TP18	TP18	TP34	TP35
Depth		0.5-0.7	0-0.1	0.3-0.5	0-0.1	0-0.1
Date Sampled		22/02/2022	22/02/2022	22/02/2022	21/02/2022	21/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date analysed	-	01-03/03/2022	01-03/03/2022	01-03/03/2022	01-03/03/2022	01-03/03/2022
Sample mass tested	g	756.26	668.02	794.27	772.49	833.38
Sample Description	-	Brown fine-grained soil & rocks	Brown fine-grained soil & rocks	Brown fine-grained soil & rocks	Brown fine-grained soil & rocks	Brown fine-grained soil & rocks
Asbestos ID in soil (AS4964) >0.1g/kg	-	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	Chrysotile asbestos detected Organic fibres detected	Chrysotile asbestos detected Amosite asbestos detected Crocidolite asbestos detected Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected
Trace Analysis	-	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected
Total Asbestos[#1]	g/kg	<0.1	<0.1	0.1147	0.2947	<0.1
Asbestos ID in soil <0.1g/kg*	-	No visible asbestos detected	No visible asbestos detected	See Above	See Above	No visible asbestos detected
ACM >7mm Estimation*	g	–	–	–	0.2276	–
FA and AF Estimation*	g	–	–	0.0911	–	–
ACM >7mm Estimation*	%(w/w)	<0.01	<0.01	<0.01	0.0295	<0.01
FA and AF Estimation*#2	%(w/w)	<0.001	<0.001	0.0115	<0.001	<0.001

Asbestos ID - soils NEPM - ASB-001						
Our Reference		289658-37	289658-38	289658-40	289658-42	289658-45
Your Reference	UNITS	TP36	TP36	TP38	TP38	TP39
Depth		0-0.1	0.2-0.4	0-0.1	0.6-0.8	0-0.1
Date Sampled		22/02/2022	22/02/2022	22/02/2022	22/02/2022	22/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date analysed	-	01-03/03/2022	01-03/03/2022	01-03/03/2022	01-03/03/2022	01-03/03/2022
Sample mass tested	g	810.54	470.14	580.71	555.45	536.07
Sample Description	-	Brown fine-grained soil & rocks	Beige fine-grained soil & rocks	Brown fine-grained soil & rocks	Brown fine-grained soil & rocks	Brown fine-grained soil & rocks
Asbestos ID in soil (AS4964) >0.1g/kg	-	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected
Trace Analysis	-	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected
Total Asbestos[#1]	g/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Asbestos ID in soil <0.1g/kg*	-	No visible asbestos detected	No visible asbestos detected	No visible asbestos detected	No visible asbestos detected	No visible asbestos detected
ACM >7mm Estimation*	g	–	–	–	–	–
FA and AF Estimation*	g	–	–	–	–	–
ACM >7mm Estimation*	%(w/w)	<0.01	<0.01	<0.01	<0.01	<0.01
FA and AF Estimation*#2	%(w/w)	<0.001	<0.001	<0.001	<0.001	<0.001

Asbestos ID - soils NEPM - ASB-001						
Our Reference		289658-46	289658-48	289658-50	289658-51	289658-52
Your Reference	UNITS	TP39	TP39	TP40	TP40	TP40
Depth		0.2-0.4	1.0-1.2	0-0.1	0.2-0.4	0.5-0.7
Date Sampled		22/02/2022	22/02/2022	22/02/2022	22/02/2022	22/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date analysed	-	01-03/03/2022	01-03/03/2022	01-03/03/2022	01-03/03/2022	01-03/03/2022
Sample mass tested	g	483.06	767.49	798.21	600.7	662.21
Sample Description	-	Brown fine-grained soil & rocks	Brown fine-grained soil & rocks	Brown fine-grained soil & rocks	Brown fine-grained soil & rocks	Brown fine-grained soil & rocks
Asbestos ID in soil (AS4964) >0.1g/kg	-	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected
Trace Analysis	-	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected
Total Asbestos[#1]	g/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Asbestos ID in soil <0.1g/kg*	-	No visible asbestos detected	No visible asbestos detected	No visible asbestos detected	No visible asbestos detected	No visible asbestos detected
ACM >7mm Estimation*	g	–	–	–	–	–
FA and AF Estimation*	g	–	–	–	–	–
ACM >7mm Estimation*	%(w/w)	<0.01	<0.01	<0.01	<0.01	<0.01
FA and AF Estimation*#2	%(w/w)	<0.001	<0.001	<0.001	<0.001	<0.001

Asbestos ID - soils NEPM - ASB-001						
Our Reference		289658-55	289658-56	289658-58	289658-60	289658-62
Your Reference	UNITS	TP47	TP47	TP48	TP48	TP49
Depth		0-0.1	0.2-0.4	0-0.1	1.0-1.2	0-0.1
Date Sampled		22/02/2022	22/02/2022	22/02/2022	22/02/2022	22/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date analysed	-	01-03/03/2022	01-03/03/2022	01-03/03/2022	01-03/03/2022	01-03/03/2022
Sample mass tested	g	730.17	722.63	573.72	521.5	432.97
Sample Description	-	Brown fine-grained soil & rocks	Brown fine-grained soil & rocks	Brown fine-grained soil & rocks	Brown fine-grained soil & rocks	Brown fine-grained soil & rocks
Asbestos ID in soil (AS4964) >0.1g/kg	-	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	Chrysotile asbestos detected Organic fibres detected
Trace Analysis	-	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected
Total Asbestos#1	g/kg	<0.1	<0.1	<0.1	<0.1	4.8525
Asbestos ID in soil <0.1g/kg*	-	No visible asbestos detected	No visible asbestos detected	No visible asbestos detected	No visible asbestos detected	See Above
ACM >7mm Estimation*	g	–	–	–	–	2.1010
FA and AF Estimation*	g	–	–	–	–	–
ACM >7mm Estimation*	%(w/w)	<0.01	<0.01	<0.01	<0.01	0.4852
FA and AF Estimation*#2	%(w/w)	<0.001	<0.001	<0.001	<0.001	<0.001

Asbestos ID - soils NEPM - ASB-001						
Our Reference		289658-64	289658-68	289658-69	289658-72	289658-73
Your Reference	UNITS	TP49	TP50	TP50	TP51	TP51
Depth		0.4-0.6	0-0.1	0.2-0.4	0-0.1	0.1-0.3
Date Sampled		22/02/2022	22/02/2022	22/02/2022	22/02/2022	22/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date analysed	-	01-03/03/2022	01-03/03/2022	01-03/03/2022	01-03/03/2022	01-03/03/2022
Sample mass tested	g	651.43	588.19	588.89	520.34	644.87
Sample Description	-	Brown fine-grained soil & rocks	Brown fine-grained soil & rocks	Brown fine-grained soil & rocks	Brown fine-grained soil & rocks	Brown fine-grained soil & rocks
Asbestos ID in soil (AS4964) >0.1g/kg	-	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected
Trace Analysis	-	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected
Total Asbestos[#1]	g/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Asbestos ID in soil <0.1g/kg*	-	No visible asbestos detected	No visible asbestos detected	Chrysotile	No visible asbestos detected	No visible asbestos detected
ACM >7mm Estimation*	g	–	–	–	–	–
FA and AF Estimation*	g	–	–	0.0001	–	–
ACM >7mm Estimation*	%(w/w)	<0.01	<0.01	<0.01	<0.01	<0.01
FA and AF Estimation*#2	%(w/w)	<0.001	<0.001	<0.001	<0.001	<0.001

Asbestos ID - soils NEPM - ASB-001						
Our Reference		289658-74	289658-76	289658-78	289658-81	289658-84
Your Reference	UNITS	TP51	TP52	TP45	TP56	TP57
Depth		0.6-0.8	0-0.1	0-0.1	0-0.1	0-0.1
Date Sampled		22/02/2022	22/02/2022	23/02/2022	23/02/2022	23/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date analysed	-	01-03/03/2022	01-03/03/2022	01-03/03/2022	01-03/03/2022	01-03/03/2022
Sample mass tested	g	600.89	635.84	564.43	520.57	411.54
Sample Description	-	Brown fine-grained soil & rocks	Brown fine-grained soil & rocks	Brown fine-grained soil & rocks	Brown fine-grained soil & rocks	Brown fine-grained soil & rocks
Asbestos ID in soil (AS4964) >0.1g/kg	-	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected
Trace Analysis	-	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected
Total Asbestos[#1]	g/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Asbestos ID in soil <0.1g/kg*	-	No visible asbestos detected	No visible asbestos detected	No visible asbestos detected	No visible asbestos detected	No visible asbestos detected
ACM >7mm Estimation*	g	–	–	–	–	–
FA and AF Estimation*	g	–	–	–	–	–
ACM >7mm Estimation*	%(w/w)	<0.01	<0.01	<0.01	<0.01	<0.01
FA and AF Estimation*#2	%(w/w)	<0.001	<0.001	<0.001	<0.001	<0.001

Asbestos ID - soils NEPM - ASB-001				
Our Reference		289658-87	289658-91	289658-104
Your Reference	UNITS	TP76	SDUP10	SDUP6
Depth		0-0.1	-	-
Date Sampled		23/02/2022	22/02/2022	21/02/2022
Type of sample		Soil	Soil	Soil
Date analysed	-	01-03/03/2022	01-03/03/2022	01-03/03/2022
Sample mass tested	g	458.71	714.66	603.54
Sample Description	-	Brown fine-grained soil & rocks	Brown fine-grained soil & rocks	Brown fine-grained soil & rocks
Asbestos ID in soil (AS4964) >0.1g/kg	-	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected
Trace Analysis	-	No asbestos detected	No asbestos detected	No asbestos detected
Total Asbestos#1	g/kg	<0.1	<0.1	<0.1
Asbestos ID in soil <0.1g/kg*	-	No visible asbestos detected	No visible asbestos detected	No visible asbestos detected
ACM >7mm Estimation*	g	–	–	–
FA and AF Estimation*	g	–	–	–
ACM >7mm Estimation*	%(w/w)	<0.01	<0.01	<0.01
FA and AF Estimation*#2	%(w/w)	<0.001	<0.001	<0.001

Misc Soil - Inorg					
Our Reference		289658-50	289658-51	289658-76	289658-91
Your Reference	UNITS	TP40	TP40	TP52	SDUP10
Depth		0-0.1	0.2-0.4	0-0.1	-
Date Sampled		22/02/2022	22/02/2022	22/02/2022	22/02/2022
Type of sample		Soil	Soil	Soil	Soil
Date prepared	-	25/02/2022	25/02/2022	25/02/2022	25/02/2022
Date analysed	-	25/02/2022	25/02/2022	25/02/2022	25/02/2022
Total Phenolics (as Phenol)	mg/kg	<5	<5	<5	<5

PFAS in Soils Extended						
Our Reference		289658-23	289658-25	289658-45	289658-50	289658-51
Your Reference	UNITS	TP17	TP17	TP39	TP40	TP40
Depth		0-0.1	0.5-0.7	0-0.1	0-0.1	0.2-0.4
Date Sampled		22/02/2022	22/02/2022	22/02/2022	22/02/2022	22/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
Date analysed	-	25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
Perfluorobutanesulfonic acid	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluoropentanesulfonic acid	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorohexanesulfonic acid - PFHxS	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluoroheptanesulfonic acid	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorooctanesulfonic acid PFOS	µg/kg	<0.1	0.4	0.1	<0.1	0.3
Perfluorodecanesulfonic acid	µg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Perfluorobutanoic acid	µg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Perfluoropentanoic acid	µg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Perfluorohexanoic acid	µg/kg	<0.1	0.1	<0.1	<0.1	<0.1
Perfluoroheptanoic acid	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorooctanoic acid PFOA	µg/kg	<0.1	0.2	<0.1	<0.1	0.1
Perfluorononanoic acid	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorodecanoic acid	µg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Perfluoroundecanoic acid	µg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Perfluorododecanoic acid	µg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Perfluorotridecanoic acid	µg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Perfluorotetradecanoic acid	µg/kg	<5	<5	<5	<5	<5
4:2 FTS	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
6:2 FTS	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
8:2 FTS	µg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
10:2 FTS	µg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Perfluorooctane sulfonamide	µg/kg	<1	<1	<1	<1	<1
N-Methyl perfluorooctane sulfonamide	µg/kg	<1	<1	<1	<1	<1
N-Ethyl perfluorooctanesulfon amide	µg/kg	<1	<1	<1	<1	<1
N-Me perfluorooctanesulfonamid oethanol	µg/kg	<1	<1	<1	<1	<1
N-Et perfluorooctanesulfonamid oethanol	µg/kg	<5	<5	<5	<5	<5
MePerfluorooctanesulf- amid oacetic acid	µg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
EtPerfluorooctanesulf amid oacetic acid	µg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Surrogate $^{13}C_8$ *PFOS*	%	97	103	101	101	102
Surrogate $^{13}C_2$ *PFOA*	%	105	109	106	103	103
Extracted ISTD $^{13}C_3$ *PFBS*	%	97	95	95	98	95
Extracted ISTD $^{18}O_2$ *PFHxS*	%	96	91	95	98	92
Extracted ISTD $^{13}C_4$ *PFOS*	%	95	91	94	94	87

PFAS in Soils Extended						
Our Reference		289658-23	289658-25	289658-45	289658-50	289658-51
Your Reference	UNITS	TP17	TP17	TP39	TP40	TP40
Depth		0-0.1	0.5-0.7	0-0.1	0-0.1	0.2-0.4
Date Sampled		22/02/2022	22/02/2022	22/02/2022	22/02/2022	22/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Extracted ISTD $^{13}C_4$ *PFBA*	%	103	101	100	101	99
Extracted ISTD $^{13}C_3$ *PFPeA*	%	105	100	99	101	100
Extracted ISTD $^{13}C_2$ *PFHxA*	%	100	95	95	103	92
Extracted ISTD $^{13}C_4$ *PFHpA*	%	98	96	98	102	96
Extracted ISTD $^{13}C_4$ *PFOA*	%	93	90	93	94	91
Extracted ISTD $^{13}C_5$ *PFNA*	%	99	106	104	101	96
Extracted ISTD $^{13}C_2$ *PFDA*	%	114	119	121	120	115
Extracted ISTD $^{13}C_2$ *PFUnDA*	%	91	105	95	75	100
Extracted ISTD $^{13}C_2$ *PFDoDA*	%	115	138	124	103	113
Extracted ISTD $^{13}C_2$ *PFTeDA*	%	103	107	100	112	101
Extracted ISTD $^{13}C_2$ *4:2FTS*	%	108	109	116	108	102
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	99	111	129	103	100
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	138	96	93	140	133
Extracted ISTD $^{13}C_8$ *FOSA*	%	102	100	97	99	99
Extracted ISTD d_3 *N MeFOSA*	%	94	93	90	92	94
Extracted ISTD d_5 *N EtFOSA*	%	101	100	98	99	100
Extracted ISTD d_7 *N MeFOSE*	%	88	93	94	93	91
Extracted ISTD d_9 *N EtFOSE*	%	99	101	103	102	104
Extracted ISTD d_3 *N MeFOSAA*	%	112	129	135	111	109
Extracted ISTD d_5 *N EtFOSAA*	%	105	123	110	92	115
Total Positive PFHxS & PFOS	µg/kg	<0.1	0.4	0.1	<0.1	0.3
Total Positive PFOS & PFOA	µg/kg	<0.1	0.6	0.1	<0.1	0.4
Total Positive PFAS	µg/kg	<0.1	0.7	0.1	<0.1	0.4

PFAS in Soils Extended				
Our Reference		289658-76	289658-91	289658-103
Your Reference	UNITS	TP52	SDUP10	TB-S2
Depth		0-0.1	-	-
Date Sampled		22/02/2022	22/02/2022	23/02/2022
Type of sample		Soil	Soil	Soil
Date prepared	-	25/02/2022	25/02/2022	25/02/2022
Date analysed	-	25/02/2022	25/02/2022	25/02/2022
Perfluorobutanesulfonic acid	µg/kg	<0.1	<0.1	<0.1
Perfluoropentanesulfonic acid	µg/kg	<0.1	<0.1	<0.1
Perfluorohexanesulfonic acid - PFHxS	µg/kg	<0.1	<0.1	<0.1
Perfluoroheptanesulfonic acid	µg/kg	<0.1	<0.1	<0.1
Perfluorooctanesulfonic acid PFOS	µg/kg	0.1	<0.1	<0.1
Perfluorodecanesulfonic acid	µg/kg	<0.2	<0.2	<0.2
Perfluorobutanoic acid	µg/kg	<0.2	<0.2	<0.2
Perfluoropentanoic acid	µg/kg	<0.2	<0.2	<0.2
Perfluorohexanoic acid	µg/kg	<0.1	<0.1	<0.1
Perfluoroheptanoic acid	µg/kg	<0.1	<0.1	<0.1
Perfluorooctanoic acid PFOA	µg/kg	<0.1	<0.1	<0.1
Perfluorononanoic acid	µg/kg	<0.1	<0.1	<0.1
Perfluorodecanoic acid	µg/kg	<0.5	<0.5	<0.5
Perfluoroundecanoic acid	µg/kg	<0.5	<0.5	<0.5
Perfluorododecanoic acid	µg/kg	<0.5	<0.5	<0.5
Perfluorotridecanoic acid	µg/kg	<0.5	<0.5	<0.5
Perfluorotetradecanoic acid	µg/kg	<5	<5	<5
4:2 FTS	µg/kg	<0.1	<0.1	<0.1
6:2 FTS	µg/kg	<0.1	<0.1	<0.1
8:2 FTS	µg/kg	<0.2	<0.2	<0.2
10:2 FTS	µg/kg	<0.2	<0.2	<0.2
Perfluorooctane sulfonamide	µg/kg	<1	<1	<1
N-Methyl perfluorooctane sulfonamide	µg/kg	<1	<1	<1
N-Ethyl perfluorooctanesulfon amide	µg/kg	<1	<1	<1
N-Me perfluorooctanesulfonamid oethanol	µg/kg	<1	<1	<1
N-Et perfluorooctanesulfonamid oethanol	µg/kg	<5	<5	<5
MePerfluorooctanesulf- amid oacetic acid	µg/kg	<0.2	<0.2	<0.2
EtPerfluorooctanesulf amid oacetic acid	µg/kg	<0.2	<0.2	<0.2
Surrogate $^{13}C_8$ *PFOS*	%	102	98	99
Surrogate $^{13}C_2$ *PFOA*	%	104	105	105
Extracted ISTD $^{13}C_3$ *PFBS*	%	95	98	102
Extracted ISTD $^{18}O_2$ *PFHxS*	%	93	98	100
Extracted ISTD $^{13}C_4$ *PFOS*	%	91	96	100

PFAS in Soils Extended				
Our Reference		289658-76	289658-91	289658-103
Your Reference	UNITS	TP52	SDUP10	TB-S2
Depth		0-0.1	-	-
Date Sampled		22/02/2022	22/02/2022	23/02/2022
Type of sample		Soil	Soil	Soil
Extracted ISTD $^{13}C_4$ *PFBA*	%	98	102	105
Extracted ISTD $^{13}C_3$ *PFPeA*	%	102	101	107
Extracted ISTD $^{13}C_2$ *PFHxA*	%	92	100	101
Extracted ISTD $^{13}C_4$ *PFHpA*	%	98	98	106
Extracted ISTD $^{13}C_4$ *PFOA*	%	90	98	99
Extracted ISTD $^{13}C_5$ *PFNA*	%	96	99	104
Extracted ISTD $^{13}C_2$ *PFDA*	%	118	113	115
Extracted ISTD $^{13}C_2$ *PFUnDA*	%	59	92	107
Extracted ISTD $^{13}C_2$ *PFDoDA*	%	90	105	105
Extracted ISTD $^{13}C_2$ *PFTeDA*	%	98	105	108
Extracted ISTD $^{13}C_2$ *4:2FTS*	%	113	109	110
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	109	102	103
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	139	138	138
Extracted ISTD $^{13}C_8$ *FOSA*	%	93	102	109
Extracted ISTD d_3 *N MeFOSA*	%	87	97	98
Extracted ISTD d_5 *N EtFOSA*	%	94	104	106
Extracted ISTD d_7 *N MeFOSE*	%	82	97	100
Extracted ISTD d_9 *N EtFOSE*	%	95	104	109
Extracted ISTD d_3 *N MeFOSAA*	%	104	113	112
Extracted ISTD d_5 *N EtFOSAA*	%	74	105	116
Total Positive PFHxS & PFOS	µg/kg	0.1	<0.1	<0.1
Total Positive PFOS & PFOA	µg/kg	0.1	<0.1	<0.1
Total Positive PFAS	µg/kg	0.1	<0.1	<0.1

Asbestos ID - materials						
Our Reference		289658-96	289658-97	289658-98	289658-99	289658-100
Your Reference	UNITS	FCF1 - Surface	FCF2 - Surface	FCF3 - Surface	FCF4 - Surface	FCF5 - Surface
Depth		-	-	-	-	-
Date Sampled		18/02/2022	18/02/2022	18/02/2022	18/02/2022	22/02/2022
Type of sample		Material	Material	Material	Material	Material
Date analysed	-	25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
Mass / Dimension of Sample	-	7.88g	128.25g	28.81g	6.97g	57.94g
Sample Description	-	Grey fibre cement material	Grey fibre cement material	Grey fibre cement material	Grey fibre cement material	Grey fibre cement material
Asbestos ID in materials	-	Chrysotile asbestos detected	Chrysotile asbestos detected	Chrysotile asbestos detected	Chrysotile asbestos detected	Chrysotile asbestos detected
Trace Analysis	-	[NT]	[NT]	[NT]	[NT]	[NT]

Asbestos ID - materials		
Our Reference		289658-101
Your Reference	UNITS	TP50-FCF1
Depth		-
Date Sampled		22/02/2022
Type of sample		Material
Date analysed	-	25/02/2022
Mass / Dimension of Sample	-	29.44g
Sample Description	-	Grey fibre cement material
Asbestos ID in materials	-	Chrysotile asbestos detected Amosite asbestos detected
Trace Analysis	-	[NT]

Method ID	Methodology Summary
ASB-001	Asbestos ID - Qualitative identification of asbestos in bulk samples using Polarised Light Microscopy and Dispersion Staining Techniques including Synthetic Mineral Fibre and Organic Fibre as per Australian Standard 4964-2004.
ASB-001	Asbestos ID - Identification of asbestos in soil samples using Polarised Light Microscopy and Dispersion Staining Techniques. Minimum 500mL soil sample was analysed as recommended by "National Environment Protection (Assessment of site contamination) Measure, Schedule B1 and "The Guidelines from the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia - May 2009" with a reporting limit of 0.1g/kg (0.01% w/w) as per Australian Standard AS4964-2004. Results reported denoted with * are outside our scope of NATA accreditation. **NOTE** #1 Total Asbestos g/kg was analysed and reported as per Australian Standard AS4964 (This is the sum of ACM >7mm, <7mm and FA/AF) **NOTE** #2 The screening level of 0.001% w/w asbestos in soil for FA and AF only applies where the FA and AF are able to be quantified by gravimetric procedures. This screening level is not applicable to free fibres. Estimation = Estimated asbestos weight Results reported with "--" is equivalent to no visible asbestos identified using Polarised Light microscopy and Dispersion Staining Techniques.
Inorg-008	Moisture content determined by heating at 105+/-5 °C for a minimum of 12 hours.
Inorg-031	Total Phenolics by segmented flow analyser (in line distillation with colourimetric finish). Solids are extracted in a caustic media prior to analysis.
Metals-020	Determination of various metals by ICP-AES.
Metals-021	Determination of Mercury by Cold Vapour AAS.
Org-020	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis.

Method ID	Methodology Summary
Org-020	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis. Note, the Total +ve TRH PQL is reflective of the lowest individual PQL and is therefore "Total +ve TRH" is simply a sum of the positive individual TRH fractions (>C10-C40).
Org-021	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-ECD.
Org-021	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-ECD. Note, the Total +ve PCBs PQL is reflective of the lowest individual PQL and is therefore" Total +ve PCBs" is simply a sum of the positive individual PCBs.
Org-022	Determination of VOCs sampled onto coconut shell charcoal sorbent tubes, that can be desorbed using carbon disulphide, and analysed by GC-MS.
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS/GC-MSMS.
Org-022/025	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-MS/GC-MSMS. Note, the Total +ve reported DDD+DDE+DDT PQL is reflective of the lowest individual PQL and is therefore simply a sum of the positive individually report DDD+DDE+DDT.
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS and/or GC-MS/MS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013. For soil results:- 1. 'EQ PQL'values are assuming all contributing PAHs reported as <PQL are actually at the PQL. This is the most conservative approach and can give false positive TEQs given that PAHs that contribute to the TEQ calculation may not be present. 2. 'EQ zero'values are assuming all contributing PAHs reported as <PQL are zero. This is the least conservative approach and is more susceptible to false negative TEQs when PAHs that contribute to the TEQ calculation are present but below PQL. 3. 'EQ half PQL'values are assuming all contributing PAHs reported as <PQL are half the stipulated PQL. Hence a mid-point between the most and least conservative approaches above. Note, the Total +ve PAHs PQL is reflective of the lowest individual PQL and is therefore "Total +ve PAHs" is simply a sum of the positive individual PAHs.
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS.
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater. Note, the Total +ve Xylene PQL is reflective of the lowest individual PQL and is therefore "Total +ve Xylenes" is simply a sum of the positive individual Xylenes.

Method ID	Methodology Summary
Org-029	Soil samples are extracted with basified Methanol. Waters and soil extracts are directly injected and/or concentrated/extracted using SPE. TCLPs/ASLP leachates are centrifuged, the supernatant is then analysed (including amendment with solvent) - as per the option in AS4439.3. Analysis is undertaken with LC-MS/MS. PFAS results include the sum of branched and linear isomers where applicable. Please note that PFAS results are corrected for Extracted Internal Standards (QSM 5.3 Table B-15 terminology), which are mass labelled analytes added prior to sample preparation to assess matrix effects and verify processing of the sample. PFAS analytes without a commercially available mass labelled analogue are corrected vs a closely eluting mass labelled PFAS compound. Surrogates are also reported, in this context they are mass labelled PFAS compounds added prior to extraction but are used as monitoring compounds only (not used for result correction). Envicarb (or similar) is used discretionally to remove interfering matrix components. Please contact the laboratory if estimates of Measurement Uncertainty are required as per WA DER.

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-5	289658-12
Date extracted	-			25/02/2022	1	25/02/2022	25/02/2022		25/02/2022	25/02/2022
Date analysed	-			25/02/2022	1	25/02/2022	25/02/2022		25/02/2022	25/02/2022
TRH C_6 - C_9	mg/kg	25	Org-023	<25	1	<25	<25	0	90	103
TRH C_6 - C_{10}	mg/kg	25	Org-023	<25	1	<25	<25	0	90	103
Benzene	mg/kg	0.2	Org-023	<0.2	1	<0.2	<0.2	0	94	105
Toluene	mg/kg	0.5	Org-023	<0.5	1	<0.5	<0.5	0	94	105
Ethylbenzene	mg/kg	1	Org-023	<1	1	<1	<1	0	85	98
m+p-xylene	mg/kg	2	Org-023	<2	1	<2	<2	0	89	104
o-Xylene	mg/kg	1	Org-023	<1	1	<1	<1	0	105	111
Naphthalene	mg/kg	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-023	107	1	101	99	2	103	114

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-6	289658-51
Date extracted	-			[NT]	23	25/02/2022	25/02/2022		25/02/2022	25/02/2022
Date analysed	-			[NT]	23	25/02/2022	25/02/2022		25/02/2022	25/02/2022
TRH C_6 - C_9	mg/kg	25	Org-023	[NT]	23	<25	<25	0	98	99
TRH C_6 - C_{10}	mg/kg	25	Org-023	[NT]	23	<25	<25	0	98	99
Benzene	mg/kg	0.2	Org-023	[NT]	23	<0.2	<0.2	0	102	104
Toluene	mg/kg	0.5	Org-023	[NT]	23	<0.5	<0.5	0	102	102
Ethylbenzene	mg/kg	1	Org-023	[NT]	23	<1	<1	0	93	94
m+p-xylene	mg/kg	2	Org-023	[NT]	23	<2	<2	0	97	97
o-Xylene	mg/kg	1	Org-023	[NT]	23	<1	<1	0	109	108
Naphthalene	mg/kg	1	Org-023	[NT]	23	<1	<1	0	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-023	[NT]	23	106	114	7	110	110

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-7	289658-69
Date extracted	-			[NT]	40	25/02/2022	25/02/2022		25/02/2022	25/02/2022
Date analysed	-			[NT]	40	25/02/2022	25/02/2022		25/02/2022	25/02/2022
TRH C_6 - C_9	mg/kg	25	Org-023	[NT]	40	<25	<25	0	102	98
TRH C_6 - C_{10}	mg/kg	25	Org-023	[NT]	40	<25	<25	0	102	98
Benzene	mg/kg	0.2	Org-023	[NT]	40	<0.2	<0.2	0	107	101
Toluene	mg/kg	0.5	Org-023	[NT]	40	<0.5	<0.5	0	107	102
Ethylbenzene	mg/kg	1	Org-023	[NT]	40	<1	<1	0	96	93
m+p-xylene	mg/kg	2	Org-023	[NT]	40	<2	<2	0	100	97
o-Xylene	mg/kg	1	Org-023	[NT]	40	<1	<1	0	113	108
Naphthalene	mg/kg	1	Org-023	[NT]	40	<1	<1	0	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-023	[NT]	40	91	106	15	112	109

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	48	25/02/2022	25/02/2022		[NT]	[NT]
Date analysed	-			[NT]	48	25/02/2022	25/02/2022		[NT]	[NT]
TRH C_6 - C_9	mg/kg	25	Org-023	[NT]	48	<25	<25	0	[NT]	[NT]
TRH C_6 - C_{10}	mg/kg	25	Org-023	[NT]	48	<25	<25	0	[NT]	[NT]
Benzene	mg/kg	0.2	Org-023	[NT]	48	<0.2	<0.2	0	[NT]	[NT]
Toluene	mg/kg	0.5	Org-023	[NT]	48	<0.5	<0.5	0	[NT]	[NT]
Ethylbenzene	mg/kg	1	Org-023	[NT]	48	<1	<1	0	[NT]	[NT]
m+p-xylene	mg/kg	2	Org-023	[NT]	48	<2	<2	0	[NT]	[NT]
o-Xylene	mg/kg	1	Org-023	[NT]	48	<1	<1	0	[NT]	[NT]
Naphthalene	mg/kg	1	Org-023	[NT]	48	<1	<1	0	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-023	[NT]	48	105	107	2	[NT]	[NT]

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	66	25/02/2022	25/02/2022		[NT]	[NT]
Date analysed	-			[NT]	66	25/02/2022	25/02/2022		[NT]	[NT]
TRH C_6 - C_9	mg/kg	25	Org-023	[NT]	66	<25	<25	0	[NT]	[NT]
TRH C_6 - C_{10}	mg/kg	25	Org-023	[NT]	66	<25	<25	0	[NT]	[NT]
Benzene	mg/kg	0.2	Org-023	[NT]	66	<0.2	<0.2	0	[NT]	[NT]
Toluene	mg/kg	0.5	Org-023	[NT]	66	<0.5	<0.5	0	[NT]	[NT]
Ethylbenzene	mg/kg	1	Org-023	[NT]	66	<1	<1	0	[NT]	[NT]
m+p-xylene	mg/kg	2	Org-023	[NT]	66	<2	<2	0	[NT]	[NT]
o-Xylene	mg/kg	1	Org-023	[NT]	66	<1	<1	0	[NT]	[NT]
Naphthalene	mg/kg	1	Org-023	[NT]	66	<1	<1	0	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-023	[NT]	66	97	105	8	[NT]	[NT]

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	89	25/02/2022	25/02/2022		[NT]	[NT]
Date analysed	-			[NT]	89	25/02/2022	25/02/2022		[NT]	[NT]
TRH C_6 - C_9	mg/kg	25	Org-023	[NT]	89	<25	<25	0	[NT]	[NT]
TRH C_6 - C_{10}	mg/kg	25	Org-023	[NT]	89	<25	<25	0	[NT]	[NT]
Benzene	mg/kg	0.2	Org-023	[NT]	89	<0.2	<0.2	0	[NT]	[NT]
Toluene	mg/kg	0.5	Org-023	[NT]	89	<0.5	<0.5	0	[NT]	[NT]
Ethylbenzene	mg/kg	1	Org-023	[NT]	89	<1	<1	0	[NT]	[NT]
m+p-xylene	mg/kg	2	Org-023	[NT]	89	<2	<2	0	[NT]	[NT]
o-Xylene	mg/kg	1	Org-023	[NT]	89	<1	<1	0	[NT]	[NT]
Naphthalene	mg/kg	1	Org-023	[NT]	89	<1	<1	0	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-023	[NT]	89	99	106	7	[NT]	[NT]

QUALITY CONTROL: svTRH (C10-C40) in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-5	289658-10
Date extracted	-			25/02/2022	1	25/02/2022	25/02/2022		25/02/2022	25/02/2022
Date analysed	-			26/02/2022	1	26/02/2022	26/02/2022		26/02/2022	26/02/2022
TRH C_{10} - C_{14}	mg/kg	50	Org-020	<50	1	<50	<50	0	101	91
TRH C_{15} - C_{28}	mg/kg	100	Org-020	<100	1	100	190	62	103	93
TRH C_{29} - C_{36}	mg/kg	100	Org-020	<100	1	160	220	32	127	94
TRH >C_{10} -C_{16}	mg/kg	50	Org-020	<50	1	<50	<50	0	101	91
TRH >C_{16} -C_{34}	mg/kg	100	Org-020	<100	1	210	330	44	103	93
TRH >C_{34} -C_{40}	mg/kg	100	Org-020	<100	1	130	180	32	127	94
Surrogate o-Terphenyl	%		Org-020	106	1	110	111	1	101	124

QUALITY CONTROL: svTRH (C10-C40) in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-6	289658-51
Date extracted	-			[NT]	23	25/02/2022	25/02/2022		25/02/2022	25/02/2022
Date analysed	-			[NT]	23	26/02/2022	26/02/2022		26/02/2022	26/02/2022
TRH C_{10} - C_{14}	mg/kg	50	Org-020	[NT]	23	<50	<50	0	89	74
TRH C_{15} - C_{28}	mg/kg	100	Org-020	[NT]	23	<100	<100	0	91	93
TRH C_{29} - C_{36}	mg/kg	100	Org-020	[NT]	23	<100	<100	0	109	91
TRH >C_{10} -C_{16}	mg/kg	50	Org-020	[NT]	23	<50	<50	0	89	74
TRH >C_{16} -C_{34}	mg/kg	100	Org-020	[NT]	23	<100	<100	0	91	93
TRH >C_{34} -C_{40}	mg/kg	100	Org-020	[NT]	23	<100	<100	0	109	91
Surrogate o-Terphenyl	%		Org-020	[NT]	23	111	111	0	117	106

QUALITY CONTROL: svTRH (C10-C40) in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-7	289658-69
Date extracted	-			[NT]	40	25/02/2022	25/02/2022		25/02/2022	25/02/2022
Date analysed	-			[NT]	40	26/02/2022	26/02/2022		26/02/2022	26/02/2022
TRH C_{10} - C_{14}	mg/kg	50	Org-020	[NT]	40	<50	<50	0	82	74
TRH C_{15} - C_{28}	mg/kg	100	Org-020	[NT]	40	110	120	9	90	93
TRH C_{29} - C_{36}	mg/kg	100	Org-020	[NT]	40	170	240	34	109	109
TRH >C_{10} -C_{16}	mg/kg	50	Org-020	[NT]	40	<50	<50	0	82	74
TRH >C_{16} -C_{34}	mg/kg	100	Org-020	[NT]	40	230	300	26	90	93
TRH >C_{34} -C_{40}	mg/kg	100	Org-020	[NT]	40	120	150	22	109	109
Surrogate o-Terphenyl	%		Org-020	[NT]	40	116	100	15	105	109

QUALITY CONTROL: svTRH (C10-C40) in Soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	48	25/02/2022	25/02/2022		[NT]	[NT]
Date analysed	-			[NT]	48	26/02/2022	26/02/2022		[NT]	[NT]
TRH C_{10} - C_{14}	mg/kg	50	Org-020	[NT]	48	<50	<50	0	[NT]	[NT]
TRH C_{15} - C_{28}	mg/kg	100	Org-020	[NT]	48	<100	<100	0	[NT]	[NT]
TRH C_{29} - C_{36}	mg/kg	100	Org-020	[NT]	48	<100	<100	0	[NT]	[NT]
TRH >C_{10} -C_{16}	mg/kg	50	Org-020	[NT]	48	<50	<50	0	[NT]	[NT]
TRH >C_{16} -C_{34}	mg/kg	100	Org-020	[NT]	48	<100	<100	0	[NT]	[NT]
TRH >C_{34} -C_{40}	mg/kg	100	Org-020	[NT]	48	<100	<100	0	[NT]	[NT]
Surrogate o-Terphenyl	%		Org-020	[NT]	48	94	99	5	[NT]	[NT]

QUALITY CONTROL: svTRH (C10-C40) in Soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	66	25/02/2022	25/02/2022		[NT]	[NT]
Date analysed	-			[NT]	66	26/02/2022	26/02/2022		[NT]	[NT]
TRH C_{10} - C_{14}	mg/kg	50	Org-020	[NT]	66	<50	<50	0	[NT]	[NT]
TRH C_{15} - C_{28}	mg/kg	100	Org-020	[NT]	66	<100	<100	0	[NT]	[NT]
TRH C_{29} - C_{36}	mg/kg	100	Org-020	[NT]	66	<100	<100	0	[NT]	[NT]
TRH >C_{10} -C_{16}	mg/kg	50	Org-020	[NT]	66	<50	<50	0	[NT]	[NT]
TRH >C_{16} -C_{34}	mg/kg	100	Org-020	[NT]	66	<100	<100	0	[NT]	[NT]
TRH >C_{34} -C_{40}	mg/kg	100	Org-020	[NT]	66	<100	<100	0	[NT]	[NT]
Surrogate o-Terphenyl	%		Org-020	[NT]	66	100	97	3	[NT]	[NT]

QUALITY CONTROL: svTRH (C10-C40) in Soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	89	25/02/2022	25/02/2022		[NT]	[NT]
Date analysed	-			[NT]	89	26/02/2022	26/02/2022		[NT]	[NT]
TRH C_{10} - C_{14}	mg/kg	50	Org-020	[NT]	89	<50	<50	0	[NT]	[NT]
TRH C_{15} - C_{28}	mg/kg	100	Org-020	[NT]	89	<100	<100	0	[NT]	[NT]
TRH C_{29} - C_{36}	mg/kg	100	Org-020	[NT]	89	<100	<100	0	[NT]	[NT]
TRH >C_{10} -C_{16}	mg/kg	50	Org-020	[NT]	89	<50	<50	0	[NT]	[NT]
TRH >C_{16} -C_{34}	mg/kg	100	Org-020	[NT]	89	<100	<100	0	[NT]	[NT]
TRH >C_{34} -C_{40}	mg/kg	100	Org-020	[NT]	89	<100	<100	0	[NT]	[NT]
Surrogate o-Terphenyl	%		Org-020	[NT]	89	92	90	2	[NT]	[NT]

QUALITY CONTROL: PAHs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-5	289658-10
Date extracted	-			25/02/2022	1	25/02/2022	25/02/2022		25/02/2022	25/02/2022
Date analysed	-			25/02/2022	1	25/02/2022	25/02/2022		25/02/2022	25/02/2022
Naphthalene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	111	116
Acenaphthylene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	119	129
Fluorene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	113	132
Phenanthrene	mg/kg	0.1	Org-022/025	<0.1	1	0.2	0.3	40	112	128
Anthracene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-022/025	<0.1	1	0.4	0.3	29	116	120
Pyrene	mg/kg	0.1	Org-022/025	<0.1	1	0.4	0.3	29	119	121
Benzo(a)anthracene	mg/kg	0.1	Org-022/025	<0.1	1	0.2	0.2	0	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-022/025	<0.1	1	0.2	0.1	67	97	97
Benzo(b,j+k)fluoranthene	mg/kg	0.2	Org-022/025	<0.2	1	0.2	0.2	0	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-022/025	<0.05	1	0.1	0.09	11	132	124
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-022/025	<0.1	1	0.1	<0.1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-022/025	<0.1	1	0.1	<0.1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	101	1	109	96	13	90	91

QUALITY CONTROL: PAHs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-6	289658-51
Date extracted	-			[NT]	23	25/02/2022	25/02/2022		25/02/2022	25/02/2022
Date analysed	-			[NT]	23	25/02/2022	25/02/2022		25/02/2022	25/02/2022
Naphthalene	mg/kg	0.1	Org-022/025	[NT]	23	<0.1	<0.1	0	114	107
Acenaphthylene	mg/kg	0.1	Org-022/025	[NT]	23	<0.1	<0.1	0	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-022/025	[NT]	23	<0.1	<0.1	0	115	107
Fluorene	mg/kg	0.1	Org-022/025	[NT]	23	<0.1	<0.1	0	118	113
Phenanthrene	mg/kg	0.1	Org-022/025	[NT]	23	<0.1	<0.1	0	130	122
Anthracene	mg/kg	0.1	Org-022/025	[NT]	23	<0.1	<0.1	0	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-022/025	[NT]	23	<0.1	<0.1	0	121	110
Pyrene	mg/kg	0.1	Org-022/025	[NT]	23	<0.1	<0.1	0	123	109
Benzo(a)anthracene	mg/kg	0.1	Org-022/025	[NT]	23	<0.1	<0.1	0	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-022/025	[NT]	23	<0.1	<0.1	0	71	67
Benzo(b,j+k)fluoranthene	mg/kg	0.2	Org-022/025	[NT]	23	<0.2	<0.2	0	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-022/025	[NT]	23	<0.05	<0.05	0	118	112
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-022/025	[NT]	23	<0.1	<0.1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-022/025	[NT]	23	<0.1	<0.1	0	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-022/025	[NT]	23	<0.1	<0.1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	[NT]	23	104	106	2	90	88

QUALITY CONTROL: PAHs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-7	289658-69
Date extracted	-			[NT]	40	25/02/2022	25/02/2022		25/02/2022	25/02/2022
Date analysed	-			[NT]	40	25/02/2022	25/02/2022		25/02/2022	25/02/2022
Naphthalene	mg/kg	0.1	Org-022/025	[NT]	40	<0.1	<0.1	0	126	122
Acenaphthylene	mg/kg	0.1	Org-022/025	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-022/025	[NT]	40	<0.1	<0.1	0	131	125
Fluorene	mg/kg	0.1	Org-022/025	[NT]	40	<0.1	<0.1	0	132	124
Phenanthrene	mg/kg	0.1	Org-022/025	[NT]	40	<0.1	<0.1	0	124	132
Anthracene	mg/kg	0.1	Org-022/025	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-022/025	[NT]	40	<0.1	<0.1	0	131	124
Pyrene	mg/kg	0.1	Org-022/025	[NT]	40	<0.1	<0.1	0	133	121
Benzo(a)anthracene	mg/kg	0.1	Org-022/025	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-022/025	[NT]	40	<0.1	<0.1	0	77	71
Benzo(b,j+k)fluoranthene	mg/kg	0.2	Org-022/025	[NT]	40	<0.2	<0.2	0	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-022/025	[NT]	40	<0.05	<0.05	0	132	116
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-022/025	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-022/025	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-022/025	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	[NT]	40	84	92	9	97	91

QUALITY CONTROL: PAHs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	48	25/02/2022	25/02/2022		[NT]	[NT]
Date analysed	-			[NT]	48	25/02/2022	25/02/2022		[NT]	[NT]
Naphthalene	mg/kg	0.1	Org-022/025	[NT]	48	<0.1	<0.1	0	[NT]	[NT]
Acenaphthylene	mg/kg	0.1	Org-022/025	[NT]	48	<0.1	<0.1	0	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-022/025	[NT]	48	<0.1	<0.1	0	[NT]	[NT]
Fluorene	mg/kg	0.1	Org-022/025	[NT]	48	<0.1	<0.1	0	[NT]	[NT]
Phenanthrene	mg/kg	0.1	Org-022/025	[NT]	48	<0.1	<0.1	0	[NT]	[NT]
Anthracene	mg/kg	0.1	Org-022/025	[NT]	48	<0.1	<0.1	0	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-022/025	[NT]	48	<0.1	<0.1	0	[NT]	[NT]
Pyrene	mg/kg	0.1	Org-022/025	[NT]	48	<0.1	<0.1	0	[NT]	[NT]
Benzo(a)anthracene	mg/kg	0.1	Org-022/025	[NT]	48	<0.1	<0.1	0	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-022/025	[NT]	48	<0.1	<0.1	0	[NT]	[NT]
Benzo(b,j+k)fluoranthene	mg/kg	0.2	Org-022/025	[NT]	48	<0.2	<0.2	0	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-022/025	[NT]	48	<0.05	<0.05	0	[NT]	[NT]
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-022/025	[NT]	48	<0.1	<0.1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-022/025	[NT]	48	<0.1	<0.1	0	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-022/025	[NT]	48	<0.1	<0.1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	[NT]	48	79	89	12	[NT]	[NT]

QUALITY CONTROL: PAHs in Soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	66	25/02/2022	25/02/2022		[NT]	[NT]
Date analysed	-			[NT]	66	25/02/2022	25/02/2022		[NT]	[NT]
Naphthalene	mg/kg	0.1	Org-022/025	[NT]	66	<0.1	<0.1	0	[NT]	[NT]
Acenaphthylene	mg/kg	0.1	Org-022/025	[NT]	66	<0.1	<0.1	0	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-022/025	[NT]	66	<0.1	<0.1	0	[NT]	[NT]
Fluorene	mg/kg	0.1	Org-022/025	[NT]	66	<0.1	<0.1	0	[NT]	[NT]
Phenanthrene	mg/kg	0.1	Org-022/025	[NT]	66	<0.1	<0.1	0	[NT]	[NT]
Anthracene	mg/kg	0.1	Org-022/025	[NT]	66	<0.1	<0.1	0	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-022/025	[NT]	66	<0.1	<0.1	0	[NT]	[NT]
Pyrene	mg/kg	0.1	Org-022/025	[NT]	66	<0.1	<0.1	0	[NT]	[NT]
Benzo(a)anthracene	mg/kg	0.1	Org-022/025	[NT]	66	<0.1	<0.1	0	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-022/025	[NT]	66	<0.1	<0.1	0	[NT]	[NT]
Benzo(b,j+k)fluoranthene	mg/kg	0.2	Org-022/025	[NT]	66	<0.2	<0.2	0	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-022/025	[NT]	66	<0.05	<0.05	0	[NT]	[NT]
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-022/025	[NT]	66	<0.1	<0.1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-022/025	[NT]	66	<0.1	<0.1	0	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-022/025	[NT]	66	<0.1	<0.1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	[NT]	66	91	96	5	[NT]	[NT]

QUALITY CONTROL: PAHs in Soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	89	25/02/2022	25/02/2022		[NT]	[NT]
Date analysed	-			[NT]	89	25/02/2022	25/02/2022		[NT]	[NT]
Naphthalene	mg/kg	0.1	Org-022/025	[NT]	89	<0.1	<0.1	0	[NT]	[NT]
Acenaphthylene	mg/kg	0.1	Org-022/025	[NT]	89	<0.1	<0.1	0	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-022/025	[NT]	89	<0.1	<0.1	0	[NT]	[NT]
Fluorene	mg/kg	0.1	Org-022/025	[NT]	89	<0.1	<0.1	0	[NT]	[NT]
Phenanthrene	mg/kg	0.1	Org-022/025	[NT]	89	<0.1	<0.1	0	[NT]	[NT]
Anthracene	mg/kg	0.1	Org-022/025	[NT]	89	<0.1	<0.1	0	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-022/025	[NT]	89	<0.1	<0.1	0	[NT]	[NT]
Pyrene	mg/kg	0.1	Org-022/025	[NT]	89	<0.1	<0.1	0	[NT]	[NT]
Benzo(a)anthracene	mg/kg	0.1	Org-022/025	[NT]	89	<0.1	<0.1	0	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-022/025	[NT]	89	<0.1	<0.1	0	[NT]	[NT]
Benzo(b,j+k)fluoranthene	mg/kg	0.2	Org-022/025	[NT]	89	<0.2	<0.2	0	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-022/025	[NT]	89	<0.05	<0.05	0	[NT]	[NT]
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-022/025	[NT]	89	<0.1	<0.1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-022/025	[NT]	89	<0.1	<0.1	0	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-022/025	[NT]	89	<0.1	<0.1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	[NT]	89	96	97	1	[NT]	[NT]

QUALITY CONTROL: Organochlorine Pesticides in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-6	289658-10
Date extracted	-			25/02/2022	1	25/02/2022	25/02/2022		25/02/2022	25/02/2022
Date analysed	-			25/02/2022	1	25/02/2022	25/02/2022		25/02/2022	25/02/2022
alpha-BHC	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	108	114
HCB	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
beta-BHC	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	117	124
gamma-BHC	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Heptachlor	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	117	109
delta-BHC	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Aldrin	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	101	126
Heptachlor Epoxide	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	114	120
gamma-Chlordane	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
alpha-chlordane	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Endosulfan I	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
pp-DDE	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	117	115
Dieldrin	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	124	126
Endrin	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	105	115
Endosulfan II	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
pp-DDD	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	94	127
Endrin Aldehyde	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
pp-DDT	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Endosulfan Sulphate	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	108	122
Methoxychlor	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-022/025	96	1	116	109	6	84	89

QUALITY CONTROL: Organochlorine Pesticides in soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-7	[NT]
Date extracted	-			[NT]	23	25/02/2022	25/02/2022		25/02/2022	[NT]
Date analysed	-			[NT]	23	25/02/2022	25/02/2022		25/02/2022	[NT]
alpha-BHC	mg/kg	0.1	Org-022/025	[NT]	23	<0.1	<0.1	0	118	[NT]
HCB	mg/kg	0.1	Org-022/025	[NT]	23	<0.1	<0.1	0	[NT]	[NT]
beta-BHC	mg/kg	0.1	Org-022/025	[NT]	23	<0.1	<0.1	0	128	[NT]
gamma-BHC	mg/kg	0.1	Org-022/025	[NT]	23	<0.1	<0.1	0	[NT]	[NT]
Heptachlor	mg/kg	0.1	Org-022/025	[NT]	23	<0.1	<0.1	0	115	[NT]
delta-BHC	mg/kg	0.1	Org-022/025	[NT]	23	<0.1	<0.1	0	[NT]	[NT]
Aldrin	mg/kg	0.1	Org-022/025	[NT]	23	<0.1	<0.1	0	111	[NT]
Heptachlor Epoxide	mg/kg	0.1	Org-022/025	[NT]	23	<0.1	<0.1	0	122	[NT]
gamma-Chlordane	mg/kg	0.1	Org-022/025	[NT]	23	<0.1	<0.1	0	[NT]	[NT]
alpha-chlordane	mg/kg	0.1	Org-022/025	[NT]	23	<0.1	<0.1	0	[NT]	[NT]
Endosulfan I	mg/kg	0.1	Org-022/025	[NT]	23	<0.1	<0.1	0	[NT]	[NT]
pp-DDE	mg/kg	0.1	Org-022/025	[NT]	23	<0.1	<0.1	0	123	[NT]
Dieldrin	mg/kg	0.1	Org-022/025	[NT]	23	<0.1	<0.1	0	129	[NT]
Endrin	mg/kg	0.1	Org-022/025	[NT]	23	<0.1	<0.1	0	115	[NT]
Endosulfan II	mg/kg	0.1	Org-022/025	[NT]	23	<0.1	<0.1	0	[NT]	[NT]
pp-DDD	mg/kg	0.1	Org-022/025	[NT]	23	<0.1	<0.1	0	98	[NT]
Endrin Aldehyde	mg/kg	0.1	Org-022/025	[NT]	23	<0.1	<0.1	0	[NT]	[NT]
pp-DDT	mg/kg	0.1	Org-022/025	[NT]	23	<0.1	<0.1	0	[NT]	[NT]
Endosulfan Sulphate	mg/kg	0.1	Org-022/025	[NT]	23	<0.1	<0.1	0	80	[NT]
Methoxychlor	mg/kg	0.1	Org-022/025	[NT]	23	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-022/025	[NT]	23	109	115	5	94	[NT]

QUALITY CONTROL: Organochlorine Pesticides in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	40	25/02/2022	25/02/2022		[NT]	[NT]
Date analysed	-			[NT]	40	25/02/2022	25/02/2022		[NT]	[NT]
alpha-BHC	mg/kg	0.1	Org-022/025	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
HCB	mg/kg	0.1	Org-022/025	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
beta-BHC	mg/kg	0.1	Org-022/025	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
gamma-BHC	mg/kg	0.1	Org-022/025	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Heptachlor	mg/kg	0.1	Org-022/025	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
delta-BHC	mg/kg	0.1	Org-022/025	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Aldrin	mg/kg	0.1	Org-022/025	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Heptachlor Epoxide	mg/kg	0.1	Org-022/025	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
gamma-Chlordane	mg/kg	0.1	Org-022/025	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
alpha-chlordane	mg/kg	0.1	Org-022/025	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Endosulfan I	mg/kg	0.1	Org-022/025	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
pp-DDE	mg/kg	0.1	Org-022/025	[NT]	40	0.1	0.1	0	[NT]	[NT]
Dieldrin	mg/kg	0.1	Org-022/025	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Endrin	mg/kg	0.1	Org-022/025	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Endosulfan II	mg/kg	0.1	Org-022/025	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
pp-DDD	mg/kg	0.1	Org-022/025	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Endrin Aldehyde	mg/kg	0.1	Org-022/025	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
pp-DDT	mg/kg	0.1	Org-022/025	[NT]	40	0.1	0.1	0	[NT]	[NT]
Endosulfan Sulphate	mg/kg	0.1	Org-022/025	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Methoxychlor	mg/kg	0.1	Org-022/025	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-022/025	[NT]	40	83	85	2	[NT]	[NT]

QUALITY CONTROL: Organophosphorus Pesticides in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-6	289658-10
Date extracted	-			25/02/2022	1	25/02/2022	25/02/2022		25/02/2022	25/02/2022
Date analysed	-			25/02/2022	1	25/02/2022	25/02/2022		25/02/2022	25/02/2022
Dichlorvos	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	107	112
Dimethoate	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Diazinon	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Chlorpyriphos-methyl	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Ronnel	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	124	128
Fenitrothion	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	87	111
Malathion	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	120	130
Chlorpyriphos	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	128	134
Parathion	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	89	105
Bromophos-ethyl	mg/kg	0.1	Org-022	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Ethion	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	90	121
Azinphos-methyl (Guthion)	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-022/025	96	1	116	109	6	84	89

QUALITY CONTROL: Organophosphorus Pesticides in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-7	[NT]
Date extracted	-			[NT]	23	25/02/2022	25/02/2022		25/02/2022	[NT]
Date analysed	-			[NT]	23	25/02/2022	25/02/2022		25/02/2022	[NT]
Dichlorvos	mg/kg	0.1	Org-022/025	[NT]	23	<0.1	<0.1	0	107	[NT]
Dimethoate	mg/kg	0.1	Org-022/025	[NT]	23	<0.1	<0.1	0	[NT]	[NT]
Diazinon	mg/kg	0.1	Org-022/025	[NT]	23	<0.1	<0.1	0	[NT]	[NT]
Chlorpyriphos-methyl	mg/kg	0.1	Org-022/025	[NT]	23	<0.1	<0.1	0	[NT]	[NT]
Ronnel	mg/kg	0.1	Org-022/025	[NT]	23	<0.1	<0.1	0	126	[NT]
Fenitrothion	mg/kg	0.1	Org-022/025	[NT]	23	<0.1	<0.1	0	97	[NT]
Malathion	mg/kg	0.1	Org-022/025	[NT]	23	<0.1	<0.1	0	93	[NT]
Chlorpyriphos	mg/kg	0.1	Org-022/025	[NT]	23	<0.1	<0.1	0	136	[NT]
Parathion	mg/kg	0.1	Org-022/025	[NT]	23	<0.1	<0.1	0	101	[NT]
Bromophos-ethyl	mg/kg	0.1	Org-022	[NT]	23	<0.1	<0.1	0	[NT]	[NT]
Ethion	mg/kg	0.1	Org-022/025	[NT]	23	<0.1	<0.1	0	92	[NT]
Azinphos-methyl (Guthion)	mg/kg	0.1	Org-022/025	[NT]	23	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-022/025	[NT]	23	109	115	5	94	[NT]

QUALITY CONTROL: Organophosphorus Pesticides in Soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	40	25/02/2022	25/02/2022		[NT]	[NT]
Date analysed	-			[NT]	40	25/02/2022	25/02/2022		[NT]	[NT]
Dichlorvos	mg/kg	0.1	Org-022/025	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Dimethoate	mg/kg	0.1	Org-022/025	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Diazinon	mg/kg	0.1	Org-022/025	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Chlorpyriphos-methyl	mg/kg	0.1	Org-022/025	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Ronnel	mg/kg	0.1	Org-022/025	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Fenitrothion	mg/kg	0.1	Org-022/025	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Malathion	mg/kg	0.1	Org-022/025	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Chlorpyriphos	mg/kg	0.1	Org-022/025	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Parathion	mg/kg	0.1	Org-022/025	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Bromophos-ethyl	mg/kg	0.1	Org-022	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Ethion	mg/kg	0.1	Org-022/025	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Azinphos-methyl (Guthion)	mg/kg	0.1	Org-022/025	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-022/025	[NT]	40	83	85	2	[NT]	[NT]

QUALITY CONTROL: PCBs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-6	289658-10
Date extracted	-			25/02/2022	1	25/02/2022	25/02/2022		25/02/2022	25/02/2022
Date analysed	-			25/02/2022	1	25/02/2022	25/02/2022		25/02/2022	25/02/2022
Aroclor 1016	mg/kg	0.1	Org-021	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1221	mg/kg	0.1	Org-021	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1232	mg/kg	0.1	Org-021	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1242	mg/kg	0.1	Org-021	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1248	mg/kg	0.1	Org-021	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1254	mg/kg	0.1	Org-021	<0.1	1	<0.1	<0.1	0	117	120
Aroclor 1260	mg/kg	0.1	Org-021	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-021	96	1	116	109	6	84	89

QUALITY CONTROL: PCBs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-7	[NT]
Date extracted	-			[NT]	23	25/02/2022	25/02/2022		25/02/2022	[NT]
Date analysed	-			[NT]	23	25/02/2022	25/02/2022		25/02/2022	[NT]
Aroclor 1016	mg/kg	0.1	Org-021	[NT]	23	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1221	mg/kg	0.1	Org-021	[NT]	23	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1232	mg/kg	0.1	Org-021	[NT]	23	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1242	mg/kg	0.1	Org-021	[NT]	23	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1248	mg/kg	0.1	Org-021	[NT]	23	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1254	mg/kg	0.1	Org-021	[NT]	23	<0.1	<0.1	0	117	[NT]
Aroclor 1260	mg/kg	0.1	Org-021	[NT]	23	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-021	[NT]	23	109	115	5	94	[NT]

QUALITY CONTROL: PCBs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	40	25/02/2022	25/02/2022		[NT]	[NT]
Date analysed	-			[NT]	40	25/02/2022	25/02/2022		[NT]	[NT]
Aroclor 1016	mg/kg	0.1	Org-021	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1221	mg/kg	0.1	Org-021	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1232	mg/kg	0.1	Org-021	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1242	mg/kg	0.1	Org-021	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1248	mg/kg	0.1	Org-021	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1254	mg/kg	0.1	Org-021	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1260	mg/kg	0.1	Org-021	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-021	[NT]	40	83	85	2	[NT]	[NT]

QUALITY CONTROL: Acid Extractable metals in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-5	289658-10
Date prepared	-			25/02/2022	1	25/02/2022	25/02/2022		25/02/2022	25/02/2022
Date analysed	-			28/02/2022	1	28/02/2022	28/02/2022		28/02/2022	28/02/2022
Arsenic	mg/kg	4	Metals-020	<4	1	<4	<4	0	84	91
Cadmium	mg/kg	0.4	Metals-020	<0.4	1	<0.4	<0.4	0	79	84
Chromium	mg/kg	1	Metals-020	<1	1	9	9	0	80	90
Copper	mg/kg	1	Metals-020	<1	1	42	44	5	82	99
Lead	mg/kg	1	Metals-020	<1	1	200	150	29	81	95
Mercury	mg/kg	0.1	Metals-021	<0.1	1	<0.1	<0.1	0	105	105
Nickel	mg/kg	1	Metals-020	<1	1	12	12	0	84	91
Zinc	mg/kg	1	Metals-020	<1	1	120	110	9	80	98

QUALITY CONTROL: Acid Extractable metals in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-6	289658-51
Date prepared	-			[NT]	23	25/02/2022	25/02/2022		25/02/2022	25/02/2022
Date analysed	-			[NT]	23	28/02/2022	28/02/2022		28/02/2022	28/02/2022
Arsenic	mg/kg	4	Metals-020	[NT]	23	<4	<4	0	93	97
Cadmium	mg/kg	0.4	Metals-020	[NT]	23	<0.4	<0.4	0	88	87
Chromium	mg/kg	1	Metals-020	[NT]	23	11	12	9	92	90
Copper	mg/kg	1	Metals-020	[NT]	23	14	24	53	92	103
Lead	mg/kg	1	Metals-020	[NT]	23	160	150	6	92	110
Mercury	mg/kg	0.1	Metals-021	[NT]	23	<0.1	0.1	0	94	100
Nickel	mg/kg	1	Metals-020	[NT]	23	5	5	0	95	98
Zinc	mg/kg	1	Metals-020	[NT]	23	120	110	9	96	98

QUALITY CONTROL: Acid Extractable metals in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-7	289658-69
Date prepared	-			[NT]	40	25/02/2022	25/02/2022		25/02/2022	25/02/2022
Date analysed	-			[NT]	40	28/02/2022	28/02/2022		28/02/2022	28/02/2022
Arsenic	mg/kg	4	Metals-020	[NT]	40	5	<4	22	92	89
Cadmium	mg/kg	0.4	Metals-020	[NT]	40	0.6	<0.4	40	87	81
Chromium	mg/kg	1	Metals-020	[NT]	40	22	17	26	91	85
Copper	mg/kg	1	Metals-020	[NT]	40	110	56	65	91	103
Lead	mg/kg	1	Metals-020	[NT]	40	1200	460	89	92	93
Mercury	mg/kg	0.1	Metals-021	[NT]	40	0.2	0.1	67	97	108
Nickel	mg/kg	1	Metals-020	[NT]	40	11	12	9	94	91
Zinc	mg/kg	1	Metals-020	[NT]	40	980	390	86	89	90

QUALITY CONTROL: Acid Extractable metals in soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	48	25/02/2022	25/02/2022		[NT]	[NT]
Date analysed	-			[NT]	48	28/02/2022	28/02/2022		[NT]	[NT]
Arsenic	mg/kg	4	Metals-020	[NT]	48	<4	<4	0	[NT]	[NT]
Cadmium	mg/kg	0.4	Metals-020	[NT]	48	<0.4	<0.4	0	[NT]	[NT]
Chromium	mg/kg	1	Metals-020	[NT]	48	7	9	25	[NT]	[NT]
Copper	mg/kg	1	Metals-020	[NT]	48	8	9	12	[NT]	[NT]
Lead	mg/kg	1	Metals-020	[NT]	48	22	24	9	[NT]	[NT]
Mercury	mg/kg	0.1	Metals-021	[NT]	48	<0.1	<0.1	0	[NT]	[NT]
Nickel	mg/kg	1	Metals-020	[NT]	48	6	8	29	[NT]	[NT]
Zinc	mg/kg	1	Metals-020	[NT]	48	25	29	15	[NT]	[NT]

QUALITY CONTROL: Acid Extractable metals in soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	66	25/02/2022	25/02/2022		[NT]	[NT]
Date analysed	-			[NT]	66	28/02/2022	28/02/2022		[NT]	[NT]
Arsenic	mg/kg	4	Metals-020	[NT]	66	<4	<4	0	[NT]	[NT]
Cadmium	mg/kg	0.4	Metals-020	[NT]	66	<0.4	<0.4	0	[NT]	[NT]
Chromium	mg/kg	1	Metals-020	[NT]	66	14	14	0	[NT]	[NT]
Copper	mg/kg	1	Metals-020	[NT]	66	10	10	0	[NT]	[NT]
Lead	mg/kg	1	Metals-020	[NT]	66	13	13	0	[NT]	[NT]
Mercury	mg/kg	0.1	Metals-021	[NT]	66	<0.1	<0.1	0	[NT]	[NT]
Nickel	mg/kg	1	Metals-020	[NT]	66	7	7	0	[NT]	[NT]
Zinc	mg/kg	1	Metals-020	[NT]	66	26	24	8	[NT]	[NT]

QUALITY CONTROL: Acid Extractable metals in soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	89	25/02/2022	25/02/2022		[NT]	[NT]
Date analysed	-			[NT]	89	28/02/2022	28/02/2022		[NT]	[NT]
Arsenic	mg/kg	4	Metals-020	[NT]	89	4	<4	0	[NT]	[NT]
Cadmium	mg/kg	0.4	Metals-020	[NT]	89	<0.4	<0.4	0	[NT]	[NT]
Chromium	mg/kg	1	Metals-020	[NT]	89	17	16	6	[NT]	[NT]
Copper	mg/kg	1	Metals-020	[NT]	89	33	31	6	[NT]	[NT]
Lead	mg/kg	1	Metals-020	[NT]	89	21	20	5	[NT]	[NT]
Mercury	mg/kg	0.1	Metals-021	[NT]	89	<0.1	<0.1	0	[NT]	[NT]
Nickel	mg/kg	1	Metals-020	[NT]	89	4	3	29	[NT]	[NT]
Zinc	mg/kg	1	Metals-020	[NT]	89	29	26	11	[NT]	[NT]

QUALITY CONTROL: Misc Soil - Inorg					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date prepared	-			25/02/2022	[NT]	[NT]	[NT]	[NT]	25/02/2022	[NT]
Date analysed	-			25/02/2022	[NT]	[NT]	[NT]	[NT]	25/02/2022	[NT]
Total Phenolics (as Phenol)	mg/kg	5	Inorg-031	<5	[NT]	[NT]	[NT]	[NT]	99	[NT]

QUALITY CONTROL: PFAS in Soils Extended						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-5	289658-91
Date prepared	-			25/02/2022	91	25/02/2022	25/02/2022		25/02/2022	25/02/2022
Date analysed	-			25/02/2022	91	25/02/2022	25/02/2022		25/02/2022	25/02/2022
Perfluorobutanesulfonic acid	µg/kg	0.1	Org-029	<0.1	91	<0.1	<0.1	0	102	105
Perfluoropentanesulfonic acid	µg/kg	0.1	Org-029	<0.1	91	<0.1	<0.1	0	84	84
Perfluorohexanesulfonic acid - PFHxS	µg/kg	0.1	Org-029	<0.1	91	<0.1	<0.1	0	104	107
Perfluoroheptanesulfonic acid	µg/kg	0.1	Org-029	<0.1	91	<0.1	<0.1	0	111	111
Perfluorooctanesulfonic acid PFOS	µg/kg	0.1	Org-029	<0.1	91	<0.1	<0.1	0	101	100
Perfluorodecanesulfonic acid	µg/kg	0.2	Org-029	<0.2	91	<0.2	<0.2	0	93	123
Perfluorobutanoic acid	µg/kg	0.2	Org-029	<0.2	91	<0.2	<0.2	0	104	109
Perfluoropentanoic acid	µg/kg	0.2	Org-029	<0.2	91	<0.2	<0.2	0	108	114
Perfluorohexanoic acid	µg/kg	0.1	Org-029	<0.1	91	<0.1	<0.1	0	98	102
Perfluoroheptanoic acid	µg/kg	0.1	Org-029	<0.1	91	<0.1	<0.1	0	92	96
Perfluorooctanoic acid PFOA	µg/kg	0.1	Org-029	<0.1	91	<0.1	<0.1	0	100	111
Perfluorononanoic acid	µg/kg	0.1	Org-029	<0.1	91	<0.1	<0.1	0	97	102
Perfluorodecanoic acid	µg/kg	0.5	Org-029	<0.5	91	<0.5	<0.5	0	120	115
Perfluoroundecanoic acid	µg/kg	0.5	Org-029	<0.5	91	<0.5	<0.5	0	95	110
Perfluorododecanoic acid	µg/kg	0.5	Org-029	<0.5	91	<0.5	<0.5	0	106	110
Perfluorotridecanoic acid	µg/kg	0.5	Org-029	<0.5	91	<0.5	<0.5	0	99	128
Perfluorotetradecanoic acid	µg/kg	5	Org-029	<5	91	<5	<5	0	105	115
4:2 FTS	µg/kg	0.1	Org-029	<0.1	91	<0.1	<0.1	0	101	102
6:2 FTS	µg/kg	0.1	Org-029	<0.1	91	<0.1	<0.1	0	100	96
8:2 FTS	µg/kg	0.2	Org-029	<0.2	91	<0.2	<0.2	0	106	103
10:2 FTS	µg/kg	0.2	Org-029	<0.2	91	<0.2	<0.2	0	108	80
Perfluorooctane sulfonamide	µg/kg	1	Org-029	<1	91	<1	<1	0	91	90
N-Methyl perfluorooctane sulfonamide	µg/kg	1	Org-029	<1	91	<1	<1	0	103	102
N-Ethyl perfluorooctanesulfon amide	µg/kg	1	Org-029	<1	91	<1	<1	0	100	102
N-Me perfluorooctanesulfonamid oethanol	µg/kg	1	Org-029	<1	91	<1	<1	0	107	113
N-Et perfluorooctanesulfonamid oethanol	µg/kg	5	Org-029	<5	91	<5	<5	0	110	106
MePerfluorooctanesulf- amid oacetic acid	µg/kg	0.2	Org-029	<0.2	91	<0.2	<0.2	0	103	105
EtPerfluorooctanesulf amid oacetic acid	µg/kg	0.2	Org-029	<0.2	91	<0.2	<0.2	0	93	102
Surrogate $^{13}C_8$ *PFOS*	%		Org-029	103	91	98	96	2	100	98
Surrogate $^{13}C_2$ *PFOA*	%		Org-029	105	91	105	102	3	101	112

QUALITY CONTROL: PFAS in Soils Extended						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-5	289658-91
Extracted ISTD $^{13}C_3$ *PFBS*	%		Org-029	103	91	98	99	1	104	97
Extracted ISTD $^{18}O_2$ *PFHxS*	%		Org-029	98	91	98	100	2	98	98
Extracted ISTD $^{13}C_4$ *PFOS*	%		Org-029	94	91	96	94	2	96	96
Extracted ISTD $^{13}C_4$ *PFBA*	%		Org-029	111	91	102	101	1	111	101
Extracted ISTD $^{13}C_3$ *PFPeA*	%		Org-029	109	91	101	106	5	111	101
Extracted ISTD $^{13}C_2$ *PFHxA*	%		Org-029	98	91	100	98	2	94	97
Extracted ISTD $^{13}C_4$ *PFHpA*	%		Org-029	100	91	98	110	12	106	98
Extracted ISTD $^{13}C_4$ *PFOA*	%		Org-029	100	91	98	95	3	99	90
Extracted ISTD $^{13}C_5$ *PFNA*	%		Org-029	112	91	99	100	1	104	98
Extracted ISTD $^{13}C_2$ *PFDA*	%		Org-029	112	91	113	107	5	113	115
Extracted ISTD $^{13}C_2$ *PFUnDA*	%		Org-029	105	91	92	81	13	105	77
Extracted ISTD $^{13}C_2$ *PFDoDA*	%		Org-029	112	91	105	105	0	108	102
Extracted ISTD $^{13}C_2$ *PFTeDA*	%		Org-029	104	91	105	109	4	108	104
Extracted ISTD $^{13}C_2$ *4:2FTS*	%		Org-029	102	91	109	111	2	98	109
Extracted ISTD $^{13}C_2$ *6:2FTS*	%		Org-029	106	91	102	102	0	94	101
Extracted ISTD $^{13}C_2$ *8:2FTS*	%		Org-029	102	91	138	135	2	98	126
Extracted ISTD $^{13}C_8$ *FOSA*	%		Org-029	106	91	102	104	2	103	98
Extracted ISTD d_3 *N MeFOSA*	%		Org-029	96	91	97	95	2	98	97
Extracted ISTD d_5 *N EtFOSA*	%		Org-029	107	91	104	102	2	106	103
Extracted ISTD d_7 *N MeFOSE*	%		Org-029	99	91	97	99	2	97	94

QUALITY CONTROL: PFAS in Soils Extended						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-5	289658-91
Extracted ISTD d_9 *N EtFOSE*	%		Org-029	104	91	104	105	1	103	103
Extracted ISTD d_3 *N MeFOSAA*	%		Org-029	111	91	113	112	1	112	109
Extracted ISTD d_5 *N EtFOSAA*	%		Org-029	120	91	105	95	10	120	96

Result Definitions

NT	Not tested
NA	Test not required
INS	Insufficient sample for this test
PQL	Practical Quantitation Limit
<	Less than
>	Greater than
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
NS	Not specified
NEPM	National Environmental Protection Measure
NR	Not Reported

Quality Control Definitions

Blank	This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate	This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike	A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample)	This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike	Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011.

The recommended maximums for analytes in urine are taken from “2018 TLVs and BEIs”, as published by ACGIH (where available). Limit provided for Nickel is a precautionary guideline as per Position Paper prepared by AIOH Exposure Standards Committee, 2016.

Guideline limits for Rinse Water Quality reported as per analytical requirements and specifications of AS 4187, Amdt 2 2019, Table 7.2

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: >10xPQL - RPD acceptance criteria will vary depending on the analytes and the analytical techniques but is typically in the range 20%-50% – see ELN-P05 QA/QC tables for details; <10xPQL - RPD are higher as the results approach PQL and the estimated measurement uncertainty will statistically increase.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals (not SPOCAS); 60-140% for organics/SPOCAS (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

Measurement Uncertainty estimates are available for most tests upon request.

Analysis of aqueous samples typically involves the extraction/digestion and/or analysis of the liquid phase only (i.e. NOT any settled sediment phase but inclusive of suspended particles if present), unless stipulated on the Envirolab COC and/or by correspondence. Notable exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, total recoverable metals and PFAS where solids are included by default.

Samples for Microbiological analysis (not Amoeba forms) received outside of the 2-8°C temperature range do not meet the ideal cooling conditions as stated in AS2031-2012.

Report Comments

Acid Extractable Metals in Soil:
- The laboratory RPD acceptance criteria has been exceeded for 289658-23 for Cu. Therefore a triplicate result has been issued as laboratory sample number 289658-107.
- The laboratory RPD acceptance criteria has been exceeded for 289658-40 for Cu, Pb & Zn. Therefore a triplicate result has been issued as laboratory sample number 289658-108.

Asbestos-ID in soil: NEPM
This report is consistent with the reporting recommendations in the National Environment Protection (Assessment of Site Contamination) Measure, Schedule B1, May 2013. This is reported outside our scope of NATA accreditation.

Factual description of asbestos identified in the soil samples: NEPM
Sample 289658-28; Chrysotile asbestos identified in 0.1302g of fibrous matted material

Sample 289658-30; Chrysotile, Amosite and Crocidolite asbestos identified in 1.5175g of fibre cement material >7mm

Sample 289658-62; Chrysotile asbestos identified in 14.0065g of fibre cement material >7mm

Sample 289658-69; Chrysotile asbestos identified in 0.0001g of loose fibre bundles

Envirolab Services Pty Ltd
ABN 37 112 535 645
12 Ashley St Chatswood NSW 2067
ph 02 9910 6200 fax 02 9910 6201
customerservice@envirolab.com.au
www.envirolab.com.au

SAMPLE RECEIPT ADVICE

Client Details

Client	JK Environments
Attention	C Ridley

Sample Login Details

Your reference	E33051BR, Mittagong
Envirolab Reference	289658
Date Sample Received	23/02/2022
Date Instructions Received	24/02/2022
Date Results Expected to be Reported	03/03/2022

Sample Condition

Samples received in appropriate condition for analysis	Yes
No. of Samples Provided	100 Soil, 6 Material
Turnaround Time Requested	Standard
Temperature on Receipt (°C)	10
Cooling Method	Ice
Sampling Date Provided	YES

Comments

Nil

Please direct any queries to:

Aileen Hie	Jacinta Hurst
Phone: 02 9910 6200	**Phone: 02 9910 6200**
Fax: 02 9910 6201	**Fax: 02 9910 6201**
Email: ahie@envirolab.com.au	**Email: jhurst@envirolab.com.au**

Analysis Underway, details on the following page:

Envirolab Services Pty Ltd
ABN 37 112 535 645
12 Ashley St Chatswood NSW 2067
ph 02 9910 6200 fax 02 9910 6201
customerservice@envirolab.com.au
www.envirolab.com.au

Sample ID	vTRH(C6-C10)/BTEXN in Soil	svTRH (C10-C40) in Soil	PAHs in Soil	Organochlorine Pesticides in soil	Organophosphorus Pesticides in Soil	PCBs in Soil	Acid Extractable metalsin soil	Asbestos ID - soils NEPM - ASB-001	Misc Soil - Inorg	PFAS in Soils Extended	Asbestos ID - materials	On Hold
TP3-0-0.1	✓	✓	✓	✓	✓	✓	✓	✓				
TP3-0.1-0.3												✓
TP3-0.5-0.7	✓	✓	✓				✓	✓				
TP3-1.0-1.2												✓
TP4-0-0.1	✓	✓	✓				✓	✓				
TP4-0.1-0.3												✓
TP4-0.3-0.5	✓	✓	✓				✓					
TP4-0.65-0.85	✓	✓	✓				✓					
TP4-1.35-1.55												✓
TP13-0-0.1	✓	✓	✓	✓	✓	✓	✓	✓				
TP13-0.1-0.3												✓
TP13-0.4-0.6	✓	✓	✓				✓					
TP14-0-0.1	✓	✓	✓				✓	✓				
TP14-0.1-0.3												✓
TP14-0.6-0.8	✓	✓	✓				✓					
TP15-0-0.1												✓
TP15-0.3-0.5	✓	✓	✓	✓	✓	✓	✓	✓				
TP15-0.7-0.9	✓	✓	✓				✓					
TP16-0-0.1								✓				
TP16-0.2-0.5	✓	✓	✓				✓	✓				
TP16-0.5-0.7	✓	✓	✓				✓	✓				
TP16-1.0-1.2												✓
TP17-0-0.1	✓	✓	✓	✓	✓	✓	✓	✓		✓		
TP17-0.2-0.4												✓
TP17-0.5-0.7	✓	✓	✓				✓	✓		✓		
TP17-0.8-1.0												✓
TP18-0-0.1	✓	✓	✓				✓	✓				
TP18-0.3-0.5	✓	✓	✓				✓	✓				
TP18-0.75-0.95	✓	✓	✓				✓					
TP34-0-0.1	✓	✓	✓	✓	✓	✓	✓	✓				
TP34-0.1-0.3												✓
TP34-0.7-0.9	✓	✓	✓				✓					

Envirolab Services Pty Ltd
ABN 37 112 535 645
12 Ashley St Chatswood NSW 2067
ph 02 9910 6200 fax 02 9910 6201
customerservice@envirolab.com.au
www.envirolab.com.au

Sample ID	vTRH(C6-C10)/BTEXN in Soil	svTRH (C10-C40) in Soil	PAHs in Soil	Organochlorine Pesticides in soil	Organophosphorus Pesticides in Soil	PCBs in Soil	Acid Extractable metalsin soil	Asbestos ID - soils NEPM - ASB-001	Misc Soil - Inorg	PFAS in Soils Extended	Asbestos ID - materials	On Hold
TP34-1.3-1.5												✓
TP35-0-0.1	✓	✓	✓				✓	✓				
TP35-0.1-0.3												✓
TP35-0.8-1.0												✓
TP36-0-0.1	✓	✓	✓	✓	✓	✓	✓	✓				
TP36-0.2-0.4	✓	✓	✓				✓	✓				
TP36-0.8-1.0												✓
TP38-0-0.1	✓	✓	✓	✓	✓	✓	✓	✓				
TP38-0.2-0.4												✓
TP38-0.6-0.8	✓	✓	✓				✓	✓				
TP38-1.2-1.4												✓
TP38-1.7-1.9												✓
TP39-0-0.1	✓	✓	✓	✓	✓	✓	✓	✓		✓		
TP39-0.2-0.4	✓	✓	✓				✓	✓				
TP39-0.6-0.8												✓
TP39-1.0-1.2	✓	✓	✓				✓	✓				
TP39-1.5-1.7												✓
TP40-0-0.1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
TP40-0.2-0.4	✓	✓	✓				✓	✓	✓	✓		
TP40-0.5-0.7	✓	✓	✓				✓	✓				
TP40-1.1-1.3												✓
TP40-1.6-1.8	✓	✓	✓				✓					
TP47-0-0.1	✓	✓	✓	✓	✓	✓	✓	✓				
TP47-0.2-0.4	✓	✓	✓				✓	✓				
TP47-1.0-1.2												✓
TP48-0-0.1	✓	✓	✓	✓	✓	✓	✓	✓				
TP48-0.2-0.4												✓
TP48-1.0-1.2	✓	✓	✓				✓	✓				
TP48-1.4-1.6												✓
TP49-0-0.1								✓				
TP49-0.1-0.3	✓	✓	✓				✓					
TP49-0.4-0.6	✓	✓	✓				✓	✓				

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Sample ID	vTRH(C6-C10)/BTEXN in Soil	svTRH (C10-C40) in Soil	PAHs in Soil	Organochlorine Pesticides in soil	Organophosphorus Pesticides in Soil	PCBs in Soil	Acid Extractable metalsin soil	Asbestos ID - soils NEPM - ASB-001	Misc Soil - Inorg	PFAS in Soils Extended	Asbestos ID - materials	On Hold
TP49-1.1-1.3												✓
TP49-1.5-1.7	✓	✓	✓				✓					
TP49-1.8-2.0												✓
TP50-0-0.1	✓	✓	✓	✓	✓	✓	✓	✓				
TP50-0.2-0.4	✓	✓	✓				✓	✓				
TP50-0.5-0.7												✓
TP50-0.9-1.1												✓
TP51-0-0.1	✓	✓	✓				✓	✓				
TP51-0.1-0.3	✓	✓	✓				✓	✓				
TP51-0.6-0.8	✓	✓	✓				✓	✓				
TP51-1.3-1.5												✓
TP52-0-0.1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
TP52-0.2-0.4	✓	✓	✓				✓					
TP45-0-0.1	✓	✓	✓	✓	✓	✓	✓	✓				
TP45-0.2-0.4												✓
TP45-0.6-0.8	✓	✓	✓				✓					
TP56-0-0.1	✓	✓	✓	✓	✓	✓	✓	✓				
TP56-0.2-0.4												✓
TP56-0.4-0.6	✓	✓	✓				✓					
TP57-0-0.1	✓	✓	✓				✓	✓				
TP57-0.1-0.2												✓
TP57-0.2-0.4												✓
TP76-0-0.1	✓	✓	✓	✓	✓	✓	✓	✓				
TP76-0.2-0.4												✓
TP76-0.4-0.6	✓	✓	✓				✓					
SDUP9												✓
SDUP10	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
-												✓
-												✓
SDUP13												✓
-												✓
FCF1 - Surface											✓	

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Sample ID	vTRH(C6-C10)/BTEXN in Soil	svTRH (C10-C40) in Soil	PAHs in Soil	Organochlorine Pesticides in soil	Organophosphorus Pesticides in Soil	PCBs in Soil	Acid Extractable metalsin soil	Asbestos ID - soils NEPM - ASB-001	Misc Soil - Inorg	PFAS in Soils Extended	Asbestos ID - materials	On Hold
FCF2 - Surface											✓	
FCF3 - Surface											✓	
FCF4 - Surface											✓	
FCF5 - Surface											✓	
TP50-FCF1											✓	
TS-S2	✓											
TB-S2	✓									✓		
SDUP6	✓	✓	✓				✓	✓				
SDUP7												✓
SDUP8	✓	✓	✓				✓					

The '✓' indicates the testing you have requested. **THIS IS NOT A REPORT OF THE RESULTS.**

Additional Info

Sample storage - Waters are routinely disposed of approximately 1 month and soils approximately 2 months from receipt.
Requests for longer term sample storage must be received in writing.
Please contact the laboratory immediately if observed settled sediment present in water samples is to be included in the extraction and/or analysis (exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, Total Recoverable metals and PFAS analysis where solids are included by default.
TAT for Micro is dependent on incubation. This varies from 3 to 6 days.

289658 ooc rec'd 24/2/22

SAMPLE AND CHAIN OF CUSTODY FORM

TO:
ENVIROLAB SERVICES PTY LTD
12 ASHLEY STREET
CHATSWOOD NSW 2067
P: (02) 99106200
F: (02) 99106201

Attention: Aileen

JKE Job Number: E33051BR
Date Results Required: STANDARD
Page: 1 of 5

FROM:
JKEnvironments
REAR OF 115 WICKS ROAD
MACQUARIE PARK, NSW 2113
P: 02-9888 5000 F: 02-9888 5001
Attention: Craig Ridley
cridley@jkenvironments.com.au

Location: Mittagong
Sampler: NM

Sample Preserved in Esky on Ice

Tests Required

Date Sampled	Lab Ref:	Sample Number	Depth (m)	Sample Container	PID	Sample Description	Combo 6	Combo 3	Asbestos (NEPM)	Asbestos (ID)	Phenols	PFAS (Routine, Extended)	pH	CEC	Clay Content	TRH/BTEX	BTEX	Combo 3L
21/02/2022	1	TP3	0-0.1	G, A	0	F: Silty clayey sand	X		X									
21/02/2022	2	TP3	0.1-0.3	G, A	0	F: Silty clayey sand												
21/02/2022	3	TP3	0.5-0.7	G, A	0	F: Silty clay		X	X									
21/02/2022	4	TP3	1.0-1.2	G, A	0	Silty Clay												
21/02/2022	5	TP4	0-0.1	G, A, PFAS	0	F: Silty clayey sand		X	X									
21/02/2022	6	TP4	0.1-0.3	G, A, PFAS	0	F: Silty clayey sand												
21/02/2022	7	TP4	0.3-0.5	G, A, PFAS	0	F: Silty clay		X										
21/02/2022	8	TP4	0.65-0.85	G, A, PFAS	0	F: Silty clayey sand		X										
21/02/2022	9	TP4	1.35-1.55	G, A, PFAS	0	Silty sandy clay												
21/02/2022	10	TP13	0-0.1	G, A	0	F: Silty clayey sand	X		X									
21/02/2022	11	TP13	0.1-0.3	G, A	0	F: Silty clayey sand												
21/02/2022	12	TP13	0.4-0.6	G, A	0	Silty sand		X										
21/02/2022	13	TP14	0-0.1	G, A	0	F: Gravelly sand		X	X									
21/02/2022	14	TP14	0.1-0.3	G, A	0	F: Gravelly sand												
21/02/2022	15	TP14	0.6-0.8	G, A	0	Silty clay		X										
21/02/2022	16	TP15	0-0.1	G, A	0	F: Silty clayey sand												
21/02/2022	17	TP15	0.3-0.5	G, A	0	F: Silty clayey sand	X		X									
21/02/2022	18	TP15	0.7-0.9	G, A	0	Silty clay		X										
21/02/2022	19	TP16	0-0.1	G, A	0	F: mulch, silty sand			X									
21/02/2022	20	TP16	0.2-0.5	G, A	0	F: Silty sand		X	X									
21/02/2022	21	TP16	0.5-0.7	G, A	0	F: Sandy clay		X	X									
21/02/2022	22	TP16	1.0-1.2	G, A	0	Sandy clay												
22/02/2022	23	TP17	0-0.1	G, A, PFAS	0	F:Silty clayey sand	X		X			X						
22/02/2022	24	TP17	0.2-0.4	G, A, PFAS	0	F: Silty clayey sand												
22/02/2022	25	TP17	0.5-0.7	G, A, PFAS	0	F: Silty sandy clay		X	X			X						

Remarks (comments/detection limits required):
Please weigh fragments prior to analysis and report factually

Sample Containers:
G - 250mg Glass Jar
A - Ziplock Asbestos Bag
P - Plastic Bag

Relinquished By: C.Ridley	Date: Scheduled 24/2/22	Time:	Received By:	Date:

289568

SAMPLE AND CHAIN OF CUSTODY FORM

TO:		FROM:
ENVIROLAB SERVICES PTY LTD 12 ASHLEY STREET CHATSWOOD NSW 2067 P: (02) 99106200 F: (02) 99106201 Attention: Aileen	JKE Job Number: E33051BR Date Results Required: STANDARD Page: 2 of 5	JKEnvironments REAR OF 115 WICKS ROAD MACQUARIE PARK, NSW 2113 P: 02-9888 5000 F: 02-9888 5001 Attention: Craig Ridley cridley@jkenvironments.com.au

Location: Mittagong
Sampler: NM

Sample Preserved in Esky on Ice

Tests Required

Date Sampled	Lab Ref:	Sample Number	Depth (m)	Sample Container	PID	Sample Description	Combo 6	Combo 3	Asbestos (NEPM)	Asbestos (ID)	Phenols	PFAS (Routine, Extended)	pH	CEC	Clay Content	TRH/BTEX	BTEX	Combo 3L
22/02/2022	26	TP17	0.8-1.0	G, A, PFAS	0	Silty clay												
22/02/2022	27	TP18	0-0.1	G, A	0	F: Silty gravelly clay		X	X									
22/02/2022	28	TP18	0.3-0.5	G, A	0	F: Silty sandy clay		X	X									
22/02/2022	29	TP18	0.75-0.95	G, A	0	Silty clay		X										
21/02/2022	30	TP34	0-0.1	G, A	0	F: Silty sand	X		X									
21/02/2022	31	TP34	0.1-0.3	G, A	0	F: Silty sand												
21/02/2022	32	TP34	0.7-0.9	G, A	0	Sandy clay		X										
21/02/2022	33	TP34	1.3-1.5	G, A	0	Sandy clay												
21/02/2022	34	TP35	0-0.1	G, A	0	F: Silty sandy clay		X	X									
21/02/2022	35	TP35	0.1-0.3	G, A	0	F: Silty sandy clay												
21/02/2022	36	TP35	0.8-1.0	G, A	0	Sandy clay												
22/02/2022	37	TP36	0-0.1	G, A	0	F: Silty sand	X		X									
22/02/2022	38	TP36	0.2-0.4	G, A	0	F: Silty gravelly sand		X	X									
22/02/2022	39	TP36	0.8-1.0	G, A	0	Silty clay												
22/02/2022	40	TP38	0-0.1	G, A	0	F: Silty sand	X		X									
22/02/2022	41	TP38	0.2-0.4	G, A	0	F: Gravelly sand												
22/02/2022	42	TP38	0.6-0.8	G, A	0	F: Clayey gravelly		X	X									
22/02/2022	43	TP38	1.2-1.4	G, A	0	Silty clay												
22/02/2022	44	TP38	1.7-1.9	G, A	0	Sandy silty clay												
22/02/2022	45	TP39	0-0.1	G, A, PFAS	0	F: Silty sand	X		X			X						
22/02/2022	46	TP39	0.2-0.4	G, A, PFAS	0	F: Gravelly sand		X	X									
22/02/2022	47	TP39	0.6-0.8	G, A, PFAS	0	F: Clayey gravelly												
22/02/2022	48	TP39	1.0-1.2	G, A, PFAS	0	F: Silty clayey sand		X	X									
22/02/2022	49	TP39	1.5-1.7	G, A, PFAS	0	Sandy silty clay												
22/02/2022	50	TP40	0-0.1	G, A, PFAS	0	F: Gravelly sand	X		X		X	X						

Remarks (comments/detection limits required):

Sample Containers:
G - 250mg Glass Jar
A - Ziplock Asbestos Bag
P - Plastic Bag

Relinquished By:	Date:	Time:	Received By:	Date:

289658

SAMPLE AND CHAIN OF CUSTODY FORM

TO:		FROM:
ENVIROLAB SERVICES PTY LTD 12 ASHLEY STREET CHATSWOOD NSW 2067 P: (02) 99106200 F: (02) 99106201 Attention: Aileen	JKE Job Number: E33051BR Date Results Required: STANDARD Page: 3 of 5	JKEnvironments REAR OF 115 WICKS ROAD MACQUARIE PARK, NSW 2113 P: 02-9888 5000 F: 02-9888 5001 Attention: Craig Ridley cridley@jkenvironments.com.au

Location: Mittagong
Sampler: NM

Sample Preserved in Esky on Ice

Tests Required

Date Sampled	Lab Ref:	Sample Number	Depth (m)	Sample Container	PID	Sample Description	Combo 6	Combo 3	Asbestos (NEPM)	Asbestos (ID)	Phenols	PFAS (Routine, Extended)	pH	CEC	Clay Content	TRH/BTEX	BTEX	Combo 3L
22/02/2022	51	TP40	0.2-0.4	G, A, PFAS	0	F: Silty gravelly sand		X	X		X	X						
22/02/2022	52	TP40	0.5-0.7	G, A, PFAS	0	F: Silty clay		X	X									
22/02/2022	53	TP40	1.1-1.3	G, A, PFAS	0	F: Silty clay												
22/02/2022	54	TP40	1.6-1.8	G, A, PFAS	0	Silty sandy clay		X										
22/02/2022	55	TP47	0-0.1	G, A	0	F: Silty clayey sand	X		X									
22/02/2022	56	TP47	0.2-0.4	G, A	0	F: Silty sandy clay		X	X									
22/02/2022	57	TP47	1.0-1.2	G, A	0	Silty clay												
22/02/2022	58	TP48	0-0.1	G, A	0	F: Silty sand	X		X									
22/02/2022	59	TP48	0.2-0.4	G, A	0	F: Silty sandy clay												
22/02/2022	60	TP48	1.0-1.2	G, A	0	F: Silty clay		X	X									
22/02/2022	61	TP48	1.4-1.6	G, A	0	Silty sandy clay												
22/02/2022	62	TP49	0-0.1	G, A	0	F: Silty sand			X									
22/02/2022	63	TP49	0.1-0.3	G, A	0	F: Silty clayey sand		X										
22/02/2022	64	TP49	0.4-0.6	G, A	0	F: Silty sandy clay		X	X									
22/02/2022	65	TP49	1.1-1.3	G, A	0	F: Silty sandy clay												
22/02/2022	66	TP49	1.5-1.7	G, A	0	Silty clay		X										
22/02/2022	67	TP49	1.8-2.0	G, A	0	Silty clayey sand												
22/02/2022	68	TP50	0-0.1	G, A, PFAS	0	F: Silty sand	X		X									
22/02/2022	69	TP50	0.2-0.4	G, A, PFAS	0	F: Gravelly sand		X	X									
22/02/2022	70	TP50	0.5-0.7	G, A, PFAS	0	F: Silty clay												
22/02/2022	71	TP50	0.9-1.1	G, A, PFAS	0	Silty clay												
22/02/2022	72	TP51	0-0.1	G, A, PFAS	0	F: Silty sand		X	X									
22/02/2022	73	TP51	0.1-0.3	G, A, PFAS	0	F: Silty sandy clay		X	X									
22/02/2022	74	TP51	0.6-0.8	G, A, PFAS	0	F: Silty clay		X	X									
22/02/2022	75	TP51	1.3-1.5	G, A, PFAS	0	Silty clay												

Remarks (comments/detection limits required):

Sample Containers:
G - 250mg Glass Jar
A - Ziplock Asbestos Bag
P - Plastic Bag

Relinquished By:	Date:	Time:	Received By:	Date:

SAMPLE AND CHAIN OF CUSTODY FORM

TO:		FROM:
ENVIROLAB SERVICES PTY LTD 12 ASHLEY STREET CHATSWOOD NSW 2067 P: (02) 99106200 F: (02) 99106201 Attention: Aileen	JKE Job Number: E33051BR Date Results Required: STANDARD Page: 4 of 5	JKEnvironments REAR OF 115 WICKS ROAD MACQUARIE PARK, NSW 2113 P: 02-9888 5000 F: 02-9888 5001 Attention: Craig Ridley cridley@jkenvironments.com.au

Location: Mittagong
Sampler: NM

Sample Preserved in Esky on Ice

Tests Required

Date Sampled	Lab Ref:	Sample Number	Depth (m)	Sample Container	PID	Sample Description	Combo 6	Combo 3	Asbestos (NEPM)	Asbestos (ID)	Phenols	PFAS (Routine, Extended)	pH	CEC	Clay Content	TRH/BTEX	BTEX	Combo 3L
22/02/2022	76	TP52	0-0.1	G, A, PFAS	0	F: Silty sand	X		X		X	X						
22/02/2022	77	TP52	0.2-0.4	G, A, PFAS	0	Silty clay		X										
23/02/2022	78	TP45	0-0.1	G, A, PFAS	0	F: Silty Sandy Clay	X		X									
23/02/2022	79	TP45	0.2-0.4	G, A, PFAS	0	F: Silty Sandy Clay												
23/02/2022	80	TP45	0.6-0.8	G, A, PFAS	0	Silty Sandy Clay		X										
23/02/2022	81	TP56	0-0.1	G, A, PFAS	0	F: Silty Sandy Clay	X		X									
23/02/2022	82	TP56	0.2-0.4	G, A, PFAS	0.2	F: Silty Sandy Clay												
23/02/2022	83	TP56	0.4-0.6	G, A, PFAS	0	Silty clay		X										
23/02/2022	84	TP57	0-0.1	G, A	0	F: Silty Sandy Clay		X	X									
23/02/2022	85	TP57	0.1-0.2	G,A	0	F: Silty Sandy Clay												
23/02/2022	86	TP57	0.2-0.4	G, A	0.3	Silty clay												
23/02/2022	87	TP76	0-0.1	G,A	0	F: Silty Sandy Clay	X		X									
23/02/2022	88	TP76	0.2-0.4	G, A	0.2	F: Silty Sandy Clay												
23/02/2022	89	TP76	0.4-0.6	G,A	0	Silty clay		X										
21/02/2022	104	SDUP6	-	G, A	-	Duplicate		X	X									
21/02/2022	105	SDUP7	-	G,A	-	Duplicate												
22/02/2022	106	SDUP8	-	G,A	-	Duplicate		X										
22/02/2022	90	SDUP9	-	G, A, PFAS	-	Duplicate												
22/02/2022	91	SDUP10	-	G, A, PFAS	-	Duplicate	X		X		X	X						
22/02/2022	92	SDUP11	-	G, A, PFAS	-	Duplicate	X		X		SEND TO INTERLAB							
22/02/2022	93	SDUP12	-	G, A	-	Duplicate		X			SEND TO INTERLAB							
23/02/2022	94	SDUP13	-	G, A, PFAS	-	Duplicate												
23/02/2022	95	SDUP14	-	G, A	-	Duplicate		X	X		SEND TO INTERLAB							
18/02/2022	96	FCF1 - SURFACE		B	-	Fragment				X								
18/02/2022	97	FCF2 - SURFACE		B	-	Fragment				X								

Remarks (comments/detection limits required):

Sample Containers:
G - 250mg Glass Jar
A - Ziplock Asbestos Bag
P - Plastic Bag

Relinquished By:	Date:	Time:	Received By:	Date:

SAMPLE AND CHAIN OF CUSTODY FORM

TO:		FROM:
ENVIROLAB SERVICES PTY LTD 12 ASHLEY STREET CHATSWOOD NSW 2067 P: (02) 99106200 F: (02) 99106201 Attention: Aileen	JKE Job Number: E33051BR Date Results Required: STANDARD Page: 5of 5	JKEnvironments REAR OF 115 WICKS ROAD MACQUARIE PARK, NSW 2113 P: 02-9888 5000 F: 02-9888 5001 Attention: Craig Ridley cridley@jkenvironments.com.au

Location:	Mittagong	Sample Preserved In Esky on Ice
Sampler:	NM	Tests Required

Date Sampled	Lab Ref:	Sample Number	Depth (m)	Sample Container	PID	Sample Description	Combo 6	Combo 3	Asbestos (NEPM)	Asbestos (ID)	Phenols	PFAS (Routine, Extended)	pH	CEC	Clay Content	TRH/BTEX	BTEX	Combo 3L
18/02/2022	98	FCF3 - SURFACE		B	-	Fragment				X								
18/02/2022	99	FCF4 - SURFACE		B	-	Fragment				X								
22/02/2022	100	FCF5 - SURFACE		B	-	Fragment				X								
22/02/2022	101	TP50 - FCF1	0-0.1	B	-	Fragment				X								
23/02/2022	102	TS-S2	-	G	-	Spike											X	
23/02/2022	103	TB-S2	-	G, PFAS	-	Blank						X					X	

Remarks (comments/detection limits required):	Sample Containers: G - 250mg Glass Jar A - Ziplock Asbestos Bag P - Plastic Bag

Relinquished By:	Date:	Time:	Received By:	Date:

Updated 1548

SAMPLE AND CHAIN OF CUSTODY FORM

TO:		FROM:
ENVIROLAB SERVICES PTY LTD	JKE Job Number: E33051BR	JKEnvironments
12 ASHLEY STREET		REAR OF 115 WICKS ROAD
CHATSWOOD NSW 2067		MACQUARIE PARK, NSW 2113
P: (02) 99106200	Date Results Required: STANDARD	P: 02-9888 5000 F: 02-9888 5001
F: (02) 99106201		Attention: Craig Ridley
Attention: Aileen	Page: 1 of 5	cridley@jkenvironments.com.au

Location: Mittagong

Sampler: NM

Sample Preserved in Esky on Ice

Tests Required

Date Sampled	Lab Ref:	Sample Number	Depth (m)	Sample Container	PID	Sample Description	Combo 6	Combo 3	Asbestos (NEPM)	Asbestos (ID)	Phenols	PFAS (Routine, Extended)	pH	CEC	Clay Content	TRH/BTEX	BTEX	Combo 3L
21/02/2022	1	TP3	0-0.1	G, A	0	F: Silty clayey sand												
21/02/2022	2	TP3	0.1-0.3	G, A	0	F: Silty clayey sand												
21/02/2022	3	TP3	0.5-0.7	G, A	0	F: Silty clay												
21/02/2022	4	TP3	1.0-1.2	G, A	0	Silty Clay												
21/02/2022	5	TP4	0-0.1	G, A, PFAS	0	F: Silty clayey sand												
21/02/2022	6	TP4	0.1-0.3	G, A, PFAS	0	F: Silty clayey sand												
21/02/2022	7	TP4	0.3-0.5	G, A, PFAS	0	F: Silty clay												
21/02/2022	8	TP4	0.65-0.85	G, A, PFAS	0	F: Silty clayey sand												
21/02/2022	9	TP4	1.35-1.55	G, A, PFAS	0	Silty sandy clay												
21/02/2022	10	TP13	0-0.1	G, A	0	F: Silty clayey sand												
21/02/2022	11	TP13	0.1-0.3	G, A	0	F: Silty clayey sand												
21/02/2022	12	TP13	0.4-0.6	G, A	0	Silty sand												
21/02/2022	13	TP14	0-0.1	G, A	0	F: Gravelly sand												
21/02/2022	14	TP14	0.1-0.3	G, A	0	F: Gravelly sand												
21/02/2022	15	TP14	0.6-0.8	G, A	0	Silty clay												
21/02/2022	16	TP15	0-0.1	G, A	0	F: Silty clayey sand												
21/02/2022	17	TP15	0.3-0.5	G, A	0	F: Silty clayey sand												
21/02/2022	18	TP15	0.7-0.9	G, A	0	Silty clay												
21/02/2022	19	TP16	0-0.1	G, A	0	F: mulch, silty sand												
21/02/2022	20	TP16	0.2-0.5	G, A	0	F: Silty sand												
21/02/2022	21	TP16	0.5-0.7	G, A	0	F: Sandy clay												
21/02/2022	22	TP16	1.0-1.2	G, A	0	Sandy clay												
22/02/2022	23	TP17	0-0.1	G, A, PFAS	0	F:Silty clayey sand												
22/02/2022	24	TP17	0.2-0.4	G, A, PFAS	0	F: Silty clayey sand												
22/02/2022	25	TP17	0.5-0.7	G, A, PFAS	0	F: Silty sandy clay												

ENVIROLAB GROUP

Envirolab Services
12 Ashley St
Chatswood NSW 2067
Ph: (02) 9910 6200

Job No: 289658

Date Received: 23/02/22

Time Received: 1700

Received by: CH

Temp: Cool/Ambient

Cooling: Ice/Icepack

Security: Intact/Broken/None

Remarks (comments/detection limits required):

Sample Containers:
G - 250mg Glass Jar
A - Ziplock Asbestos Bag
P - Plastic Bag

Relinquished By:	Date:	Time:	Received By:	Date:
		1700	Christine	23/02/22

SAMPLE AND CHAIN OF CUSTODY FORM

TO:		FROM:
ENVIROLAB SERVICES PTY LTD 12 ASHLEY STREET CHATSWOOD NSW 2067 P: (02) 99106200 F: (02) 99106201 Attention: Aileen	JKE Job Number: E33051BR Date Results Required: STANDARD Page: 2 of 5	JKEnvironments REAR OF 115 WICKS ROAD MACQUARIE PARK, NSW 2113 P: 02-9888 5000 F: 02-9888 5001 Attention: Craig Ridley cridley@jkenvironments.com.au

Location:	Mittagong	Sample Preserved in Esky on Ice
Sampler:	NM	Tests Required

Date Sampled	Lab Ref:	Sample Number	Depth (m)	Sample Container	PID	Sample Description	Combo 6	Combo 3	Asbestos (NEPM)	Asbestos (ID)	Phenols	PFAS (Routine, Extended)	pH	CEC	Clay Content	TRH/BTEX	BTEX	Combo 3L
22/02/2022	26	TP17	0.8-1.0	G, A, PFAS	0	Silty clay												
22/02/2022	27	TP18	0-0.1	G, A	0	F: Silty gravelly clay												
22/02/2022	28	TP18	0.3-0.5	G, A	0	F: Silty sandy clay												
22/02/2022	29	TP18	0.75-0.95	G, A	0	Silty clay												
21/02/2022	30	TP34	0-0.1	G, A	0	F: Silty sand												
21/02/2022	31	TP34	0.1-0.3	G, A	0	F: Silty sand												
21/02/2022	32	TP34	0.7-0.9	G, A	0	Sandy clay												
21/02/2022	33	TP34	1.3-1.5	G, A	0	Sandy clay												
21/02/2022	34	TP35	0-0.1	G, A	0	F: Silty sandy clay												
21/02/2022	35	TP35	0.1-0.3	G, A	0	F: Silty sandy clay												
21/02/2022	36	TP35	0.8-1.0	G, A	0	Sandy clay												
22/02/2022	37	TP36	0-0.1	G, A	0	F: Silty sand												
22/02/2022	38	TP36	0.2-0.4	G, A	0	F: Silty gravelly sand												
22/02/2022	39	TP36	0.8-1.0	G, A	0	Silty clay												
22/02/2022	40	TP38	0-0.1	G, A	0	F: Silty sand												
22/02/2022	41	TP38	0.2-0.4	G, A	0	F: Gravelly sand												
22/02/2022	42	TP38	0.6-0.8	G, A	0	F: Clayey gravelly sand												
22/02/2022	43	TP38	1.2-1.4	G, A	0	Silty clay												
22/02/2022	44	TP38	1.7-1.9	G, A	0	Sandy silty clay												
22/02/2022	45	TP39	0-0.1	G, A, PFAS	0	F: Silty sand												
22/02/2022	46	TP39	0.2-0.4	G, A, PFAS	0	F: Gravelly sand												
22/02/2022	47	TP39	0.6-0.8	G, A, PFAS	0	F: Clayey gravelly sand												
22/02/2022	48	TP39	1.0-1.2	G, A, PFAS	0	F: Silty clayey sand												
22/02/2022	49	TP39	1.5-1.7	G, A, PFAS	0	Sandy silty clay												
22/02/2022	50	TP40	0-0.1	G, A, PFAS	0	F: Gravelly sand												

Remarks (comments/detection limits required):	Sample Containers: G - 250mg Glass Jar A - Ziplock Asbestos Bag P - Plastic Bag

Relinquished By:	Date:	Time:	Received By:	Date:
		1700	Christine	23/02/22

289658

SAMPLE AND CHAIN OF CUSTODY FORM

TO:		FROM:
ENVIROLAB SERVICES PTY LTD	JKE Job Number: E33051BR	JKEnvironments
12 ASHLEY STREET		REAR OF 115 WICKS ROAD
CHATSWOOD NSW 2067		MACQUARIE PARK, NSW 2113
P: (02) 99106200	Date Results Required: STANDARD	P: 02-9888 5000 F: 02-9888 5001
F: (02) 99106201		Attention: Craig Ridley
Attention: Aileen	Page: 3 of 5	cridley@jkenvironments.com.au

Location:	Mittagong	Sample Preserved in Esky on Ice
Sampler:	NM	Tests Required

Date Sampled	Lab Ref:	Sample Number	Depth (m)	Sample Container	PID	Sample Description	Combo 6	Combo 3	Asbestos (NEPM)	Asbestos (ID)	Phenols	PFAS (Routine, Extended)	pH	CEC	Clay Content	TRH/BTEX	BTEX	Combo 3L
22/02/2022	51	TP40	0.2-0.4	G, A, PFAS	0	F: Silty gravelly sand												
22/02/2022	52	TP40	0.5-0.7	G, A, PFAS	0	F: Silty clay												
22/02/2022	53	TP40	1.1-1.3	G, A, PFAS	0	F: Silty clay												
22/02/2022	54	TP40	1.6-1.8	G, A, PFAS	0	Silty sandy clay												
22/02/2022	55	TP47	0-0.1	G, A	0	F: Silty clayey sand												
22/02/2022	56	TP47	0.2-0.4	G, A	0	F: Silty sandy clay												
22/02/2022	57	TP47	1.0-1.2	G, A	0	Silty clay												
22/02/2022	58	TP48	0-0.1	G, A	0	F: Silty sand												
22/02/2022	59	TP48	0.2-0.4	G, A	0	F: Silty sandy clay												
22/02/2022	60	TP48	1.0-1.2	G, A	0	F: Silty clay												
22/02/2022	61	TP48	1.4-1.6	G, A	0	Silty sandy clay												
22/02/2022	62	TP49	0-0.1	G, A	0	F: Silty sand												
22/02/2022	63	TP49	0.1-0.3	G, A	0	F: Silty clayey sand												
22/02/2022	64	TP49	0.4-0.6	G, A	0	F: Silty sandy clay												
22/02/2022	65	TP49	1.1-1.3	G, A	0	F: Silty sandy clay												
22/02/2022	66	TP49	1.5-1.7	G, A	0	Silty clay												
22/02/2022	67	TP49	1.8-2.0	G, A	0	Silty clayey sand												
22/02/2022	68	TP50	0-0.1	G, A, PFAS	0	F: Silty sand												
22/02/2022	69	TP50	0.2-0.4	G, A, PFAS	0	F: Gravelly sand												
22/02/2022	70	TP50	0.5-0.7	G, A, PFAS	0	F: Silty clay												
22/02/2022	71	TP50	0.9-1.1	G, A, PFAS	0	Silty clay												
22/02/2022	72	TP51	0-0.1	G, A, PFAS	0	F: Silty sand												
22/02/2022	73	TP51	0.1-0.3	G, A, PFAS	0	F: Silty sandy clay												
22/02/2022	74	TP51	0.6-0.8	G, A, PFAS	0	F: Silty clay												
22/02/2022	75	TP51	1.3-1.5	G, A, PFAS	0	Silty clay												

Remarks (comments/detection limits required):	Sample Containers: G - 250mg Glass Jar A - Ziplock Asbestos Bag P - Plastic Bag

Relinquished By:	Date:	Time:	Received By:	Date:
		1700	Christine	23/02/22

#289658

SAMPLE AND CHAIN OF CUSTODY FORM

TO:		FROM:
ENVIROLAB SERVICES PTY LTD	JKE Job Number: E33051BR	JKEnvironments
12 ASHLEY STREET		REAR OF 115 WICKS ROAD
CHATSWOOD NSW 2067		MACQUARIE PARK, NSW 2113
P: (02) 99106200	Date Results Required: STANDARD	P: 02-9888 5000 F: 02-9888 5001
F: (02) 99106201		Attention: Craig Ridley
Attention: Aileen	Page: 4 of 5	cridley@jkenvironments.com.au

Location:	Mittagong	Sample Preserved in Esky on Ice
Sampler:	NM	Tests Required

Date Sampled	Lab Ref:	Sample Number	Depth (m)	Sample Container	PID	Sample Description	Combo 6	Combo 3	Asbestos (NEPM)	Asbestos (ID)	Phenols	PFAS (Routine, Extended)	pH	CEC	Clay Content	TRH/BTEX	BTEX	Combo 3L
22/02/2022	76	TP52	0-0.1	G, A, PFAS	0	F: Silty sand												
22/02/2022	77	TP52	0.2-0.4	G, A, PFAS	0	Silty clay												
23/02/2022	78	TP45	0-0.1	G, A, PFAS	0													
23/02/2022	79	TP45	0.2-0.4	G, A, PFAS	0													
23/02/2022	80	TP45	0.6-0.8	G, A, PFAS	0													
23/02/2022	81	TP56	0-0.1	G, A, PFAS	0													
23/02/2022	82	TP56	0.2-0.4	G, A, PFAS	0.2													
23/02/2022	83	TP56	0.4-0.6	G, A, PFAS	0													
23/02/2022	84	TP57	0-0.1	G, A	0													
23/02/2022	85	TP57	0.1-0.2	G,A	0													
23/02/2022	86	TP57	0.2-0.4	G, A	0.3													
23/02/2022	87	TP76	0-0.1	G,A	0													
23/02/2022	88	TP76	0.2-0.4	G, A	0.2													
23/02/2022	89	TP76	0.4-0.6	G,A	0													
22/02/2022	90	SDUP9	-	G, A, PFAS	-	Duplicate												
22/02/2022	91	SDUP10	-	G, A, PFAS	-	Duplicate												
22/02/2022	92	SDUP11	-	G, A, PFAS	-	Duplicate												
22/02/2022	93	SDUP12	-	G, A	-	Duplicate												
23/02/2022	94	SDUP13	-	G, A, PFAS	-	Duplicate												
23/02/2022	95	SDUP14	-	G, A	-	Duplicate												
18/02/2022	96	FCF1 - SURFACE		B	-	Fragment												
18/02/2022	97	FCF2 - SURFACE		B	-	Fragment												
18/02/2022	98	FCF3 - SURFACE		B	-	Fragment												
18/02/2022	99	FCF4 - SURFACE		B	-	Fragment												
22/02/2022	100	FCF5 - SURFACE		B	-	Fragment												

Remarks (comments/detection limits required):	Sample Containers: G - 250mg Glass Jar A - Ziplock Asbestos Bag P - Plastic Bag

Relinquished By:	Date:	Time:	Received By:	Date:
		1700	Christine	23/02/22

#289658

SAMPLE AND CHAIN OF CUSTODY FORM

TO:		FROM:
ENVIROLAB SERVICES PTY LTD	JKE Job Number: E33051BR	JKEnvironments
12 ASHLEY STREET		REAR OF 115 WICKS ROAD
CHATSWOOD NSW 2067		MACQUARIE PARK, NSW 2113
P: (02) 99106200	Date Results Required: STANDARD	P: 02-9888 5000 F: 02-9888 5001
F: (02) 99106201		Attention: Craig Ridley
Attention: Aileen	Page: 5of 5	cridley@jkenvironments.com.au

Location:	Mittagong						Sample Preserved in Esky on Ice												
Sampler:	NM						Tests Required												
Date Sampled	Lab Ref:	Sample Number	Depth (m)	Sample Container	PID	Sample Description	Combo 6	Combo 3	Asbestos (NEPM)	Asbestos (ID)	Phenols	PFAS (Routine, Extended)	pH	CEC	Clay Content	TRH/BTEX	BTEX	Combo 3L
22/02/2022	01	TP50 - FCF1	0-0.1	B	-	Fragment												
23/02/2022	02	TS-S2	-	G	-	Spike												
23/02/2022	03	TB-S2	-	G, PFAS	-	Blank												
	04	SDup6																
	05	SDup7																
	06	SDup8																

Remarks (comments/detection limits required):

Sample Containers:
G - 250mg Glass Jar
A - Ziplock Asbestos Bag
P - Plastic Bag

Relinquished By:	Date:	Time:	Received By:	Date:
		1700	Christine	23/02/22

#289658.

Envirolab Services Pty Ltd
ABN 37 112 535 645
12 Ashley St Chatswood NSW 2067
ph 02 9910 6200 fax 02 9910 6201
customerservice@envirolab.com.au
www.envirolab.com.au

CERTIFICATE OF ANALYSIS 289658-A

Client Details

Client	JK Environments
Attention	C Ridley
Address	PO Box 976, North Ryde BC, NSW, 1670

Sample Details

Your Reference	**E33051BR, Mittagong**
Number of Samples	additional analysis
Date samples received	23/02/2022
Date completed instructions received	09/03/2022

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.

Samples were analysed as received from the client. Results relate specifically to the samples as received.

Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Please refer to the last page of this report for any comments relating to the results.

Report Details

Date results requested by	16/03/2022
Date of Issue	16/03/2022

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Accredited for compliance with ISO/IEC 17025 - Testing. **Tests not covered by NATA are denoted with ***

Results Approved By
Diego Bigolin, Inorganics Supervisor
Hannah Nguyen, Metals Supervisor
Josh Williams, LC Supervisor
Kyle Gavrily, Chemist

Authorised By



Nancy Zhang, Laboratory Manager

sTPH in Soil (C10-C40)-Silica			
Our Reference		289658-A-1	289658-A-20
Your Reference	UNITS	TP3	TP16
Depth		0-0.1	0.2-0.5
Date Sampled		21/02/2022	21/02/2022
Type of sample		Soil	Soil
Date extracted	-	11/03/2022	11/03/2022
Date analysed	-	16/03/2022	16/03/2022
TPH C_{10} - C_{14}	mg/kg	<50	<50
TPH C_{15} - C_{28}	mg/kg	<100	<100
TPH C_{29} - C_{36}	mg/kg	<100	<100
TPH >C_{10} -C_{16}	mg/kg	<50	<50
TPH >C_{16} -C_{34}	mg/kg	<100	<100
TPH >C_{34} -C_{40}	mg/kg	<100	<100
Surrogate o-Terphenyl	%	89	84

Misc Inorg - Soil				
Our Reference	UNITS	289658-A-17	289658-A-40	289658-A-42
Your Reference		TP15	TP38	TP38
Depth		0.3-0.5	0-0.1	0.6-0.8
Date Sampled		21/02/2022	22/02/2022	22/02/2022
Type of sample		Soil	Soil	Soil
Date prepared	-	11/03/2022	11/03/2022	11/03/2022
Date analysed	-	11/03/2022	11/03/2022	11/03/2022
pH 1:5 soil:$CaCl_2$	pH Units	6.0	6.7	7.3
Total Organic Carbon (Walkley Black)	mg/kg	[NA]	59,000	15,000

CEC				
Our Reference		289658-A-17	289658-A-40	289658-A-42
Your Reference	UNITS	TP15	TP38	TP38
Depth		0.3-0.5	0-0.1	0.6-0.8
Date Sampled		21/02/2022	22/02/2022	22/02/2022
Type of sample		Soil	Soil	Soil
Date prepared	-	16/03/2022	16/03/2022	16/03/2022
Date analysed	-	16/03/2022	16/03/2022	16/03/2022
Exchangeable Ca	meq/100g	5.0	20	23
Exchangeable K	meq/100g	<0.1	0.4	0.1
Exchangeable Mg	meq/100g	0.6	1.0	0.4
Exchangeable Na	meq/100g	0.1	<0.1	<0.1
Cation Exchange Capacity	meq/100g	5.8	21	23

Misc Soil - Inorg		
Our Reference		289658-A-50
Your Reference	UNITS	TP40
Depth		0-0.1
Date Sampled		22/02/2022
Type of sample		Soil
Date prepared	-	11/03/2022
Date analysed	-	11/03/2022
Hexavalent Chromium, Cr^{6+}	mg/kg	<1

Clay 50-120g		
Our Reference		289658-A-50
Your Reference	UNITS	TP40
Depth		0-0.1
Date Sampled		22/02/2022
Type of sample		Soil
Date prepared	-	11/03/2022
Date analysed	-	14/03/2022
Clay in soils <2µm	% (w/w)	3

TCLP Preparation - Acid						
Our Reference		289658-A-17	289658-A-25	289658-A-40	289658-A-42	289658-A-51
Your Reference	UNITS	TP15	TP17	TP38	TP38	TP40
Depth		0.3-0.5	0.5-0.7	0-0.1	0.6-0.8	0.2-0.4
Date Sampled		21/02/2022	22/02/2022	22/02/2022	22/02/2022	22/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
pH of soil for fluid# determ.	pH units	7.5	7.7	7.7	8.2	8.4
pH of soil TCLP (after HCl)	pH units	1.6	1.6	1.6	1.7	1.7
Extraction fluid used	-	1	1	1	1	1
pH of final Leachate	pH units	5.0	5.0	5.1	5.9	5.0

Metals from Leaching Fluid pH 2.9 or 5				
Our Reference		289658-A-17	289658-A-40	289658-A-42
Your Reference	UNITS	TP15	TP38	TP38
Depth		0.3-0.5	0-0.1	0.6-0.8
Date Sampled		21/02/2022	22/02/2022	22/02/2022
Type of sample		Soil	Soil	Soil
Date extracted	-	11/03/2022	11/03/2022	11/03/2022
Date analysed	-	11/03/2022	11/03/2022	11/03/2022
Lead	mg/L	0.2	0.1	0.67

PFAS in TCLP Extended			
Our Reference		289658-A-25	289658-A-51
Your Reference	UNITS	TP17	TP40
Depth		0.5-0.7	0.2-0.4
Date Sampled		22/02/2022	22/02/2022
Type of sample		Soil	Soil
Date prepared	-	11/03/2022	11/03/2022
Date analysed	-	11/03/2022	11/03/2022
Perfluorobutanesulfonic acid	µg/L	<0.01	<0.01
Perfluoropentanesulfonic acid	µg/L	<0.01	<0.01
Perfluorohexanesulfonic acid - PFHxS	µg/L	<0.01	<0.01
Perfluoroheptanesulfonic acid	µg/L	<0.01	<0.01
Perfluorooctanesulfonic acid PFOS	µg/L	<0.01	<0.01
Perfluorodecanesulfonic acid	µg/L	<0.02	<0.02
Perfluorobutanoic acid	µg/L	<0.02	<0.02
Perfluoropentanoic acid	µg/L	<0.02	<0.02
Perfluorohexanoic acid	µg/L	<0.01	<0.01
Perfluoroheptanoic acid	µg/L	<0.01	<0.01
Perfluorooctanoic acid PFOA	µg/L	<0.01	<0.01
Perfluorononanoic acid	µg/L	<0.01	<0.01
Perfluorodecanoic acid	µg/L	<0.02	<0.02
Perfluoroundecanoic acid	µg/L	<0.02	<0.02
Perfluorododecanoic acid	µg/L	<0.05	<0.05
Perfluorotridecanoic acid	µg/L	<0.1	<0.1
Perfluorotetradecanoic acid	µg/L	<0.5	<0.5
4:2 FTS	µg/L	<0.01	<0.01
6:2 FTS	µg/L	<0.01	<0.01
8:2 FTS	µg/L	<0.02	<0.02
10:2 FTS	µg/L	<0.02	<0.02
Perfluorooctane sulfonamide	µg/L	<0.1	<0.1
N-Methyl perfluorooctane sulfonamide	µg/L	<0.05	<0.05
N-Ethyl perfluorooctanesulfon amide	µg/L	<0.1	<0.1
N-Me perfluorooctanesulfonamid oethanol	µg/L	<0.05	<0.05
N-Et perfluorooctanesulfonamid oethanol	µg/L	<0.5	<0.5
MePerfluorooctanesulf- amid oacetic aci	µg/L	<0.02	<0.02
EtPerfluorooctanesulf- amid oacetic acid	µg/L	<0.02	<0.02
Surrogate $^{13}C_8$ *PFOS*	%	97	94
Surrogate $^{13}C_2$ *PFOA*	%	95	100
Extracted ISTD $^{13}C_3$ *PFBS*	%	109	105
Extracted ISTD $^{18}O_2$ *PFHxS*	%	113	107
Extracted ISTD $^{13}C_4$ *PFOS*	%	111	102

PFAS in TCLP Extended			
Our Reference		289658-A-25	289658-A-51
Your Reference	UNITS	TP17	TP40
Depth		0.5-0.7	0.2-0.4
Date Sampled		22/02/2022	22/02/2022
Type of sample		Soil	Soil
Extracted ISTD $^{13}C_4$ *PFBA*	%	94	93
Extracted ISTD $^{13}C_3$ *PFPeA*	%	97	104
Extracted ISTD $^{13}C_2$ *PFHxA*	%	110	105
Extracted ISTD $^{13}C_4$ *PFHpA*	%	118	125
Extracted ISTD $^{13}C_4$ *PFOA*	%	120	113
Extracted ISTD $^{13}C_5$ *PFNA*	%	124	120
Extracted ISTD $^{13}C_2$ *PFDA*	%	117	111
Extracted ISTD $^{13}C_2$ *PFUnDA*	%	112	109
Extracted ISTD $^{13}C_2$ *PFDoDA*	%	103	103
Extracted ISTD $^{13}C_2$ *PFTeDA*	%	86	77
Extracted ISTD $^{13}C_2$ *4:2FTS*	%	85	76
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	96	105
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	106	107
Extracted ISTD $^{13}C_8$ *FOSA*	%	139	135
Extracted ISTD d_3 *N MeFOSA*	%	110	103
Extracted ISTD d_5 *N EtFOSA*	%	106	102
Extracted ISTD d_7 *N MeFOSE*	%	112	117
Extracted ISTD d_9 *N EtFOSE*	%	108	105
Extracted ISTD d_3 *N MeFOSAA*	%	86	84
Extracted ISTD d_5 *N EtFOSAA*	%	88	83
Total Positive PFHxS & PFOS	µg/L	<0.01	<0.01
Total Positive PFOS & PFOA	µg/L	<0.01	<0.01
Total Positive PFAS	µg/L	<0.01	<0.01

Method ID	Methodology Summary
AS1289.3.6.3	Particle Size Distribution using in house method INORG-107 by way of sieving and/or hydrometer sedimentation testing. Clay fraction at <2µm reported.
Inorg-001	pH - Measured using pH meter and electrode in accordance with APHA latest edition, 4500-H+. Please note that the results for water analyses are indicative only, as analysis outside of the APHA storage times.
INORG-004	Toxicity Characteristic Leaching Procedure (TCLP) using Zero Headspace Extraction (zHE) using AS4439 and USEPA 1311.
Inorg-004	Toxicity Characteristic Leaching Procedure (TCLP) using AS 4439 and USEPA 1311. Please note that the mass used may be scaled down from default based on sample mass available. Samples are stored at 2-6oC before and after leachate preparation.
Inorg-024	Hexavalent Chromium (Cr6+) - determined colourimetrically. Waters samples are filtered on receipt prior to analysis.
Inorg-036	Total Organic Carbon or Matter - A titrimetric method that measures the oxidisable organic content of soils.
Metals-020	Determination of various metals by ICP-AES following buffer determination as per USEPA 1311 and hence AS 4439.3. Extraction Fluid 1 refers to the pH 5.0 buffer and Extraction Fluid 2 is the pH 2.9 buffer.
Metals-020	Determination of exchangeable cations and cation exchange capacity in soils using 1M Ammonium Chloride exchange and ICP-OES analytical finish.
Org-020	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis.

Method ID	Methodology Summary
Org-029	Soil samples are extracted with basified Methanol. Waters and soil extracts are directly injected and/or concentrated/extracted using SPE. TCLPs/ASLP leachates are centrifuged, the supernatant is then analysed (including amendment with solvent) - as per the option in AS4439.3. Analysis is undertaken with LC-MS/MS. PFAS results include the sum of branched and linear isomers where applicable. Please note that PFAS results are corrected for Extracted Internal Standards (QSM 5.3 Table B-15 terminology), which are mass labelled analytes added prior to sample preparation to assess matrix effects and verify processing of the sample. PFAS analytes without a commercially available mass labelled analogue are corrected vs a closely eluting mass labelled PFAS compound. Surrogates are also reported, in this context they are mass labelled PFAS compounds added prior to extraction but are used as monitoring compounds only (not used for result correction). Envicarb (or similar) is used discretionally to remove interfering matrix components. Please contact the laboratory if estimates of Measurement Uncertainty are required as per WA DER.

QUALITY CONTROL: sTPH in Soil (C10-C40)-Silica					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date extracted	-			11/03/2022	[NT]	[NT]	[NT]	[NT]	11/03/2022	[NT]
Date analysed	-			16/03/2022	[NT]	[NT]	[NT]	[NT]	16/03/2022	[NT]
TPH C_{10} - C_{14}	mg/kg	50	Org-020	<50	[NT]	[NT]	[NT]	[NT]	71	[NT]
TPH C_{15} - C_{28}	mg/kg	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	90	[NT]
TPH C_{29} - C_{36}	mg/kg	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	103	[NT]
TPH >C_{10} -C_{16}	mg/kg	50	Org-020	<50	[NT]	[NT]	[NT]	[NT]	71	[NT]
TPH >C_{16} -C_{34}	mg/kg	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	90	[NT]
TPH >C_{34} -C_{40}	mg/kg	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	103	[NT]
Surrogate o-Terphenyl	%		Org-020	120	[NT]	[NT]	[NT]	[NT]	114	[NT]

QUALITY CONTROL: Misc Inorg - Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date prepared	-			11/03/2022	40	11/03/2022	11/03/2022		11/03/2022	[NT]
Date analysed	-			11/03/2022	40	11/03/2022	11/03/2022		11/03/2022	[NT]
pH 1:5 soil:$CaCl_2$	pH Units		Inorg-001	[NT]	40	6.7	6.7	0	100	[NT]
Total Organic Carbon (Walkley Black)	mg/kg	1000	Inorg-036	<1000	40	59000	[NT]		89	[NT]

QUALITY CONTROL: CEC						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date prepared	-			16/03/2022	42	16/03/2022	16/03/2022		16/03/2022	[NT]
Date analysed	-			16/03/2022	42	16/03/2022	16/03/2022		16/03/2022	[NT]
Exchangeable Ca	meq/100g	0.1	Metals-020	<0.1	42	23	23	0	102	[NT]
Exchangeable K	meq/100g	0.1	Metals-020	<0.1	42	0.1	0.1	0	107	[NT]
Exchangeable Mg	meq/100g	0.1	Metals-020	<0.1	42	0.4	0.4	0	98	[NT]
Exchangeable Na	meq/100g	0.1	Metals-020	<0.1	42	<0.1	0.1	0	114	[NT]

QUALITY CONTROL: Misc Soil - Inorg						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	289658-A-50
Date prepared	-			11/03/2022	50	11/03/2022	11/03/2022		11/03/2022	11/03/2022
Date analysed	-			11/03/2022	50	11/03/2022	11/03/2022		11/03/2022	11/03/2022
Hexavalent Chromium, Cr^{6+}	mg/kg	1	Inorg-024	<1	50	<1	<1	0	98	#

QUALITY CONTROL: Metals from Leaching Fluid pH 2.9 or 5						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	289658-A-40
Date extracted	-			16/03/2022	17	11/03/2022	11/03/2022		16/03/2022	16/03/2022
Date analysed	-			16/03/2022	17	11/03/2022	11/03/2022		16/03/2022	16/03/2022
Lead	mg/L	0.03	Metals-020	<0.03	17	0.2	0.2	0	89	#

QUALITY CONTROL: PFAS in TCLP Extended						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	289658-A-25
Date prepared	-			11/03/2022	51	11/03/2022	11/03/2022		11/03/2022	11/03/2022
Date analysed	-			11/03/2022	51	11/03/2022	11/03/2022		11/03/2022	11/03/2022
Perfluorobutanesulfonic acid	µg/L	0.01	Org-029	<0.01	51	<0.01	<0.01	0	98	99
Perfluoropentanesulfonic acid	µg/L	0.01	Org-029	<0.01	51	<0.01	<0.01	0	99	103
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.01	Org-029	<0.01	51	<0.01	<0.01	0	100	104
Perfluoroheptanesulfonic acid	µg/L	0.01	Org-029	<0.01	51	<0.01	<0.01	0	98	103
Perfluorooctanesulfonic acid PFOS	µg/L	0.01	Org-029	<0.01	51	<0.01	<0.01	0	103	101
Perfluorodecanesulfonic acid	µg/L	0.02	Org-029	<0.02	51	<0.02	<0.02	0	100	104
Perfluorobutanoic acid	µg/L	0.02	Org-029	<0.02	51	<0.02	<0.02	0	101	101
Perfluoropentanoic acid	µg/L	0.02	Org-029	<0.02	51	<0.02	<0.02	0	101	99
Perfluorohexanoic acid	µg/L	0.01	Org-029	<0.01	51	<0.01	<0.01	0	102	102
Perfluoroheptanoic acid	µg/L	0.01	Org-029	<0.01	51	<0.01	<0.01	0	102	100
Perfluorooctanoic acid PFOA	µg/L	0.01	Org-029	<0.01	51	<0.01	<0.01	0	109	112
Perfluorononanoic acid	µg/L	0.01	Org-029	<0.01	51	<0.01	<0.01	0	97	92
Perfluorodecanoic acid	µg/L	0.02	Org-029	<0.02	51	<0.02	<0.02	0	109	104
Perfluoroundecanoic acid	µg/L	0.02	Org-029	<0.02	51	<0.02	<0.02	0	109	109
Perfluorododecanoic acid	µg/L	0.05	Org-029	<0.05	51	<0.05	<0.05	0	103	97
Perfluorotridecanoic acid	µg/L	0.1	Org-029	<0.1	51	<0.1	<0.1	0	104	104
Perfluorotetradecanoic acid	µg/L	0.5	Org-029	<0.5	51	<0.5	<0.5	0	103	105
4:2 FTS	µg/L	0.01	Org-029	<0.01	51	<0.01	<0.01	0	105	101
6:2 FTS	µg/L	0.01	Org-029	<0.01	51	<0.01	<0.01	0	109	114
8:2 FTS	µg/L	0.02	Org-029	<0.02	51	<0.02	<0.02	0	109	112
10:2 FTS	µg/L	0.02	Org-029	<0.02	51	<0.02	<0.02	0	85	86
Perfluorooctane sulfonamide	µg/L	0.1	Org-029	<0.1	51	<0.1	<0.1	0	99	99
N-Methyl perfluorooctane sulfonamide	µg/L	0.05	Org-029	<0.05	51	<0.05	<0.05	0	108	104
N-Ethyl perfluorooctanesulfon amide	µg/L	0.1	Org-029	<0.1	51	<0.1	<0.1	0	103	101
N-Me perfluorooctanesulfonamid oethanol	µg/L	0.05	Org-029	<0.05	51	<0.05	<0.05	0	105	107
N-Et perfluorooctanesulfonamid oethanol	µg/L	0.5	Org-029	<0.5	51	<0.5	<0.5	0	106	108
MePerfluorooctanesulf- amid oacetic aci	µg/L	0.02	Org-029	<0.02	51	<0.02	<0.02	0	104	103
EtPerfluorooctanesulf- amid oacetic acid	µg/L	0.02	Org-029	<0.02	51	<0.02	<0.02	0	102	97
Surrogate $^{13}C_8$ *PFOS*	%		Org-029	90	51	94	90	4	96	94
Surrogate $^{13}C_2$ *PFOA*	%		Org-029	96	51	100	99	1	101	99

QUALITY CONTROL: PFAS in TCLP Extended						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	289658-A-25
Extracted ISTD $^{13}C_3$ *PFBS*	%		Org-029	109	51	105	108	3	110	109
Extracted ISTD $^{18}O_2$ *PFHxS*	%		Org-029	108	51	107	106	1	110	105
Extracted ISTD $^{13}C_4$ *PFOS*	%		Org-029	113	51	102	103	1	102	107
Extracted ISTD $^{13}C_4$ *PFBA*	%		Org-029	101	51	93	105	12	107	105
Extracted ISTD $^{13}C_3$ *PFPeA*	%		Org-029	106	51	104	104	0	106	106
Extracted ISTD $^{13}C_2$ *PFHxA*	%		Org-029	110	51	105	110	5	114	113
Extracted ISTD $^{13}C_4$ *PFHpA*	%		Org-029	122	51	125	120	4	121	120
Extracted ISTD $^{13}C_4$ *PFOA*	%		Org-029	119	51	113	115	2	116	115
Extracted ISTD $^{13}C_5$ *PFNA*	%		Org-029	123	51	120	119	1	121	126
Extracted ISTD $^{13}C_2$ *PFDA*	%		Org-029	117	51	111	115	4	112	118
Extracted ISTD $^{13}C_2$ *PFUnDA*	%		Org-029	112	51	109	110	1	114	114
Extracted ISTD $^{13}C_2$ *PFDoDA*	%		Org-029	110	51	103	110	7	107	115
Extracted ISTD $^{13}C_2$ *PFTeDA*	%		Org-029	83	51	77	75	3	85	92
Extracted ISTD $^{13}C_2$ *4:2FTS*	%		Org-029	96	51	76	95	22	104	105
Extracted ISTD $^{13}C_2$ *6:2FTS*	%		Org-029	103	51	105	101	4	107	104
Extracted ISTD $^{13}C_2$ *8:2FTS*	%		Org-029	108	51	107	102	5	99	103
Extracted ISTD $^{13}C_8$ *FOSA*	%		Org-029	135	51	135	133	1	127	128
Extracted ISTD d_3 *N MeFOSA*	%		Org-029	107	51	103	104	1	106	111
Extracted ISTD d_5 *N EtFOSA*	%		Org-029	110	51	102	105	3	108	109
Extracted ISTD d_7 *N MeFOSE*	%		Org-029	118	51	117	113	3	115	118

QUALITY CONTROL: PFAS in TCLP Extended						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	289658-A-25
Extracted ISTD d_9 *N EtFOSE*	%		Org-029	112	51	105	109	4	111	112
Extracted ISTD d_3 *N MeFOSAA*	%		Org-029	87	51	84	84	0	91	91
Extracted ISTD d_5 *N EtFOSAA*	%		Org-029	88	51	83	92	10	93	97

Result Definitions

NT	Not tested
NA	Test not required
INS	Insufficient sample for this test
PQL	Practical Quantitation Limit
<	Less than
>	Greater than
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
NS	Not specified
NEPM	National Environmental Protection Measure
NR	Not Reported

Quality Control Definitions

Blank	This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate	This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike	A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample)	This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike	Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011.

The recommended maximums for analytes in urine are taken from “2018 TLVs and BEIs”, as published by ACGIH (where available). Limit provided for Nickel is a precautionary guideline as per Position Paper prepared by AIOH Exposure Standards Committee, 2016.

Guideline limits for Rinse Water Quality reported as per analytical requirements and specifications of AS 4187, Amdt 2 2019, Table 7.2

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: >10xPQL - RPD acceptance criteria will vary depending on the analytes and the analytical techniques but is typically in the range 20%-50% – see ELN-P05 QA/QC tables for details; <10xPQL - RPD are higher as the results approach PQL and the estimated measurement uncertainty will statistically increase.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals (not SPOCAS); 60-140% for organics/SPOCAS (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

Measurement Uncertainty estimates are available for most tests upon request.

Analysis of aqueous samples typically involves the extraction/digestion and/or analysis of the liquid phase only (i.e. NOT any settled sediment phase but inclusive of suspended particles if present), unless stipulated on the Envirolab COC and/or by correspondence. Notable exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, total recoverable metals and PFAS where solids are included by default.

Samples for Microbiological analysis (not Amoeba forms) received outside of the 2-8°C temperature range do not meet the ideal cooling conditions as stated in AS2031-2012.

Report Comments

Hexavalent Cr:
- # Percent recovery not reported due to matrix interferences. Samples were diluted and reanalysed and the poor recovery was confirmed. However, an acceptable recovery was obtained for the LCS.

pH Samples were out of the recommended holding time for this analysis.

Metals in TCLP USEPA1311 - # Poor spike recovery was obtained for this sample. The sample was re-digested and re-spiked and the low recovery was confirmed. This is due to matrix interferences. However, an acceptable recovery was obtained for the LCS.

Envirolab Services Pty Ltd
ABN 37 112 535 645
12 Ashley St Chatswood NSW 2067
ph 02 9910 6200 fax 02 9910 6201
customerservice@envirolab.com.au
www.envirolab.com.au

SAMPLE RECEIPT ADVICE

Client Details

Client	JK Environments
Attention	C Ridley

Sample Login Details

Your reference	E33051BR, Mittagong
Envirolab Reference	289658-A
Date Sample Received	23/02/2022
Date Instructions Received	09/03/2022
Date Results Expected to be Reported	16/03/2022

Sample Condition

Samples received in appropriate condition for analysis	Yes
No. of Samples Provided	additional analysis
Turnaround Time Requested	Standard
Temperature on Receipt (°C)	10
Cooling Method	Ice
Sampling Date Provided	YES

Comments

Nil

Please direct any queries to:

Aileen Hie	Jacinta Hurst
Phone: 02 9910 6200	**Phone: 02 9910 6200**
Fax: 02 9910 6201	**Fax: 02 9910 6201**
Email: ahie@envirolab.com.au	**Email: jhurst@envirolab.com.au**

Analysis Underway, details on the following page:

Envirolab Services Pty Ltd
ABN 37 112 535 645
12 Ashley St Chatswood NSW 2067
ph 02 9910 6200 fax 02 9910 6201
customerservice@envirolab.com.au
www.envirolab.com.au

Sample ID	sTPH in Soil (C10-C40)-Silica	Misc Inorg - Soil	CEC	Misc Soil - Inorg	Clay 50-120g	TCLP Preparation - Acid	Lead	PFAS in TCLP Extended	On Hold
TP3-0-0.1	✓								
TP3-0.1-0.3									✓
TP3-0.5-0.7									✓
TP3-1.0-1.2									✓
TP4-0-0.1									✓
TP4-0.1-0.3									✓
TP4-0.3-0.5									✓
TP4-0.65-0.85									✓
TP4-1.35-1.55									✓
TP13-0-0.1									✓
TP13-0.1-0.3									✓
TP13-0.4-0.6									✓
TP14-0-0.1									✓
TP14-0.1-0.3									✓
TP14-0.6-0.8									✓
TP15-0-0.1									✓
TP15-0.3-0.5		✓	✓			✓	✓		
TP15-0.7-0.9									✓
TP16-0-0.1									✓
TP16-0.2-0.5	✓								
TP16-0.5-0.7									✓
TP16-1.0-1.2									✓
TP17-0-0.1									✓
TP17-0.2-0.4									✓
TP17-0.5-0.7						✓		✓	
TP17-0.8-1.0									✓
TP18-0-0.1									✓
TP18-0.3-0.5									✓
TP18-0.75-0.95									✓
TP34-0-0.1									✓
TP34-0.1-0.3									✓
TP34-0.7-0.9									✓

Envirolab Services Pty Ltd
ABN 37 112 535 645
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ph 02 9910 6200 fax 02 9910 6201
customerservice@envirolab.com.au
www.envirolab.com.au

Sample ID	sTPH in Soil (C10-C40)-Silica	Misc Inorg - Soil	CEC	Misc Soil - Inorg	Clay 50-120g	TCLP Preparation - Acid	Lead	PFAS in TCLP Extended	On Hold
TP34-1.3-1.5									✓
TP35-0-0.1									✓
TP35-0.1-0.3									✓
TP35-0.8-1.0									✓
TP36-0-0.1									✓
TP36-0.2-0.4									✓
TP36-0.8-1.0									✓
TP38-0-0.1		✓	✓			✓	✓		
TP38-0.2-0.4									✓
TP38-0.6-0.8		✓	✓			✓	✓		
TP38-1.2-1.4									✓
TP38-1.7-1.9									✓
TP39-0-0.1									✓
TP39-0.2-0.4									✓
TP39-0.6-0.8									✓
TP39-1.0-1.2									✓
TP39-1.5-1.7									✓
TP40-0-0.1				✓	✓				
TP40-0.2-0.4						✓		✓	
TP40-0.5-0.7									✓
TP40-1.1-1.3									✓
TP40-1.6-1.8									✓
TP47-0-0.1									✓
TP47-0.2-0.4									✓
TP47-1.0-1.2									✓
TP48-0-0.1									✓
TP48-0.2-0.4									✓
TP48-1.0-1.2									✓
TP48-1.4-1.6									✓
TP49-0-0.1									✓
TP49-0.1-0.3									✓
TP49-0.4-0.6									✓

Envirolab Services Pty Ltd
ABN 37 112 535 645
12 Ashley St Chatswood NSW 2067
ph 02 9910 6200 fax 02 9910 6201
customerservice@envirolab.com.au
www.envirolab.com.au

Sample ID	sTPH in Soil (C10-C40)-Silica	Misc Inorg - Soil	CEC	Misc Soil - Inorg	Clay 50-120g	TCLP Preparation - Acid	Lead	PFAS in TCLP Extended	On Hold
TP49-1.1-1.3									✓
TP49-1.5-1.7									✓
TP49-1.8-2.0									✓
TP50-0-0.1									✓
TP50-0.2-0.4									✓
TP50-0.5-0.7									✓
TP50-0.9-1.1									✓
TP51-0-0.1									✓
TP51-0.1-0.3									✓
TP51-0.6-0.8									✓
TP51-1.3-1.5									✓
TP52-0-0.1									✓
TP52-0.2-0.4									✓
TP45-0-0.1									✓
TP45-0.2-0.4									✓
TP45-0.6-0.8									✓
TP56-0-0.1									✓
TP56-0.2-0.4									✓
TP56-0.4-0.6									✓
TP57-0-0.1									✓
TP57-0.1-0.2									✓
TP57-0.2-0.4									✓
TP76-0-0.1									✓
TP76-0.2-0.4									✓
TP76-0.4-0.6									✓
SDUP9									✓
SDUP10									✓
-									✓
-									✓
SDUP13									✓
-									✓
FCF1 - Surface									✓

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Sample ID	sTPH in Soil (C10-C40)-Silica	Misc Inorg - Soil	CEC	Misc Soil - Inorg	Clay 50-120g	TCLP Preparation - Acid	Lead	PFAS in TCLP Extended	On Hold
FCF2 - Surface									✓
FCF3 - Surface									✓
FCF4 - Surface									✓
FCF5 - Surface									✓
TP50-FCF1									✓
TS-S2									✓
TB-S2									✓
SDUP6									✓
SDUP7									✓
SDUP8									✓
TP17 - [TRIPLICATE]-0-0.1									✓
TP38 - [TRIPLICATE]-0-0.1									✓

The '✓' indicates the testing you have requested. **THIS IS NOT A REPORT OF THE RESULTS.**

Additional Info

Sample storage - Waters are routinely disposed of approximately 1 month and soils approximately 2 months from receipt.
Requests for longer term sample storage must be received in writing.
Please contact the laboratory immediately if observed settled sediment present in water samples is to be included in the extraction and/or analysis (exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, Total Recoverable metals and PFAS analysis where solids are included by default.
TAT for Micro is dependent on incubation. This varies from 3 to 6 days.

Simon Song

From: Craig Ridley <CRidley@jkenvironments.com.au>
Sent: Wednesday, 9 March 2022 5:39 PM
To: Simon Song
Cc: Samplereceipt
Subject: RE: Sample Receipt for 289658 E33051BR, Mittagong

Ref: 289658-A
TAT: Standard
Due: 16/03/2022
MT.

CAUTION: This email originated from outside of the organisation. Do not act on instructions, click links or open attachments unless you recognise the sender and know the content is authentic and safe.

Hi Simon,

Can we please organise the following additional test for this sample batch on Standard turnaround.

	Sample ID	Lab Reference	Test Required
1.	TP3 (0-0.1m)	289658-1	TRH (Silica Gel Clean-up)
17	TP15 (0.3-0.5m)	289658-17	CEC, pH (CaCl2), TCLP lead
20	TP16 (0.2-0.5m)	289658-20	TRH (Silica Gel Clean-up)
25	TP17 (0.5-0.7m)	289658-25	TCLP PFAS
40	TP38 (0-0.1m)	289658-40	CEC, pH (CaCl2), TOC, TCLP lead
42	TP38 (0.6-0.8m)	289658-42	CEC, pH (CaCl2), TOC, TCLP lead
50	TP40 (0-0.1m)	289658-50	Hexavalent Chromium, Clay Content
51	TP40 (0.2-0.4m)	289658-51	TCLP PFAS.

Please call if there are any issues.

Regards
Craig Ridley
Senior Environmental Scientist

T: +612 9888 5000
D: 0421 856 992
E: cridley@jkenvironments.com.au
www.jkenvironments.com.au

PO Box 976
NORTH RYDE BC NSW 1670
115 Wicks Road
MACQUARIE PARK NSW 2113

JKEnvironments

This email and any attachments are confidential and may be privileged in which case neither is intended to be waived. If you have received this message in error, please notify us and remove it from your system. It is your responsibility to check any attachments for viruses and defects before opening or sending them on. At the Company's discretion we may send a paper copy for confirmation. In the event of any discrepancy between paper and electronic versions the paper version is to take precedence.

From: Simon Song <SSong@envirolab.com.au>
Sent: Thursday, 24 February 2022 3:12 PM
To: Craig Ridley <CRidley@jkenvironments.com.au>
Subject: Sample Receipt for 289658 E33051BR, Mittagong

Please refer to attached for:
a copy of the COC/paperwork received from you
a copy of our Sample Receipt Advice (SRA)
Please open and read the SRA as it contains important information.
Please let the lab know immediately if there are any issues.

Results will be available by 6.30pm on the date indicated.

Envirolab Services Pty Ltd
ABN 37 112 535 645 - 002
25 Research Drive Croydon South VIC 3136
ph 03 9763 2500 fax 03 9763 2633
melbourne@envirolab.com.au
www.envirolab.com.au

CERTIFICATE OF ANALYSIS 30301

Client Details

Client	JK Environments
Attention	Craig Ridley
Address	PO Box 976, North Ryde BC, NSW, 1670

Sample Details

Your Reference	**E33051BR**
Number of Samples	2 Soil
Date samples received	08/03/2022
Date completed instructions received	08/03/2022

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.

Samples were analysed as received from the client. Results relate specifically to the samples as received.

Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Please refer to the last page of this report for any comments relating to the results.

Report Details

Date results requested by	15/03/2022
Date of Issue	15/03/2022

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Asbestos Approved By
Analysed by Asbestos Approved Analyst: Sue Nash
Authorised by Asbestos Approved Signatory: Tom Edwards

Results Approved By
Chris De Luca, Operations Manager
Phalak Inthakesone, Group Organics Manager

Authorised By



Pamela Adams, Laboratory Manager

vTRH(C6-C10)/BTEXN in Soil			
Our Reference		30301-1	30301-2
Your Reference	UNITS	SDUP16	SDUP18
Date Sampled		24/02/2022	24/02/2022
Type of sample		Soil	Soil
Date extracted	-	11/03/2022	11/03/2022
Date analysed	-	12/03/2022	12/03/2022
vTRH C_6 - C_9	mg/kg	<25	<25
vTRH C_6 - C_{10}	mg/kg	<25	<25
TRH C_6 - C_{10} less BTEX (F1)	mg/kg	<25	<25
Benzene	mg/kg	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1
m+p-xylene	mg/kg	<2	<2
o-Xylene	mg/kg	<1	<1
Naphthalene	mg/kg	<1	<1
Total BTEX	mg/kg	<1	<1
Total +ve Xylenes	mg/kg	<1	<1
Surrogate aaa-Trifluorotoluene	%	95	99

TRH Soil C10-C40 NEPM			
Our Reference		30301-1	30301-2
Your Reference	UNITS	SDUP16	SDUP18
Date Sampled		24/02/2022	24/02/2022
Type of sample		Soil	Soil
Date extracted	-	11/03/2022	11/03/2022
Date analysed	-	12/03/2022	12/03/2022
TRH C_{10} - C_{14}	mg/kg	<50	<50
TRH C_{15} - C_{28}	mg/kg	<100	<100
TRH C_{29} - C_{36}	mg/kg	<100	<100
Total +ve TRH (C10-C36)	mg/kg	<50	<50
TRH >C_{10} -C_{16}	mg/kg	<50	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	mg/kg	<50	<50
TRH >C_{16} -C_{34}	mg/kg	<100	<100
TRH >C_{34} -C_{40}	mg/kg	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50
Surrogate o-Terphenyl	%	73	73

PAHs in Soil			
Our Reference		30301-1	30301-2
Your Reference	UNITS	SDUP16	SDUP18
Date Sampled		24/02/2022	24/02/2022
Type of sample		Soil	Soil
Date extracted	-	11/03/2022	11/03/2022
Date analysed	-	12/03/2022	12/03/2022
Naphthalene	mg/kg	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1
Benzo(b,j&k)fluoranthene	mg/kg	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1
Total +ve PAH's	mg/kg	<0.05	<0.05
Benzo(a)pyrene TEQ calc (Zero)	mg/kg	<0.5	<0.5
Benzo(a)pyrene TEQ calc (Half)	mg/kg	<0.5	<0.5
Benzo(a)pyrene TEQ calc (PQL)	mg/kg	<0.5	<0.5
Surrogate p-Terphenyl-d_{14}	%	118	120

OCP in Soil		
Our Reference		30301-2
Your Reference	UNITS	SDUP18
Date Sampled		24/02/2022
Type of sample		Soil
Date extracted	-	11/03/2022
Date analysed	-	12/03/2022
alpha-BHC	mg/kg	<0.1
Hexachlorobenzene	mg/kg	<0.1
beta-BHC	mg/kg	<0.1
gamma-BHC	mg/kg	<0.1
Heptachlor	mg/kg	<0.1
delta-BHC	mg/kg	<0.1
Aldrin	mg/kg	<0.1
Heptachlor Epoxide	mg/kg	<0.1
gamma-Chlordane	mg/kg	<0.1
alpha-chlordane	mg/kg	<0.1
Endosulfan I	mg/kg	<0.1
pp-DDE	mg/kg	<0.1
Dieldrin	mg/kg	<0.1
Endrin	mg/kg	<0.1
Endosulfan II	mg/kg	<0.1
pp-DDD	mg/kg	<0.1
Endrin Aldehyde	mg/kg	<0.1
pp-DDT	mg/kg	<0.1
Endosulfan Sulphate	mg/kg	<0.1
Methoxychlor	mg/kg	<0.1
Total +ve reported Aldrin + Dieldrin	mg/kg	<0.1
Total +ve reported DDT+DDD+DDE	mg/kg	<0.1
Surrogate 2-chlorophenol-d4	%	98

OP in Soil		
Our Reference		30301-2
Your Reference	UNITS	SDUP18
Date Sampled		24/02/2022
Type of sample		Soil
Date extracted	-	11/03/2022
Date analysed	-	12/03/2022
Azinphos-methyl	mg/kg	<0.1
Bromophos-ethyl	mg/kg	<0.1
Chlorpyrifos	mg/kg	<0.1
Chlorpyrifos-methyl	mg/kg	<0.1
Diazinon	mg/kg	<0.1
Dichlorovos	mg/kg	<0.1
Dimethoate	mg/kg	<0.1
Ethion	mg/kg	<0.1
Fenitrothion	mg/kg	<0.1
Malathion	mg/kg	<0.1
Parathion	mg/kg	<0.1
Ronnel	mg/kg	<0.1
Surrogate 2-chlorophenol-d4	%	98

PCBs in Soil		
Our Reference		30301-2
Your Reference	UNITS	SDUP18
Date Sampled		24/02/2022
Type of sample		Soil
Date extracted	-	11/03/2022
Date analysed	-	12/03/2022
Aroclor 1016	mg/kg	<0.1
Aroclor 1221	mg/kg	<0.1
Aroclor 1232	mg/kg	<0.1
Aroclor 1242	mg/kg	<0.1
Aroclor 1248	mg/kg	<0.1
Aroclor 1254	mg/kg	<0.1
Aroclor 1260	mg/kg	<0.1
Total +ve PCBs (1016-1260)	mg/kg	<0.1
Surrogate 2-fluorobiphenyl	%	106

Speciated Phenols in Soil		
Our Reference		30301-2
Your Reference	UNITS	SDUP18
Date Sampled		24/02/2022
Type of sample		Soil
Date extracted	-	11/03/2022
Date analysed	-	12/03/2022
Phenol	mg/kg	<0.2
2-Chlorophenol	mg/kg	<0.2
2-Methylphenol	mg/kg	<0.2
3/4-Methylphenol	mg/kg	<0.4
2-Nitrophenol	mg/kg	<0.2
2,4-Dimethylphenol	mg/kg	<0.2
2,4-Dichlorophenol	mg/kg	<0.2
2,6-Dichlorophenol	mg/kg	<0.2
2,4,5-Trichlorophenol	mg/kg	<0.2
2,4,6-Trichlorophenol	mg/kg	<0.2
2,4-Dinitrophenol	mg/kg	<2
4-Nitrophenol	mg/kg	<4
2,3,4,6-Tetrachlorophenol	mg/kg	<0.2
Pentachlorophenol	mg/kg	<1
4-Chloro-3-Methylphenol	mg/kg	<2
Total +ve Cresols	mg/kg	<0.2
Total +ve Phenols	mg/kg	<0.2
Surrogate Phenol-d_6	%	102
Surrogate 2-fluorophenol	%	90

Acid Extractable metals in soil			
Our Reference		30301-1	30301-2
Your Reference	UNITS	SDUP16	SDUP18
Date Sampled		24/02/2022	24/02/2022
Type of sample		Soil	Soil
Date digested	-	15/03/2022	15/03/2022
Date analysed	-	15/03/2022	15/03/2022
Arsenic	mg/kg	6	4
Cadmium	mg/kg	<0.4	<0.4
Chromium	mg/kg	14	15
Copper	mg/kg	21	25
Lead	mg/kg	62	19
Mercury	mg/kg	<0.1	<0.1
Nickel	mg/kg	8	7
Zinc	mg/kg	260	32

PFAS in Soil Extended		
Our Reference		30301-2
Your Reference	UNITS	SDUP18
Date Sampled		24/02/2022
Type of sample		Soil
Date prepared	-	12/03/2022
Date analysed	-	12/03/2022
Perfluorobutanesulfonic acid	µg/kg	<0.1
Perfluoropentanesulfonic acid	µg/kg	<0.1
Perfluorohexanesulfonic acid PFHxS	µg/kg	<0.1
Perfluoroheptanesulfonic acid	µg/kg	<0.1
Perfluorooctanesulfonic acid PFOS	µg/kg	<0.1
Perfluorodecanesulfonic acid	µg/kg	<0.2
Perfluorobutanoic acid	µg/kg	<0.2
Perfluoropentanoic acid	µg/kg	<0.2
Perfluorohexanoic acid	µg/kg	<0.1
Perfluoroheptanoic acid	µg/kg	<0.1
Perfluorooctanoic acid PFOA	µg/kg	<0.1
Perfluorononanoic acid	µg/kg	<0.1
Perfluorodecanoic acid	µg/kg	<0.5
Perfluoroundecanoic acid	µg/kg	<0.5
Perfluorododecanoic acid	µg/kg	<0.5
Perfluorotridecanoic acid	µg/kg	<0.5
Perfluorotetradecanoic acid	µg/kg	<5
4:2 FTS	µg/kg	<0.1
6:2 FTS	µg/kg	<0.1
8:2 FTS	µg/kg	<0.2
10:2 FTS	µg/kg	<0.2
Perfluorooctane sulfonamide	µg/kg	<1
N-Methyl perfluorooctane sulfonamide	µg/kg	<1
N-Ethyl perfluorooctanesulfon -amide	µg/kg	<1
N-Me perfluorooctanesulfonamid -oethanol	µg/kg	<1
N-Et perfluorooctanesulfonamid -oethanol	µg/kg	<5
MePerfluorooctanesulf- amid oacetic acid	µg/kg	<0.2
EtPerfluorooctanesulf- amid oacetic acid	µg/kg	<0.2
Surrogate $^{13}C_8$ PFOS	%	95
Surrogate $^{13}C_2$ PFOA	%	100
Extracted ISTD $^{13}C_3$ *PFBS*	%	81
Extracted ISTD $^{18}O_2$ *PFHxS*	%	77
Extracted ISTD $^{13}C_4$ *PFOS*	%	81
Extracted ISTD $^{13}C_4$ *PFBA*	%	80

PFAS in Soil Extended		
Our Reference		30301-2
Your Reference	UNITS	SDUP18
Date Sampled		24/02/2022
Type of sample		Soil
Extracted ISTD $^{13}C_3$ *PFPeA*	%	78
Extracted ISTD $^{13}C_2$ *PFHxA*	%	78
Extracted ISTD $^{13}C_4$ *PFHpA*	%	77
Extracted ISTD $^{13}C_4$ *PFOA*	%	76
Extracted ISTD $^{13}C_5$ *PFNA*	%	79
Extracted ISTD $^{13}C_2$ *PFDA*	%	81
Extracted ISTD $^{13}C_2$ *PFUnDA*	%	71
Extracted ISTD $^{13}C_2$ *PFDoDA*	%	89
Extracted ISTD $^{13}C_2$ *PFTeDA*	%	124
Extracted ISTD $^{13}C_2$ *4:2FTS*	%	82
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	88
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	91
Extracted ISTD $^{13}C_8$ *FOSA*	%	68
Extracted ISTD d_3 *N MeFOSA*	%	75
Extracted ISTD d_5 *NEtFOSA*	%	70
Extracted ISTD d_7 *N MeFOSE*	%	79
Extracted ISTD d_9 *N EtFOSE*	%	78
Extracted ISTD d_3 *N MeFOSAA*	%	76
Extracted ISTD d_5 *N EtFOSAA*	%	66
Total Positive PFHxS & PFOS	µg/kg	<0.1
Total Positive PFOS & PFOA	µg/kg	<0.1
Total Positive PFAS	µg/kg	<0.1

Moisture			
Our Reference		30301-1	30301-2
Your Reference	UNITS	SDUP16	SDUP18
Date Sampled		24/02/2022	24/02/2022
Type of sample		Soil	Soil
Date prepared	-	12/03/2022	12/03/2022
Date analysed	-	15/03/2022	15/03/2022
Moisture	%	30	21

Asbestos ID - soils NEPM*		
Our Reference		30301-2
Your Reference	UNITS	SDUP18
Date Sampled		24/02/2022
Type of sample		Soil
Date analysed	-	15/03/2022
Sample mass tested	g	910
Sample Description	-	Soil
Asbestos ID in soil	-	No asbestos detected at reporting limit of 0.1g/kg Organic Fibres detected
Trace Analysis	-	No asbestos detected
Total Asbestos[#1]	g/kg	<0.1
Asbestos ID in soil <0.1g/kg*	-	No visible asbestos detected
ACM>7mm Estimation*	g	--
FA and AF Estimation*	g	--
ACM>7mm Estimation*	% (w/w)	<0.01
FA and AF Estimation*[#2]	% (w/w)	<0.001

Method ID	Methodology Summary
ASB-001	Asbestos ID - Qualitative identification of asbestos in bulk samples using Polarised Light Microscopy and Dispersion Staining Techniques including Synthetic Mineral Fibre and Organic Fibre as per Australian Standard 4964-2004.
ASB-001	Asbestos ID - Identification of asbestos in soil samples using Polarised Light Microscopy and Dispersion Staining Techniques. Minimum 500mL soil sample was analysed as recommended by "National Environment Protection (Assessment of site contamination) Measure, Schedule B1 and "The Guidelines from the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia - May 2009" with a reporting limit of 0.1g/kg (0.01% w/w) as per Australian Standard AS4964-2004. Results reported denoted with * are outside our scope of NATA accreditation. NOTE #1Total Asbestos g/kg was analysed and reported as per Australian Standard AS4964 (This is the sum of ACM >7mm, <7mm and FA/AF) NOTE #2The screening level of 0.001% w/w asbestos in soil for FA and AF only applies where the FA and AF are able to be quantified by gravimetric procedures. This screening level is not applicable to free fibres. Estimation = Estimated asbestos weight Results reported with "--" is equivalent to no visible asbestos identified using Polarised Light microscopy and Dispersion Staining Techniques.
Inorg-008	Moisture content determined by heating at 105°C for a minimum of 12 hours.
Metals-020 ICP-AES	Determination of various metals by ICP-AES.
Metals-021 CV-AAS	Determination of Mercury by Cold Vapour AAS.
Org-020	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis. Note, the Total +ve TRH PQL is reflective of the lowest individual PQL and is therefore "Total +ve TRH" is simply a sum of the positive individual TRH fractions (>C10-C40).
Org-021/022	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-ECD or GC-MS. Note, the Total +ve PCBs PQL is reflective of the lowest individual PQL and is therefore" Total +ve PCBs" is simply a sum of the positive individual PCBs.

Method ID	Methodology Summary
Org-022	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS.
Org-022	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS. Note, For OCs the Total +ve reported DDD+DDE+DDT PQL is reflective of the lowest individual PQL and is therefore simply a sum of the positive individually report DDD+DDE+DDT.
Org-022	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS. Note, the Total +ve Cresols or Phenols PQL is reflective of the lowest individual PQL and is therefore" Total +ve Cresols or Phenols" is simply a sum of the positive individual Cresols or Phenols.
Org-022	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013. For soil results:- 1. 'EQ PQL'values are assuming all contributing PAHs reported as <PQL are actually at the PQL. This is the most conservative approach and can give false positive TEQs given that PAHs that contribute to the TEQ calculation may not be present. 2. 'EQ zero'values are assuming all contributing PAHs reported as <PQL are zero. This is the least conservative approach and is more susceptible to false negative TEQs when PAHs that contribute to the TEQ calculation are present but below PQL. 3. 'EQ half PQL'values are assuming all contributing PAHs reported as <PQL are half the stipulated PQL. Hence a mid-point between the most and least conservative approaches above. Note, the Total +ve PAHs PQL is reflective of the lowest individual PQL and is therefore" Total +ve PAHs" is simply a sum of the positive individual PAHs.
Org-022	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS.
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS.
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater. Note, the Total +ve Xylene PQL is reflective of the lowest individual PQL and is therefore "Total +ve Xylenes" is simply a sum of the positive individual Xylenes.

Method ID	Methodology Summary
Org-029	Soil samples are extracted with basified Methanol. Waters and soil extracts are directly injected and/or concentrated/extracted using SPE. TCLP/ASLP leachates are centrifuged, the supernatant is then analysed (including amendment with solvent) - as per the option in AS4439.3. Analysis is undertaken with LC-MS/MS. PFAS results include the sum of branched and linear isomers where applicable. Please note that PFAS results are corrected for Extracted Internal Standards (QSM 5.3 Table B-15 terminology), which are mass labelled analytes added prior to sample preparation to assess matrix effects and verify processing of the sample. PFAS analytes without a commercially available mass labelled analogue are corrected vs a closely eluting mass labelled PFAS compound. Surrogates are also reported, in this context they are mass labelled PFAS compounds added prior to extraction but are used as monitoring compounds only (not used for result correction). Envicarb (or similar) is used discretionally to remove interfering matrix components. Please contact the laboratory if estimates of Measurement Uncertainty are required as per WA DER

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date extracted	-			11/03/2022	[NT]	[NT]	[NT]	[NT]	11/03/2022	[NT]
Date analysed	-			12/03/2022	[NT]	[NT]	[NT]	[NT]	12/03/2022	[NT]
vTRH C_6 - C_9	mg/kg	25	Org-023	<25	[NT]	[NT]	[NT]	[NT]	97	[NT]
vTRH C_6 - C_{10}	mg/kg	25	Org-023	<25	[NT]	[NT]	[NT]	[NT]	97	[NT]
Benzene	mg/kg	0.2	Org-023	<0.2	[NT]	[NT]	[NT]	[NT]	90	[NT]
Toluene	mg/kg	0.5	Org-023	<0.5	[NT]	[NT]	[NT]	[NT]	101	[NT]
Ethylbenzene	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	95	[NT]
m+p-xylene	mg/kg	2	Org-023	<2	[NT]	[NT]	[NT]	[NT]	99	[NT]
o-Xylene	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	97	[NT]
Naphthalene	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-023	111	[NT]	[NT]	[NT]	[NT]	109	[NT]

QUALITY CONTROL: TRH Soil C10-C40 NEPM					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date extracted	-			11/03/2022	[NT]	[NT]	[NT]	[NT]	11/03/2022	[NT]
Date analysed	-			12/03/2022	[NT]	[NT]	[NT]	[NT]	12/03/2022	[NT]
TRH C_{10} - C_{14}	mg/kg	50	Org-020	<50	[NT]	[NT]	[NT]	[NT]	80	[NT]
TRH C_{15} - C_{28}	mg/kg	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	82	[NT]
TRH C_{29} - C_{36}	mg/kg	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	93	[NT]
TRH >C_{10} -C_{16}	mg/kg	50	Org-020	<50	[NT]	[NT]	[NT]	[NT]	80	[NT]
TRH >C_{16} -C_{34}	mg/kg	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	82	[NT]
TRH >C_{34} -C_{40}	mg/kg	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	93	[NT]
Surrogate o-Terphenyl	%		Org-020	75	[NT]	[NT]	[NT]	[NT]	81	[NT]

QUALITY CONTROL: PAHs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date extracted	-			11/03/2022	[NT]	[NT]	[NT]	[NT]	11/03/2022	[NT]
Date analysed	-			12/03/2022	[NT]	[NT]	[NT]	[NT]	12/03/2022	[NT]
Naphthalene	mg/kg	0.1	Org-022	<0.1	[NT]	[NT]	[NT]	[NT]	96	[NT]
Acenaphthylene	mg/kg	0.1	Org-022	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-022	<0.1	[NT]	[NT]	[NT]	[NT]	96	[NT]
Fluorene	mg/kg	0.1	Org-022	<0.1	[NT]	[NT]	[NT]	[NT]	96	[NT]
Phenanthrene	mg/kg	0.1	Org-022	<0.1	[NT]	[NT]	[NT]	[NT]	96	[NT]
Anthracene	mg/kg	0.1	Org-022	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-022	<0.1	[NT]	[NT]	[NT]	[NT]	92	[NT]
Pyrene	mg/kg	0.1	Org-022	<0.1	[NT]	[NT]	[NT]	[NT]	94	[NT]
Benzo(a)anthracene	mg/kg	0.1	Org-022	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-022	<0.1	[NT]	[NT]	[NT]	[NT]	94	[NT]
Benzo(b,j&k)fluoranthene	mg/kg	0.2	Org-022	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-022	<0.05	[NT]	[NT]	[NT]	[NT]	92	[NT]
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-022	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-022	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-022	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate p-Terphenyl-d_{14}	%		Org-022	100	[NT]	[NT]	[NT]	[NT]	108	[NT]

QUALITY CONTROL: OCP in Soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date extracted	-			11/03/2022	[NT]	[NT]	[NT]	[NT]	11/03/2022	[NT]
Date analysed	-			12/03/2022	[NT]	[NT]	[NT]	[NT]	12/03/2022	[NT]
alpha-BHC	mg/kg	0.1	Org-022	<0.1	[NT]	[NT]	[NT]	[NT]	94	[NT]
Hexachlorobenzene	mg/kg	0.1	Org-022	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
beta-BHC	mg/kg	0.1	Org-022	<0.1	[NT]	[NT]	[NT]	[NT]	86	[NT]
gamma-BHC	mg/kg	0.1	Org-022	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Heptachlor	mg/kg	0.1	Org-022	<0.1	[NT]	[NT]	[NT]	[NT]	92	[NT]
delta-BHC	mg/kg	0.1	Org-022	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Aldrin	mg/kg	0.1	Org-022	<0.1	[NT]	[NT]	[NT]	[NT]	90	[NT]
Heptachlor Epoxide	mg/kg	0.1	Org-022	<0.1	[NT]	[NT]	[NT]	[NT]	82	[NT]
gamma-Chlordane	mg/kg	0.1	Org-022	<0.1	[NT]	[NT]	[NT]	[NT]	88	[NT]
alpha-chlordane	mg/kg	0.1	Org-022	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Endosulfan I	mg/kg	0.1	Org-022	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
pp-DDE	mg/kg	0.1	Org-022	<0.1	[NT]	[NT]	[NT]	[NT]	94	[NT]
Dieldrin	mg/kg	0.1	Org-022	<0.1	[NT]	[NT]	[NT]	[NT]	90	[NT]
Endrin	mg/kg	0.1	Org-022	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Endosulfan II	mg/kg	0.1	Org-022	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
pp-DDD	mg/kg	0.1	Org-022	<0.1	[NT]	[NT]	[NT]	[NT]	98	[NT]
Endrin Aldehyde	mg/kg	0.1	Org-022	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
pp-DDT	mg/kg	0.1	Org-022	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Endosulfan Sulphate	mg/kg	0.1	Org-022	<0.1	[NT]	[NT]	[NT]	[NT]	78	[NT]
Methoxychlor	mg/kg	0.1	Org-022	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate 2-chlorophenol-d4	%		Org-022	92	[NT]	[NT]	[NT]	[NT]	96	[NT]

QUALITY CONTROL: OP in Soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date extracted	-			11/03/2022	[NT]	[NT]	[NT]	[NT]	11/03/2022	[NT]
Date analysed	-			12/03/2022	[NT]	[NT]	[NT]	[NT]	12/03/2022	[NT]
Azinphos-methyl	mg/kg	0.1	Org-022	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Bromophos-ethyl	mg/kg	0.1	Org-022	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chlorpyrifos	mg/kg	0.1	Org-022	<0.1	[NT]	[NT]	[NT]	[NT]	86	[NT]
Chlorpyrifos-methyl	mg/kg	0.1	Org-022	<0.1	[NT]	[NT]	[NT]	[NT]	78	[NT]
Diazinon	mg/kg	0.1	Org-022	<0.1	[NT]	[NT]	[NT]	[NT]	94	[NT]
Dichlorovos	mg/kg	0.1	Org-022	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dimethoate	mg/kg	0.1	Org-022	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Ethion	mg/kg	0.1	Org-022	<0.1	[NT]	[NT]	[NT]	[NT]	90	[NT]
Fenitrothion	mg/kg	0.1	Org-022	<0.1	[NT]	[NT]	[NT]	[NT]	78	[NT]
Malathion	mg/kg	0.1	Org-022	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Parathion	mg/kg	0.1	Org-022	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Ronnel	mg/kg	0.1	Org-022	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate 2-chlorophenol-d4	%		Org-022	92	[NT]	[NT]	[NT]	[NT]	96	[NT]

QUALITY CONTROL: PCBs in Soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date extracted	-			11/03/2022	[NT]	[NT]	[NT]	[NT]	11/03/2022	[NT]
Date analysed	-			12/03/2022	[NT]	[NT]	[NT]	[NT]	12/03/2022	[NT]
Aroclor 1016	mg/kg	0.1	Org-022	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Aroclor 1221	mg/kg	0.1	Org-022	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Aroclor 1232	mg/kg	0.1	Org-022	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Aroclor 1242	mg/kg	0.1	Org-022	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Aroclor 1248	mg/kg	0.1	Org-022	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Aroclor 1254	mg/kg	0.1	Org-022	<0.1	[NT]	[NT]	[NT]	[NT]	87	[NT]
Aroclor 1260	mg/kg	0.1	Org-022	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate 2-fluorobiphenyl	%		Org-022	106	[NT]	[NT]	[NT]	[NT]	108	[NT]

QUALITY CONTROL: Speciated Phenols in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date extracted	-		Org-022	11/03/2022	[NT]	[NT]	[NT]	[NT]	11/03/2022	[NT]
Date analysed	-		Org-022	12/03/2022	[NT]	[NT]	[NT]	[NT]	12/03/2022	[NT]
Phenol	mg/kg	0.2	Org-022	<0.2	[NT]	[NT]	[NT]	[NT]	92	[NT]
2-Chlorophenol	mg/kg	0.2	Org-022	<0.2	[NT]	[NT]	[NT]	[NT]	96	[NT]
2-Methylphenol	mg/kg	0.2	Org-022	<0.2	[NT]	[NT]	[NT]	[NT]	96	[NT]
3/4-Methylphenol	mg/kg	0.4	Org-022	<0.4	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2-Nitrophenol	mg/kg	0.2	Org-022	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,4-Dimethylphenol	mg/kg	0.2	Org-022	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,4-Dichlorophenol	mg/kg	0.2	Org-022	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,6-Dichlorophenol	mg/kg	0.2	Org-022	<0.2	[NT]	[NT]	[NT]	[NT]	94	[NT]
2,4,5-Trichlorophenol	mg/kg	0.2	Org-022	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,4,6-Trichlorophenol	mg/kg	0.2	Org-022	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,4-Dinitrophenol	mg/kg	2	Org-022	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
4-Nitrophenol	mg/kg	4	Org-022	<4	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,3,4,6-Tetrachlorophenol	mg/kg	0.2	Org-022	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Pentachlorophenol	mg/kg	1	Org-022	<1	[NT]	[NT]	[NT]	[NT]	82	[NT]
4-Chloro-3-Methylphenol	mg/kg	2	Org-022	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate Phenol-d_6	%		Org-022	96	[NT]	[NT]	[NT]	[NT]	100	[NT]
Surrogate 2-fluorophenol	%		Org-022	82	[NT]	[NT]	[NT]	[NT]	86	[NT]

QUALITY CONTROL: Acid Extractable metals in soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date digested	-			15/03/2022	[NT]	[NT]	[NT]	[NT]	15/03/2022	[NT]
Date analysed	-			15/03/2022	[NT]	[NT]	[NT]	[NT]	15/03/2022	[NT]
Arsenic	mg/kg	4	Metals-020 ICP-AES	<4	[NT]	[NT]	[NT]	[NT]	102	[NT]
Cadmium	mg/kg	0.4	Metals-020 ICP-AES	<0.4	[NT]	[NT]	[NT]	[NT]	101	[NT]
Chromium	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	[NT]	[NT]	104	[NT]
Copper	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	[NT]	[NT]	100	[NT]
Lead	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	[NT]	[NT]	101	[NT]
Mercury	mg/kg	0.1	Metals-021 CV-AAS	<0.1	[NT]	[NT]	[NT]	[NT]	102	[NT]
Nickel	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	[NT]	[NT]	98	[NT]
Zinc	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	[NT]	[NT]	98	[NT]

QUALITY CONTROL: PFAS in Soil Extended					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Perfluorobutanesulfonic acid	µg/kg	0.1	Org-029	<0.1	[NT]	[NT]	[NT]	[NT]	107	[NT]
Perfluoropentanesulfonic acid	µg/kg	0.1	Org-029	<0.1	[NT]	[NT]	[NT]	[NT]	107	[NT]
Perfluorohexanesulfonic acid PFHxS	µg/kg	0.1	Org-029	<0.1	[NT]	[NT]	[NT]	[NT]	102	[NT]
Perfluoroheptanesulfonic acid	µg/kg	0.1	Org-029	<0.1	[NT]	[NT]	[NT]	[NT]	104	[NT]
Perfluorooctanesulfonic acid PFOS	µg/kg	0.1	Org-029	<0.1	[NT]	[NT]	[NT]	[NT]	104	[NT]
Perfluorodecanesulfonic acid	µg/kg	0.2	Org-029	<0.2	[NT]	[NT]	[NT]	[NT]	91	[NT]
Perfluorobutanoic acid	µg/kg	0.2	Org-029	<0.2	[NT]	[NT]	[NT]	[NT]	102	[NT]
Perfluoropentanoic acid	µg/kg	0.2	Org-029	<0.2	[NT]	[NT]	[NT]	[NT]	100	[NT]
Perfluorohexanoic acid	µg/kg	0.1	Org-029	<0.1	[NT]	[NT]	[NT]	[NT]	105	[NT]
Perfluoroheptanoic acid	µg/kg	0.1	Org-029	<0.1	[NT]	[NT]	[NT]	[NT]	106	[NT]
Perfluorooctanoic acid PFOA	µg/kg	0.1	Org-029	<0.1	[NT]	[NT]	[NT]	[NT]	103	[NT]
Perfluorononanoic acid	µg/kg	0.1	Org-029	<0.1	[NT]	[NT]	[NT]	[NT]	100	[NT]
Perfluorodecanoic acid	µg/kg	0.5	Org-029	<0.5	[NT]	[NT]	[NT]	[NT]	109	[NT]
Perfluoroundecanoic acid	µg/kg	0.5	Org-029	<0.5	[NT]	[NT]	[NT]	[NT]	110	[NT]
Perfluorododecanoic acid	µg/kg	0.5	Org-029	<0.5	[NT]	[NT]	[NT]	[NT]	108	[NT]
Perfluorotridecanoic acid	µg/kg	0.5	Org-029	<0.5	[NT]	[NT]	[NT]	[NT]	106	[NT]
Perfluorotetradecanoic acid	µg/kg	5	Org-029	<5	[NT]	[NT]	[NT]	[NT]	94	[NT]
4:2 FTS	µg/kg	0.1	Org-029	<0.1	[NT]	[NT]	[NT]	[NT]	117	[NT]
6:2 FTS	µg/kg	0.1	Org-029	<0.1	[NT]	[NT]	[NT]	[NT]	117	[NT]
8:2 FTS	µg/kg	0.2	Org-029	<0.2	[NT]	[NT]	[NT]	[NT]	103	[NT]
10:2 FTS	µg/kg	0.2	Org-029	<0.2	[NT]	[NT]	[NT]	[NT]	107	[NT]
Perfluorooctane sulfonamide	µg/kg	1	Org-029	<1	[NT]	[NT]	[NT]	[NT]	103	[NT]
N-Methyl perfluorooctane sulfonamide	µg/kg	1	Org-029	<1	[NT]	[NT]	[NT]	[NT]	97	[NT]
N-Ethyl perfluorooctanesulfon -amide	µg/kg	1	Org-029	<1	[NT]	[NT]	[NT]	[NT]	96	[NT]
N-Me perfluorooctanesulfonamid -oethanol	µg/kg	1	Org-029	<1	[NT]	[NT]	[NT]	[NT]	104	[NT]
N-Et perfluorooctanesulfonamid -oethanol	µg/kg	5	Org-029	<5	[NT]	[NT]	[NT]	[NT]	107	[NT]
MePerfluorooctanesulf- amid oacetic acid	µg/kg	0.2	Org-029	<0.2	[NT]	[NT]	[NT]	[NT]	109	[NT]
EtPerfluorooctanesulf- amid oacetic acid	µg/kg	0.2	Org-029	<0.2	[NT]	[NT]	[NT]	[NT]	101	[NT]
Surrogate $^{13}C_8$ PFOS	%		Org-029	100	[NT]	[NT]	[NT]	[NT]	100	[NT]
Surrogate $^{13}C_2$ PFOA	%		Org-029	102	[NT]	[NT]	[NT]	[NT]	98	[NT]
Extracted ISTD $^{13}C_3$ PFBS	%		Org-029	90	[NT]	[NT]	[NT]	[NT]	88	[NT]

QUALITY CONTROL: PFAS in Soil Extended					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Extracted ISTD $^{18}O_2$ *PFHxS*	%		Org-029	83	[NT]	[NT]	[NT]	[NT]	84	[NT]
Extracted ISTD $^{13}C_4$ *PFOS*	%		Org-029	85	[NT]	[NT]	[NT]	[NT]	88	[NT]
Extracted ISTD $^{13}C_4$ *PFBA*	%		Org-029	91	[NT]	[NT]	[NT]	[NT]	89	[NT]
Extracted ISTD $^{13}C_3$ *PFPeA*	%		Org-029	88	[NT]	[NT]	[NT]	[NT]	89	[NT]
Extracted ISTD $^{13}C_2$ *PFHxA*	%		Org-029	89	[NT]	[NT]	[NT]	[NT]	89	[NT]
Extracted ISTD $^{13}C_4$ *PFHpA*	%		Org-029	89	[NT]	[NT]	[NT]	[NT]	86	[NT]
Extracted ISTD $^{13}C_4$ *PFOA*	%		Org-029	88	[NT]	[NT]	[NT]	[NT]	88	[NT]
Extracted ISTD $^{13}C_5$ *PFNA*	%		Org-029	92	[NT]	[NT]	[NT]	[NT]	91	[NT]
Extracted ISTD $^{13}C_2$ *PFDA*	%		Org-029	90	[NT]	[NT]	[NT]	[NT]	90	[NT]
Extracted ISTD $^{13}C_2$ *PFUnDA*	%		Org-029	100	[NT]	[NT]	[NT]	[NT]	98	[NT]
Extracted ISTD $^{13}C_2$ *PFDoDA*	%		Org-029	96	[NT]	[NT]	[NT]	[NT]	102	[NT]
Extracted ISTD $^{13}C_2$ *PFTeDA*	%		Org-029	113	[NT]	[NT]	[NT]	[NT]	113	[NT]
Extracted ISTD $^{13}C_2$ *4:2FTS*	%		Org-029	90	[NT]	[NT]	[NT]	[NT]	85	[NT]
Extracted ISTD $^{13}C_2$ *6:2FTS*	%		Org-029	101	[NT]	[NT]	[NT]	[NT]	90	[NT]
Extracted ISTD $^{13}C_2$ *8:2FTS*	%		Org-029	89	[NT]	[NT]	[NT]	[NT]	93	[NT]
Extracted ISTD $^{13}C_8$ *FOSA*	%		Org-029	94	[NT]	[NT]	[NT]	[NT]	92	[NT]
Extracted ISTD d_3 *N MeFOSA*	%		Org-029	93	[NT]	[NT]	[NT]	[NT]	98	[NT]
Extracted ISTD d_5 *NEtFOSA*	%		Org-029	91	[NT]	[NT]	[NT]	[NT]	91	[NT]
Extracted ISTD d_7 *N MeFOSE*	%		Org-029	91	[NT]	[NT]	[NT]	[NT]	95	[NT]
Extracted ISTD d_9 *N EtFOSE*	%		Org-029	95	[NT]	[NT]	[NT]	[NT]	96	[NT]

QUALITY CONTROL: PFAS in Soil Extended					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Extracted ISTD d_3 *N MeFOSAA*	%		Org-029	87	[NT]	[NT]	[NT]	[NT]	90	[NT]
Extracted ISTD d_5 *N EtFOSAA*	%		Org-029	86	[NT]	[NT]	[NT]	[NT]	90	[NT]

Result Definitions

NT	Not tested
NA	Test not required
INS	Insufficient sample for this test
PQL	Practical Quantitation Limit
<	Less than
>	Greater than
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
NS	Not specified
NEPM	National Environmental Protection Measure
NR	Not Reported

Quality Control Definitions

Blank	This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate	This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike	A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample)	This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike	Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011.

The recommended maximums for analytes in urine are taken from “2018 TLVs and BEIs”, as published by ACGIH (where available). Limit provided for Nickel is a precautionary guideline as per Position Paper prepared by AIOH Exposure Standards Committee, 2016.

Guideline limits for Rinse Water Quality reported as per analytical requirements and specifications of AS 4187, Amdt 2 2019, Table 7.2

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: >10xPQL - RPD acceptance criteria will vary depending on the analytes and the analytical techniques but is typically in the range 20%-50% – see ELN-P05 QA/QC tables for details; <10xPQL - RPD are higher as the results approach PQL and the estimated measurement uncertainty will statistically increase.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals (not SPOCAS); 60-140% for organics/SPOCAS (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

Measurement Uncertainty estimates are available for most tests upon request.

Analysis of aqueous samples typically involves the extraction/digestion and/or analysis of the liquid phase only (i.e. NOT any settled sediment phase but inclusive of suspended particles if present), unless stipulated on the Envirolab COC and/or by correspondence. Notable exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, total recoverable metals and PFAS where solids are included by default.

Samples for Microbiological analysis (not Amoeba forms) received outside of the 2-8°C temperature range do not meet the ideal cooling conditions as stated in AS2031-2012.

Report Comments

Asbestos analysed by MPL, report number 278206.

Envirolab Services Pty Ltd
ABN 37 112 535 645 - 002
25 Research Drive Croydon South VIC 3136
ph 03 9763 2500 fax 03 9763 2633
melbourne@envirolab.com.au
www.envirolab.com.au

SAMPLE RECEIPT ADVICE

Client Details

Client	JK Environments
Attention	Craig Ridley

Sample Login Details

Your reference	E33051BR
Envirolab Reference	30301
Date Sample Received	08/03/2022
Date Instructions Received	08/03/2022
Date Results Expected to be Reported	15/03/2022

Sample Condition

Samples received in appropriate condition for analysis	Yes
No. of Samples Provided	2 Soil
Turnaround Time Requested	Standard
Temperature on Receipt (°C)	14.6
Cooling Method	Icepack
Sampling Date Provided	YES

Comments

Nil

Please direct any queries to:

Pamela Adams	Chris De Luca
Phone: 03 9763 2500	**Phone: 03 9763 2500**
Fax: 03 9763 2633	**Fax: 03 9763 2633**
Email: padams@envirolab.com.au	**Email: cdeluca@envirolab.com.au**

Analysis Underway, details on the following page:

Envirolab Services Pty Ltd
ABN 37 112 535 645 - 002
25 Research Drive Croydon South VIC 3136
ph 03 9763 2500 fax 03 9763 2633
melbourne@envirolab.com.au
www.envirolab.com.au

Sample ID	vTRH(C6-C10)/BTEXN in Soil	TRH Soil C10-C40 NEPM	PAHs in Soil	OCP in Soil	OP in Soil	PCBsin Soil	Speciated Phenols in Soil	Acid Extractable metalsin soil	PFAS in Soil Extended
SDUP16	✓	✓	✓					✓	
SDUP18	✓	✓	✓	✓	✓	✓	✓	✓	✓

The '✓' indicates the testing you have requested. **THIS IS NOT A REPORT OF THE RESULTS.**

Additional Info

Sample storage - Waters are routinely disposed of approximately 1 month and soils approximately 2 months from receipt.
Requests for longer term sample storage must be received in writing.
Please contact the laboratory immediately if observed settled sediment present in water samples is to be included in the extraction and/or analysis (exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, Total Recoverable metals and PFAS analysis where solids are included by default.

290249

SAMPLE AND CHAIN OF CUSTODY FORM

TO:		FROM:
ENVIROLAB SERVICES PTY LTD 12 ASHLEY STREET CHATSWOOD NSW 2067 P: (02) 99106200 F: (02) 99106201 Attention: Aileen	JKE Job Number: E33051BR Date Results Required: STANDARD Page: 3 of 4	JKEnvironments REAR OF 115 WICKS ROAD MACQUARIE PARK, NSW 2113 P: 02-9888 5000 F: 02-9888 5001 Attention: Craig Ridley cridley@jkenvironments.com.au

Location: Mittagong
Sampler: NM
Sample Preserved in Esky on Ice

Date Sampled	Lab Ref:	Sample Number	Depth (m)	Sample Container	PID	Sample Description	Tests Required: Combo 6	Combo 3	Asbestos (NEPM)	Asbestos (ID)	Phenols	PFAS (Routine, Extended)	pH	CEC	Clay Content	TRH/BTEX	BTEX	Combo 3L
24/02/2022	51	BH37	0-0.1	G, A, P	0	F: Sandy Clay	X		X		X	X						
24/02/2022	52	BH37	0.5-0.9	G, A, P	0	F: Sandy Clay					X	X						
24/02/2022	53	BH37	1.0-1.2	G, A, P	0	Silty Clay		X										
24/02/2022	54	BH37	1.5-1.95	G, A, P	2.2	Sandy Clay		X										
25/02/2022	55	BH41	0-0.1	G, A, P	3.5	F: Gravelly Clay		X	X		ENV X	X						
25/02/2022	56	BH41	0.5-0.95	G, A, P	2.5	Silty Clay		X										
25/02/2022	57	BH41	1.0-1.2	G, A, P	0	Silty Clay												
25/02/2022	58	BH41	1.5-1.95	G, A, P	0	Sandy Clay												
25/02/2022	59	BH41	2.8-3.0	G, A, P	5.3	Sandstone		X										
24/02/2022	60	BH46	0-0.1	G, A, P	1.7	F: Silty Clay	X		X									
24/02/2022	61	BH46	0.5-0.7	G, A, P	1.7	F: Silty Clay						X						
24/02/2022	62	BH46	0.7-0.95	G, A, P	1.6	Silty Clay		X										
24/02/2022	63	BH46	1.5-1.95	G, A, P	2	Sandy Clay												
24/02/2022	64	BH46	3.0-3.45	G, P	0	XW Siltstone												
24/02/2022	65	BH59	0-0.1	G, A, P	1.5	F: Silty Clay	X		X		X	X						
24/02/2022	66	BH59	0.5-0.95	G, A, P	1.1	Silty Clay		X				X						
24/02/2022	67	BH59	1.5-1.95	G, A, P	0	Silty Clay												
24/02/2022	68	BH59	3.2-3.45	G, A, P	2.2	XW Siltstone												
24/02/2022	69	BH82	0-0.1	G, A, P	0	F: Silty Clay	X		X		X	X						
24/02/2022	70	BH82	0.2-0.5	G, A, P	0	F: Silty Clay			X			X						
24/02/2022	71	BH82	0.7-0.95	G, A, P	0	Silty Clay												
24/02/2022	72	BH82	1.5-1.95	G, P	0	XW Siltstone		X										
23/02/2022	73	SDUP15	-	G, A	-	Duplicate		X	X									
(1) 24/02/2022	74	SDUP16	-	G, A, P	-	Duplicate		X	X		SEND TO VIC							
24/02/2022	75	SDUP17	-	G, A, P	-	Duplicate	X		X			X						

Envirolab Services
25 Research Drive
Croydon South VIC 3136
Ph (03) 9763 2500
Job No: 30391
Date Received: 8/3/22
Time Received: 2:35pm
Received By: SS
Temp: Cool / Ambient 14.6°C
Cooling: Ice / Gel
Security: Intact / Broken / None

Remarks (comments/detection limits required):

Sample Containers:
G - 250mg Glass Jar
A - Ziplock Asbestos Bag
P - PFAS Jar

Relinquished By:	Date:	Time:	Received By:	Date:
Christine Elsey	07/03/22 1155	1645	KW	1/03/22

290 249

SAMPLE AND CHAIN OF CUSTODY FORM

TO: ENVIROLAB SERVICES PTY LTD 12 ASHLEY STREET CHATSWOOD NSW 2067 P: (02) 99106200 F: (02) 99106201 Attention: Aileen	JKE Job Number: E33051BR Date Results Required: STANDARD Page: 4 of 4	FROM: JKEnvironments REAR OF 115 WICKS ROAD MACQUARIE PARK, NSW 2113 P: 02-9888 5000 F: 02-9888 5001 Attention: Craig Ridley cridley@jkenvironments.com.au

Location: Mittagong
Sampler: NM

Sample Preserved in Esky on Ice

Tests Required

	Date Sampled	Lab Ref:	Sample Number	Depth (m)	Sample Container	PID	Sample Description	Combo 6	Combo 3	Asbestos (NEPM)	Asbestos (ID)	Phenols	PFAS (Routine, Extended)	pH	CEC	Clay Content	TRH/BTEX	BTEX	Combo 3L
(2)	24/02/2022		SDUP18	-	G, A, P	-	Duplicate	X		X		X	X		SEND TO VIC				
	25/02/2022	NR	SDUP19	-	G, A	-	Duplicate												
	25/02/2022	76	SDUP20	-	G, A, P	-	Duplicate	X		X		X	X						
	25/02/2022	77	SDUP21	-	G, A, P	-	Duplicate												
	25/02/2022	78	TS-S3	-	V	-	Trip Spike											X	
	25/02/2022	79	TB-S3	-	G, P	-	Trip Blank						X					X	
	25/02/2022	80	FR1-Soil-SPT	-	G1 x2, H, BTEX x2, PVC	-	Field Rinsate						X	(Trace level)					X
	23/02/2022	81	TP22-FCF1	0-0.1	A	-	Fragment				X								
	23/02/2022	82	TP22-FCF2	0-0.1	A	-	Fragment												
	23/02/2022	83	TP22-FCF1-Spoil		A	-	Fragment												
	23/02/2022	84	TP22-FCF2	0.1-0.5	A	-	Fragment												
	23/02/2022	85	TP22-FCF2-Spoil		A	-	Fragment												
	25/02/2022	86	BH41-FCF1	0-0.1	A	-	Fragment				X								
	25/02/2022	87	BH41-FCF2	0-0.1	A	-	Fragment												
	23/02/2022	88	TP58-FCF1	0-0.15	A	-	Fragment				X								
	23/02/2022	89	TP58-FCF2	0-0.15	A	-	Fragment												
	23/02/2022	90	TP58-FCF3	0-0.15	A	-	Fragment												
	23/02/2022	91	TP67-FCF1	0-0.05	A	-	Fragment				X								
extras		92	BH28	0.1-04															
		93	BH82																
		94	BH37	3.0-3.45															
		95	BH37	3.6-3.7															
		96	TH24																
		97	??																

Remarks (comments/detection limits required):

Sample Containers:
G - 250mg Glass Jar BTEX- BTEX Vial
A - Ziplock Asbestos Bag G1 - 500mL Amber Glass Bottle
P - PFAS Jar PVC- HDPE Plastic Bottle H - HNO3 Wash PVC

Relinquished By:	Date:	Time:	Received By:	Date:
Christine ECSSYD	07/03/22 1155	1645	KW	1/03/22

Simon Song

From: Craig Ridley <CRidley@jkenvironments.com.au>
Sent: Monday, 7 March 2022 11:12 AM
To: Simon Song
Cc: Geoff Weir
Subject: Re: Sample Receipt for 290249 E33051BR, Mittagong

CAUTION: This email originated from outside of the organisation. Do not act on instructions, click links or open attachments unless you recognise the sender and know the content is authentic and safe.

Thanks for clarifying Simon.
Please see comments in red below.

Regards
Craig Ridley
Senior Environmental Scientist

T: +612 9888 5000
D: 0421 856 992
E: cridley@jkenvironments.com.au
www.jkenvironments.com.au

PO Box 976
NORTH RYDE BC NSW 1670
115 Wicks Road
MACQUARIE PARK NSW 2113

JKEnvironments

This email and any attachments are confidential and may be privileged in which case neither is intended to be waived. If you have received this message in error, please notify us and remove it from your system. It is your responsibility to check any attachments for viruses and defects before opening or sending them on. At the Company's discretion we may send a paper copy for confirmation. In the event of any discrepancy between paper and electronic versions the paper version is to take precedence.

From: Simon Song <SSong@envirolab.com.au>
Sent: Monday, March 7, 2022 10:43 AM
To: Craig Ridley
Subject: RE: Sample Receipt for 290249 E33051BR, Mittagong

Hi Craig,
TB-S3 is sorted,

Few thing need to be confirmed 290257-75

2x SDUP21 (Geoff emailed) - Sample labelled as '2nd' are SDUP21. Other sample are SDUP19 (290249)

SDUP 16 and SDUP 23, no NEPM bags - Noted. Remove analysis of NEPM Asbestos.

TP60 0.1-0.3 - 2 bags received only, test from bag - Analyse 1 bag for Combination #6. Other bag for ASB NEPM. Remove analysis for Phenols/PFAS.

Kind Regards, 290249

Simon Song | Senior Customer Service | Envirolab Services

Envirolab Services Pty Ltd
ABN 37 112 535 645
12 Ashley St Chatswood NSW 2067
ph 02 9910 6200 fax 02 9910 6201
customerservice@envirolab.com.au
www.envirolab.com.au

CERTIFICATE OF ANALYSIS 290249

Client Details

Client	JK Environments
Attention	C Ridley
Address	PO Box 976, North Ryde BC, NSW, 1670

Sample Details

Your Reference	**E33051BR, Mittagong**
Number of Samples	84 Soil, 1 -, 1 Water, 11 Material
Date samples received	01/03/2022
Date completed instructions received	02/03/2022

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.

Samples were analysed as received from the client. Results relate specifically to the samples as received.

Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Please refer to the last page of this report for any comments relating to the results.

Report Details

Date results requested by	10/03/2022
Date of Issue	10/03/2022

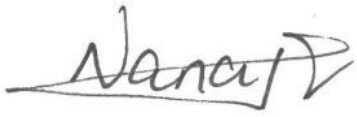
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Asbestos Approved By
Analysed by Asbestos Approved Analyst: Nyovan Moonean, Panika Wongchanda
Authorised by Asbestos Approved Signatory: Lucy Zhu

Results Approved By
Alexander Mitchell Maclean, Senior Chemist
Diego Bigolin, Inorganics Supervisor
Dragana Tomas, Senior Chemist
Hannah Nguyen, Metals Supervisor
Kyle Gavrily, Chemist
Liam Timmins, Chemist
Lucy Zhu, Asbestos Supervisor
Thomas Beenie, Lab Technician
Thomas Lovatt, Chemist

Authorised By



Nancy Zhang, Laboratory Manager

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		290249-1	290249-3	290249-5	290249-7	290249-8
Your Reference	UNITS	TP22	TP22	TP58	TP58	TP60
Depth		0-0.1	0.5-0.7	0-0.1	0.6-0.8	0-0.1
Date Sampled		23/02/2022	23/02/2022	23/02/2022	23/02/2022	23/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
Date analysed	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
TRH C_6 - C_9	mg/kg	<25	<25	<25	<25	<25
TRH C_6 - C_{10}	mg/kg	<25	<25	<25	<25	<25
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Naphthalene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	95	92	97	97	88

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		290249-9	290249-11	290249-13	290249-16	290249-17
Your Reference	UNITS	TP60	TP61	TP61	TP67	TP67
Depth		0.1-0.3	0-0.1	0.25-0.45	0-0.05	0.2-0.4
Date Sampled		23/02/2022	23/02/2022	23/02/2022	23/02/2022	23/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
Date analysed	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
TRH C_6 - C_9	mg/kg	<25	<25	<25	<25	<25
TRH C_6 - C_{10}	mg/kg	<25	<25	<25	<25	<25
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Naphthalene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	92	88	101	81	87

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		290249-18	290249-19	290249-20	290249-22	290249-24
Your Reference	UNITS	TP68	TP68	TP69	BH19	BH19
Depth		0-0.05	0.1-0.3	0-0.1	0-0.1	0.3-0.5
Date Sampled		23/02/2022	23/02/2022	23/02/2022	24/02/2022	24/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
Date analysed	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
TRH C_6 - C_9	mg/kg	<25	<25	<25	<25	<25
TRH C_6 - C_{10}	mg/kg	<25	<25	<25	<25	<25
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Naphthalene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	90	91	81	89	87

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		290249-26	290249-29	290249-30	290249-32	290249-35
Your Reference	UNITS	TP23	TP24	TP24	BH53	TP54
Depth		0.1-0.3	0-0.1	0.2-0.4	0-0.1	0.1-0.3
Date Sampled		24/02/2022	24/02/2022	24/02/2022	24/02/2022	24/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
Date analysed	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
TRH C_6 - C_9	mg/kg	<25	<25	<25	<25	<25
TRH C_6 - C_{10}	mg/kg	<25	<25	<25	<25	<25
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Naphthalene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	84	87	82	83	81

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		290249-37	290249-38	290249-39	290249-40	290249-42
Your Reference	UNITS	TP54	BH83	BH83	BH6	BH6
Depth		1.1-1.3	0-0.05	0.05-0.14	0-0.1	0.8-0.95
Date Sampled		24/02/2022	24/02/2022	24/02/2022	25/02/2022	25/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
Date analysed	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
TRH C_6 - C_9	mg/kg	<25	<25	<25	<25	<25
TRH C_6 - C_{10}	mg/kg	<25	<25	<25	<25	<25
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Naphthalene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	79	80	83	78	86

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		290249-44	290249-45	290249-46	290249-48	290249-49
Your Reference	UNITS	BH10	BH10	BH10	BH28	BH28
Depth		0-0.1	0.2-0.5	0.5-0.95	0-0.1	0.5-0.95
Date Sampled		25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
Date analysed	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
TRH C_6 - C_9	mg/kg	<25	<25	<25	<25	<25
TRH C_6 - C_{10}	mg/kg	<25	<25	<25	<25	<25
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Naphthalene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	88	89	85	78	85

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		290249-50	290249-51	290249-53	290249-54	290249-55
Your Reference	UNITS	BH28	BH37	BH37	BH37	BH41
Depth		1.5-1.95	0-0.1	1.0-1.2	1.5-1.95	0-0.1
Date Sampled		25/02/2022	24/02/2022	24/02/2022	24/02/2022	25/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
Date analysed	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
TRH C_6 - C_9	mg/kg	<25	<25	<25	<25	<25
TRH C_6 - C_{10}	mg/kg	<25	<25	<25	<25	<25
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Naphthalene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	85	84	84	75	88

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		290249-56	290249-59	290249-60	290249-62	290249-65
Your Reference	UNITS	BH41	BH41	BH46	BH46	BH59
Depth		0.5-0.95	2.8-3.0	0-0.1	0.7-0.95	0-0.1
Date Sampled		25/02/2022	25/02/2022	24/02/2022	24/02/2022	24/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
Date analysed	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
TRH C_6 - C_9	mg/kg	<25	<25	<25	<25	<25
TRH C_6 - C_{10}	mg/kg	<25	<25	<25	<25	<25
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Naphthalene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	71	83	84	86	83

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		290249-66	290249-69	290249-72	290249-73	290249-75
Your Reference	UNITS	BH59	BH82	BH82	SDUP15	SDUP17
Depth		0.5-0.95	0-0.1	1.5-1.95	-	-
Date Sampled		24/02/2022	24/02/2022	24/02/2022	23/02/2022	24/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
Date analysed	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
TRH C_6 - C_9	mg/kg	<25	<25	<25	<25	<25
TRH C_6 - C_{10}	mg/kg	<25	<25	<25	<25	<25
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Naphthalene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	88	89	87	91	83

vTRH(C6-C10)/BTEXN in Soil				
Our Reference		290249-76	290249-78	290249-79
Your Reference	UNITS	SDUP20	TS-S3	TB-S3
Depth		-	-	-
Date Sampled		25/02/2022	25/02/2022	25/02/2022
Type of sample		Soil	Soil	Soil
Date extracted	-	04/03/2022	04/03/2022	04/03/2022
Date analysed	-	04/03/2022	07/03/2022	04/03/2022
TRH C_6 - C_9	mg/kg	<25	[NA]	<25
TRH C_6 - C_{10}	mg/kg	<25	[NA]	<25
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	<25	[NA]	<25
Benzene	mg/kg	<0.2	102%	<0.2
Toluene	mg/kg	<0.5	106%	<0.5
Ethylbenzene	mg/kg	<1	103%	<1
m+p-xylene	mg/kg	<2	104%	<2
o-Xylene	mg/kg	<1	104%	<1
Naphthalene	mg/kg	<1	[NA]	<1
Total +ve Xylenes	mg/kg	<1	[NA]	<1
Surrogate aaa-Trifluorotoluene	%	89	87	91

svTRH (C10-C40) in Soil						
Our Reference		290249-1	290249-3	290249-5	290249-7	290249-8
Your Reference	UNITS	TP22	TP22	TP58	TP58	TP60
Depth		0-0.1	0.5-0.7	0-0.1	0.6-0.8	0-0.1
Date Sampled		23/02/2022	23/02/2022	23/02/2022	23/02/2022	23/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
Date analysed	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
TRH C_{10} - C_{14}	mg/kg	<50	<50	<50	<50	<50
TRH C_{15} - C_{28}	mg/kg	<100	<100	<100	<100	150
TRH C_{29} - C_{36}	mg/kg	<100	<100	<100	<100	200
Total +ve TRH (C10-C36)	mg/kg	<50	<50	<50	<50	350
TRH >C_{10} -C_{16}	mg/kg	<50	<50	<50	<50	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH >C_{16} -C_{34}	mg/kg	<100	<100	<100	<100	300
TRH >C_{34} -C_{40}	mg/kg	<100	<100	<100	<100	130
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	<50	<50	420
Surrogate o-Terphenyl	%	95	90	99	95	108

svTRH (C10-C40) in Soil						
Our Reference		290249-9	290249-11	290249-13	290249-16	290249-17
Your Reference	UNITS	TP60	TP61	TP61	TP67	TP67
Depth		0.1-0.3	0-0.1	0.25-0.45	0-0.05	0.2-0.4
Date Sampled		23/02/2022	23/02/2022	23/02/2022	23/02/2022	23/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
Date analysed	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
TRH C_{10} - C_{14}	mg/kg	<50	<50	<50	<50	<50
TRH C_{15} - C_{28}	mg/kg	230	<100	<100	<100	<100
TRH C_{29} - C_{36}	mg/kg	280	<100	<100	<100	<100
Total +ve TRH (C10-C36)	mg/kg	510	<50	<50	<50	<50
TRH >C_{10} -C_{16}	mg/kg	<50	<50	<50	<50	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH >C_{16} -C_{34}	mg/kg	430	<100	<100	<100	<100
TRH >C_{34} -C_{40}	mg/kg	180	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	620	<50	<50	<50	<50
Surrogate o-Terphenyl	%	108	104	91	95	86

svTRH (C10-C40) in Soil						
Our Reference		290249-18	290249-19	290249-20	290249-22	290249-24
Your Reference	UNITS	TP68	TP68	TP69	BH19	BH19
Depth		0-0.05	0.1-0.3	0-0.1	0-0.1	0.3-0.5
Date Sampled		23/02/2022	23/02/2022	23/02/2022	24/02/2022	24/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
Date analysed	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
TRH C_{10} - C_{14}	mg/kg	<50	<50	<50	100	<50
TRH C_{15} - C_{28}	mg/kg	<100	<100	<100	<100	<100
TRH C_{29} - C_{36}	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (C10-C36)	mg/kg	<50	<50	<50	100	<50
TRH >C_{10} -C_{16}	mg/kg	<50	<50	<50	98	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	mg/kg	<50	<50	<50	98	<50
TRH >C_{16} -C_{34}	mg/kg	<100	<100	100	<100	<100
TRH >C_{34} -C_{40}	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	100	100	<50
Surrogate o-Terphenyl	%	87	89	98	90	87

svTRH (C10-C40) in Soil						
Our Reference		290249-26	290249-29	290249-30	290249-32	290249-35
Your Reference	UNITS	TP23	TP24	TP24	BH53	TP54
Depth		0.1-0.3	0-0.1	0.2-0.4	0-0.1	0.1-0.3
Date Sampled		24/02/2022	24/02/2022	24/02/2022	24/02/2022	24/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
Date analysed	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
TRH C_{10} - C_{14}	mg/kg	<50	<50	<50	<50	<50
TRH C_{15} - C_{28}	mg/kg	<100	<100	<100	<100	<100
TRH C_{29} - C_{36}	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (C10-C36)	mg/kg	<50	<50	<50	<50	<50
TRH >C_{10} -C_{16}	mg/kg	<50	<50	<50	<50	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH >C_{16} -C_{34}	mg/kg	<100	<100	<100	<100	<100
TRH >C_{34} -C_{40}	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	<50	<50	<50
Surrogate o-Terphenyl	%	87	92	96	93	112

svTRH (C10-C40) in Soil						
Our Reference		290249-37	290249-38	290249-39	290249-40	290249-42
Your Reference	UNITS	TP54	BH83	BH83	BH6	BH6
Depth		1.1-1.3	0-0.05	0.05-0.14	0-0.1	0.8-0.95
Date Sampled		24/02/2022	24/02/2022	24/02/2022	25/02/2022	25/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
Date analysed	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	05/03/2022
TRH C_{10} - C_{14}	mg/kg	<50	<50	<50	<50	<50
TRH C_{15} - C_{28}	mg/kg	<100	<100	<100	<100	<100
TRH C_{29} - C_{36}	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (C10-C36)	mg/kg	<50	<50	<50	<50	<50
TRH >C_{10} -C_{16}	mg/kg	<50	<50	<50	<50	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH >C_{16} -C_{34}	mg/kg	<100	<100	<100	<100	<100
TRH >C_{34} -C_{40}	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	<50	<50	<50
Surrogate o-Terphenyl	%	88	84	79	97	89

svTRH (C10-C40) in Soil						
Our Reference		290249-44	290249-45	290249-46	290249-48	290249-49
Your Reference	UNITS	BH10	BH10	BH10	BH28	BH28
Depth		0-0.1	0.2-0.5	0.5-0.95	0-0.1	0.5-0.95
Date Sampled		25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
Date analysed	-	05/03/2022	05/03/2022	05/03/2022	05/03/2022	05/03/2022
TRH C_{10} - C_{14}	mg/kg	<50	<50	<50	<50	<50
TRH C_{15} - C_{28}	mg/kg	<100	<100	<100	<100	<100
TRH C_{29} - C_{36}	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (C10-C36)	mg/kg	<50	<50	<50	<50	<50
TRH >C_{10} -C_{16}	mg/kg	<50	<50	<50	<50	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH >C_{16} -C_{34}	mg/kg	110	<100	<100	<100	<100
TRH >C_{34} -C_{40}	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	110	<50	<50	<50	<50
Surrogate o-Terphenyl	%	104	90	90	86	90

svTRH (C10-C40) in Soil						
Our Reference		290249-50	290249-51	290249-53	290249-54	290249-55
Your Reference	UNITS	BH28	BH37	BH37	BH37	BH41
Depth		1.5-1.95	0-0.1	1.0-1.2	1.5-1.95	0-0.1
Date Sampled		25/02/2022	24/02/2022	24/02/2022	24/02/2022	25/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
Date analysed	-	05/03/2022	05/03/2022	05/03/2022	05/03/2022	05/03/2022
TRH C_{10} - C_{14}	mg/kg	<50	<50	<50	<50	<50
TRH C_{15} - C_{28}	mg/kg	<100	<100	<100	<100	<100
TRH C_{29} - C_{36}	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (C10-C36)	mg/kg	<50	<50	<50	<50	<50
TRH >C_{10} -C_{16}	mg/kg	<50	<50	<50	<50	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH >C_{16} -C_{34}	mg/kg	<100	<100	<100	<100	<100
TRH >C_{34} -C_{40}	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	<50	<50	<50
Surrogate o-Terphenyl	%	87	95	88	91	97

svTRH (C10-C40) in Soil						
Our Reference		290249-56	290249-59	290249-60	290249-62	290249-65
Your Reference	UNITS	BH41	BH41	BH46	BH46	BH59
Depth		0.5-0.95	2.8-3.0	0-0.1	0.7-0.95	0-0.1
Date Sampled		25/02/2022	25/02/2022	24/02/2022	24/02/2022	24/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
Date analysed	-	05/03/2022	05/03/2022	05/03/2022	05/03/2022	05/03/2022
TRH C_{10} - C_{14}	mg/kg	<50	<50	<50	<50	<50
TRH C_{15} - C_{28}	mg/kg	<100	<100	<100	<100	<100
TRH C_{29} - C_{36}	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (C10-C36)	mg/kg	<50	<50	<50	<50	<50
TRH >C_{10} -C_{16}	mg/kg	<50	<50	<50	<50	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH >C_{16} -C_{34}	mg/kg	<100	<100	<100	<100	<100
TRH >C_{34} -C_{40}	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	<50	<50	<50
Surrogate o-Terphenyl	%	97	96	99	105	97

svTRH (C10-C40) in Soil						
Our Reference		290249-66	290249-69	290249-72	290249-73	290249-75
Your Reference	UNITS	BH59	BH82	BH82	SDUP15	SDUP17
Depth		0.5-0.95	0-0.1	1.5-1.95	-	-
Date Sampled		24/02/2022	24/02/2022	24/02/2022	23/02/2022	24/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
Date analysed	-	05/03/2022	05/03/2022	05/03/2022	05/03/2022	05/03/2022
TRH C_{10} - C_{14}	mg/kg	<50	<50	<50	<50	<50
TRH C_{15} - C_{28}	mg/kg	<100	<100	<100	<100	<100
TRH C_{29} - C_{36}	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (C10-C36)	mg/kg	<50	<50	<50	<50	<50
TRH >C_{10} -C_{16}	mg/kg	<50	<50	<50	<50	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH >C_{16} -C_{34}	mg/kg	<100	<100	<100	<100	<100
TRH >C_{34} -C_{40}	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	<50	<50	<50
Surrogate o-Terphenyl	%	96	95	90	97	93

svTRH (C10-C40) in Soil		
Our Reference		290249-76
Your Reference	UNITS	SDUP20
Depth		-
Date Sampled		25/02/2022
Type of sample		Soil
Date extracted	-	04/03/2022
Date analysed	-	05/03/2022
TRH C_{10} - C_{14}	mg/kg	<50
TRH C_{15} - C_{28}	mg/kg	<100
TRH C_{29} - C_{36}	mg/kg	<100
Total +ve TRH (C10-C36)	mg/kg	<50
TRH >C_{10} -C_{16}	mg/kg	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	mg/kg	<50
TRH >C_{16} -C_{34}	mg/kg	<100
TRH >C_{34} -C_{40}	mg/kg	<100
Total +ve TRH (>C10-C40)	mg/kg	<50
Surrogate o-Terphenyl	%	100

PAHs in Soil						
Our Reference		290249-1	290249-3	290249-5	290249-7	290249-8
Your Reference	UNITS	TP22	TP22	TP58	TP58	TP60
Depth		0-0.1	0.5-0.7	0-0.1	0.6-0.8	0-0.1
Date Sampled		23/02/2022	23/02/2022	23/02/2022	23/02/2022	23/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
Date analysed	-	07/03/2022	07/03/2022	04/03/2022	07/03/2022	07/03/2022
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	0.2
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	1.3
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	<0.1	1.9
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	1.4
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1	6.4
Pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	7.5
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	5.3
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1	4.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	9.0
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	<0.05	6.0
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	3.0
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	1.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	3.4
Total +ve PAH's	mg/kg	<0.05	<0.05	<0.05	<0.05	51
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	8.9
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	8.9
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	8.9
Surrogate p-Terphenyl-d14	%	110	111	125	105	114

PAHs in Soil						
Our Reference		290249-9	290249-11	290249-13	290249-16	290249-17
Your Reference	UNITS	TP60	TP61	TP61	TP67	TP67
Depth		0.1-0.3	0-0.1	0.25-0.45	0-0.05	0.2-0.4
Date Sampled		23/02/2022	23/02/2022	23/02/2022	23/02/2022	23/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
Date analysed	-	07/03/2022	07/03/2022	07/03/2022	04/03/2022	07/03/2022
Naphthalene	mg/kg	0.3	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	1.8	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	0.2	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	3.0	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	2.0	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	10	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	12	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	8.7	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	6.4	<0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	15	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	9.7	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	4.6	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	1.7	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	5.2	<0.1	<0.1	<0.1	<0.1
Total +ve PAH's	mg/kg	81	<0.05	<0.05	<0.05	<0.05
Benzo(a)pyrene TEQ calc (zero)	mg/kg	14	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	14	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	14	<0.5	<0.5	<0.5	<0.5
Surrogate p-Terphenyl-d14	%	106	118	112	114	103

PAHs in Soil						
Our Reference		290249-18	290249-19	290249-20	290249-22	290249-24
Your Reference	UNITS	TP68	TP68	TP69	BH19	BH19
Depth		0-0.05	0.1-0.3	0-0.1	0-0.1	0.3-0.5
Date Sampled		23/02/2022	23/02/2022	23/02/2022	24/02/2022	24/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
Date analysed	-	04/03/2022	07/03/2022	07/03/2022	04/03/2022	07/03/2022
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PAH's	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate p-Terphenyl-d14	%	109	110	113	120	106

PAHs in Soil						
Our Reference		290249-26	290249-29	290249-30	290249-32	290249-35
Your Reference	UNITS	TP23	TP24	TP24	BH53	TP54
Depth		0.1-0.3	0-0.1	0.2-0.4	0-0.1	0.1-0.3
Date Sampled		24/02/2022	24/02/2022	24/02/2022	24/02/2022	24/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
Date analysed	-	07/03/2022	07/03/2022	07/03/2022	07/03/2022	07/03/2022
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PAH's	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate p-Terphenyl-d14	%	103	114	111	106	112

PAHs in Soil						
Our Reference		290249-37	290249-38	290249-39	290249-40	290249-42
Your Reference	UNITS	TP54	BH83	BH83	BH6	BH6
Depth		1.1-1.3	0-0.05	0.05-0.14	0-0.1	0.8-0.95
Date Sampled		24/02/2022	24/02/2022	24/02/2022	25/02/2022	25/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
Date analysed	-	07/03/2022	04/03/2022	07/03/2022	04/03/2022	07/03/2022
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PAH's	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate p-Terphenyl-d14	%	106	114	104	130	104

PAHs in Soil						
Our Reference		290249-44	290249-45	290249-46	290249-48	290249-49
Your Reference	UNITS	BH10	BH10	BH10	BH28	BH28
Depth		0-0.1	0.2-0.5	0.5-0.95	0-0.1	0.5-0.95
Date Sampled		25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
Date analysed	-	04/03/2022	04/03/2022	07/03/2022	04/03/2022	07/03/2022
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PAH's	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate p-Terphenyl-d14	%	105	104	105	112	112

PAHs in Soil						
Our Reference		290249-50	290249-51	290249-53	290249-54	290249-55
Your Reference	UNITS	BH28	BH37	BH37	BH37	BH41
Depth		1.5-1.95	0-0.1	1.0-1.2	1.5-1.95	0-0.1
Date Sampled		25/02/2022	24/02/2022	24/02/2022	24/02/2022	25/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	04/03/2022	04/03/2022	4/03/2022	04/03/2022	04/03/2022
Date analysed	-	07/03/2022	04/03/2022	07/03/2022	07/03/2022	07/03/2022
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	0.06	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PAH's	mg/kg	<0.05	0.06	<0.05	<0.05	<0.05
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate p-Terphenyl-d14	%	111	116	108	109	113

PAHs in Soil						
Our Reference		290249-56	290249-59	290249-60	290249-62	290249-65
Your Reference	UNITS	BH41	BH41	BH46	BH46	BH59
Depth		0.5-0.95	2.8-3.0	0-0.1	0.7-0.95	0-0.1
Date Sampled		25/02/2022	25/02/2022	24/02/2022	24/02/2022	24/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
Date analysed	-	07/03/2022	07/03/2022	07/03/2022	07/03/2022	07/03/2022
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	0.5
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	<0.1	2.0
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	0.9
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1	4.7
Pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	4.9
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	3.8
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1	2.0
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	3.7
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	<0.05	2.9
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	1.4
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	0.5
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	1.4
Total +ve PAH's	mg/kg	<0.05	<0.05	<0.05	<0.05	29
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	4.3
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	4.3
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	4.3
Surrogate p-Terphenyl-d14	%	112	114	105	108	98

PAHs in Soil						
Our Reference		290249-66	290249-69	290249-72	290249-73	290249-75
Your Reference	UNITS	BH59	BH82	BH82	SDUP15	SDUP17
Depth		0.5-0.95	0-0.1	1.5-1.95	-	-
Date Sampled		24/02/2022	24/02/2022	24/02/2022	23/02/2022	24/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
Date analysed	-	07/03/2022	07/03/2022	07/03/2022	07/03/2022	04/03/2022
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PAH's	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate p-Terphenyl-d14	%	114	109	111	112	109

PAHs in Soil		
Our Reference		290249-76
Your Reference	UNITS	SDUP20
Depth		-
Date Sampled		25/02/2022
Type of sample		Soil
Date extracted	-	04/03/2022
Date analysed	-	04/03/2022
Naphthalene	mg/kg	<0.1
Acenaphthylene	mg/kg	<0.1
Acenaphthene	mg/kg	<0.1
Fluorene	mg/kg	<0.1
Phenanthrene	mg/kg	<0.1
Anthracene	mg/kg	<0.1
Fluoranthene	mg/kg	<0.1
Pyrene	mg/kg	<0.1
Benzo(a)anthracene	mg/kg	<0.1
Chrysene	mg/kg	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2
Benzo(a)pyrene	mg/kg	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1
Total +ve PAH's	mg/kg	<0.05
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5
Surrogate p-Terphenyl-d14	%	111

Organochlorine Pesticides in soil						
Our Reference		290249-5	290249-16	290249-18	290249-22	290249-38
Your Reference	UNITS	TP58	TP67	TP68	BH19	BH83
Depth		0-0.1	0-0.05	0-0.05	0-0.1	0-0.05
Date Sampled		23/02/2022	23/02/2022	23/02/2022	24/02/2022	24/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
Date analysed	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
HCB	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve DDT+DDD+DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	115	111	103	116	107

Organochlorine Pesticides in soil						
Our Reference		290249-40	290249-44	290249-45	290249-48	290249-51
Your Reference	UNITS	BH6	BH10	BH10	BH28	BH37
Depth		0-0.1	0-0.1	0.2-0.5	0-0.1	0-0.1
Date Sampled		25/02/2022	25/02/2022	25/02/2022	25/02/2022	24/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
Date analysed	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
HCB	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve DDT+DDD+DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	126	99	104	110	103

Organochlorine Pesticides in soil						
Our Reference		290249-60	290249-65	290249-69	290249-75	290249-76
Your Reference	UNITS	BH46	BH59	BH82	SDUP17	SDUP20
Depth		0-0.1	0-0.1	0-0.1	-	-
Date Sampled		24/02/2022	24/02/2022	24/02/2022	24/02/2022	25/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
Date analysed	-	07/03/2022	07/03/2022	07/03/2022	04/03/2022	04/03/2022
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
HCB	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve DDT+DDD+DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	102	100	104	100	103

Organophosphorus Pesticides in Soil						
Our Reference		290249-5	290249-16	290249-18	290249-22	290249-38
Your Reference	UNITS	TP58	TP67	TP68	BH19	BH83
Depth		0-0.1	0-0.05	0-0.05	0-0.1	0-0.05
Date Sampled		23/02/2022	23/02/2022	23/02/2022	24/02/2022	24/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
Date analysed	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
Dichlorvos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dimethoate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Diazinon	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos-methyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ronnel	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fenitrothion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Malathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Parathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Bromophos-ethyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ethion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Azinphos-methyl (Guthion)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	115	111	103	116	107

Organophosphorus Pesticides in Soil						
Our Reference		290249-40	290249-44	290249-45	290249-48	290249-51
Your Reference	UNITS	BH6	BH10	BH10	BH28	BH37
Depth		0-0.1	0-0.1	0.2-0.5	0-0.1	0-0.1
Date Sampled		25/02/2022	25/02/2022	25/02/2022	25/02/2022	24/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
Date analysed	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
Dichlorvos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dimethoate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Diazinon	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos-methyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ronnel	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fenitrothion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Malathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Parathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Bromophos-ethyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ethion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Azinphos-methyl (Guthion)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	126	99	104	110	103

Organophosphorus Pesticides in Soil						
Our Reference		290249-60	290249-65	290249-69	290249-75	290249-76
Your Reference	UNITS	BH46	BH59	BH82	SDUP17	SDUP20
Depth		0-0.1	0-0.1	0-0.1	-	-
Date Sampled		24/02/2022	24/02/2022	24/02/2022	24/02/2022	25/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
Date analysed	-	07/03/2022	07/03/2022	07/03/2022	04/03/2022	04/03/2022
Dichlorvos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dimethoate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Diazinon	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos-methyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ronnel	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fenitrothion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Malathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Parathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Bromophos-ethyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ethion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Azinphos-methyl (Guthion)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	102	100	104	100	103

PCBs in Soil						
Our Reference		290249-5	290249-16	290249-18	290249-22	290249-38
Your Reference	UNITS	TP58	TP67	TP68	BH19	BH83
Depth		0-0.1	0-0.05	0-0.05	0-0.1	0-0.05
Date Sampled		23/02/2022	23/02/2022	23/02/2022	24/02/2022	24/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
Date analysed	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
Aroclor 1016	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1221	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1232	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1242	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1248	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1254	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1260	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PCBs (1016-1260)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	115	111	103	116	107

PCBs in Soil						
Our Reference		290249-40	290249-44	290249-45	290249-48	290249-51
Your Reference	UNITS	BH6	BH10	BH10	BH28	BH37
Depth		0-0.1	0-0.1	0.2-0.5	0-0.1	0-0.1
Date Sampled		25/02/2022	25/02/2022	25/02/2022	25/02/2022	24/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
Date analysed	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
Aroclor 1016	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1221	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1232	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1242	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1248	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1254	mg/kg	4.9	<0.1	<0.1	<0.1	<0.1
Aroclor 1260	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PCBs (1016-1260)	mg/kg	4.9	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	126	99	104	110	103

PCBs in Soil						
Our Reference		290249-60	290249-65	290249-69	290249-75	290249-76
Your Reference	UNITS	BH46	BH59	BH82	SDUP17	SDUP20
Depth		0-0.1	0-0.1	0-0.1	-	-
Date Sampled		24/02/2022	24/02/2022	24/02/2022	24/02/2022	25/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
Date analysed	-	07/03/2022	07/03/2022	07/03/2022	04/03/2022	04/03/2022
Aroclor 1016	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1221	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1232	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1242	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1248	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1254	mg/kg	<0.1	<0.1	<0.1	<0.1	1.7
Aroclor 1260	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PCBs (1016-1260)	mg/kg	<0.1	<0.1	<0.1	<0.1	1.7
Surrogate TCMX	%	102	100	104	100	103

Acid Extractable metals in soil						
Our Reference		290249-1	290249-3	290249-5	290249-7	290249-8
Your Reference	UNITS	TP22	TP22	TP58	TP58	TP60
Depth		0-0.1	0.5-0.7	0-0.1	0.6-0.8	0-0.1
Date Sampled		23/02/2022	23/02/2022	23/02/2022	23/02/2022	23/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
Date analysed	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
Arsenic	mg/kg	7	6	<4	<4	6
Cadmium	mg/kg	0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	12	3	9	8	26
Copper	mg/kg	120	68	25	10	59
Lead	mg/kg	690	220	28	13	250
Mercury	mg/kg	0.4	0.2	<0.1	<0.1	<0.1
Nickel	mg/kg	7	9	3	2	11
Zinc	mg/kg	380	190	32	15	130

Acid Extractable metals in soil						
Our Reference		290249-9	290249-11	290249-13	290249-16	290249-17
Your Reference	UNITS	TP60	TP61	TP61	TP67	TP67
Depth		0.1-0.3	0-0.1	0.25-0.45	0-0.05	0.2-0.4
Date Sampled		23/02/2022	23/02/2022	23/02/2022	23/02/2022	23/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
Date analysed	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
Arsenic	mg/kg	6	5	<4	12	<4
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	41	9	8	24	10
Copper	mg/kg	66	32	17	260	18
Lead	mg/kg	150	290	13	880	22
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	0.1
Nickel	mg/kg	15	7	1	29	42
Zinc	mg/kg	98	260	18	380	130

Acid Extractable metals in soil						
Our Reference		290249-18	290249-19	290249-20	290249-22	290249-24
Your Reference	UNITS	TP68	TP68	TP69	BH19	BH19
Depth		0-0.05	0.1-0.3	0-0.1	0-0.1	0.3-0.5
Date Sampled		23/02/2022	23/02/2022	23/02/2022	24/02/2022	24/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
Date analysed	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
Arsenic	mg/kg	5	<4	<4	<4	<4
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	10	6	12	17	16
Copper	mg/kg	91	29	19	15	2
Lead	mg/kg	110	11	43	1,400	15
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	18	19	6	4	1
Zinc	mg/kg	150	69	37	330	5

Acid Extractable metals in soil						
Our Reference		290249-26	290249-29	290249-30	290249-32	290249-35
Your Reference	UNITS	TP23	TP24	TP24	BH53	TP54
Depth		0.1-0.3	0-0.1	0.2-0.4	0-0.1	0.1-0.3
Date Sampled		24/02/2022	24/02/2022	24/02/2022	24/02/2022	24/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
Date analysed	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
Arsenic	mg/kg	<4	<4	<4	<4	<4
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	9	7	9	11	7
Copper	mg/kg	7	13	6	8	6
Lead	mg/kg	28	38	26	75	62
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	1	4	3	4	3
Zinc	mg/kg	31	180	36	53	33

Acid Extractable metals in soil						
Our Reference		290249-37	290249-38	290249-39	290249-40	290249-42
Your Reference	UNITS	TP54	BH83	BH83	BH6	BH6
Depth		1.1-1.3	0-0.05	0.05-0.14	0-0.1	0.8-0.95
Date Sampled		24/02/2022	24/02/2022	24/02/2022	25/02/2022	25/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
Date analysed	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
Arsenic	mg/kg	<4	<4	<4	8	<4
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	12	10	20	52	9
Copper	mg/kg	5	36	49	29	7
Lead	mg/kg	8	160	79	170	15
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	2	34	32	7	<1
Zinc	mg/kg	8	62	98	220	11

Acid Extractable metals in soil						
Our Reference		290249-44	290249-45	290249-46	290249-48	290249-49
Your Reference	UNITS	BH10	BH10	BH10	BH28	BH28
Depth		0-0.1	0.2-0.5	0.5-0.95	0-0.1	0.5-0.95
Date Sampled		25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
Date analysed	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
Arsenic	mg/kg	8	34	<4	<4	<4
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	6	6	11	5	6
Copper	mg/kg	32	6	2	5	2
Lead	mg/kg	96	17	8	21	4
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	5	1	<1	1	2
Zinc	mg/kg	67	29	5	21	3

Acid Extractable metals in soil						
Our Reference		290249-50	290249-51	290249-53	290249-54	290249-55
Your Reference	UNITS	BH28	BH37	BH37	BH37	BH41
Depth		1.5-1.95	0-0.1	1.0-1.2	1.5-1.95	0-0.1
Date Sampled		25/02/2022	24/02/2022	24/02/2022	24/02/2022	25/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
Date analysed	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
Arsenic	mg/kg	<4	<4	<4	<4	4
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	11	13	23	25	16
Copper	mg/kg	3	41	10	8	13
Lead	mg/kg	6	490	56	9	100
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	2	13	6	11	7
Zinc	mg/kg	6	220	82	11	67

Acid Extractable metals in soil						
Our Reference		290249-56	290249-59	290249-60	290249-62	290249-65
Your Reference	UNITS	BH41	BH41	BH46	BH46	BH59
Depth		0.5-0.95	2.8-3.0	0-0.1	0.7-0.95	0-0.1
Date Sampled		25/02/2022	25/02/2022	24/02/2022	24/02/2022	24/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
Date analysed	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
Arsenic	mg/kg	<4	5	7	<4	6
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	17	8	18	17	36
Copper	mg/kg	4	3	55	17	48
Lead	mg/kg	19	17	460	17	97
Mercury	mg/kg	<0.1	<0.1	0.1	<0.1	<0.1
Nickel	mg/kg	3	3	13	8	10
Zinc	mg/kg	14	19	240	45	68

Acid Extractable metals in soil						
Our Reference		290249-66	290249-69	290249-72	290249-73	290249-75
Your Reference	UNITS	BH59	BH82	BH82	SDUP15	SDUP17
Depth		0.5-0.95	0-0.1	1.5-1.95	-	-
Date Sampled		24/02/2022	24/02/2022	24/02/2022	23/02/2022	24/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
Date analysed	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
Arsenic	mg/kg	5	<4	<4	6	7
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	14	13	4	12	20
Copper	mg/kg	34	23	30	43	36
Lead	mg/kg	20	18	18	410	230
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	0.1
Nickel	mg/kg	5	5	3	14	14
Zinc	mg/kg	62	26	22	410	170

Acid Extractable metals in soil			
Our Reference		290249-76	290249-98
Your Reference	UNITS	SDUP20	TP68 - [TRIPLICATE]
Depth		-	0-0.05
Date Sampled		25/02/2022	23/02/2022
Type of sample		Soil	Soil
Date prepared	-	04/03/2022	04/03/2022
Date analysed	-	04/03/2022	04/03/2022
Arsenic	mg/kg	6	<4
Cadmium	mg/kg	<0.4	<0.4
Chromium	mg/kg	12	9
Copper	mg/kg	29	61
Lead	mg/kg	170	48
Mercury	mg/kg	<0.1	<0.1
Nickel	mg/kg	13	21
Zinc	mg/kg	140	110

Moisture						
Our Reference		290249-1	290249-3	290249-5	290249-7	290249-8
Your Reference	UNITS	TP22	TP22	TP58	TP58	TP60
Depth		0-0.1	0.5-0.7	0-0.1	0.6-0.8	0-0.1
Date Sampled		23/02/2022	23/02/2022	23/02/2022	23/02/2022	23/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
Date analysed	-	07/03/2022	07/03/2022	07/03/2022	07/03/2022	07/03/2022
Moisture	%	13	8.3	8.7	8.7	7.6

Moisture						
Our Reference		290249-9	290249-11	290249-13	290249-16	290249-17
Your Reference	UNITS	TP60	TP61	TP61	TP67	TP67
Depth		0.1-0.3	0-0.1	0.25-0.45	0-0.05	0.2-0.4
Date Sampled		23/02/2022	23/02/2022	23/02/2022	23/02/2022	23/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
Date analysed	-	07/03/2022	07/03/2022	07/03/2022	07/03/2022	07/03/2022
Moisture	%	12	18	7.8	14	13

Moisture						
Our Reference		290249-18	290249-19	290249-20	290249-22	290249-24
Your Reference	UNITS	TP68	TP68	TP69	BH19	BH19
Depth		0-0.05	0.1-0.3	0-0.1	0-0.1	0.3-0.5
Date Sampled		23/02/2022	23/02/2022	23/02/2022	24/02/2022	24/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
Date analysed	-	07/03/2022	07/03/2022	07/03/2022	07/03/2022	07/03/2022
Moisture	%	12	7.8	14	17	11

Moisture						
Our Reference		290249-26	290249-29	290249-30	290249-32	290249-35
Your Reference	UNITS	TP23	TP24	TP24	BH53	TP54
Depth		0.1-0.3	0-0.1	0.2-0.4	0-0.1	0.1-0.3
Date Sampled		24/02/2022	24/02/2022	24/02/2022	24/02/2022	24/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
Date analysed	-	07/03/2022	07/03/2022	07/03/2022	07/03/2022	07/03/2022
Moisture	%	10	16	11	12	9.4

Moisture						
Our Reference		290249-37	290249-38	290249-39	290249-40	290249-42
Your Reference	UNITS	TP54	BH83	BH83	BH6	BH6
Depth		1.1-1.3	0-0.05	0.05-0.14	0-0.1	0.8-0.95
Date Sampled		24/02/2022	24/02/2022	24/02/2022	25/02/2022	25/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
Date analysed	-	07/03/2022	07/03/2022	07/03/2022	07/03/2022	07/03/2022
Moisture	%	9.9	5.9	12	9.2	13

Moisture						
Our Reference		290249-44	290249-45	290249-46	290249-48	290249-49
Your Reference	UNITS	BH10	BH10	BH10	BH28	BH28
Depth		0-0.1	0.2-0.5	0.5-0.95	0-0.1	0.5-0.95
Date Sampled		25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
Date analysed	-	07/03/2022	07/03/2022	07/03/2022	07/03/2022	07/03/2022
Moisture	%	15	9.0	5.2	6.8	8.7

Moisture						
Our Reference		290249-50	290249-51	290249-52	290249-53	290249-54
Your Reference	UNITS	BH28	BH37	BH37	BH37	BH37
Depth		1.5-1.95	0-0.1	0.5-0.9	1.0-1.2	1.5-1.95
Date Sampled		25/02/2022	24/02/2022	24/02/2022	24/02/2022	24/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
Date analysed	-	07/03/2022	07/03/2022	07/03/2022	07/03/2022	07/03/2022
Moisture	%	8.5	12	11	9.1	18

Moisture						
Our Reference		290249-55	290249-56	290249-59	290249-60	290249-61
Your Reference	UNITS	BH41	BH41	BH41	BH46	BH46
Depth		0-0.1	0.5-0.95	2.8-3.0	0-0.1	0.5-0.7
Date Sampled		25/02/2022	25/02/2022	25/02/2022	24/02/2022	24/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
Date analysed	-	07/03/2022	07/03/2022	07/03/2022	07/03/2022	07/03/2022
Moisture	%	14	14	7.2	19	20

Moisture						
Our Reference		290249-62	290249-65	290249-66	290249-69	290249-70
Your Reference	UNITS	BH46	BH59	BH59	BH82	BH82
Depth		0.7-0.95	0-0.1	0.5-0.95	0-0.1	0.2-0.5
Date Sampled		24/02/2022	24/02/2022	24/02/2022	24/02/2022	24/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
Date analysed	-	07/03/2022	07/03/2022	07/03/2022	07/03/2022	07/03/2022
Moisture	%	18	13	8.7	12	18

Moisture					
Our Reference		290249-72	290249-73	290249-75	290249-76
Your Reference	UNITS	BH82	SDUP15	SDUP17	SDUP20
Depth		1.5-1.95	-	-	-
Date Sampled		24/02/2022	23/02/2022	24/02/2022	25/02/2022
Type of sample		Soil	Soil	Soil	Soil
Date prepared	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022
Date analysed	-	07/03/2022	07/03/2022	07/03/2022	07/03/2022
Moisture	%	7.1	20	21	20

Asbestos ID - soils NEPM - ASB-001						
Our Reference		290249-1	290249-3	290249-5	290249-8	290249-9
Your Reference	UNITS	TP22	TP22	TP58	TP60	TP60
Depth		0-0.1	0.5-0.7	0-0.1	0-0.1	0.1-0.3
Date Sampled		23/02/2022	23/02/2022	23/02/2022	23/02/2022	23/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date analysed	-	10/03/2022	10/03/2022	10/03/2022	10/03/2022	10/03/2022
Sample mass tested	g	601.44	482.11	620.19	494.46	654.65
Sample Description	-	Brown coarse-grained soil & rocks	Grey fine-grained soil & rocks	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks
Asbestos ID in soil (AS4964) >0.1g/kg	-	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected
Trace Analysis	-	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected
Total Asbestos[#1]	g/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Asbestos ID in soil <0.1g/kg*	-	No visible asbestos detected	No visible asbestos detected	No visible asbestos detected	No visible asbestos detected	No visible asbestos detected
ACM >7mm Estimation*	g	–	–	–	–	–
FA and AF Estimation*	g	–	–	–	–	–
ACM >7mm Estimation*	%(w/w)	<0.01	<0.01	<0.01	<0.01	<0.01
FA and AF Estimation*#2	%(w/w)	<0.001	<0.001	<0.001	<0.001	<0.001

Asbestos ID - soils NEPM - ASB-001						
Our Reference		290249-11	290249-16	290249-18	290249-22	290249-26
Your Reference	UNITS	TP61	TP67	TP68	BH19	TP23
Depth		0-0.1	0-0.05	0-0.05	0-0.1	0.1-0.3
Date Sampled		23/02/2022	23/02/2022	23/02/2022	24/02/2022	24/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date analysed	-	10/03/2022	10/03/2022	10/03/2022	10/03/2022	10/03/2022
Sample mass tested	g	442.23	647.61	819.39	699.28	765.53
Sample Description	-	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks
Asbestos ID in soil (AS4964) >0.1g/kg	-	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected
Trace Analysis	-	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected
Total Asbestos[#1]	g/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Asbestos ID in soil <0.1g/kg*	-	No visible asbestos detected	No visible asbestos detected	No visible asbestos detected	No visible asbestos detected	No visible asbestos detected
ACM >7mm Estimation*	g	–	–	–	–	–
FA and AF Estimation*	g	–	–	–	–	–
ACM >7mm Estimation*	%(w/w)	<0.01	<0.01	<0.01	<0.01	<0.01
FA and AF Estimation*#2	%(w/w)	<0.001	<0.001	<0.001	<0.001	<0.001

Asbestos ID - soils NEPM - ASB-001						
Our Reference		290249-29	290249-30	290249-32	290249-34	290249-35
Your Reference	UNITS	TP24	TP24	BH53	TP54	TP54
Depth		0-0.1	0.2-0.4	0-0.1	0-0.1	0.1-0.3
Date Sampled		24/02/2022	24/02/2022	24/02/2022	24/02/2022	24/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date analysed	-	10/03/2022	10/03/2022	10/03/2022	10/03/2022	10/03/2022
Sample mass tested	g	372.37	697.19	460.28	485.6	677.48
Sample Description	-	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks
Asbestos ID in soil (AS4964) >0.1g/kg	-	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	Chrysotile asbestos detected Amosite asbestos detected Organic fibres detected
Trace Analysis	-	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected
Total Asbestos#1	g/kg	<0.1	<0.1	<0.1	<0.1	0.3423
Asbestos ID in soil <0.1g/kg*	-	No visible asbestos detected	No visible asbestos detected	No visible asbestos detected	No visible asbestos detected	See Above
ACM >7mm Estimation*	g	–	–	–	–	–
FA and AF Estimation*	g	–	–	–	–	0.2319
ACM >7mm Estimation*	%(w/w)	<0.01	<0.01	<0.01	<0.01	<0.01
FA and AF Estimation*#2	%(w/w)	<0.001	<0.001	<0.001	<0.001	0.0342

Asbestos ID - soils NEPM - ASB-001						
Our Reference		290249-38	290249-40	290249-44	290249-45	290249-48
Your Reference	UNITS	BH83	BH6	BH10	BH10	BH28
Depth		0-0.05	0-0.1	0-0.1	0.2-0.5	0-0.1
Date Sampled		24/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date analysed	-	10/03/2022	10/03/2022	10/03/2022	10/03/2022	10/03/2022
Sample mass tested	g	827.97	530.48	559.01	689.44	765.2
Sample Description	-	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks
Asbestos ID in soil (AS4964) >0.1g/kg	-	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected
Trace Analysis	-	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected
Total Asbestos[#1]	g/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Asbestos ID in soil <0.1g/kg*	-	No visible asbestos detected	No visible asbestos detected	No visible asbestos detected	No visible asbestos detected	No visible asbestos detected
ACM >7mm Estimation*	g	–	–	–	–	–
FA and AF Estimation*	g	–	–	–	–	–
ACM >7mm Estimation*	%(w/w)	<0.01	<0.01	<0.01	<0.01	<0.01
FA and AF Estimation*#2	%(w/w)	<0.001	<0.001	<0.001	<0.001	<0.001

Asbestos ID - soils NEPM - ASB-001						
Our Reference		290249-51	290249-55	290249-60	290249-65	290249-69
Your Reference	UNITS	BH37	BH41	BH46	BH59	BH82
Depth		0-0.1	0-0.1	0-0.1	0-0.1	0-0.1
Date Sampled		24/02/2022	25/02/2022	24/02/2022	24/02/2022	24/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date analysed	-	10/03/2022	10/03/2022	10/03/2022	10/03/2022	10/03/2022
Sample mass tested	g	683.98	700.59	672.68	630.65	681.57
Sample Description	-	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks	Brown clayey soil & rocks	Brown coarse-grained soil & rocks
Asbestos ID in soil (AS4964) >0.1g/kg	-	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected
Trace Analysis	-	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected
Total Asbestos#1	g/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Asbestos ID in soil <0.1g/kg*	-	No visible asbestos detected	No visible asbestos detected	No visible asbestos detected	No visible asbestos detected	No visible asbestos detected
ACM >7mm Estimation*	g	–	–	–	–	–
FA and AF Estimation*	g	–	–	–	–	–
ACM >7mm Estimation*	%(w/w)	<0.01	<0.01	<0.01	<0.01	<0.01
FA and AF Estimation*#2	%(w/w)	<0.001	<0.001	<0.001	<0.001	<0.001

Asbestos ID - soils NEPM - ASB-001					
Our Reference		290249-70	290249-73	290249-75	290249-76
Your Reference	UNITS	BH82	SDUP15	SDUP17	SDUP20
Depth		0.2-0.5	-	-	-
Date Sampled		24/02/2022	23/02/2022	24/02/2022	25/02/2022
Type of sample		Soil	Soil	Soil	Soil
Date analysed	-	10/03/2022	10/03/2022	10/03/2022	10/03/2022
Sample mass tested	g	579.95	478.27	629.28	540.54
Sample Description	-	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks
Asbestos ID in soil (AS4964) >0.1g/kg	-	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected
Trace Analysis	-	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected
Total Asbestos#1	g/kg	<0.1	<0.1	<0.1	<0.1
Asbestos ID in soil <0.1g/kg*	-	No visible asbestos detected	No visible asbestos detected	No visible asbestos detected	No visible asbestos detected
ACM >7mm Estimation*	g	–	–	–	–
FA and AF Estimation*	g	–	–	–	–
ACM >7mm Estimation*	%(w/w)	<0.01	<0.01	<0.01	<0.01
FA and AF Estimation*#2	%(w/w)	<0.001	<0.001	<0.001	<0.001

Misc Soil - Inorg						
Our Reference		290249-5	290249-8	290249-22	290249-24	290249-38
Your Reference	UNITS	TP58	TP60	BH19	BH19	BH83
Depth		0-0.1	0-0.1	0-0.1	0.3-0.5	0-0.05
Date Sampled		23/02/2022	23/02/2022	24/02/2022	24/02/2022	24/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
Date analysed	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
Total Phenolics (as Phenol)	mg/kg	<5	<5	<5	<5	<5

Misc Soil - Inorg						
Our Reference		290249-39	290249-40	290249-42	290249-44	290249-45
Your Reference	UNITS	BH83	BH6	BH6	BH10	BH10
Depth		0.05-0.14	0-0.1	0.8-0.95	0-0.1	0.2-0.5
Date Sampled		24/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
Date analysed	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
Total Phenolics (as Phenol)	mg/kg	<5	<5	<5	<5	<5

Misc Soil - Inorg						
Our Reference		290249-48	290249-51	290249-52	290249-55	290249-60
Your Reference	UNITS	BH28	BH37	BH37	BH41	BH46
Depth		0-0.1	0-0.1	0.5-0.9	0-0.1	0-0.1
Date Sampled		25/02/2022	24/02/2022	24/02/2022	25/02/2022	24/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
Date analysed	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
Total Phenolics (as Phenol)	mg/kg	<5	<5	<5	<5	<5

Misc Soil - Inorg				
Our Reference		290249-65	290249-69	290249-76
Your Reference	UNITS	BH59	BH82	SDUP20
Depth		0-0.1	0-0.1	-
Date Sampled		24/02/2022	24/02/2022	25/02/2022
Type of sample		Soil	Soil	Soil
Date prepared	-	04/03/2022	04/03/2022	04/03/2022
Date analysed	-	04/03/2022	04/03/2022	04/03/2022
Total Phenolics (as Phenol)	mg/kg	<5	<5	<5

PFAS in Soils Extended						
Our Reference		290249-5	290249-8	290249-16	290249-22	290249-24
Your Reference	UNITS	TP58	TP60	TP67	BH19	BH19
Depth		0-0.1	0-0.1	0-0.05	0-0.1	0.3-0.5
Date Sampled		23/02/2022	23/02/2022	23/02/2022	24/02/2022	24/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
Date analysed	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
Perfluorobutanesulfonic acid	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluoropentanesulfonic acid	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorohexanesulfonic acid - PFHxS	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluoroheptanesulfonic acid	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorooctanesulfonic acid PFOS	µg/kg	0.2	0.3	0.4	0.3	<0.1
Perfluorodecanesulfonic acid	µg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Perfluorobutanoic acid	µg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Perfluoropentanoic acid	µg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Perfluorohexanoic acid	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluoroheptanoic acid	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorooctanoic acid PFOA	µg/kg	<0.1	<0.1	0.1	0.1	<0.1
Perfluorononanoic acid	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorodecanoic acid	µg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Perfluoroundecanoic acid	µg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Perfluorododecanoic acid	µg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Perfluorotridecanoic acid	µg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Perfluorotetradecanoic acid	µg/kg	<5	<5	<5	<5	<5
4:2 FTS	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
6:2 FTS	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
8:2 FTS	µg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
10:2 FTS	µg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Perfluorooctane sulfonamide	µg/kg	<1	<1	<1	<1	<1
N-Methyl perfluorooctane sulfonamide	µg/kg	<1	<1	<1	<1	<1
N-Ethyl perfluorooctanesulfon amide	µg/kg	<1	<1	<1	<1	<1
N-Me perfluorooctanesulfonamid oethanol	µg/kg	<1	<1	<1	<1	<1
N-Et perfluorooctanesulfonamid oethanol	µg/kg	<5	<5	<5	<5	<5
MePerfluorooctanesulf- amid oacetic acid	µg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
EtPerfluorooctanesulf amid oacetic acid	µg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Surrogate $^{13}C_8$ *PFOS*	%	107	106	98	101	112
Surrogate $^{13}C_2$ *PFOA*	%	95	96	95	98	99
Extracted ISTD $^{13}C_3$ *PFBS*	%	87	88	92	89	90
Extracted ISTD $^{18}O_2$ *PFHxS*	%	90	85	95	91	95
Extracted ISTD $^{13}C_4$ *PFOS*	%	85	81	97	92	84

PFAS in Soils Extended						
Our Reference		290249-5	290249-8	290249-16	290249-22	290249-24
Your Reference	UNITS	TP58	TP60	TP67	BH19	BH19
Depth		0-0.1	0-0.1	0-0.05	0-0.1	0.3-0.5
Date Sampled		23/02/2022	23/02/2022	23/02/2022	24/02/2022	24/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Extracted ISTD $^{13}C_4$ *PFBA*	%	85	84	91	89	91
Extracted ISTD $^{13}C_3$ *PFPeA*	%	90	88	94	90	93
Extracted ISTD $^{13}C_2$ *PFHxA*	%	90	93	98	102	96
Extracted ISTD $^{13}C_4$ *PFHpA*	%	89	88	92	91	91
Extracted ISTD $^{13}C_4$ *PFOA*	%	87	81	91	84	85
Extracted ISTD $^{13}C_5$ *PFNA*	%	100	78	104	106	96
Extracted ISTD $^{13}C_2$ *PFDA*	%	93	81	97	103	91
Extracted ISTD $^{13}C_2$ *PFUnDA*	%	75	32	61	103	91
Extracted ISTD $^{13}C_2$ *PFDoDA*	%	126	71	110	139	113
Extracted ISTD $^{13}C_2$ *PFTeDA*	%	86	64	87	94	89
Extracted ISTD $^{13}C_2$ *4:2FTS*	%	99	100	97	131	92
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	111	105	105	117	88
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	138	131	125	188	97
Extracted ISTD $^{13}C_8$ *FOSA*	%	90	72	92	94	96
Extracted ISTD d_3 *N MeFOSA*	%	76	45	73	81	90
Extracted ISTD d_5 *N EtFOSA*	%	83	58	87	83	96
Extracted ISTD d_7 *N MeFOSE*	%	78	49	84	84	95
Extracted ISTD d_9 *N EtFOSE*	%	91	64	97	91	97
Extracted ISTD d_3 *N MeFOSAA*	%	112	90	103	146	98
Extracted ISTD d_5 *N EtFOSAA*	%	106	52	86	144	105
Total Positive PFHxS & PFOS	µg/kg	0.2	0.3	0.4	0.3	<0.1
Total Positive PFOS & PFOA	µg/kg	0.2	0.3	0.5	0.5	<0.1
Total Positive PFAS	µg/kg	0.2	0.3	0.5	0.5	<0.1

PFAS in Soils Extended						
Our Reference		290249-35	290249-38	290249-39	290249-40	290249-42
Your Reference	UNITS	TP54	BH83	BH83	BH6	BH6
Depth		0.1-0.3	0-0.05	0.05-0.14	0-0.1	0.8-0.95
Date Sampled		24/02/2022	24/02/2022	24/02/2022	25/02/2022	25/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
Date analysed	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
Perfluorobutanesulfonic acid	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluoropentanesulfonic acid	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorohexanesulfonic acid - PFHxS	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluoroheptanesulfonic acid	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorooctanesulfonic acid PFOS	µg/kg	0.1	0.2	<0.1	<0.1	<0.1
Perfluorodecanesulfonic acid	µg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Perfluorobutanoic acid	µg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Perfluoropentanoic acid	µg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Perfluorohexanoic acid	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluoroheptanoic acid	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorooctanoic acid PFOA	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorononanoic acid	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorodecanoic acid	µg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Perfluoroundecanoic acid	µg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Perfluorododecanoic acid	µg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Perfluorotridecanoic acid	µg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Perfluorotetradecanoic acid	µg/kg	<5	<5	<5	<5	<5
4:2 FTS	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
6:2 FTS	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
8:2 FTS	µg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
10:2 FTS	µg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Perfluorooctane sulfonamide	µg/kg	<1	<1	<1	<1	<1
N-Methyl perfluorooctane sulfonamide	µg/kg	<1	<1	<1	<1	<1
N-Ethyl perfluorooctanesulfon amide	µg/kg	<1	<1	<1	<1	<1
N-Me perfluorooctanesulfonamid oethanol	µg/kg	<1	<1	<1	<1	<1
N-Et perfluorooctanesulfonamid oethanol	µg/kg	<5	<5	<5	<5	<5
MePerfluorooctanesulf- amid oacetic acid	µg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
EtPerfluorooctanesulf amid oacetic acid	µg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Surrogate $^{13}C_8$ *PFOS*	%	105	99	96	97	98
Surrogate $^{13}C_2$ *PFOA*	%	96	98	100	97	96
Extracted ISTD $^{13}C_3$ *PFBS*	%	90	93	92	89	93
Extracted ISTD $^{18}O_2$ *PFHxS*	%	93	96	95	91	95
Extracted ISTD $^{13}C_4$ *PFOS*	%	85	91	91	89	91

PFAS in Soils Extended						
Our Reference		290249-35	290249-38	290249-39	290249-40	290249-42
Your Reference	UNITS	TP54	BH83	BH83	BH6	BH6
Depth		0.1-0.3	0-0.05	0.05-0.14	0-0.1	0.8-0.95
Date Sampled		24/02/2022	24/02/2022	24/02/2022	25/02/2022	25/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Extracted ISTD $^{13}C_4$ *PFBA*	%	90	93	86	86	89
Extracted ISTD $^{13}C_3$ *PFPeA*	%	94	97	89	89	88
Extracted ISTD $^{13}C_2$ *PFHxA*	%	97	96	92	90	88
Extracted ISTD $^{13}C_4$ *PFHpA*	%	90	95	91	89	90
Extracted ISTD $^{13}C_4$ *PFOA*	%	79	95	87	87	92
Extracted ISTD $^{13}C_5$ *PFNA*	%	80	104	97	95	94
Extracted ISTD $^{13}C_2$ *PFDA*	%	77	102	88	92	86
Extracted ISTD $^{13}C_2$ *PFUnDA*	%	25	107	97	90	95
Extracted ISTD $^{13}C_2$ *PFDoDA*	%	55	128	113	120	109
Extracted ISTD $^{13}C_2$ *PFTeDA*	%	71	93	90	91	84
Extracted ISTD $^{13}C_2$ *4:2FTS*	%	99	107	92	90	90
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	83	123	92	93	92
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	87	142	106	112	99
Extracted ISTD $^{13}C_8$ *FOSA*	%	74	100	97	93	96
Extracted ISTD d_3 *N MeFOSA*	%	46	95	90	84	92
Extracted ISTD d_5 *N EtFOSA*	%	76	98	95	87	94
Extracted ISTD d_7 *N MeFOSE*	%	47	98	94	91	97
Extracted ISTD d_9 *N EtFOSE*	%	82	96	97	93	97
Extracted ISTD d_3 *N MeFOSAA*	%	73	115	95	96	97
Extracted ISTD d_5 *N EtFOSAA*	%	43	122	105	104	103
Total Positive PFHxS & PFOS	µg/kg	0.1	0.2	<0.1	<0.1	<0.1
Total Positive PFOS & PFOA	µg/kg	0.1	0.2	<0.1	<0.1	<0.1
Total Positive PFAS	µg/kg	0.1	0.2	<0.1	<0.1	<0.1

PFAS in Soils Extended						
Our Reference		290249-44	290249-45	290249-48	290249-51	290249-52
Your Reference	UNITS	BH10	BH10	BH28	BH37	BH37
Depth		0-0.1	0.2-0.5	0-0.1	0-0.1	0.5-0.9
Date Sampled		25/02/2022	25/02/2022	25/02/2022	24/02/2022	24/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
Date analysed	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
Perfluorobutanesulfonic acid	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluoropentanesulfonic acid	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorohexanesulfonic acid - PFHxS	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluoroheptanesulfonic acid	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorooctanesulfonic acid PFOS	µg/kg	0.2	<0.1	<0.1	1.2	0.9
Perfluorodecanesulfonic acid	µg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Perfluorobutanoic acid	µg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Perfluoropentanoic acid	µg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Perfluorohexanoic acid	µg/kg	<0.1	<0.1	<0.1	0.1	<0.1
Perfluoroheptanoic acid	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorooctanoic acid PFOA	µg/kg	<0.1	<0.1	<0.1	0.4	0.2
Perfluorononanoic acid	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorodecanoic acid	µg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Perfluoroundecanoic acid	µg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Perfluorododecanoic acid	µg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Perfluorotridecanoic acid	µg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Perfluorotetradecanoic acid	µg/kg	<5	<5	<5	<5	<5
4:2 FTS	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
6:2 FTS	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
8:2 FTS	µg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
10:2 FTS	µg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Perfluorooctane sulfonamide	µg/kg	<1	<1	<1	<1	<1
N-Methyl perfluorooctane sulfonamide	µg/kg	<1	<1	<1	<1	<1
N-Ethyl perfluorooctanesulfon amide	µg/kg	<1	<1	<1	<1	<1
N-Me perfluorooctanesulfonamid oethanol	µg/kg	<1	<1	<1	<1	<1
N-Et perfluorooctanesulfonamid oethanol	µg/kg	<5	<5	<5	<5	<5
MePerfluorooctanesulf- amid oacetic acid	µg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
EtPerfluorooctanesulf amid oacetic acid	µg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Surrogate $^{13}C_8$ *PFOS*	%	104	100	105	101	105
Surrogate $^{13}C_2$ *PFOA*	%	96	96	98	95	96
Extracted ISTD $^{13}C_3$ *PFBS*	%	87	88	94	87	86
Extracted ISTD $^{18}O_2$ *PFHxS*	%	88	91	94	93	93
Extracted ISTD $^{13}C_4$ *PFOS*	%	84	93	89	89	86

PFAS in Soils Extended						
Our Reference		290249-44	290249-45	290249-48	290249-51	290249-52
Your Reference	UNITS	BH10	BH10	BH28	BH37	BH37
Depth		0-0.1	0.2-0.5	0-0.1	0-0.1	0.5-0.9
Date Sampled		25/02/2022	25/02/2022	25/02/2022	24/02/2022	24/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Extracted ISTD $^{13}C_4$ *PFBA*	%	84	86	89	85	85
Extracted ISTD $^{13}C_3$ *PFPeA*	%	89	88	93	87	87
Extracted ISTD $^{13}C_2$ *PFHxA*	%	90	92	94	89	90
Extracted ISTD $^{13}C_4$ *PFHpA*	%	90	90	91	90	90
Extracted ISTD $^{13}C_4$ *PFOA*	%	88	91	88	89	89
Extracted ISTD $^{13}C_5$ *PFNA*	%	100	107	94	99	97
Extracted ISTD $^{13}C_2$ *PFDA*	%	104	99	89	95	93
Extracted ISTD $^{13}C_2$ *PFUnDA*	%	103	73	42	97	86
Extracted ISTD $^{13}C_2$ *PFDoDA*	%	138	119	78	119	132
Extracted ISTD $^{13}C_2$ *PFTeDA*	%	90	91	83	90	89
Extracted ISTD $^{13}C_2$ *4:2FTS*	%	103	98	95	94	90
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	110	103	97	95	100
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	179	155	106	109	119
Extracted ISTD $^{13}C_8$ *FOSA*	%	89	92	85	93	93
Extracted ISTD d_3 *N MeFOSA*	%	81	77	61	86	80
Extracted ISTD d_5 *N EtFOSA*	%	79	88	87	92	87
Extracted ISTD d_7 *N MeFOSE*	%	84	84	71	91	87
Extracted ISTD d_9 *N EtFOSE*	%	85	90	88	96	93
Extracted ISTD d_3 *N MeFOSAA*	%	112	105	96	103	102
Extracted ISTD d_5 *N EtFOSAA*	%	147	102	64	111	104
Total Positive PFHxS & PFOS	µg/kg	0.2	<0.1	<0.1	1.2	0.9
Total Positive PFOS & PFOA	µg/kg	0.2	<0.1	<0.1	1.6	1.1
Total Positive PFAS	µg/kg	0.2	<0.1	<0.1	1.8	1.1

PFAS in Soils Extended						
Our Reference		290249-55	290249-60	290249-61	290249-65	290249-66
Your Reference	UNITS	BH41	BH46	BH46	BH59	BH59
Depth		0-0.1	0-0.1	0.5-0.7	0-0.1	0.5-0.95
Date Sampled		25/02/2022	24/02/2022	24/02/2022	24/02/2022	24/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
Date analysed	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
Perfluorobutanesulfonic acid	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluoropentanesulfonic acid	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorohexanesulfonic acid - PFHxS	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluoroheptanesulfonic acid	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorooctanesulfonic acid PFOS	µg/kg	0.2	1	0.6	<0.1	<0.1
Perfluorodecanesulfonic acid	µg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Perfluorobutanoic acid	µg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Perfluoropentanoic acid	µg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Perfluorohexanoic acid	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluoroheptanoic acid	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorooctanoic acid PFOA	µg/kg	<0.1	0.1	0.1	<0.1	<0.1
Perfluorononanoic acid	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorodecanoic acid	µg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Perfluoroundecanoic acid	µg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Perfluorododecanoic acid	µg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Perfluorotridecanoic acid	µg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Perfluorotetradecanoic acid	µg/kg	<5	<5	<5	<5	<5
4:2 FTS	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
6:2 FTS	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
8:2 FTS	µg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
10:2 FTS	µg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Perfluorooctane sulfonamide	µg/kg	<1	<1	<1	<1	<1
N-Methyl perfluorooctane sulfonamide	µg/kg	<1	<1	<1	<1	<1
N-Ethyl perfluorooctanesulfon amide	µg/kg	<1	<1	<1	<1	<1
N-Me perfluorooctanesulfonamid oethanol	µg/kg	<1	<1	<1	<1	<1
N-Et perfluorooctanesulfonamid oethanol	µg/kg	<5	<5	<5	<5	<5
MePerfluorooctanesulf- amid oacetic acid	µg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
EtPerfluorooctanesulf amid oacetic acid	µg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Surrogate $^{13}C_8$ *PFOS*	%	95	96	106	97	95
Surrogate $^{13}C_2$ *PFOA*	%	102	100	99	100	100
Extracted ISTD $^{13}C_3$ *PFBS*	%	85	87	84	87	85
Extracted ISTD $^{18}O_2$ *PFHxS*	%	88	89	86	93	89
Extracted ISTD $^{13}C_4$ *PFOS*	%	87	88	81	88	89

PFAS in Soils Extended						
Our Reference		290249-55	290249-60	290249-61	290249-65	290249-66
Your Reference	UNITS	BH41	BH46	BH46	BH59	BH59
Depth		0-0.1	0-0.1	0.5-0.7	0-0.1	0.5-0.95
Date Sampled		25/02/2022	24/02/2022	24/02/2022	24/02/2022	24/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Extracted ISTD $^{13}C_4$ *PFBA*	%	84	85	81	88	82
Extracted ISTD $^{13}C_3$ *PFPeA*	%	86	86	85	88	82
Extracted ISTD $^{13}C_2$ *PFHxA*	%	87	86	86	90	86
Extracted ISTD $^{13}C_4$ *PFHpA*	%	88	88	87	90	85
Extracted ISTD $^{13}C_4$ *PFOA*	%	83	85	85	89	84
Extracted ISTD $^{13}C_5$ *PFNA*	%	92	95	104	100	94
Extracted ISTD $^{13}C_2$ *PFDA*	%	84	92	98	91	81
Extracted ISTD $^{13}C_2$ *PFUnDA*	%	62	95	95	98	88
Extracted ISTD $^{13}C_2$ *PFDoDA*	%	101	123	138	122	128
Extracted ISTD $^{13}C_2$ *PFTeDA*	%	85	85	81	88	80
Extracted ISTD $^{13}C_2$ *4:2FTS*	%	88	91	96	92	83
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	92	96	115	96	88
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	109	117	184	111	94
Extracted ISTD $^{13}C_8$ *FOSA*	%	87	91	87	95	92
Extracted ISTD d_3 *N MeFOSA*	%	75	83	76	88	88
Extracted ISTD d_5 *N EtFOSA*	%	86	89	72	95	92
Extracted ISTD d_7 *N MeFOSE*	%	80	87	81	92	95
Extracted ISTD d_9 *N EtFOSE*	%	89	91	78	93	95
Extracted ISTD d_3 *N MeFOSAA*	%	95	99	118	104	73
Extracted ISTD d_5 *N EtFOSAA*	%	83	107	149	110	86
Total Positive PFHxS & PFOS	µg/kg	0.2	1	0.6	<0.1	<0.1
Total Positive PFOS & PFOA	µg/kg	0.2	1.1	0.8	<0.1	<0.1
Total Positive PFAS	µg/kg	0.2	1.1	0.8	<0.1	<0.1

PFAS in Soils Extended						
Our Reference		290249-69	290249-70	290249-75	290249-76	290249-79
Your Reference	UNITS	BH82	BH82	SDUP17	SDUP20	TB-S3
Depth		0-0.1	0.2-0.5	-	-	-
Date Sampled		24/02/2022	24/02/2022	24/02/2022	25/02/2022	25/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
Date analysed	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
Perfluorobutanesulfonic acid	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluoropentanesulfonic acid	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorohexanesulfonic acid - PFHxS	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluoroheptanesulfonic acid	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorooctanesulfonic acid PFOS	µg/kg	<0.1	<0.1	1.2	0.1	<0.1
Perfluorodecanesulfonic acid	µg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Perfluorobutanoic acid	µg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Perfluoropentanoic acid	µg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Perfluorohexanoic acid	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluoroheptanoic acid	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorooctanoic acid PFOA	µg/kg	<0.1	<0.1	0.1	<0.1	<0.1
Perfluorononanoic acid	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorodecanoic acid	µg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Perfluoroundecanoic acid	µg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Perfluorododecanoic acid	µg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Perfluorotridecanoic acid	µg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Perfluorotetradecanoic acid	µg/kg	<5	<5	<5	<5	<5
4:2 FTS	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
6:2 FTS	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
8:2 FTS	µg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
10:2 FTS	µg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Perfluorooctane sulfonamide	µg/kg	<1	<1	<1	<1	<1
N-Methyl perfluorooctane sulfonamide	µg/kg	<1	<1	<1	<1	<1
N-Ethyl perfluorooctanesulfon amide	µg/kg	<1	<1	<1	<1	<1
N-Me perfluorooctanesulfonamid oethanol	µg/kg	<1	<1	<1	<1	<1
N-Et perfluorooctanesulfonamid oethanol	µg/kg	<5	<5	<5	<5	<5
MePerfluorooctanesulf- amid oacetic acid	µg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
EtPerfluorooctanesulf amid oacetic acid	µg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Surrogate $^{13}C_8$ *PFOS*	%	96	103	97	102	95
Surrogate $^{13}C_2$ *PFOA*	%	101	98	98	95	100
Extracted ISTD $^{13}C_3$ *PFBS*	%	88	86	83	89	100
Extracted ISTD $^{18}O_2$ *PFHxS*	%	88	87	87	92	108
Extracted ISTD $^{13}C_4$ *PFOS*	%	84	80	88	86	104

PFAS in Soils Extended						
Our Reference		290249-69	290249-70	290249-75	290249-76	290249-79
Your Reference	UNITS	BH82	BH82	SDUP17	SDUP20	TB-S3
Depth		0-0.1	0.2-0.5	-	-	-
Date Sampled		24/02/2022	24/02/2022	24/02/2022	25/02/2022	25/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Extracted ISTD $^{13}C_4$ *PFBA*	%	83	81	83	86	101
Extracted ISTD $^{13}C_3$ *PFPeA*	%	83	85	83	85	99
Extracted ISTD $^{13}C_2$ *PFHxA*	%	88	87	85	88	102
Extracted ISTD $^{13}C_4$ *PFHpA*	%	86	85	87	89	105
Extracted ISTD $^{13}C_4$ *PFOA*	%	82	83	86	88	104
Extracted ISTD $^{13}C_5$ *PFNA*	%	70	81	100	95	112
Extracted ISTD $^{13}C_2$ *PFDA*	%	68	80	91	85	99
Extracted ISTD $^{13}C_2$ *PFUnDA*	%	45	53	92	89	112
Extracted ISTD $^{13}C_2$ *PFDoDA*	%	82	89	129	114	125
Extracted ISTD $^{13}C_2$ *PFTeDA*	%	78	78	85	85	98
Extracted ISTD $^{13}C_2$ *4:2FTS*	%	92	90	91	91	106
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	86	90	99	94	107
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	77	92	132	105	116
Extracted ISTD $^{13}C_8$ *FOSA*	%	77	82	89	92	111
Extracted ISTD d_3 *N MeFOSA*	%	66	72	81	84	107
Extracted ISTD d_5 *N EtFOSA*	%	72	78	82	92	108
Extracted ISTD d_7 *N MeFOSE*	%	73	77	87	91	108
Extracted ISTD d_9 *N EtFOSE*	%	77	81	86	91	110
Extracted ISTD d_3 *N MeFOSAA*	%	68	79	105	99	108
Extracted ISTD d_5 *N EtFOSAA*	%	59	70	112	99	125
Total Positive PFHxS & PFOS	µg/kg	<0.1	<0.1	1.2	0.1	<0.1
Total Positive PFOS & PFOA	µg/kg	<0.1	<0.1	1.3	0.1	<0.1
Total Positive PFAS	µg/kg	<0.1	<0.1	1.3	0.1	<0.1

Asbestos ID - materials					
Our Reference		290249-81	290249-86	290249-88	290249-91
Your Reference	UNITS	TP22-FCF1	BH41-FCF1	TP58-FCF1	TP67-FCF1
Depth		0-0.1	0-0.1	0-0.15	0-0.05
Date Sampled		23/02/2022	25/02/2022	23/02/2022	23/02/2022
Type of sample		Material	Material	Material	Material
Date analysed	-	07/03/2022	07/03/2022	07/03/2022	07/03/2022
Mass / Dimension of Sample	-	18.49g	27.96g	11.95g	27.55g
Sample Description	-	Dark grey fibre cement material	Grey fibre cement material	Grey fibre cement material	Grey fibre cement material
Asbestos ID in materials	-	Chrysotile asbestos detected	Chrysotile asbestos detected	Chrysotile asbestos detected	Chrysotile asbestos detected
Trace Analysis	-	[NT]	[NT]	[NT]	[NT]

vTRH(C6-C10)/BTEXN in Water		
Our Reference		290249-80
Your Reference	UNITS	FR1-Soil-SPT
Depth		-
Date Sampled		25/02/2022
Type of sample		Water
Date extracted	-	04/03/2022
Date analysed	-	04/03/2022
TRH C_6 - C_9	µg/L	<10
TRH C_6 - C_{10}	µg/L	<10
TRH C_6 - C_{10} less BTEX (F1)	µg/L	<10
Benzene	µg/L	<1
Toluene	µg/L	<1
Ethylbenzene	µg/L	<1
m+p-xylene	µg/L	<2
o-xylene	µg/L	<1
Naphthalene	µg/L	<1
Surrogate Dibromofluoromethane	%	117
Surrogate toluene-d8	%	99
Surrogate 4-BFB	%	103

svTRH (C10-C40) in Water		
Our Reference		290249-80
Your Reference	UNITS	FR1-Soil-SPT
Depth		-
Date Sampled		25/02/2022
Type of sample		Water
Date extracted	-	08/03/2022
Date analysed	-	09/03/2022
TRH C_{10} - C_{14}	µg/L	<50
TRH C_{15} - C_{28}	µg/L	160
TRH C_{29} - C_{36}	µg/L	<100
Total +ve TRH (C10-C36)	µg/L	160
TRH >C_{10} - C_{16}	µg/L	140
TRH >C_{10} - C_{16} less Naphthalene (F2)	µg/L	140
TRH >C_{16} - C_{34}	µg/L	<100
TRH >C_{34} - C_{40}	µg/L	<100
Total +ve TRH (>C10-C40)	µg/L	140
Surrogate o-Terphenyl	%	81

PAHs in Water - Low Level		
Our Reference		290249-80
Your Reference	UNITS	FR1-Soil-SPT
Depth		-
Date Sampled		25/02/2022
Type of sample		Water
Date extracted	-	07/03/2022
Date analysed	-	08/03/2022
Naphthalene	µg/L	<0.2
Acenaphthylene	µg/L	<0.1
Acenaphthene	µg/L	<0.1
Fluorene	µg/L	<0.1
Phenanthrene	µg/L	<0.1
Anthracene	µg/L	<0.1
Fluoranthene	µg/L	<0.1
Pyrene	µg/L	<0.1
Benzo(a)anthracene	µg/L	<0.1
Chrysene	µg/L	<0.1
Benzo(b,j+k)fluoranthene	µg/L	<0.2
Benzo(a)pyrene	µg/L	<0.1
Indeno(1,2,3-c,d)pyrene	µg/L	<0.1
Dibenzo(a,h)anthracene	µg/L	<0.1
Benzo(g,h,i)perylene	µg/L	<0.1
Benzo(a)pyrene TEQ	µg/L	<0.5
Total +ve PAH's	µg/L	<0.1
Surrogate p-Terphenyl-d14	%	98

Metals in Water - Dissolved		
Our Reference		290249-80
Your Reference	UNITS	FR1-Soil-SPT
Depth		-
Date Sampled		25/02/2022
Type of sample		Water
Date digested	-	07/03/2022
Date analysed	-	07/03/2022
Arsenic - Dissolved	mg/L	<0.05
Cadmium - Dissolved	mg/L	<0.01
Chromium - Dissolved	mg/L	<0.01
Copper - Dissolved	mg/L	<0.01
Lead - Dissolved	mg/L	<0.03
Mercury - Dissolved	mg/L	<0.0005
Nickel - Dissolved	mg/L	<0.02
Zinc - Dissolved	mg/L	<0.02

PFAS in Waters Trace Extended		
Our Reference		290249-80
Your Reference	UNITS	FR1-Soil-SPT
Depth		-
Date Sampled		25/02/2022
Type of sample		Water
Date prepared	-	04/03/2022
Date analysed	-	04/03/2022
Perfluorobutanesulfonic acid	µg/L	<0.0004
Perfluoropentanesulfonic acid	µg/L	<0.001
Perfluorohexanesulfonic acid - PFHxS	µg/L	<0.0002
Perfluoroheptanesulfonic acid	µg/L	<0.001
Perfluorooctanesulfonic acid PFOS	µg/L	<0.0002
Perfluorodecanesulfonic acid	µg/L	<0.002
Perfluorobutanoic acid	µg/L	<0.002
Perfluoropentanoic acid	µg/L	<0.002
Perfluorohexanoic acid	µg/L	<0.0004
Perfluoroheptanoic acid	µg/L	<0.0004
Perfluorooctanoic acid PFOA	µg/L	<0.0002
Perfluorononanoic acid	µg/L	<0.001
Perfluorodecanoic acid	µg/L	<0.002
Perfluoroundecanoic acid	µg/L	<0.002
Perfluorododecanoic acid	µg/L	<0.005
Perfluorotridecanoic acid	µg/L	<0.01
Perfluorotetradecanoic acid	µg/L	<0.05
4:2 FTS	µg/L	<0.001
6:2 FTS	µg/L	<0.0004
8:2 FTS	µg/L	<0.0004
10:2 FTS	µg/L	<0.002
Perfluorooctane sulfonamide	µg/L	<0.01
N-Methyl perfluorooctane sulfonamide	µg/L	<0.005
N-Ethyl perfluorooctanesulfon amide	µg/L	<0.01
N-Me perfluorooctanesulfonamid oethanol	µg/L	<0.005
N-Et perfluorooctanesulfonamid oethanol	µg/L	<0.05
MePerfluorooctanesulf- amid oacetic acid	µg/L	<0.002
EtPerfluorooctanesulf- amid oacetic acid	µg/L	<0.002
Surrogate $^{13}C_8$ *PFOS*	%	108
Surrogate $^{13}C_2$ *PFOA*	%	97
Extracted ISTD $^{13}C_3$ *PFBS*	%	86
Extracted ISTD $^{18}O_2$ *PFHxS*	%	80
Extracted ISTD $^{13}C_4$ *PFOS*	%	76

PFAS in Waters Trace Extended		
Our Reference		290249-80
Your Reference	UNITS	FR1-Soil-SPT
Depth		-
Date Sampled		25/02/2022
Type of sample		Water
Extracted ISTD $^{13}C_4$ *PFBA*	%	99
Extracted ISTD $^{13}C_3$ *PFPeA*	%	100
Extracted ISTD $^{13}C_2$ *PFHxA*	%	108
Extracted ISTD $^{13}C_4$ *PFHpA*	%	95
Extracted ISTD $^{13}C_4$ *PFOA*	%	82
Extracted ISTD $^{13}C_5$ *PFNA*	%	107
Extracted ISTD $^{13}C_2$ *PFDA*	%	103
Extracted ISTD $^{13}C_2$ *PFUnDA*	%	94
Extracted ISTD $^{13}C_2$ *PFDoDA*	%	121
Extracted ISTD $^{13}C_2$ *PFTeDA*	%	66
Extracted ISTD $^{13}C_2$ *4:2FTS*	%	110
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	121
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	104
Extracted ISTD $^{13}C_8$ *FOSA*	%	81
Extracted ISTD d_3 *N MeFOSA*	%	37
Extracted ISTD d_5 *N EtFOSA*	%	35
Extracted ISTD d_7 *N MeFOSE*	%	63
Extracted ISTD d_9 *N EtFOSE*	%	66
Extracted ISTD d_3 *N MeFOSAA*	%	145
Extracted ISTD d_5 *N EtFOSAA*	%	131
Total Positive PFHxS & PFOS	µg/L	<0.0002
Total Positive PFOS & PFOA	µg/L	<0.0002
Total Positive PFAS	µg/L	<0.0002

Method ID	Methodology Summary
ASB-001	Asbestos ID - Qualitative identification of asbestos in bulk samples using Polarised Light Microscopy and Dispersion Staining Techniques including Synthetic Mineral Fibre and Organic Fibre as per Australian Standard 4964-2004.
ASB-001	Asbestos ID - Identification of asbestos in soil samples using Polarised Light Microscopy and Dispersion Staining Techniques. Minimum 500mL soil sample was analysed as recommended by "National Environment Protection (Assessment of site contamination) Measure, Schedule B1 and "The Guidelines from the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia - May 2009" with a reporting limit of 0.1g/kg (0.01% w/w) as per Australian Standard AS4964-2004. Results reported denoted with * are outside our scope of NATA accreditation. **NOTE** #1 Total Asbestos g/kg was analysed and reported as per Australian Standard AS4964 (This is the sum of ACM >7mm, <7mm and FA/AF) **NOTE** #2 The screening level of 0.001% w/w asbestos in soil for FA and AF only applies where the FA and AF are able to be quantified by gravimetric procedures. This screening level is not applicable to free fibres. Estimation = Estimated asbestos weight Results reported with "--" is equivalent to no visible asbestos identified using Polarised Light microscopy and Dispersion Staining Techniques.
Inorg-008	Moisture content determined by heating at 105+/-5 °C for a minimum of 12 hours.
Inorg-031	Total Phenolics by segmented flow analyser (in line distillation with colourimetric finish). Solids are extracted in a caustic media prior to analysis.
Metals-020	Determination of various metals by ICP-AES.
Metals-021	Determination of Mercury by Cold Vapour AAS.
Org-020	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis.

Method ID	Methodology Summary
Org-020	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis. Note, the Total +ve TRH PQL is reflective of the lowest individual PQL and is therefore "Total +ve TRH" is simply a sum of the positive individual TRH fractions (>C10-C40).
Org-021	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-ECD.
Org-021	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-ECD. Note, the Total +ve PCBs PQL is reflective of the lowest individual PQL and is therefore" Total +ve PCBs" is simply a sum of the positive individual PCBs.
Org-022	Determination of VOCs sampled onto coconut shell charcoal sorbent tubes, that can be desorbed using carbon disulphide, and analysed by GC-MS.
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS/GC-MSMS.
Org-022/025	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-MS/GC-MSMS. Note, the Total +ve reported DDD+DDE+DDT PQL is reflective of the lowest individual PQL and is therefore simply a sum of the positive individually report DDD+DDE+DDT.
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS/GC-MSMS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013.
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS and/or GC-MS/MS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013. For soil results:- 1. 'EQ PQL'values are assuming all contributing PAHs reported as <PQL are actually at the PQL. This is the most conservative approach and can give false positive TEQs given that PAHs that contribute to the TEQ calculation may not be present. 2. 'EQ zero'values are assuming all contributing PAHs reported as <PQL are zero. This is the least conservative approach and is more susceptible to false negative TEQs when PAHs that contribute to the TEQ calculation are present but below PQL. 3. 'EQ half PQL'values are assuming all contributing PAHs reported as <PQL are half the stipulated PQL. Hence a mid-point between the most and least conservative approaches above. Note, the Total +ve PAHs PQL is reflective of the lowest individual PQL and is therefore "Total +ve PAHs" is simply a sum of the positive individual PAHs.
Org-023	Water samples are analysed directly by purge and trap GC-MS.
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS.
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater. Note, the Total +ve Xylene PQL is reflective of the lowest individual PQL and is therefore "Total +ve Xylenes" is simply a sum of the positive individual Xylenes.

Method ID	Methodology Summary
Org-029	Soil samples are extracted with basified Methanol. Waters and soil extracts are directly injected and/or concentrated/extracted using SPE. TCLPs/ASLP leachates are centrifuged, the supernatant is then analysed (including amendment with solvent) - as per the option in AS4439.3. Analysis is undertaken with LC-MS/MS. PFAS results include the sum of branched and linear isomers where applicable. Please note that PFAS results are corrected for Extracted Internal Standards (QSM 5.3 Table B-15 terminology), which are mass labelled analytes added prior to sample preparation to assess matrix effects and verify processing of the sample. PFAS analytes without a commercially available mass labelled analogue are corrected vs a closely eluting mass labelled PFAS compound. Surrogates are also reported, in this context they are mass labelled PFAS compounds added prior to extraction but are used as monitoring compounds only (not used for result correction). Envicarb (or similar) is used discretionally to remove interfering matrix components. Please contact the laboratory if estimates of Measurement Uncertainty are required as per WA DER.

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	290249-16
Date extracted	-			04/03/2022	5	04/03/2022	04/03/2022		04/03/2022	04/03/2022
Date analysed	-			04/03/2022	5	04/03/2022	04/03/2022		04/03/2022	04/03/2022
TRH C_6 - C_9	mg/kg	25	Org-023	<25	5	<25	<25	0	91	82
TRH C_6 - C_{10}	mg/kg	25	Org-023	<25	5	<25	<25	0	91	82
Benzene	mg/kg	0.2	Org-023	<0.2	5	<0.2	<0.2	0	88	79
Toluene	mg/kg	0.5	Org-023	<0.5	5	<0.5	<0.5	0	101	88
Ethylbenzene	mg/kg	1	Org-023	<1	5	<1	<1	0	84	77
m+p-xylene	mg/kg	2	Org-023	<2	5	<2	<2	0	91	84
o-Xylene	mg/kg	1	Org-023	<1	5	<1	<1	0	86	79
Naphthalene	mg/kg	1	Org-023	<1	5	<1	<1	0	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-023	88	5	97	96	1	100	83

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-2	290249-40
Date extracted	-			[NT]	18	04/03/2022	04/03/2022		04/03/2022	04/03/2022
Date analysed	-			[NT]	18	04/03/2022	04/03/2022		04/03/2022	04/03/2022
TRH C_6 - C_9	mg/kg	25	Org-023	[NT]	18	<25	<25	0	91	82
TRH C_6 - C_{10}	mg/kg	25	Org-023	[NT]	18	<25	<25	0	91	82
Benzene	mg/kg	0.2	Org-023	[NT]	18	<0.2	<0.2	0	85	77
Toluene	mg/kg	0.5	Org-023	[NT]	18	<0.5	<0.5	0	96	84
Ethylbenzene	mg/kg	1	Org-023	[NT]	18	<1	<1	0	87	78
m+p-xylene	mg/kg	2	Org-023	[NT]	18	<2	<2	0	93	86
o-Xylene	mg/kg	1	Org-023	[NT]	18	<1	<1	0	89	80
Naphthalene	mg/kg	1	Org-023	[NT]	18	<1	<1	0	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-023	[NT]	18	90	86	5	96	80

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-3	290249-69
Date extracted	-			[NT]	38	04/03/2022	04/03/2022		04/03/2022	04/03/2022
Date analysed	-			[NT]	38	04/03/2022	04/03/2022		04/03/2022	04/03/2022
TRH C_6 - C_9	mg/kg	25	Org-023	[NT]	38	<25	<25	0	91	80
TRH C_6 - C_{10}	mg/kg	25	Org-023	[NT]	38	<25	<25	0	91	80
Benzene	mg/kg	0.2	Org-023	[NT]	38	<0.2	<0.2	0	85	76
Toluene	mg/kg	0.5	Org-023	[NT]	38	<0.5	<0.5	0	95	84
Ethylbenzene	mg/kg	1	Org-023	[NT]	38	<1	<1	0	86	76
m+p-xylene	mg/kg	2	Org-023	[NT]	38	<2	<2	0	94	82
o-Xylene	mg/kg	1	Org-023	[NT]	38	<1	<1	0	88	78
Naphthalene	mg/kg	1	Org-023	[NT]	38	<1	<1	0	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-023	[NT]	38	80	90	12	92	82

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	51	04/03/2022	04/03/2022		[NT]	[NT]
Date analysed	-			[NT]	51	04/03/2022	04/03/2022		[NT]	[NT]
TRH C_6 - C_9	mg/kg	25	Org-023	[NT]	51	<25	<25	0	[NT]	[NT]
TRH C_6 - C_{10}	mg/kg	25	Org-023	[NT]	51	<25	<25	0	[NT]	[NT]
Benzene	mg/kg	0.2	Org-023	[NT]	51	<0.2	<0.2	0	[NT]	[NT]
Toluene	mg/kg	0.5	Org-023	[NT]	51	<0.5	<0.5	0	[NT]	[NT]
Ethylbenzene	mg/kg	1	Org-023	[NT]	51	<1	<1	0	[NT]	[NT]
m+p-xylene	mg/kg	2	Org-023	[NT]	51	<2	<2	0	[NT]	[NT]
o-Xylene	mg/kg	1	Org-023	[NT]	51	<1	<1	0	[NT]	[NT]
Naphthalene	mg/kg	1	Org-023	[NT]	51	<1	<1	0	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-023	[NT]	51	84	82	2	[NT]	[NT]

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	65	04/03/2022	04/03/2022		[NT]	[NT]
Date analysed	-			[NT]	65	04/03/2022	04/03/2022		[NT]	[NT]
TRH C_6 - C_9	mg/kg	25	Org-023	[NT]	65	<25	<25	0	[NT]	[NT]
TRH C_6 - C_{10}	mg/kg	25	Org-023	[NT]	65	<25	<25	0	[NT]	[NT]
Benzene	mg/kg	0.2	Org-023	[NT]	65	<0.2	<0.2	0	[NT]	[NT]
Toluene	mg/kg	0.5	Org-023	[NT]	65	<0.5	<0.5	0	[NT]	[NT]
Ethylbenzene	mg/kg	1	Org-023	[NT]	65	<1	<1	0	[NT]	[NT]
m+p-xylene	mg/kg	2	Org-023	[NT]	65	<2	<2	0	[NT]	[NT]
o-Xylene	mg/kg	1	Org-023	[NT]	65	<1	<1	0	[NT]	[NT]
Naphthalene	mg/kg	1	Org-023	[NT]	65	<1	<1	0	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-023	[NT]	65	83	84	1	[NT]	[NT]

QUALITY CONTROL: svTRH (C10-C40) in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	290249-16
Date extracted	-			04/03/2022	5	04/03/2022	04/03/2022		04/03/2022	04/03/2022
Date analysed	-			05/03/2022	5	04/03/2022	04/03/2022		04/03/2022	04/03/2022
TRH C_{10} - C_{14}	mg/kg	50	Org-020	<50	5	<50	<50	0	71	71
TRH C_{15} - C_{28}	mg/kg	100	Org-020	<100	5	<100	<100	0	101	108
TRH C_{29} - C_{36}	mg/kg	100	Org-020	<100	5	<100	<100	0	112	114
TRH >C_{10} -C_{16}	mg/kg	50	Org-020	<50	5	<50	<50	0	71	71
TRH >C_{16} -C_{34}	mg/kg	100	Org-020	<100	5	<100	<100	0	101	108
TRH >C_{34} -C_{40}	mg/kg	100	Org-020	<100	5	<100	<100	0	112	114
Surrogate o-Terphenyl	%		Org-020	96	5	99	93	6	109	108

QUALITY CONTROL: svTRH (C10-C40) in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-2	290249-40
Date extracted	-			[NT]	18	04/03/2022	04/03/2022		04/03/2022	04/03/2022
Date analysed	-			[NT]	18	04/03/2022	04/03/2022		04/03/2022	04/03/2022
TRH C_{10} - C_{14}	mg/kg	50	Org-020	[NT]	18	<50	<50	0	70	73
TRH C_{15} - C_{28}	mg/kg	100	Org-020	[NT]	18	<100	<100	0	93	115
TRH C_{29} - C_{36}	mg/kg	100	Org-020	[NT]	18	<100	<100	0	102	110
TRH >C_{10} -C_{16}	mg/kg	50	Org-020	[NT]	18	<50	<50	0	70	73
TRH >C_{16} -C_{34}	mg/kg	100	Org-020	[NT]	18	<100	<100	0	93	115
TRH >C_{34} -C_{40}	mg/kg	100	Org-020	[NT]	18	<100	<100	0	102	110
Surrogate o-Terphenyl	%		Org-020	[NT]	18	87	89	2	101	109

QUALITY CONTROL: svTRH (C10-C40) in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-3	290249-69
Date extracted	-			[NT]	38	04/03/2022	04/03/2022		04/03/2022	04/03/2022
Date analysed	-			[NT]	38	04/03/2022	04/03/2022		05/03/2022	05/03/2022
TRH C_{10} - C_{14}	mg/kg	50	Org-020	[NT]	38	<50	<50	0	76	77
TRH C_{15} - C_{28}	mg/kg	100	Org-020	[NT]	38	<100	<100	0	104	112
TRH C_{29} - C_{36}	mg/kg	100	Org-020	[NT]	38	<100	<100	0	108	107
TRH >C_{10} -C_{16}	mg/kg	50	Org-020	[NT]	38	<50	<50	0	76	77
TRH >C_{16} -C_{34}	mg/kg	100	Org-020	[NT]	38	<100	<100	0	104	112
TRH >C_{34} -C_{40}	mg/kg	100	Org-020	[NT]	38	<100	<100	0	108	107
Surrogate o-Terphenyl	%		Org-020	[NT]	38	84	83	1	107	98

QUALITY CONTROL: svTRH (C10-C40) in Soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	51	04/03/2022	04/03/2022		[NT]	[NT]
Date analysed	-			[NT]	51	05/03/2022	05/03/2022		[NT]	[NT]
TRH C_{10} - C_{14}	mg/kg	50	Org-020	[NT]	51	<50	<50	0	[NT]	[NT]
TRH C_{15} - C_{28}	mg/kg	100	Org-020	[NT]	51	<100	<100	0	[NT]	[NT]
TRH C_{29} - C_{36}	mg/kg	100	Org-020	[NT]	51	<100	<100	0	[NT]	[NT]
TRH >C_{10} -C_{16}	mg/kg	50	Org-020	[NT]	51	<50	<50	0	[NT]	[NT]
TRH >C_{16} -C_{34}	mg/kg	100	Org-020	[NT]	51	<100	<100	0	[NT]	[NT]
TRH >C_{34} -C_{40}	mg/kg	100	Org-020	[NT]	51	<100	<100	0	[NT]	[NT]
Surrogate o-Terphenyl	%		Org-020	[NT]	51	95	93	2	[NT]	[NT]

QUALITY CONTROL: svTRH (C10-C40) in Soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	65	04/03/2022	04/03/2022		[NT]	[NT]
Date analysed	-			[NT]	65	05/03/2022	05/03/2022		[NT]	[NT]
TRH C_{10} - C_{14}	mg/kg	50	Org-020	[NT]	65	<50	<50	0	[NT]	[NT]
TRH C_{15} - C_{28}	mg/kg	100	Org-020	[NT]	65	<100	<100	0	[NT]	[NT]
TRH C_{29} - C_{36}	mg/kg	100	Org-020	[NT]	65	<100	<100	0	[NT]	[NT]
TRH >C_{10} -C_{16}	mg/kg	50	Org-020	[NT]	65	<50	<50	0	[NT]	[NT]
TRH >C_{16} -C_{34}	mg/kg	100	Org-020	[NT]	65	<100	130	26	[NT]	[NT]
TRH >C_{34} -C_{40}	mg/kg	100	Org-020	[NT]	65	<100	<100	0	[NT]	[NT]
Surrogate o-Terphenyl	%		Org-020	[NT]	65	97	103	6	[NT]	[NT]

QUALITY CONTROL: PAHs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	290249-16
Date extracted	-			04/03/2022	5	04/03/2022	04/03/2022		04/03/2022	04/03/2022
Date analysed	-			04/03/2022	5	04/03/2022	04/03/2022		04/03/2022	04/03/2022
Naphthalene	mg/kg	0.1	Org-022/025	<0.1	5	<0.1	<0.1	0	97	111
Acenaphthylene	mg/kg	0.1	Org-022/025	<0.1	5	<0.1	<0.1	0	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-022/025	<0.1	5	<0.1	<0.1	0	99	107
Fluorene	mg/kg	0.1	Org-022/025	<0.1	5	<0.1	<0.1	0	101	116
Phenanthrene	mg/kg	0.1	Org-022/025	<0.1	5	<0.1	<0.1	0	112	114
Anthracene	mg/kg	0.1	Org-022/025	<0.1	5	<0.1	<0.1	0	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-022/025	<0.1	5	<0.1	<0.1	0	102	110
Pyrene	mg/kg	0.1	Org-022/025	<0.1	5	<0.1	<0.1	0	107	115
Benzo(a)anthracene	mg/kg	0.1	Org-022/025	<0.1	5	<0.1	<0.1	0	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-022/025	<0.1	5	<0.1	<0.1	0	91	93
Benzo(b,j+k)fluoranthene	mg/kg	0.2	Org-022/025	<0.2	5	<0.2	<0.2	0	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-022/025	<0.05	5	<0.05	<0.05	0	76	116
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-022/025	<0.1	5	<0.1	<0.1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-022/025	<0.1	5	<0.1	<0.1	0	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-022/025	<0.1	5	<0.1	<0.1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	97	5	125	114	9	115	109

QUALITY CONTROL: PAHs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-2	290249-40
Date extracted	-			[NT]	18	04/03/2022	04/03/2022		04/03/2022	04/03/2022
Date analysed	-			[NT]	18	04/03/2022	04/03/2022		04/03/2022	04/03/2022
Naphthalene	mg/kg	0.1	Org-022/025	[NT]	18	<0.1	<0.1	0	95	95
Acenaphthylene	mg/kg	0.1	Org-022/025	[NT]	18	<0.1	<0.1	0	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-022/025	[NT]	18	<0.1	<0.1	0	91	89
Fluorene	mg/kg	0.1	Org-022/025	[NT]	18	<0.1	<0.1	0	93	95
Phenanthrene	mg/kg	0.1	Org-022/025	[NT]	18	<0.1	<0.1	0	98	97
Anthracene	mg/kg	0.1	Org-022/025	[NT]	18	<0.1	<0.1	0	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-022/025	[NT]	18	<0.1	<0.1	0	98	95
Pyrene	mg/kg	0.1	Org-022/025	[NT]	18	<0.1	<0.1	0	101	100
Benzo(a)anthracene	mg/kg	0.1	Org-022/025	[NT]	18	<0.1	<0.1	0	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-022/025	[NT]	18	<0.1	<0.1	0	89	85
Benzo(b,j+k)fluoranthene	mg/kg	0.2	Org-022/025	[NT]	18	<0.2	<0.2	0	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-022/025	[NT]	18	<0.05	<0.05	0	104	99
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-022/025	[NT]	18	<0.1	<0.1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-022/025	[NT]	18	<0.1	<0.1	0	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-022/025	[NT]	18	<0.1	<0.1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	[NT]	18	109	113	4	107	104

QUALITY CONTROL: PAHs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-3	290249-69
Date extracted	-			[NT]	38	04/03/2022	04/03/2022		04/03/2022	04/03/2022
Date analysed	-			[NT]	38	04/03/2022	04/03/2022		04/03/2022	04/03/2022
Naphthalene	mg/kg	0.1	Org-022/025	[NT]	38	<0.1	<0.1	0	95	90
Acenaphthylene	mg/kg	0.1	Org-022/025	[NT]	38	<0.1	<0.1	0	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-022/025	[NT]	38	<0.1	<0.1	0	89	83
Fluorene	mg/kg	0.1	Org-022/025	[NT]	38	<0.1	<0.1	0	97	86
Phenanthrene	mg/kg	0.1	Org-022/025	[NT]	38	<0.1	<0.1	0	98	108
Anthracene	mg/kg	0.1	Org-022/025	[NT]	38	<0.1	<0.1	0	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-022/025	[NT]	38	<0.1	<0.1	0	100	110
Pyrene	mg/kg	0.1	Org-022/025	[NT]	38	<0.1	<0.1	0	103	115
Benzo(a)anthracene	mg/kg	0.1	Org-022/025	[NT]	38	<0.1	<0.1	0	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-022/025	[NT]	38	<0.1	<0.1	0	83	85
Benzo(b,j+k)fluoranthene	mg/kg	0.2	Org-022/025	[NT]	38	<0.2	<0.2	0	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-022/025	[NT]	38	<0.05	<0.05	0	108	96
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-022/025	[NT]	38	<0.1	<0.1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-022/025	[NT]	38	<0.1	<0.1	0	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-022/025	[NT]	38	<0.1	<0.1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	[NT]	38	114	125	9	107	126

QUALITY CONTROL: PAHs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	51	04/03/2022	04/03/2022		[NT]	[NT]
Date analysed	-			[NT]	51	04/03/2022	04/03/2022		[NT]	[NT]
Naphthalene	mg/kg	0.1	Org-022/025	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Acenaphthylene	mg/kg	0.1	Org-022/025	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-022/025	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Fluorene	mg/kg	0.1	Org-022/025	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Phenanthrene	mg/kg	0.1	Org-022/025	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Anthracene	mg/kg	0.1	Org-022/025	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-022/025	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Pyrene	mg/kg	0.1	Org-022/025	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Benzo(a)anthracene	mg/kg	0.1	Org-022/025	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-022/025	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Benzo(b,j+k)fluoranthene	mg/kg	0.2	Org-022/025	[NT]	51	<0.2	<0.2	0	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-022/025	[NT]	51	0.06	<0.05	18	[NT]	[NT]
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-022/025	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-022/025	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-022/025	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	[NT]	51	116	100	15	[NT]	[NT]

QUALITY CONTROL: PAHs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	65	04/03/2022	04/03/2022		[NT]	[NT]
Date analysed	-			[NT]	65	07/03/2022	07/03/2022		[NT]	[NT]
Naphthalene	mg/kg	0.1	Org-022/025	[NT]	65	<0.1	<0.1	0	[NT]	[NT]
Acenaphthylene	mg/kg	0.1	Org-022/025	[NT]	65	0.5	0.7	33	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-022/025	[NT]	65	<0.1	<0.1	0	[NT]	[NT]
Fluorene	mg/kg	0.1	Org-022/025	[NT]	65	<0.1	<0.1	0	[NT]	[NT]
Phenanthrene	mg/kg	0.1	Org-022/025	[NT]	65	2.0	2.1	5	[NT]	[NT]
Anthracene	mg/kg	0.1	Org-022/025	[NT]	65	0.9	1	11	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-022/025	[NT]	65	4.7	3.5	29	[NT]	[NT]
Pyrene	mg/kg	0.1	Org-022/025	[NT]	65	4.9	3.8	25	[NT]	[NT]
Benzo(a)anthracene	mg/kg	0.1	Org-022/025	[NT]	65	3.8	2.5	41	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-022/025	[NT]	65	2.0	2.1	5	[NT]	[NT]
Benzo(b,j+k)fluoranthene	mg/kg	0.2	Org-022/025	[NT]	65	3.7	3.5	6	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-022/025	[NT]	65	2.9	2.3	23	[NT]	[NT]
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-022/025	[NT]	65	1.4	1.2	15	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-022/025	[NT]	65	0.5	0.4	22	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-022/025	[NT]	65	1.4	1.4	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	[NT]	65	98	97	1	[NT]	[NT]

QUALITY CONTROL: Organochlorine Pesticides in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-2	290249-40
Date extracted	-			04/03/2022	5	04/03/2022	04/03/2022		04/03/2022	04/03/2022
Date analysed	-			04/03/2022	5	04/03/2022	04/03/2022		04/03/2022	04/03/2022
alpha-BHC	mg/kg	0.1	Org-022/025	<0.1	5	<0.1	<0.1	0	78	86
HCB	mg/kg	0.1	Org-022/025	<0.1	5	<0.1	<0.1	0	[NT]	[NT]
beta-BHC	mg/kg	0.1	Org-022/025	<0.1	5	<0.1	<0.1	0	96	89
gamma-BHC	mg/kg	0.1	Org-022/025	<0.1	5	<0.1	<0.1	0	[NT]	[NT]
Heptachlor	mg/kg	0.1	Org-022/025	<0.1	5	<0.1	<0.1	0	83	99
delta-BHC	mg/kg	0.1	Org-022/025	<0.1	5	<0.1	<0.1	0	[NT]	[NT]
Aldrin	mg/kg	0.1	Org-022/025	<0.1	5	<0.1	<0.1	0	81	87
Heptachlor Epoxide	mg/kg	0.1	Org-022/025	<0.1	5	<0.1	<0.1	0	92	106
gamma-Chlordane	mg/kg	0.1	Org-022/025	<0.1	5	<0.1	<0.1	0	[NT]	[NT]
alpha-chlordane	mg/kg	0.1	Org-022/025	<0.1	5	<0.1	<0.1	0	[NT]	[NT]
Endosulfan I	mg/kg	0.1	Org-022/025	<0.1	5	<0.1	<0.1	0	[NT]	[NT]
pp-DDE	mg/kg	0.1	Org-022/025	<0.1	5	<0.1	<0.1	0	94	103
Dieldrin	mg/kg	0.1	Org-022/025	<0.1	5	<0.1	<0.1	0	102	97
Endrin	mg/kg	0.1	Org-022/025	<0.1	5	<0.1	<0.1	0	82	102
Endosulfan II	mg/kg	0.1	Org-022/025	<0.1	5	<0.1	<0.1	0	[NT]	[NT]
pp-DDD	mg/kg	0.1	Org-022/025	<0.1	5	<0.1	<0.1	0	88	90
Endrin Aldehyde	mg/kg	0.1	Org-022/025	<0.1	5	<0.1	<0.1	0	[NT]	[NT]
pp-DDT	mg/kg	0.1	Org-022/025	<0.1	5	<0.1	<0.1	0	[NT]	[NT]
Endosulfan Sulphate	mg/kg	0.1	Org-022/025	<0.1	5	<0.1	<0.1	0	78	71
Methoxychlor	mg/kg	0.1	Org-022/025	<0.1	5	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-022/025	90	5	115	107	7	105	101

QUALITY CONTROL: Organochlorine Pesticides in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-3	290249-69
Date extracted	-			[NT]	18	04/03/2022	04/03/2022		04/03/2022	04/03/2022
Date analysed	-			[NT]	18	04/03/2022	04/03/2022		04/03/2022	04/03/2022
alpha-BHC	mg/kg	0.1	Org-022/025	[NT]	18	<0.1	<0.1	0	86	80
HCB	mg/kg	0.1	Org-022/025	[NT]	18	<0.1	<0.1	0	[NT]	[NT]
beta-BHC	mg/kg	0.1	Org-022/025	[NT]	18	<0.1	<0.1	0	92	89
gamma-BHC	mg/kg	0.1	Org-022/025	[NT]	18	<0.1	<0.1	0	[NT]	[NT]
Heptachlor	mg/kg	0.1	Org-022/025	[NT]	18	<0.1	<0.1	0	91	89
delta-BHC	mg/kg	0.1	Org-022/025	[NT]	18	<0.1	<0.1	0	[NT]	[NT]
Aldrin	mg/kg	0.1	Org-022/025	[NT]	18	<0.1	<0.1	0	85	91
Heptachlor Epoxide	mg/kg	0.1	Org-022/025	[NT]	18	<0.1	<0.1	0	106	106
gamma-Chlordane	mg/kg	0.1	Org-022/025	[NT]	18	<0.1	<0.1	0	[NT]	[NT]
alpha-chlordane	mg/kg	0.1	Org-022/025	[NT]	18	<0.1	<0.1	0	[NT]	[NT]
Endosulfan I	mg/kg	0.1	Org-022/025	[NT]	18	<0.1	<0.1	0	[NT]	[NT]
pp-DDE	mg/kg	0.1	Org-022/025	[NT]	18	<0.1	<0.1	0	98	107
Dieldrin	mg/kg	0.1	Org-022/025	[NT]	18	<0.1	<0.1	0	98	116
Endrin	mg/kg	0.1	Org-022/025	[NT]	18	<0.1	<0.1	0	105	88
Endosulfan II	mg/kg	0.1	Org-022/025	[NT]	18	<0.1	<0.1	0	[NT]	[NT]
pp-DDD	mg/kg	0.1	Org-022/025	[NT]	18	<0.1	<0.1	0	84	94
Endrin Aldehyde	mg/kg	0.1	Org-022/025	[NT]	18	<0.1	<0.1	0	[NT]	[NT]
pp-DDT	mg/kg	0.1	Org-022/025	[NT]	18	<0.1	<0.1	0	[NT]	[NT]
Endosulfan Sulphate	mg/kg	0.1	Org-022/025	[NT]	18	<0.1	<0.1	0	62	75
Methoxychlor	mg/kg	0.1	Org-022/025	[NT]	18	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-022/025	[NT]	18	103	104	1	106	101

QUALITY CONTROL: Organochlorine Pesticides in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	38	04/03/2022	04/03/2022		[NT]	[NT]
Date analysed	-			[NT]	38	04/03/2022	04/03/2022		[NT]	[NT]
alpha-BHC	mg/kg	0.1	Org-022/025	[NT]	38	<0.1	<0.1	0	[NT]	[NT]
HCB	mg/kg	0.1	Org-022/025	[NT]	38	<0.1	<0.1	0	[NT]	[NT]
beta-BHC	mg/kg	0.1	Org-022/025	[NT]	38	<0.1	<0.1	0	[NT]	[NT]
gamma-BHC	mg/kg	0.1	Org-022/025	[NT]	38	<0.1	<0.1	0	[NT]	[NT]
Heptachlor	mg/kg	0.1	Org-022/025	[NT]	38	<0.1	<0.1	0	[NT]	[NT]
delta-BHC	mg/kg	0.1	Org-022/025	[NT]	38	<0.1	<0.1	0	[NT]	[NT]
Aldrin	mg/kg	0.1	Org-022/025	[NT]	38	<0.1	<0.1	0	[NT]	[NT]
Heptachlor Epoxide	mg/kg	0.1	Org-022/025	[NT]	38	<0.1	<0.1	0	[NT]	[NT]
gamma-Chlordane	mg/kg	0.1	Org-022/025	[NT]	38	<0.1	<0.1	0	[NT]	[NT]
alpha-chlordane	mg/kg	0.1	Org-022/025	[NT]	38	<0.1	<0.1	0	[NT]	[NT]
Endosulfan I	mg/kg	0.1	Org-022/025	[NT]	38	<0.1	<0.1	0	[NT]	[NT]
pp-DDE	mg/kg	0.1	Org-022/025	[NT]	38	<0.1	<0.1	0	[NT]	[NT]
Dieldrin	mg/kg	0.1	Org-022/025	[NT]	38	<0.1	<0.1	0	[NT]	[NT]
Endrin	mg/kg	0.1	Org-022/025	[NT]	38	<0.1	<0.1	0	[NT]	[NT]
Endosulfan II	mg/kg	0.1	Org-022/025	[NT]	38	<0.1	<0.1	0	[NT]	[NT]
pp-DDD	mg/kg	0.1	Org-022/025	[NT]	38	<0.1	<0.1	0	[NT]	[NT]
Endrin Aldehyde	mg/kg	0.1	Org-022/025	[NT]	38	<0.1	<0.1	0	[NT]	[NT]
pp-DDT	mg/kg	0.1	Org-022/025	[NT]	38	<0.1	<0.1	0	[NT]	[NT]
Endosulfan Sulphate	mg/kg	0.1	Org-022/025	[NT]	38	<0.1	<0.1	0	[NT]	[NT]
Methoxychlor	mg/kg	0.1	Org-022/025	[NT]	38	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-022/025	[NT]	38	107	120	11	[NT]	[NT]

QUALITY CONTROL: Organochlorine Pesticides in soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	51	04/03/2022	04/03/2022		[NT]	[NT]
Date analysed	-			[NT]	51	04/03/2022	04/03/2022		[NT]	[NT]
alpha-BHC	mg/kg	0.1	Org-022/025	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
HCB	mg/kg	0.1	Org-022/025	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
beta-BHC	mg/kg	0.1	Org-022/025	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
gamma-BHC	mg/kg	0.1	Org-022/025	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Heptachlor	mg/kg	0.1	Org-022/025	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
delta-BHC	mg/kg	0.1	Org-022/025	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Aldrin	mg/kg	0.1	Org-022/025	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Heptachlor Epoxide	mg/kg	0.1	Org-022/025	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
gamma-Chlordane	mg/kg	0.1	Org-022/025	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
alpha-chlordane	mg/kg	0.1	Org-022/025	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Endosulfan I	mg/kg	0.1	Org-022/025	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
pp-DDE	mg/kg	0.1	Org-022/025	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Dieldrin	mg/kg	0.1	Org-022/025	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Endrin	mg/kg	0.1	Org-022/025	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Endosulfan II	mg/kg	0.1	Org-022/025	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
pp-DDD	mg/kg	0.1	Org-022/025	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Endrin Aldehyde	mg/kg	0.1	Org-022/025	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
pp-DDT	mg/kg	0.1	Org-022/025	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Endosulfan Sulphate	mg/kg	0.1	Org-022/025	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Methoxychlor	mg/kg	0.1	Org-022/025	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-022/025	[NT]	51	103	93	10	[NT]	[NT]

QUALITY CONTROL: Organochlorine Pesticides in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	65	04/03/2022	04/03/2022		[NT]	[NT]
Date analysed	-			[NT]	65	07/03/2022	07/03/2022		[NT]	[NT]
alpha-BHC	mg/kg	0.1	Org-022/025	[NT]	65	<0.1	<0.1	0	[NT]	[NT]
HCB	mg/kg	0.1	Org-022/025	[NT]	65	<0.1	<0.1	0	[NT]	[NT]
beta-BHC	mg/kg	0.1	Org-022/025	[NT]	65	<0.1	<0.1	0	[NT]	[NT]
gamma-BHC	mg/kg	0.1	Org-022/025	[NT]	65	<0.1	<0.1	0	[NT]	[NT]
Heptachlor	mg/kg	0.1	Org-022/025	[NT]	65	<0.1	<0.1	0	[NT]	[NT]
delta-BHC	mg/kg	0.1	Org-022/025	[NT]	65	<0.1	<0.1	0	[NT]	[NT]
Aldrin	mg/kg	0.1	Org-022/025	[NT]	65	<0.1	<0.1	0	[NT]	[NT]
Heptachlor Epoxide	mg/kg	0.1	Org-022/025	[NT]	65	<0.1	<0.1	0	[NT]	[NT]
gamma-Chlordane	mg/kg	0.1	Org-022/025	[NT]	65	<0.1	<0.1	0	[NT]	[NT]
alpha-chlordane	mg/kg	0.1	Org-022/025	[NT]	65	<0.1	<0.1	0	[NT]	[NT]
Endosulfan I	mg/kg	0.1	Org-022/025	[NT]	65	<0.1	<0.1	0	[NT]	[NT]
pp-DDE	mg/kg	0.1	Org-022/025	[NT]	65	<0.1	<0.1	0	[NT]	[NT]
Dieldrin	mg/kg	0.1	Org-022/025	[NT]	65	<0.1	<0.1	0	[NT]	[NT]
Endrin	mg/kg	0.1	Org-022/025	[NT]	65	<0.1	<0.1	0	[NT]	[NT]
Endosulfan II	mg/kg	0.1	Org-022/025	[NT]	65	<0.1	<0.1	0	[NT]	[NT]
pp-DDD	mg/kg	0.1	Org-022/025	[NT]	65	<0.1	<0.1	0	[NT]	[NT]
Endrin Aldehyde	mg/kg	0.1	Org-022/025	[NT]	65	<0.1	<0.1	0	[NT]	[NT]
pp-DDT	mg/kg	0.1	Org-022/025	[NT]	65	<0.1	<0.1	0	[NT]	[NT]
Endosulfan Sulphate	mg/kg	0.1	Org-022/025	[NT]	65	<0.1	<0.1	0	[NT]	[NT]
Methoxychlor	mg/kg	0.1	Org-022/025	[NT]	65	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-022/025	[NT]	65	100	98	2	[NT]	[NT]

QUALITY CONTROL: Organophosphorus Pesticides in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-2	290249-40
Date extracted	-			04/03/2022	5	04/03/2022	04/03/2022		04/03/2022	04/03/2022
Date analysed	-			04/03/2022	5	04/03/2022	04/03/2022		04/03/2022	04/03/2022
Dichlorvos	mg/kg	0.1	Org-022/025	<0.1	5	<0.1	<0.1	0	128	100
Dimethoate	mg/kg	0.1	Org-022/025	<0.1	5	<0.1	<0.1	0	[NT]	[NT]
Diazinon	mg/kg	0.1	Org-022/025	<0.1	5	<0.1	<0.1	0	[NT]	[NT]
Chlorpyriphos-methyl	mg/kg	0.1	Org-022/025	<0.1	5	<0.1	<0.1	0	[NT]	[NT]
Ronnel	mg/kg	0.1	Org-022/025	<0.1	5	<0.1	<0.1	0	91	93
Fenitrothion	mg/kg	0.1	Org-022/025	<0.1	5	<0.1	<0.1	0	79	109
Malathion	mg/kg	0.1	Org-022/025	<0.1	5	<0.1	<0.1	0	120	126
Chlorpyriphos	mg/kg	0.1	Org-022/025	<0.1	5	<0.1	<0.1	0	100	106
Parathion	mg/kg	0.1	Org-022/025	<0.1	5	<0.1	<0.1	0	66	97
Bromophos-ethyl	mg/kg	0.1	Org-022	<0.1	5	<0.1	<0.1	0	[NT]	[NT]
Ethion	mg/kg	0.1	Org-022/025	<0.1	5	<0.1	<0.1	0	86	123
Azinphos-methyl (Guthion)	mg/kg	0.1	Org-022/025	<0.1	5	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-022/025	90	5	115	107	7	105	101

QUALITY CONTROL: Organophosphorus Pesticides in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-3	290249-69
Date extracted	-			[NT]	18	04/03/2022	04/03/2022		04/03/2022	04/03/2022
Date analysed	-			[NT]	18	04/03/2022	04/03/2022		04/03/2022	04/03/2022
Dichlorvos	mg/kg	0.1	Org-022/025	[NT]	18	<0.1	<0.1	0	102	112
Dimethoate	mg/kg	0.1	Org-022/025	[NT]	18	<0.1	<0.1	0	[NT]	[NT]
Diazinon	mg/kg	0.1	Org-022/025	[NT]	18	<0.1	<0.1	0	[NT]	[NT]
Chlorpyriphos-methyl	mg/kg	0.1	Org-022/025	[NT]	18	<0.1	<0.1	0	[NT]	[NT]
Ronnel	mg/kg	0.1	Org-022/025	[NT]	18	<0.1	<0.1	0	91	95
Fenitrothion	mg/kg	0.1	Org-022/025	[NT]	18	<0.1	<0.1	0	101	73
Malathion	mg/kg	0.1	Org-022/025	[NT]	18	<0.1	<0.1	0	103	103
Chlorpyriphos	mg/kg	0.1	Org-022/025	[NT]	18	<0.1	<0.1	0	104	104
Parathion	mg/kg	0.1	Org-022/025	[NT]	18	<0.1	<0.1	0	91	64
Bromophos-ethyl	mg/kg	0.1	Org-022	[NT]	18	<0.1	<0.1	0	[NT]	[NT]
Ethion	mg/kg	0.1	Org-022/025	[NT]	18	<0.1	<0.1	0	96	84
Azinphos-methyl (Guthion)	mg/kg	0.1	Org-022/025	[NT]	18	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-022/025	[NT]	18	103	104	1	106	101

QUALITY CONTROL: Organophosphorus Pesticides in Soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	38	04/03/2022	04/03/2022		[NT]	[NT]
Date analysed	-			[NT]	38	04/03/2022	04/03/2022		[NT]	[NT]
Dichlorvos	mg/kg	0.1	Org-022/025	[NT]	38	<0.1	<0.1	0	[NT]	[NT]
Dimethoate	mg/kg	0.1	Org-022/025	[NT]	38	<0.1	<0.1	0	[NT]	[NT]
Diazinon	mg/kg	0.1	Org-022/025	[NT]	38	<0.1	<0.1	0	[NT]	[NT]
Chlorpyriphos-methyl	mg/kg	0.1	Org-022/025	[NT]	38	<0.1	<0.1	0	[NT]	[NT]
Ronnel	mg/kg	0.1	Org-022/025	[NT]	38	<0.1	<0.1	0	[NT]	[NT]
Fenitrothion	mg/kg	0.1	Org-022/025	[NT]	38	<0.1	<0.1	0	[NT]	[NT]
Malathion	mg/kg	0.1	Org-022/025	[NT]	38	<0.1	<0.1	0	[NT]	[NT]
Chlorpyriphos	mg/kg	0.1	Org-022/025	[NT]	38	<0.1	<0.1	0	[NT]	[NT]
Parathion	mg/kg	0.1	Org-022/025	[NT]	38	<0.1	<0.1	0	[NT]	[NT]
Bromophos-ethyl	mg/kg	0.1	Org-022	[NT]	38	<0.1	<0.1	0	[NT]	[NT]
Ethion	mg/kg	0.1	Org-022/025	[NT]	38	<0.1	<0.1	0	[NT]	[NT]
Azinphos-methyl (Guthion)	mg/kg	0.1	Org-022/025	[NT]	38	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-022/025	[NT]	38	107	120	11	[NT]	[NT]

QUALITY CONTROL: Organophosphorus Pesticides in Soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	51	04/03/2022	04/03/2022		[NT]	[NT]
Date analysed	-			[NT]	51	04/03/2022	04/03/2022		[NT]	[NT]
Dichlorvos	mg/kg	0.1	Org-022/025	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Dimethoate	mg/kg	0.1	Org-022/025	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Diazinon	mg/kg	0.1	Org-022/025	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Chlorpyriphos-methyl	mg/kg	0.1	Org-022/025	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Ronnel	mg/kg	0.1	Org-022/025	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Fenitrothion	mg/kg	0.1	Org-022/025	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Malathion	mg/kg	0.1	Org-022/025	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Chlorpyriphos	mg/kg	0.1	Org-022/025	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Parathion	mg/kg	0.1	Org-022/025	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Bromophos-ethyl	mg/kg	0.1	Org-022	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Ethion	mg/kg	0.1	Org-022/025	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Azinphos-methyl (Guthion)	mg/kg	0.1	Org-022/025	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-022/025	[NT]	51	103	93	10	[NT]	[NT]

QUALITY CONTROL: Organophosphorus Pesticides in Soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	65	04/03/2022	04/03/2022		[NT]	[NT]
Date analysed	-			[NT]	65	07/03/2022	07/03/2022		[NT]	[NT]
Dichlorvos	mg/kg	0.1	Org-022/025	[NT]	65	<0.1	<0.1	0	[NT]	[NT]
Dimethoate	mg/kg	0.1	Org-022/025	[NT]	65	<0.1	<0.1	0	[NT]	[NT]
Diazinon	mg/kg	0.1	Org-022/025	[NT]	65	<0.1	<0.1	0	[NT]	[NT]
Chlorpyriphos-methyl	mg/kg	0.1	Org-022/025	[NT]	65	<0.1	<0.1	0	[NT]	[NT]
Ronnel	mg/kg	0.1	Org-022/025	[NT]	65	<0.1	<0.1	0	[NT]	[NT]
Fenitrothion	mg/kg	0.1	Org-022/025	[NT]	65	<0.1	<0.1	0	[NT]	[NT]
Malathion	mg/kg	0.1	Org-022/025	[NT]	65	<0.1	<0.1	0	[NT]	[NT]
Chlorpyriphos	mg/kg	0.1	Org-022/025	[NT]	65	<0.1	<0.1	0	[NT]	[NT]
Parathion	mg/kg	0.1	Org-022/025	[NT]	65	<0.1	<0.1	0	[NT]	[NT]
Bromophos-ethyl	mg/kg	0.1	Org-022	[NT]	65	<0.1	<0.1	0	[NT]	[NT]
Ethion	mg/kg	0.1	Org-022/025	[NT]	65	<0.1	<0.1	0	[NT]	[NT]
Azinphos-methyl (Guthion)	mg/kg	0.1	Org-022/025	[NT]	65	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-022/025	[NT]	65	100	98	2	[NT]	[NT]

QUALITY CONTROL: PCBs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-2	290249-40
Date extracted	-			04/03/2022	5	04/03/2022	04/03/2022		04/03/2022	04/03/2022
Date analysed	-			04/03/2022	5	04/03/2022	04/03/2022		04/03/2022	04/03/2022
Aroclor 1016	mg/kg	0.1	Org-021	<0.1	5	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1221	mg/kg	0.1	Org-021	<0.1	5	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1232	mg/kg	0.1	Org-021	<0.1	5	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1242	mg/kg	0.1	Org-021	<0.1	5	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1248	mg/kg	0.1	Org-021	<0.1	5	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1254	mg/kg	0.1	Org-021	<0.1	5	<0.1	<0.1	0	100	80
Aroclor 1260	mg/kg	0.1	Org-021	<0.1	5	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-021	90	5	115	107	7	105	101

QUALITY CONTROL: PCBs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-3	290249-69
Date extracted	-			[NT]	18	04/03/2022	04/03/2022		04/03/2022	04/03/2022
Date analysed	-			[NT]	18	04/03/2022	04/03/2022		04/03/2022	04/03/2022
Aroclor 1016	mg/kg	0.1	Org-021	[NT]	18	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1221	mg/kg	0.1	Org-021	[NT]	18	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1232	mg/kg	0.1	Org-021	[NT]	18	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1242	mg/kg	0.1	Org-021	[NT]	18	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1248	mg/kg	0.1	Org-021	[NT]	18	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1254	mg/kg	0.1	Org-021	[NT]	18	<0.1	<0.1	0	97	100
Aroclor 1260	mg/kg	0.1	Org-021	[NT]	18	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-021	[NT]	18	103	104	1	106	101

QUALITY CONTROL: PCBs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	38	04/03/2022	04/03/2022		[NT]	[NT]
Date analysed	-			[NT]	38	04/03/2022	04/03/2022		[NT]	[NT]
Aroclor 1016	mg/kg	0.1	Org-021	[NT]	38	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1221	mg/kg	0.1	Org-021	[NT]	38	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1232	mg/kg	0.1	Org-021	[NT]	38	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1242	mg/kg	0.1	Org-021	[NT]	38	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1248	mg/kg	0.1	Org-021	[NT]	38	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1254	mg/kg	0.1	Org-021	[NT]	38	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1260	mg/kg	0.1	Org-021	[NT]	38	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-021	[NT]	38	107	120	11	[NT]	[NT]

QUALITY CONTROL: PCBs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	40	04/03/2022	04/03/2022		[NT]	[NT]
Date analysed	-			[NT]	40	04/03/2022	04/03/2022		[NT]	[NT]
Aroclor 1016	mg/kg	0.1	Org-021	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1221	mg/kg	0.1	Org-021	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1232	mg/kg	0.1	Org-021	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1242	mg/kg	0.1	Org-021	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1248	mg/kg	0.1	Org-021	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1254	mg/kg	0.1	Org-021	[NT]	40	4.9	3.2	42	[NT]	[NT]
Aroclor 1260	mg/kg	0.1	Org-021	[NT]	40	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-021	[NT]	40	126	77	48	[NT]	[NT]

QUALITY CONTROL: PCBs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	51	04/03/2022	04/03/2022		[NT]	[NT]
Date analysed	-			[NT]	51	04/03/2022	04/03/2022		[NT]	[NT]
Aroclor 1016	mg/kg	0.1	Org-021	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1221	mg/kg	0.1	Org-021	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1232	mg/kg	0.1	Org-021	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1242	mg/kg	0.1	Org-021	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1248	mg/kg	0.1	Org-021	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1254	mg/kg	0.1	Org-021	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1260	mg/kg	0.1	Org-021	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-021	[NT]	51	103	93	10	[NT]	[NT]

QUALITY CONTROL: PCBs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	65	04/03/2022	04/03/2022		[NT]	[NT]
Date analysed	-			[NT]	65	07/03/2022	07/03/2022		[NT]	[NT]
Aroclor 1016	mg/kg	0.1	Org-021	[NT]	65	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1221	mg/kg	0.1	Org-021	[NT]	65	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1232	mg/kg	0.1	Org-021	[NT]	65	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1242	mg/kg	0.1	Org-021	[NT]	65	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1248	mg/kg	0.1	Org-021	[NT]	65	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1254	mg/kg	0.1	Org-021	[NT]	65	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1260	mg/kg	0.1	Org-021	[NT]	65	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-021	[NT]	65	100	98	2	[NT]	[NT]

QUALITY CONTROL: Acid Extractable metals in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	290249-16
Date prepared	-			04/03/2022	5	04/03/2022	04/03/2022		04/03/2022	04/03/2022
Date analysed	-			04/03/2022	5	04/03/2022	04/03/2022		04/03/2022	04/03/2022
Arsenic	mg/kg	4	Metals-020	<4	5	<4	<4	0	96	92
Cadmium	mg/kg	0.4	Metals-020	<0.4	5	<0.4	<0.4	0	97	73
Chromium	mg/kg	1	Metals-020	<1	5	9	8	12	102	102
Copper	mg/kg	1	Metals-020	<1	5	25	28	11	91	#
Lead	mg/kg	1	Metals-020	<1	5	28	35	22	98	#
Mercury	mg/kg	0.1	Metals-021	<0.1	5	<0.1	<0.1	0	97	102
Nickel	mg/kg	1	Metals-020	<1	5	3	4	29	95	73
Zinc	mg/kg	1	Metals-020	<1	5	32	39	20	98	#

QUALITY CONTROL: Acid Extractable metals in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-2	290249-40
Date prepared	-			[NT]	18	04/03/2022	04/03/2022		04/03/2022	04/03/2022
Date analysed	-			[NT]	18	04/03/2022	04/03/2022		04/03/2022	04/03/2022
Arsenic	mg/kg	4	Metals-020	[NT]	18	5	<4	22	93	100
Cadmium	mg/kg	0.4	Metals-020	[NT]	18	<0.4	<0.4	0	94	96
Chromium	mg/kg	1	Metals-020	[NT]	18	10	8	22	99	##
Copper	mg/kg	1	Metals-020	[NT]	18	91	58	44	89	106
Lead	mg/kg	1	Metals-020	[NT]	18	110	54	68	97	86
Mercury	mg/kg	0.1	Metals-021	[NT]	18	<0.1	<0.1	0	93	92
Nickel	mg/kg	1	Metals-020	[NT]	18	18	18	0	93	95
Zinc	mg/kg	1	Metals-020	[NT]	18	150	110	31	98	#

QUALITY CONTROL: Acid Extractable metals in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-3	290249-69
Date prepared	-			[NT]	38	04/03/2022	04/03/2022		04/03/2022	04/03/2022
Date analysed	-			[NT]	38	04/03/2022	04/03/2022		04/03/2022	04/03/2022
Arsenic	mg/kg	4	Metals-020	[NT]	38	<4	<4	0	109	91
Cadmium	mg/kg	0.4	Metals-020	[NT]	38	<0.4	<0.4	0	108	92
Chromium	mg/kg	1	Metals-020	[NT]	38	10	10	0	111	104
Copper	mg/kg	1	Metals-020	[NT]	38	36	30	18	102	104
Lead	mg/kg	1	Metals-020	[NT]	38	160	150	6	106	95
Mercury	mg/kg	0.1	Metals-021	[NT]	38	<0.1	<0.1	0	108	104
Nickel	mg/kg	1	Metals-020	[NT]	38	34	28	19	106	93
Zinc	mg/kg	1	Metals-020	[NT]	38	62	58	7	110	98

QUALITY CONTROL: Acid Extractable metals in soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	51	04/03/2022	04/03/2022		[NT]	[NT]
Date analysed	-			[NT]	51	04/03/2022	04/03/2022		[NT]	[NT]
Arsenic	mg/kg	4	Metals-020	[NT]	51	<4	<4	0	[NT]	[NT]
Cadmium	mg/kg	0.4	Metals-020	[NT]	51	<0.4	<0.4	0	[NT]	[NT]
Chromium	mg/kg	1	Metals-020	[NT]	51	13	12	8	[NT]	[NT]
Copper	mg/kg	1	Metals-020	[NT]	51	41	36	13	[NT]	[NT]
Lead	mg/kg	1	Metals-020	[NT]	51	490	600	20	[NT]	[NT]
Mercury	mg/kg	0.1	Metals-021	[NT]	51	<0.1	0.1	0	[NT]	[NT]
Nickel	mg/kg	1	Metals-020	[NT]	51	13	14	7	[NT]	[NT]
Zinc	mg/kg	1	Metals-020	[NT]	51	220	280	24	[NT]	[NT]

QUALITY CONTROL: Acid Extractable metals in soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	65	04/03/2022	04/03/2022		[NT]	[NT]
Date analysed	-			[NT]	65	04/03/2022	04/03/2022		[NT]	[NT]
Arsenic	mg/kg	4	Metals-020	[NT]	65	6	8	29	[NT]	[NT]
Cadmium	mg/kg	0.4	Metals-020	[NT]	65	<0.4	<0.4	0	[NT]	[NT]
Chromium	mg/kg	1	Metals-020	[NT]	65	36	32	12	[NT]	[NT]
Copper	mg/kg	1	Metals-020	[NT]	65	48	52	8	[NT]	[NT]
Lead	mg/kg	1	Metals-020	[NT]	65	97	100	3	[NT]	[NT]
Mercury	mg/kg	0.1	Metals-021	[NT]	65	<0.1	<0.1	0	[NT]	[NT]
Nickel	mg/kg	1	Metals-020	[NT]	65	10	10	0	[NT]	[NT]
Zinc	mg/kg	1	Metals-020	[NT]	65	68	71	4	[NT]	[NT]

QUALITY CONTROL: Misc Soil - Inorg						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	290249-40
Date prepared	-			04/03/2022	5	04/03/2022	04/03/2022		04/03/2022	04/03/2022
Date analysed	-			04/03/2022	5	04/03/2022	04/03/2022		04/03/2022	04/03/2022
Total Phenolics (as Phenol)	mg/kg	5	Inorg-031	<5	5	<5	<5	0	101	104

QUALITY CONTROL: Misc Soil - Inorg						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	38	04/03/2022	04/03/2022		[NT]	[NT]
Date analysed	-			[NT]	38	04/03/2022	04/03/2022		[NT]	[NT]
Total Phenolics (as Phenol)	mg/kg	5	Inorg-031	[NT]	38	<5	<5	0	[NT]	[NT]

QUALITY CONTROL: PFAS in Soils Extended						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	290249-16
Date prepared	-			04/03/2022	5	04/03/2022	04/03/2022		04/03/2022	04/03/2022
Date analysed	-			04/03/2022	5	04/03/2022	04/03/2022		04/03/2022	04/03/2022
Perfluorobutanesulfonic acid	µg/kg	0.1	Org-029	<0.1	5	<0.1	<0.1	0	105	104
Perfluoropentanesulfonic acid	µg/kg	0.1	Org-029	<0.1	5	<0.1	<0.1	0	96	98
Perfluorohexanesulfonic acid - PFHxS	µg/kg	0.1	Org-029	<0.1	5	<0.1	<0.1	0	103	103
Perfluoroheptanesulfonic acid	µg/kg	0.1	Org-029	<0.1	5	<0.1	<0.1	0	101	104
Perfluorooctanesulfonic acid PFOS	µg/kg	0.1	Org-029	<0.1	5	0.2	0.3	40	108	109
Perfluorodecanesulfonic acid	µg/kg	0.2	Org-029	<0.2	5	<0.2	<0.2	0	108	144
Perfluorobutanoic acid	µg/kg	0.2	Org-029	<0.2	5	<0.2	<0.2	0	102	102
Perfluoropentanoic acid	µg/kg	0.2	Org-029	<0.2	5	<0.2	<0.2	0	102	101
Perfluorohexanoic acid	µg/kg	0.1	Org-029	<0.1	5	<0.1	<0.1	0	102	102
Perfluoroheptanoic acid	µg/kg	0.1	Org-029	<0.1	5	<0.1	<0.1	0	104	102
Perfluorooctanoic acid PFOA	µg/kg	0.1	Org-029	<0.1	5	<0.1	<0.1	0	112	110
Perfluorononanoic acid	µg/kg	0.1	Org-029	<0.1	5	<0.1	<0.1	0	92	89
Perfluorodecanoic acid	µg/kg	0.5	Org-029	<0.5	5	<0.5	<0.5	0	100	98
Perfluoroundecanoic acid	µg/kg	0.5	Org-029	<0.5	5	<0.5	<0.5	0	118	120
Perfluorododecanoic acid	µg/kg	0.5	Org-029	<0.5	5	<0.5	<0.5	0	103	97
Perfluorotridecanoic acid	µg/kg	0.5	Org-029	<0.5	5	<0.5	<0.5	0	98	83
Perfluorotetradecanoic acid	µg/kg	5	Org-029	<5	5	<5	<5	0	103	103
4:2 FTS	µg/kg	0.1	Org-029	<0.1	5	<0.1	<0.1	0	102	100
6:2 FTS	µg/kg	0.1	Org-029	<0.1	5	<0.1	<0.1	0	114	111
8:2 FTS	µg/kg	0.2	Org-029	<0.2	5	<0.2	<0.2	0	97	102
10:2 FTS	µg/kg	0.2	Org-029	<0.2	5	<0.2	<0.2	0	112	128
Perfluorooctane sulfonamide	µg/kg	1	Org-029	<1	5	<1	<1	0	103	103
N-Methyl perfluorooctane sulfonamide	µg/kg	1	Org-029	<1	5	<1	<1	0	105	106
N-Ethyl perfluorooctanesulfon amide	µg/kg	1	Org-029	<1	5	<1	<1	0	100	101
N-Me perfluorooctanesulfonamid oethanol	µg/kg	1	Org-029	<1	5	<1	<1	0	102	105
N-Et perfluorooctanesulfonamid oethanol	µg/kg	5	Org-029	<5	5	<5	<5	0	96	98
MePerfluorooctanesulf- amid oacetic acid	µg/kg	0.2	Org-029	<0.2	5	<0.2	<0.2	0	99	96
EtPerfluorooctanesulf amid oacetic acid	µg/kg	0.2	Org-029	<0.2	5	<0.2	<0.2	0	102	105
Surrogate $^{13}C_8$ *PFOS*	%		Org-029	103	5	107	112	5	106	107
Surrogate $^{13}C_2$ *PFOA*	%		Org-029	95	5	95	93	2	96	98

QUALITY CONTROL: PFAS in Soils Extended						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	290249-16
Extracted ISTD $^{13}C_3$ *PFBS*	%		Org-029	104	5	87	88	1	102	91
Extracted ISTD $^{18}O_2$ *PFHxS*	%		Org-029	111	5	90	90	0	108	93
Extracted ISTD $^{13}C_4$ *PFOS*	%		Org-029	104	5	85	83	2	100	88
Extracted ISTD $^{13}C_4$ *PFBA*	%		Org-029	103	5	85	83	2	103	91
Extracted ISTD $^{13}C_3$ *PFPeA*	%		Org-029	103	5	90	88	2	101	91
Extracted ISTD $^{13}C_2$ *PFHxA*	%		Org-029	109	5	90	92	2	107	96
Extracted ISTD $^{13}C_4$ *PFHpA*	%		Org-029	104	5	89	87	2	103	90
Extracted ISTD $^{13}C_4$ *PFOA*	%		Org-029	105	5	87	85	2	101	89
Extracted ISTD $^{13}C_5$ *PFNA*	%		Org-029	115	5	100	101	1	112	103
Extracted ISTD $^{13}C_2$ *PFDA*	%		Org-029	106	5	93	92	1	101	94
Extracted ISTD $^{13}C_2$ *PFUnDA*	%		Org-029	108	5	75	87	15	101	68
Extracted ISTD $^{13}C_2$ *PFDoDA*	%		Org-029	132	5	126	128	2	118	119
Extracted ISTD $^{13}C_2$ *PFTeDA*	%		Org-029	103	5	86	87	1	102	91
Extracted ISTD $^{13}C_2$ *4:2FTS*	%		Org-029	109	5	99	97	2	102	96
Extracted ISTD $^{13}C_2$ *6:2FTS*	%		Org-029	108	5	111	117	5	100	100
Extracted ISTD $^{13}C_2$ *8:2FTS*	%		Org-029	127	5	138	142	3	120	121
Extracted ISTD $^{13}C_8$ *FOSA*	%		Org-029	113	5	90	89	1	107	91
Extracted ISTD d_3 *N MeFOSA*	%		Org-029	105	5	76	78	3	105	79
Extracted ISTD d_5 *N EtFOSA*	%		Org-029	108	5	83	86	4	108	90
Extracted ISTD d_7 *N MeFOSE*	%		Org-029	110	5	78	83	6	103	84

QUALITY CONTROL: PFAS in Soils Extended						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	290249-16
Extracted ISTD d_9 *N EtFOSE*	%		Org-029	118	5	91	91	0	115	93
Extracted ISTD d_3 *N MeFOSAA*	%		Org-029	115	5	112	113	1	116	106
Extracted ISTD d_5 *N EtFOSAA*	%		Org-029	131	5	106	117	10	128	94

QUALITY CONTROL: PFAS in Soils Extended						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-2	290249-40
Date prepared	-			[NT]	38	04/03/2022	04/03/2022		04/03/2022	04/03/2022
Date analysed	-			[NT]	38	04/03/2022	04/03/2022		04/03/2022	04/03/2022
Perfluorobutanesulfonic acid	µg/kg	0.1	Org-029	[NT]	38	<0.1	<0.1	0	104	103
Perfluoropentanesulfonic acid	µg/kg	0.1	Org-029	[NT]	38	<0.1	<0.1	0	99	97
Perfluorohexanesulfonic acid - PFHxS	µg/kg	0.1	Org-029	[NT]	38	<0.1	<0.1	0	105	102
Perfluoroheptanesulfonic acid	µg/kg	0.1	Org-029	[NT]	38	<0.1	<0.1	0	100	100
Perfluorooctanesulfonic acid PFOS	µg/kg	0.1	Org-029	[NT]	38	0.2	0.2	0	99	97
Perfluorodecanesulfonic acid	µg/kg	0.2	Org-029	[NT]	38	<0.2	<0.2	0	102	106
Perfluorobutanoic acid	µg/kg	0.2	Org-029	[NT]	38	<0.2	<0.2	0	102	100
Perfluoropentanoic acid	µg/kg	0.2	Org-029	[NT]	38	<0.2	<0.2	0	102	101
Perfluorohexanoic acid	µg/kg	0.1	Org-029	[NT]	38	<0.1	<0.1	0	105	102
Perfluoroheptanoic acid	µg/kg	0.1	Org-029	[NT]	38	<0.1	<0.1	0	103	102
Perfluorooctanoic acid PFOA	µg/kg	0.1	Org-029	[NT]	38	<0.1	<0.1	0	108	106
Perfluorononanoic acid	µg/kg	0.1	Org-029	[NT]	38	<0.1	<0.1	0	95	94
Perfluorodecanoic acid	µg/kg	0.5	Org-029	[NT]	38	<0.5	<0.5	0	102	101
Perfluoroundecanoic acid	µg/kg	0.5	Org-029	[NT]	38	<0.5	<0.5	0	114	107
Perfluorododecanoic acid	µg/kg	0.5	Org-029	[NT]	38	<0.5	<0.5	0	106	104
Perfluorotridecanoic acid	µg/kg	0.5	Org-029	[NT]	38	<0.5	<0.5	0	98	89
Perfluorotetradecanoic acid	µg/kg	5	Org-029	[NT]	38	<5	<5	0	106	105
4:2 FTS	µg/kg	0.1	Org-029	[NT]	38	<0.1	<0.1	0	104	101
6:2 FTS	µg/kg	0.1	Org-029	[NT]	38	<0.1	<0.1	0	111	108
8:2 FTS	µg/kg	0.2	Org-029	[NT]	38	<0.2	<0.2	0	99	98
10:2 FTS	µg/kg	0.2	Org-029	[NT]	38	<0.2	<0.2	0	107	126
Perfluorooctane sulfonamide	µg/kg	1	Org-029	[NT]	38	<1	<1	0	108	106
N-Methyl perfluorooctane sulfonamide	µg/kg	1	Org-029	[NT]	38	<1	<1	0	111	109
N-Ethyl perfluorooctanesulfon amide	µg/kg	1	Org-029	[NT]	38	<1	<1	0	102	101
N-Me perfluorooctanesulfonamid oethanol	µg/kg	1	Org-029	[NT]	38	<1	<1	0	109	105
N-Et perfluorooctanesulfonamid oethanol	µg/kg	5	Org-029	[NT]	38	<5	<5	0	106	95
MePerfluorooctanesulf- amid oacetic acid	µg/kg	0.2	Org-029	[NT]	38	<0.2	<0.2	0	101	105
EtPerfluorooctanesulf amid oacetic acid	µg/kg	0.2	Org-029	[NT]	38	<0.2	<0.2	0	99	102
Surrogate $^{13}C_8$ *PFOS*	%		Org-029	[NT]	38	99	97	2	97	96
Surrogate $^{13}C_2$ *PFOA*	%		Org-029	[NT]	38	98	96	2	98	97

QUALITY CONTROL: PFAS in Soils Extended						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-2	290249-40
Extracted ISTD $^{13}C_3$ *PFBS*	%		Org-029	[NT]	38	93	94	1	99	87
Extracted ISTD $^{18}O_2$ *PFHxS*	%		Org-029	[NT]	38	96	97	1	100	91
Extracted ISTD $^{13}C_4$ *PFOS*	%		Org-029	[NT]	38	91	96	5	101	91
Extracted ISTD $^{13}C_4$ *PFBA*	%		Org-029	[NT]	38	93	93	0	99	85
Extracted ISTD $^{13}C_3$ *PFPeA*	%		Org-029	[NT]	38	97	96	1	99	87
Extracted ISTD $^{13}C_2$ *PFHxA*	%		Org-029	[NT]	38	96	98	2	101	87
Extracted ISTD $^{13}C_4$ *PFHpA*	%		Org-029	[NT]	38	95	97	2	98	88
Extracted ISTD $^{13}C_4$ *PFOA*	%		Org-029	[NT]	38	95	95	0	96	88
Extracted ISTD $^{13}C_5$ *PFNA*	%		Org-029	[NT]	38	104	105	1	103	96
Extracted ISTD $^{13}C_2$ *PFDA*	%		Org-029	[NT]	38	102	98	4	97	90
Extracted ISTD $^{13}C_2$ *PFUnDA*	%		Org-029	[NT]	38	107	99	8	103	88
Extracted ISTD $^{13}C_2$ *PFDoDA*	%		Org-029	[NT]	38	128	121	6	115	115
Extracted ISTD $^{13}C_2$ *PFTeDA*	%		Org-029	[NT]	38	93	96	3	92	86
Extracted ISTD $^{13}C_2$ *4:2FTS*	%		Org-029	[NT]	38	107	99	8	97	91
Extracted ISTD $^{13}C_2$ *6:2FTS*	%		Org-029	[NT]	38	123	101	20	94	92
Extracted ISTD $^{13}C_2$ *8:2FTS*	%		Org-029	[NT]	38	142	117	19	110	109
Extracted ISTD $^{13}C_8$ *FOSA*	%		Org-029	[NT]	38	100	101	1	99	90
Extracted ISTD d_3 *N MeFOSA*	%		Org-029	[NT]	38	95	91	4	97	84
Extracted ISTD d_5 *N EtFOSA*	%		Org-029	[NT]	38	98	100	2	103	89
Extracted ISTD d_7 *N MeFOSE*	%		Org-029	[NT]	38	98	97	1	102	88

QUALITY CONTROL: PFAS in Soils Extended					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-2	290249-40
Extracted ISTD d_9 *N EtFOSE*	%		Org-029	[NT]	38	96	98	2	102	95
Extracted ISTD d_3 *N MeFOSAA*	%		Org-029	[NT]	38	115	107	7	110	97
Extracted ISTD d_5 *N EtFOSAA*	%		Org-029	[NT]	38	122	110	10	117	104

QUALITY CONTROL: PFAS in Soils Extended						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	51	04/03/2022	04/03/2022		[NT]	[NT]
Date analysed	-			[NT]	51	04/03/2022	04/03/2022		[NT]	[NT]
Perfluorobutanesulfonic acid	µg/kg	0.1	Org-029	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Perfluoropentanesulfonic acid	µg/kg	0.1	Org-029	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Perfluorohexanesulfonic acid - PFHxS	µg/kg	0.1	Org-029	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Perfluoroheptanesulfonic acid	µg/kg	0.1	Org-029	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Perfluorooctanesulfonic acid PFOS	µg/kg	0.1	Org-029	[NT]	51	1.2	1.3	8	[NT]	[NT]
Perfluorodecanesulfonic acid	µg/kg	0.2	Org-029	[NT]	51	<0.2	<0.2	0	[NT]	[NT]
Perfluorobutanoic acid	µg/kg	0.2	Org-029	[NT]	51	<0.2	<0.2	0	[NT]	[NT]
Perfluoropentanoic acid	µg/kg	0.2	Org-029	[NT]	51	<0.2	<0.2	0	[NT]	[NT]
Perfluorohexanoic acid	µg/kg	0.1	Org-029	[NT]	51	0.1	0.1	0	[NT]	[NT]
Perfluoroheptanoic acid	µg/kg	0.1	Org-029	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Perfluorooctanoic acid PFOA	µg/kg	0.1	Org-029	[NT]	51	0.4	0.5	22	[NT]	[NT]
Perfluorononanoic acid	µg/kg	0.1	Org-029	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
Perfluorodecanoic acid	µg/kg	0.5	Org-029	[NT]	51	<0.5	<0.5	0	[NT]	[NT]
Perfluoroundecanoic acid	µg/kg	0.5	Org-029	[NT]	51	<0.5	<0.5	0	[NT]	[NT]
Perfluorododecanoic acid	µg/kg	0.5	Org-029	[NT]	51	<0.5	<0.5	0	[NT]	[NT]
Perfluorotridecanoic acid	µg/kg	0.5	Org-029	[NT]	51	<0.5	<0.5	0	[NT]	[NT]
Perfluorotetradecanoic acid	µg/kg	5	Org-029	[NT]	51	<5	<5	0	[NT]	[NT]
4:2 FTS	µg/kg	0.1	Org-029	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
6:2 FTS	µg/kg	0.1	Org-029	[NT]	51	<0.1	<0.1	0	[NT]	[NT]
8:2 FTS	µg/kg	0.2	Org-029	[NT]	51	<0.2	<0.2	0	[NT]	[NT]
10:2 FTS	µg/kg	0.2	Org-029	[NT]	51	<0.2	<0.2	0	[NT]	[NT]
Perfluorooctane sulfonamide	µg/kg	1	Org-029	[NT]	51	<1	<1	0	[NT]	[NT]
N-Methyl perfluorooctane sulfonamide	µg/kg	1	Org-029	[NT]	51	<1	<1	0	[NT]	[NT]
N-Ethyl perfluorooctanesulfon amide	µg/kg	1	Org-029	[NT]	51	<1	<1	0	[NT]	[NT]
N-Me perfluorooctanesulfonamid oethanol	µg/kg	1	Org-029	[NT]	51	<1	<1	0	[NT]	[NT]
N-Et perfluorooctanesulfonamid oethanol	µg/kg	5	Org-029	[NT]	51	<5	<5	0	[NT]	[NT]
MePerfluorooctanesulf- amid oacetic acid	µg/kg	0.2	Org-029	[NT]	51	<0.2	<0.2	0	[NT]	[NT]
EtPerfluorooctanesulf amid oacetic acid	µg/kg	0.2	Org-029	[NT]	51	<0.2	<0.2	0	[NT]	[NT]
Surrogate $^{13}C_8$ *PFOS*	%		Org-029	[NT]	51	101	101	0	[NT]	[NT]
Surrogate $^{13}C_2$ *PFOA*	%		Org-029	[NT]	51	95	97	2	[NT]	[NT]

QUALITY CONTROL: PFAS in Soils Extended						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Extracted ISTD $^{13}C_3$ *PFBS*	%		Org-029	[NT]	51	87	89	2	[NT]	[NT]
Extracted ISTD $^{18}O_2$ *PFHxS*	%		Org-029	[NT]	51	93	90	3	[NT]	[NT]
Extracted ISTD $^{13}C_4$ *PFOS*	%		Org-029	[NT]	51	89	87	2	[NT]	[NT]
Extracted ISTD $^{13}C_4$ *PFBA*	%		Org-029	[NT]	51	85	85	0	[NT]	[NT]
Extracted ISTD $^{13}C_3$ *PFPeA*	%		Org-029	[NT]	51	87	87	0	[NT]	[NT]
Extracted ISTD $^{13}C_2$ *PFHxA*	%		Org-029	[NT]	51	89	87	2	[NT]	[NT]
Extracted ISTD $^{13}C_4$ *PFHpA*	%		Org-029	[NT]	51	90	87	3	[NT]	[NT]
Extracted ISTD $^{13}C_4$ *PFOA*	%		Org-029	[NT]	51	89	88	1	[NT]	[NT]
Extracted ISTD $^{13}C_5$ *PFNA*	%		Org-029	[NT]	51	99	96	3	[NT]	[NT]
Extracted ISTD $^{13}C_2$ *PFDA*	%		Org-029	[NT]	51	95	88	8	[NT]	[NT]
Extracted ISTD $^{13}C_2$ *PFUnDA*	%		Org-029	[NT]	51	97	96	1	[NT]	[NT]
Extracted ISTD $^{13}C_2$ *PFDoDA*	%		Org-029	[NT]	51	119	120	1	[NT]	[NT]
Extracted ISTD $^{13}C_2$ *PFTeDA*	%		Org-029	[NT]	51	90	88	2	[NT]	[NT]
Extracted ISTD $^{13}C_2$ *4:2FTS*	%		Org-029	[NT]	51	94	90	4	[NT]	[NT]
Extracted ISTD $^{13}C_2$ *6:2FTS*	%		Org-029	[NT]	51	95	98	3	[NT]	[NT]
Extracted ISTD $^{13}C_2$ *8:2FTS*	%		Org-029	[NT]	51	109	109	0	[NT]	[NT]
Extracted ISTD $^{13}C_8$ *FOSA*	%		Org-029	[NT]	51	93	92	1	[NT]	[NT]
Extracted ISTD d_3 *N MeFOSA*	%		Org-029	[NT]	51	86	85	1	[NT]	[NT]
Extracted ISTD d_5 *N EtFOSA*	%		Org-029	[NT]	51	92	90	2	[NT]	[NT]
Extracted ISTD d_7 *N MeFOSE*	%		Org-029	[NT]	51	91	91	0	[NT]	[NT]

QUALITY CONTROL: PFAS in Soils Extended					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Extracted ISTD d_9 *N EtFOSE*	%		Org-029	[NT]	51	96	93	3	[NT]	[NT]
Extracted ISTD d_3 *N MeFOSAA*	%		Org-029	[NT]	51	103	101	2	[NT]	[NT]
Extracted ISTD d_5 *N EtFOSAA*	%		Org-029	[NT]	51	111	110	1	[NT]	[NT]

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W3	[NT]
Date extracted	-			04/03/2022	[NT]	[NT]	[NT]	[NT]	04/03/2022	[NT]
Date analysed	-			04/03/2022	[NT]	[NT]	[NT]	[NT]	04/03/2022	[NT]
TRH C_6 - C_9	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	110	[NT]
TRH C_6 - C_{10}	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	110	[NT]
Benzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	105	[NT]
Toluene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	110	[NT]
Ethylbenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	111	[NT]
m+p-xylene	µg/L	2	Org-023	<2	[NT]	[NT]	[NT]	[NT]	113	[NT]
o-xylene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	110	[NT]
Naphthalene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate Dibromofluoromethane	%		Org-023	121	[NT]	[NT]	[NT]	[NT]	103	[NT]
Surrogate toluene-d8	%		Org-023	98	[NT]	[NT]	[NT]	[NT]	101	[NT]
Surrogate 4-BFB	%		Org-023	105	[NT]	[NT]	[NT]	[NT]	94	[NT]

QUALITY CONTROL: svTRH (C10-C40) in Water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	[NT]
Date extracted	-			08/03/2022	[NT]	[NT]	[NT]	[NT]	08/03/2022	[NT]
Date analysed	-			09/03/2022	[NT]	[NT]	[NT]	[NT]	09/03/2022	[NT]
TRH C_{10} - C_{14}	µg/L	50	Org-020	<50	[NT]	[NT]	[NT]	[NT]	72	[NT]
TRH C_{15} - C_{28}	µg/L	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	74	[NT]
TRH C_{29} - C_{36}	µg/L	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	78	[NT]
TRH >C_{10} - C_{16}	µg/L	50	Org-020	<50	[NT]	[NT]	[NT]	[NT]	72	[NT]
TRH >C_{16} - C_{34}	µg/L	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	74	[NT]
TRH >C_{34} - C_{40}	µg/L	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	78	[NT]
Surrogate o-Terphenyl	%		Org-020	85	[NT]	[NT]	[NT]	[NT]	82	[NT]

QUALITY CONTROL: PAHs in Water - Low Level						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	[NT]
Date extracted	-			07/03/2022	[NT]	[NT]	[NT]	[NT]	07/03/2022	[NT]
Date analysed	-			08/03/2022	[NT]	[NT]	[NT]	[NT]	08/03/2022	[NT]
Naphthalene	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	82	[NT]
Acenaphthylene	µg/L	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Acenaphthene	µg/L	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	81	[NT]
Fluorene	µg/L	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	84	[NT]
Phenanthrene	µg/L	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	100	[NT]
Anthracene	µg/L	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Fluoranthene	µg/L	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	88	[NT]
Pyrene	µg/L	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	91	[NT]
Benzo(a)anthracene	µg/L	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chrysene	µg/L	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	81	[NT]
Benzo(b,j+k)fluoranthene	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzo(a)pyrene	µg/L	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	102	[NT]
Indeno(1,2,3-c,d)pyrene	µg/L	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dibenzo(a,h)anthracene	µg/L	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzo(g,h,i)perylene	µg/L	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	96	[NT]	[NT]	[NT]	[NT]	91	[NT]

QUALITY CONTROL: Metals in Water - Dissolved					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date digested	-			07/03/2022	[NT]	[NT]	[NT]	[NT]	07/03/2022	[NT]
Date analysed	-			07/03/2022	[NT]	[NT]	[NT]	[NT]	07/03/2022	[NT]
Arsenic - Dissolved	mg/L	0.05	Metals-020	<0.05	[NT]	[NT]	[NT]	[NT]	102	[NT]
Cadmium - Dissolved	mg/L	0.01	Metals-020	<0.01	[NT]	[NT]	[NT]	[NT]	102	[NT]
Chromium - Dissolved	mg/L	0.01	Metals-020	<0.01	[NT]	[NT]	[NT]	[NT]	102	[NT]
Copper - Dissolved	mg/L	0.01	Metals-020	<0.01	[NT]	[NT]	[NT]	[NT]	102	[NT]
Lead - Dissolved	mg/L	0.03	Metals-020	<0.03	[NT]	[NT]	[NT]	[NT]	103	[NT]
Mercury - Dissolved	mg/L	0.0005	Metals-021	<0.0005	[NT]	[NT]	[NT]	[NT]	112	[NT]
Nickel - Dissolved	mg/L	0.02	Metals-020	<0.02	[NT]	[NT]	[NT]	[NT]	104	[NT]
Zinc - Dissolved	mg/L	0.02	Metals-020	<0.02	[NT]	[NT]	[NT]	[NT]	102	[NT]

QUALITY CONTROL: PFAS in Waters Trace Extended					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W3	[NT]
Date prepared	-			04/03/2022	[NT]	[NT]	[NT]	[NT]	04/03/2022	[NT]
Date analysed	-			04/03/2022	[NT]	[NT]	[NT]	[NT]	04/03/2022	[NT]
Perfluorobutanesulfonic acid	µg/L	0.0004	Org-029	<0.0004	[NT]	[NT]	[NT]	[NT]	97	[NT]
Perfluoropentanesulfonic acid	µg/L	0.001	Org-029	<0.001	[NT]	[NT]	[NT]	[NT]	98	[NT]
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.0002	Org-029	<0.0002	[NT]	[NT]	[NT]	[NT]	95	[NT]
Perfluoroheptanesulfonic acid	µg/L	0.001	Org-029	<0.001	[NT]	[NT]	[NT]	[NT]	96	[NT]
Perfluorooctanesulfonic acid PFOS	µg/L	0.0002	Org-029	<0.0002	[NT]	[NT]	[NT]	[NT]	102	[NT]
Perfluorodecanesulfonic acid	µg/L	0.002	Org-029	<0.002	[NT]	[NT]	[NT]	[NT]	76	[NT]
Perfluorobutanoic acid	µg/L	0.002	Org-029	<0.002	[NT]	[NT]	[NT]	[NT]	99	[NT]
Perfluoropentanoic acid	µg/L	0.002	Org-029	<0.002	[NT]	[NT]	[NT]	[NT]	99	[NT]
Perfluorohexanoic acid	µg/L	0.0004	Org-029	<0.0004	[NT]	[NT]	[NT]	[NT]	97	[NT]
Perfluoroheptanoic acid	µg/L	0.0004	Org-029	<0.0004	[NT]	[NT]	[NT]	[NT]	98	[NT]
Perfluorooctanoic acid PFOA	µg/L	0.0002	Org-029	<0.0002	[NT]	[NT]	[NT]	[NT]	108	[NT]
Perfluorononanoic acid	µg/L	0.001	Org-029	<0.001	[NT]	[NT]	[NT]	[NT]	88	[NT]
Perfluorodecanoic acid	µg/L	0.002	Org-029	<0.002	[NT]	[NT]	[NT]	[NT]	98	[NT]
Perfluoroundecanoic acid	µg/L	0.002	Org-029	<0.002	[NT]	[NT]	[NT]	[NT]	117	[NT]
Perfluorododecanoic acid	µg/L	0.005	Org-029	<0.005	[NT]	[NT]	[NT]	[NT]	102	[NT]
Perfluorotridecanoic acid	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	70	[NT]
Perfluorotetradecanoic acid	µg/L	0.05	Org-029	<0.05	[NT]	[NT]	[NT]	[NT]	103	[NT]
4:2 FTS	µg/L	0.001	Org-029	<0.001	[NT]	[NT]	[NT]	[NT]	98	[NT]
6:2 FTS	µg/L	0.0004	Org-029	<0.0004	[NT]	[NT]	[NT]	[NT]	106	[NT]
8:2 FTS	µg/L	0.0004	Org-029	<0.0004	[NT]	[NT]	[NT]	[NT]	99	[NT]
10:2 FTS	µg/L	0.002	Org-029	<0.002	[NT]	[NT]	[NT]	[NT]	107	[NT]
Perfluorooctane sulfonamide	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	103	[NT]
N-Methyl perfluorooctane sulfonamide	µg/L	0.005	Org-029	<0.005	[NT]	[NT]	[NT]	[NT]	107	[NT]
N-Ethyl perfluorooctanesulfon amide	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	96	[NT]
N-Me perfluorooctanesulfonamid oethanol	µg/L	0.005	Org-029	<0.005	[NT]	[NT]	[NT]	[NT]	109	[NT]
N-Et perfluorooctanesulfonamid oethanol	µg/L	0.05	Org-029	<0.05	[NT]	[NT]	[NT]	[NT]	104	[NT]
MePerfluorooctanesulf- amid oacetic acid	µg/L	0.002	Org-029	<0.002	[NT]	[NT]	[NT]	[NT]	100	[NT]
EtPerfluorooctanesulf- amid oacetic acid	µg/L	0.002	Org-029	<0.002	[NT]	[NT]	[NT]	[NT]	99	[NT]
Surrogate $^{13}C_8$ *PFOS*	%		Org-029	104	[NT]	[NT]	[NT]	[NT]	98	[NT]
Surrogate $^{13}C_2$ *PFOA*	%		Org-029	96	[NT]	[NT]	[NT]	[NT]	97	[NT]

QUALITY CONTROL: PFAS in Waters Trace Extended					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W3	[NT]
Extracted ISTD $^{13}C_3$ *PFBS*	%		Org-029	88	[NT]	[NT]	[NT]	[NT]	89	[NT]
Extracted ISTD $^{18}O_2$ *PFHxS*	%		Org-029	86	[NT]	[NT]	[NT]	[NT]	88	[NT]
Extracted ISTD $^{13}C_4$ *PFOS*	%		Org-029	76	[NT]	[NT]	[NT]	[NT]	78	[NT]
Extracted ISTD $^{13}C_4$ *PFBA*	%		Org-029	93	[NT]	[NT]	[NT]	[NT]	90	[NT]
Extracted ISTD $^{13}C_3$ *PFPeA*	%		Org-029	92	[NT]	[NT]	[NT]	[NT]	90	[NT]
Extracted ISTD $^{13}C_2$ *PFHxA*	%		Org-029	98	[NT]	[NT]	[NT]	[NT]	97	[NT]
Extracted ISTD $^{13}C_4$ *PFHpA*	%		Org-029	98	[NT]	[NT]	[NT]	[NT]	97	[NT]
Extracted ISTD $^{13}C_4$ *PFOA*	%		Org-029	90	[NT]	[NT]	[NT]	[NT]	87	[NT]
Extracted ISTD $^{13}C_5$ *PFNA*	%		Org-029	104	[NT]	[NT]	[NT]	[NT]	104	[NT]
Extracted ISTD $^{13}C_2$ *PFDA*	%		Org-029	98	[NT]	[NT]	[NT]	[NT]	97	[NT]
Extracted ISTD $^{13}C_2$ *PFUnDA*	%		Org-029	99	[NT]	[NT]	[NT]	[NT]	92	[NT]
Extracted ISTD $^{13}C_2$ *PFDoDA*	%		Org-029	111	[NT]	[NT]	[NT]	[NT]	102	[NT]
Extracted ISTD $^{13}C_2$ *PFTeDA*	%		Org-029	63	[NT]	[NT]	[NT]	[NT]	59	[NT]
Extracted ISTD $^{13}C_2$ *4:2FTS*	%		Org-029	115	[NT]	[NT]	[NT]	[NT]	112	[NT]
Extracted ISTD $^{13}C_2$ *6:2FTS*	%		Org-029	131	[NT]	[NT]	[NT]	[NT]	129	[NT]
Extracted ISTD $^{13}C_2$ *8:2FTS*	%		Org-029	101	[NT]	[NT]	[NT]	[NT]	99	[NT]
Extracted ISTD $^{13}C_8$ *FOSA*	%		Org-029	81	[NT]	[NT]	[NT]	[NT]	78	[NT]
Extracted ISTD d_3 *N MeFOSA*	%		Org-029	42	[NT]	[NT]	[NT]	[NT]	33	[NT]
Extracted ISTD d_5 *N EtFOSA*	%		Org-029	40	[NT]	[NT]	[NT]	[NT]	34	[NT]
Extracted ISTD d_7 *N MeFOSE*	%		Org-029	65	[NT]	[NT]	[NT]	[NT]	60	[NT]

QUALITY CONTROL: PFAS in Waters Trace Extended					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W3	[NT]
Extracted ISTD d_9 *N EtFOSE*	%		Org-029	63	[NT]	[NT]	[NT]	[NT]	61	[NT]
Extracted ISTD d_3 *N MeFOSAA*	%		Org-029	131	[NT]	[NT]	[NT]	[NT]	122	[NT]
Extracted ISTD d_5 *N EtFOSAA*	%		Org-029	135	[NT]	[NT]	[NT]	[NT]	127	[NT]

Result Definitions

NT	Not tested
NA	Test not required
INS	Insufficient sample for this test
PQL	Practical Quantitation Limit
<	Less than
>	Greater than
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
NS	Not specified
NEPM	National Environmental Protection Measure
NR	Not Reported

Quality Control Definitions

Blank	This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate	This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike	A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample)	This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike	Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011.

The recommended maximums for analytes in urine are taken from “2018 TLVs and BEIs”, as published by ACGIH (where available). Limit provided for Nickel is a precautionary guideline as per Position Paper prepared by AIOH Exposure Standards Committee, 2016.

Guideline limits for Rinse Water Quality reported as per analytical requirements and specifications of AS 4187, Amdt 2 2019, Table 7.2

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: >10xPQL - RPD acceptance criteria will vary depending on the analytes and the analytical techniques but is typically in the range 20%-50% – see ELN-P05 QA/QC tables for details; <10xPQL - RPD are higher as the results approach PQL and the estimated measurement uncertainty will statistically increase.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals (not SPOCAS); 60-140% for organics/SPOCAS (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

Measurement Uncertainty estimates are available for most tests upon request.

Analysis of aqueous samples typically involves the extraction/digestion and/or analysis of the liquid phase only (i.e. NOT any settled sediment phase but inclusive of suspended particles if present), unless stipulated on the Envirolab COC and/or by correspondence. Notable exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, total recoverable metals and PFAS where solids are included by default.

Samples for Microbiological analysis (not Amoeba forms) received outside of the 2-8°C temperature range do not meet the ideal cooling conditions as stated in AS2031-2012.

Report Comments

For PFAS Extracted Internal Standards denoted with # or outside the 50-150% acceptance range, the respective target analyte results may be unaffected, in other circumstances the PQL has been raised to accommodate the outlier(s).

PFAS in water:
MeFOSA and EtFOSA Extracted Internal Standard is outside of global acceptance criteria (50-150%) for (LCS and/or MB) but within analyte specific acceptance criteria.

PFAS in Soil:
Matrix spike for PFDS for 290249-16 is outside global acceptance criteria (60-140%). Hoever an accptable recovery has been obtained for the LCS.

Acid Extractable Metals in Soil:
- The laboratory RPD acceptance criteria has been exceeded for 290249-18 for Cu and Pb. Therefore a triplicate result has been issued as laboratory sample number 290249-98.
-# Percent recovery is not applicable due to the high concentration of the element/s in the sample/s. However an acceptable recovery was obtained for the LCS.
-## Percent recovery is not possible to report due to the inhomogeneous nature of the element/s in the sample/s. However an acceptable recovery was obtained for the LCS.

TRH Water(C10-C40) NEPM - The positive result in the rinsate sample is due to a single peak with no hydrocarbon profile that is consistent with the use of plastic containers.

Asbestos-ID in soil: NEPM
This report is consistent with the reporting recommendations in the National Environment Protection (Assessment of Site Contamination) Measure, Schedule B1, May 2013. This is reported outside our scope of NATA accreditation.

Factual description of asbestos identified in the soil samples: NEPM
Sample 290249-35; Chrysotile and Amosite asbestos identified in 7.7298g of fibrous matted material & loose fibre bundles

Envirolab Services Pty Ltd
ABN 37 112 535 645
12 Ashley St Chatswood NSW 2067
ph 02 9910 6200 fax 02 9910 6201
customerservice@envirolab.com.au
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SAMPLE RECEIPT ADVICE

Client Details

Client	JK Environments
Attention	C Ridley

Sample Login Details

Your reference	E33051BR, Mittagong
Envirolab Reference	290249
Date Sample Received	01/03/2022
Date Instructions Received	02/03/2022
Date Results Expected to be Reported	10/03/2022

Sample Condition

Samples received in appropriate condition for analysis	Yes
No. of Samples Provided	84 Soil, 1 -, 1 Water, 11 Material
Turnaround Time Requested	Standard
Temperature on Receipt (°C)	15
Cooling Method	Ice
Sampling Date Provided	YES

Comments

SDUP16 (QC lab sample) - NEPM ASB bag not received

TB-S3 - PFAS jar not received, BTEX only

TP60 0.1-0.3 - 2 bags received only, test from bag

Missing sample SDUP19

extra #97 unlabelled soil bag

Please direct any queries to:

Aileen Hie	Jacinta Hurst
Phone: 02 9910 6200	**Phone: 02 9910 6200**
Fax: 02 9910 6201	**Fax: 02 9910 6201**
Email: ahie@envirolab.com.au	**Email: jhurst@envirolab.com.au**

Analysis Underway, details on the following page:

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ABN 37 112 535 645
12 Ashley St Chatswood NSW 2067
ph 02 9910 6200 fax 02 9910 6201
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Sample ID	vTRH(C6-C10)/BTEXN in Soil	svTRH (C10-C40) in Soil	PAHs in Soil	Organochlorine Pesticides in soil	Organophosphorus Pesticides in Soil	PCBs in Soil	Acid Extractable metalsin soil	Asbestos ID - soils NEPM - ASB-001	Misc Soil - Inorg	PFAS in Soils Extended	Asbestos ID - materials	vTRH(C6-C10)/BTEXN in Water	svTRH (C10-C40) in Water	PAHs in Water - Low Level	Metals in Water - Dissolved	PFAS in Waters Trace Extended	On Hold
TP22-0-0.1	✓	✓	✓				✓	✓									
TP22-0.15-0.35																	✓
TP22-0.5-0.7	✓	✓	✓				✓	✓									
TP22-0.8-1.0																	✓
TP58-0-0.1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓							
TP58-0.15-0.35																	✓
TP58-0.6-0.8	✓	✓	✓				✓										
TP60-0-0.1	✓	✓	✓				✓	✓	✓	✓							
TP60-0.1-0.3	✓	✓	✓				✓	✓									
TP60-0.4-0.6																	✓
TP61-0-0.1	✓	✓	✓				✓	✓									
TP61-0.1-0.25																	✓
TP61-0.25-0.45	✓	✓	✓				✓										
TP61-0.55-0.75																	✓
TP61-0.9-1.1																	✓
TP67-0-0.05	✓	✓	✓	✓	✓	✓	✓	✓		✓							
TP67-0.2-0.4	✓	✓	✓				✓										
TP68-0-0.05	✓	✓	✓	✓	✓	✓	✓	✓									
TP68-0.1-0.3	✓	✓	✓				✓										
TP69-0-0.1	✓	✓	✓				✓	✓									

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Sample ID	vTRH(C6-C10)/BTEXN in Soil	svTRH (C10-C40) in Soil	PAHs in Soil	Organochlorine Pesticides in soil	Organophosphorus Pesticides in Soil	PCBs in Soil	Acid Extractable metalsin soil	Asbestos ID - soils NEPM - ASB-001	Misc Soil - Inorg	PFAS in Soils Extended	Asbestos ID - materials	vTRH(C6-C10)/BTEXN in Water	svTRH (C10-C40) in Water	PAHs in Water - Low Level	Metals in Water - Dissolved	PFAS in Waters Trace Extended	On Hold
TP69-0.1-0.3																	✓
BH19-0-0.1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓							
BH19-0.1-0.3																	✓
BH19-0.3-0.5	✓	✓	✓				✓		✓	✓							
TP23-0-0.1																	✓
TP23 -0.1-0.3	✓	✓	✓				✓	✓									
TP23-0.6-0.8																	✓
TP23-1.0-1.2																	✓
TP24-0-0.1	✓	✓	✓				✓	✓									
TP24-0.2-0.4	✓	✓	✓				✓	✓									
TP24-1.0-1.2																	✓
BH53-0-0.1	✓	✓	✓				✓	✓									
BH53-0.2-0.4																	✓
TP54-0-0.1								✓									
TP54-0.1-0.3	✓	✓	✓				✓	✓		✓							
TP54-0.6-0.8																	✓
TP54-1.1-1.3	✓	✓	✓				✓										
BH83-0-0.05	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓							
BH83-0.05-0.14	✓	✓	✓				✓		✓	✓							
BH6-0-0.1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓							

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Sample ID	vTRH(C6-C10)/BTEXN in Soil	svTRH (C10-C40) in Soil	PAHs in Soil	Organochlorine Pesticides in soil	Organophosphorus Pesticides in Soil	PCBs in Soil	Acid Extractable metalsin soil	Asbestos ID - soils NEPM - ASB-001	Misc Soil - Inorg	PFAS in Soils Extended	Asbestos ID - materials	vTRH(C6-C10)/BTEXN in Water	svTRH (C10-C40) in Water	PAHs in Water - Low Level	Metals in Water - Dissolved	PFAS in Waters Trace Extended	On Hold
BH6-0.5-0.8																	✓
BH6-0.8-0.95	✓	✓	✓				✓		✓	✓							
BH6-1.5-1.95																	✓
BH10-0-0.1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓							
BH10-0.2-0.5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓							
BH10-0.5-0.95	✓	✓	✓				✓										
BH10-1.5-1.7																	✓
BH28-0-0.1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓							
BH28-0.5-0.95	✓	✓	✓				✓										
BH28-1.5-1.95	✓	✓	✓				✓										
BH37 -0-0.1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓							
BH37-0.5-0.9									✓	✓							
BH37-1.0-1.2	✓	✓	✓				✓										
BH37-1.5-1.95	✓	✓	✓				✓										
BH41-0-0.1	✓	✓	✓				✓	✓	✓	✓							
BH41-0.5-0.95	✓	✓	✓				✓										
BH41-1.0-1.2																	✓
BH41-1.5-1.95																	✓
BH41-2.8-3.0	✓	✓	✓				✓										
BH46-0-0.1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓							

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Sample ID	vTRH(C6-C10)/BTEXN in Soil	svTRH (C10-C40) in Soil	PAHs in Soil	Organochlorine Pesticides in soil	Organophosphorus Pesticides in Soil	PCBs in Soil	Acid Extractable metalsin soil	Asbestos ID - soils NEPM - ASB-001	Misc Soil - Inorg	PFAS in Soils Extended	Asbestos ID - materials	vTRH(C6-C10)/BTEXN in Water	svTRH (C10-C40) in Water	PAHs in Water - Low Level	Metals in Water - Dissolved	PFAS in Waters Trace Extended	On Hold
BH46-0.5-0.7										✓							
BH46-0.7-0.95	✓	✓	✓				✓										
BH46-1.5-1.95																	✓
BH46-3.0-3.45																	✓
BH59-0-0.1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓							
BH59-0.5-0.95	✓	✓	✓				✓			✓							
BH59-1.5-1.95																	✓
BH59-3.2-3.45																	✓
BH82-0-0.1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓							
BH82-0.2-0.5								✓		✓							
BH82-0.7-0.95																	✓
BH82-1.5-1.95	✓	✓	✓				✓										
SDUP15	✓	✓	✓				✓	✓									
-																	✓
SDUP17	✓	✓	✓	✓	✓	✓	✓	✓		✓							
SDUP20	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓							
SDUP21																	✓
TS-S3	✓																
TB-S3	✓																
FR1-Soil-SPT												✓	✓	✓	✓	✓	

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Sample ID	vTRH(C6-C10)/BTEXN in Soil	svTRH (C10-C40) in Soil	PAHs in Soil	Organochlorine Pesticides in soil	Organophosphorus Pesticides in Soil	PCBs in Soil	Acid Extractable metalsin soil	Asbestos ID - soils NEPM - ASB-001	Misc Soil - Inorg	PFAS in Soils Extended	Asbestos ID - materials	vTRH(C6-C10)/BTEXN in Water	svTRH (C10-C40) in Water	PAHs in Water - Low Level	Metals in Water - Dissolved	PFAS in Waters Trace Extended	On Hold
TP22-FCF1-0-0.1											✓						
TP22-FCF2-0-0.1																	✓
TP22-FCF1-Spoil																	✓
TP22-FCF2-0.1-0.5																	✓
TP22-FCF2-Spoil																	✓
BH41-FCF1-0-0.1											✓						
BH41-FCF2-0-0.1																	✓
TP58-FCF1-0-0.15											✓						
TP58-FCF2-0-0.15																	✓
TP58-FCF3-0-0.15																	✓
TP67-FCF1-0-0.05											✓						
BH28-0.1-0.4																	✓
BH82-0.5-0.7																	✓
BH37-3.0-3.45																	✓
BH37-3.6-3.7																	✓
BH24																	✓
-																	✓

The '✓' indicates the testing you have requested. **THIS IS NOT A REPORT OF THE RESULTS.**

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Additional Info

Sample storage - Waters are routinely disposed of approximately 1 month and soils approximately 2 months from receipt. Requests for longer term sample storage must be received in writing.
Please contact the laboratory immediately if observed settled sediment present in water samples is to be included in the extraction and/or analysis (exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, Total Recoverable metals and PFAS analysis where solids are included by default.
TAT for Micro is dependent on incubation. This varies from 3 to 6 days.

290249

COC 2/3 16:41.

SAMPLE AND CHAIN OF CUSTODY FORM

TO:
ENVIROLAB SERVICES PTY LTD
12 ASHLEY STREET
CHATSWOOD NSW 2067
P: (02) 99106200
F: (02) 99106201

Attention: Aileen

JKE Job Number: E33051BR
Date Results Required: STANDARD
Page: 1 of 4

FROM:
JKEnvironments
REAR OF 115 WICKS ROAD
MACQUARIE PARK, NSW 2113
P: 02-9888 5000 F: 02-9888 5001
Attention: Craig Ridley
cridley@jkenvironments.com.au

Location: Mittagong
Sampler: NM

Sample Preserved in Esky on Ice

Tests Required

Date Sampled	Lab Ref:	Sample Number	Depth (m)	Sample Container	PID	Sample Description	Combo 6	Combo 3	Asbestos (NEPM)	Asbestos (ID)	Phenols	PFAS (Routine, Extended)	pH	CEC	Clay Content	TRH/BTEX	BTEX	Combo 3L
23/02/2022	1	TP22	0-0.1	G, A, P	0	F: Silty Sandy Clay		X	X									
23/02/2022	2	TP22	0.15-0.35	G, A, P	1.2	F: Silty Sandy Clay												
23/02/2022	3	TP22	0.5-0.7	G, A, P	1.1	F: Gravelly Sand		X	X									
23/02/2022	4	TP22	0.8-1.0	G, A, P	0	Silty Sandy Clay												
23/02/2022	5	TP58	0-0.1	G, A, P	1.3	F: Silty Clay	X		X		X	X						
23/02/2022	6	TP58	0.15-0.35	G, A, P	1.6	F: Silty Clay												
23/02/2022	7	TP58	0.6-0.8	G, A, P	1.8	F: Silty Clayey Sand		X										
23/02/2022	8	TP60	0-0.1	G, A, P	0	F: Silty Sandy Clay		X	X		X	X						
23/02/2022	9	TP60	0.1-0.3	G, A, P	0	F: Silty Clay		X	X									
23/02/2022	10	TP60	0.4-0.6	G, A, P	0	Silty Clay												
23/02/2022	11	TP61	0-0.1	G, A	1.3	F: Silty Sandy Clay		X	X									
23/02/2022	12	TP61	0.1-0.25	G, A	0	F: Silty Sandy Clay												
23/02/2022	13	TP61	0.25-0.45	G, A	1.5	Silty Clay		X										
23/02/2022	14	TP61	0.55-0.75	G, A	0	Silty Clay												
23/02/2022	15	TP61	0.9-1.1	G, A	0	Silty Clay												
23/02/2022	16	TP67	0-0.05	G, A, P	1.8	F: Silty Clayey Sand	X		X			X						
23/02/2022	17	TP67	0.2-0.4	G, A, P	0	XW Siltstone		X										
23/02/2022	18	TP68	0-0.05	G, A, P	1.7	F: Gravelly Clayey Sand	X		X									
23/02/2022	19	TP68	0.1-0.3	G, A, P	3	XW Siltstone		X										
23/02/2022	20	TP69	0-0.1	G, A, P	1.6	F: Silty Sandy Clay		X	X									
23/02/2022	21	TP69	0.1-0.3	G, A, P	1.3	Silty Clay												
24/02/2022	22	BH19	0-0.1	G, A, P	0	F: Silty Sandy Clay	X		X		X	X						
24/02/2022	23	BH19	0.1-0.3	G, A, P	0	F: Silty Sandy Clay												
24/02/2022	24	BH19	0.3-0.5	G, A, P	0	Silty Sandy Clay		X			X	X						
24/02/2022	25	TP23	0-0.1	G, A	0	F: Silty Sandy Clay												

Remarks (comments/detection limits required):

Sample Containers:
G - 250mg Glass Jar
A - Ziplock Asbestos Bag
P - PFAS Jar

Envirolab Services
12 Ashley St
Chatswood NSW 2067
Ph: (02) 9910 6200

Relinquished By: C.RIDLEY	Date: 2.3.22	Time:	Received By:	Date:

Job No: 290249
Date Received: 1/03/22
Time Received: 1645
Received by: KW 3/03/22
Temp: Cool/Ambient
Cooling: Ice/Icepack
Security: Intact/Broken/None

290249

SAMPLE AND CHAIN OF CUSTODY FORM

TO:		FROM:
ENVIROLAB SERVICES PTY LTD 12 ASHLEY STREET CHATSWOOD NSW 2067 P: (02) 99106200 F: (02) 99106201 Attention: Aileen	JKE Job Number: E33051BR Date Results Required: STANDARD Page: 2 of 4	JKEnvironments REAR OF 115 WICKS ROAD MACQUARIE PARK, NSW 2113 P: 02-9888 5000 F: 02-9888 5001 Attention: Craig Ridley cridley@jkenvironments.com.au

Location: Mittagong
Sampler: NM

Sample Preserved in Esky on Ice

Tests Required

Date Sampled	Lab Ref:	Sample Number	Depth (m)	Sample Container	PID	Sample Description	Combo 6	Combo 3	Asbestos (NEPM)	Asbestos (ID)	Phenols	PFAS (Routine, Extended)	pH	CEC	Clay Content	TRH/BTEX	BTEX	Combo 3L
24/02/2022	26	TP23	0.1-0.3	G, A	0	F: Silty Sandy Clay		X	X									
24/02/2022	27	TP23	0.6-0.8	G, A	0	F: Silty Sandy Clay												
24/02/2022	28	TP23	1.0-1.2	G, A	0	Silty Sandy Clay												
24/02/2022	29	TP24	0-0.1	G, A, P	0	F: Silty Clayey Sand		X	X									
24/02/2022	30	TP24	0.2-0.4	G, A, P	0	F: Silty Sandy Clay		X	X									
24/02/2022	31	TP24	1.0-1.2	G, A, P	0	Silty Sandy Clay												
24/02/2022	32	BH53	0-0.1	G, A, P	0	F: Silty Clay		X	X									
24/02/2022	33	BH53	0.2-0.4	G, A, P	0	Silty Clay												
24/02/2022	34	TP54	0-0.1	G, A	0.4	F: Silty Sandy Clay			X									
24/02/2022	35	TP54	0.1-0.3	G, A	90.4	F: Silty Sandy Clay		X	X			X						
24/02/2022	36	TP54	0.6-0.8	G, A	45.6	F: Silty Sandy Clay												
24/02/2022	37	TP54	1.1-1.3	G, A	36.2	Silty Clay		X										
24/02/2022	38	BH83	0-0.05	G, A, P	0	F: Sandy Gravel	X		X		X	X						
24/02/2022	39	BH83	0.05-0.14	G, A, P	0	Silty Clay		X			X	X						
25/02/2022	40	BH6	0-0.1	G, A, P	0	F: Gravelly Clay	X		X		X	X						
25/02/2022	41	BH6	0.5-0.8	G, A, P	0	F: Gravelly Clay												
25/02/2022	42	BH6	0.8-0.95	G, A, P	0	Sandy Clay		X			X	X						
25/02/2022	43	BH6	1.5-1.95	G, A, P	0	Sandy Clay												
25/02/2022	44	BH10	0-0.1	G, A, P	1.7	F: Clayey Gravelly	X		X		X	X						
25/02/2022	45	BH10	0.2-0.5	G, A, P	0	F: silty clay	X		X		X	X						
25/02/2022	46	BH10	0.5-0.95	G, A, P	1.6	silty clay		X										
25/02/2022	47	BH10	1.5-1.7	G, A, P	3.2	Silty Clay												
25/02/2022	48	BH28	0-0.1	G, A, P	0	F: Silty Clay	X		X		X	X						
25/02/2022	49	BH28	0.5-0.95	G, A, P	1.7	Clayey Sand		X										
25/02/2022	50	BH28	1.5-1.95	G, A, P	2.9	Sandy Clay		X										

Remarks (comments/detection limits required):

Sample Containers:
G - 250mg Glass Jar
A - Ziplock Asbestos Bag
P - PFAS Jar

Relinquished By:	Date:	Time:	Received By:	Date:
		1645	KW	1/03/22

290249

SAMPLE AND CHAIN OF CUSTODY FORM

TO:		FROM:
ENVIROLAB SERVICES PTY LTD 12 ASHLEY STREET CHATSWOOD NSW 2067 P: (02) 99106200 F: (02) 99106201 Attention: Aileen	JKE Job Number: E33051BR Date Results Required: STANDARD Page: 3 of 4	JKEnvironments REAR OF 115 WICKS ROAD MACQUARIE PARK, NSW 2113 P: 02-9888 5000 F: 02-9888 5001 Attention: Craig Ridley cridley@jkenvironments.com.au

Location: Mittagong
Sampler: NM

Sample Preserved in Esky on Ice

Tests Required

Date Sampled	Lab Ref:	Sample Number	Depth (m)	Sample Container	PID	Sample Description	Combo 6	Combo 3	Asbestos (NEPM)	Asbestos (ID)	Phenols	PFAS (Routine, Extended)	pH	CEC	Clay Content	TRH/BTEX	BTEX	Combo 3L
24/02/2022	51	BH37	0-0.1	G, A, P	0	F: Sandy Clay	X		X		X	X						
24/02/2022	52	BH37	0.5-0.9	G, A, P	0	F: Sandy Clay					X	X						
24/02/2022	53	BH37	1.0-1.2	G, A, P	0	Silty Clay		X										
24/02/2022	54	BH37	1.5-1.95	G, A, P	2.2	Sandy Clay		X										
25/02/2022	55	BH41	0-0.1	G, A, P	3.5	F: Gravelly Clay		X	X		X	X						
25/02/2022	56	BH41	0.5-0.95	G, A, P	2.5	Silty Clay		X										
25/02/2022	57	BH41	1.0-1.2	G, A, P	0	Silty Clay												
25/02/2022	58	BH41	1.5-1.95	G, A, P	0	Sandy Clay												
25/02/2022	59	BH41	2.8-3.0	G, A, P	5.3	Sandstone		X										
24/02/2022	60	BH46	0-0.1	G, A, P	1.7	F: Silty Clay	X		X		X	X						
24/02/2022	61	BH46	0.5-0.7	G, A, P	1.7	F: Silty Clay						X						
24/02/2022	62	BH46	0.7-0.95	G, A, P	1.6	Silty Clay		X										
24/02/2022	63	BH46	1.5-1.95	G, A, P	2	Sandy Clay												
24/02/2022	64	BH46	3.0-3.45	G, P	0	XW Siltstone												
24/02/2022	65	BH59	0-0.1	G, A, P	1.5	F: Silty Clay	X		X		X	X						
24/02/2022	66	BH59	0.5-0.95	G, A, P	1.1	Silty Clay		X				X						
24/02/2022	67	BH59	1.5-1.95	G, A, P	0	Silty Clay												
24/02/2022	68	BH59	3.2-3.45	G, A, P	2.2	XW Siltstone												
24/02/2022	69	BH82	0-0.1	G, A, P	0	F: Silty Clay	X		X		X	X						
24/02/2022	70	BH82	0.2-0.5	G, A, P	0	F: Silty Clay			X			X						
24/02/2022	71	BH82	0.7-0.95	G, A, P	0	Silty Clay												
24/02/2022	72	BH82	1.5-1.95	G, P	0	XW Siltstone		X										
23/02/2022	73	SDUP15	-	G, A	-	Duplicate		X	X									
24/02/2022	74	SDUP16	-	G, A, P	-	Duplicate		X	X		SEND TO VIC							
24/02/2022	475	SDUP17	-	G, A, P	-	Duplicate	X		X			X						

Remarks (comments/detection limits required):

Sample Containers:
G - 250mg Glass Jar
A - Ziplock Asbestos Bag
P - PFAS Jar

Relinquished By:	Date:	Time:	Received By:	Date:
		1645	KW	1/03/22

290 249

SAMPLE AND CHAIN OF CUSTODY FORM

TO:
ENVIROLAB SERVICES PTY LTD
12 ASHLEY STREET
CHATSWOOD NSW 2067
P: (02) 99106200
F: (02) 99106201

Attention: Aileen

JKE Job Number: E33051BR

Date Results Required: STANDARD

Page: 4 of 4

FROM:
JKEnvironments
REAR OF 115 WICKS ROAD
MACQUARIE PARK, NSW 2113
P: 02-9888 5000 F: 02-9888 5001
Attention: Craig Ridley
cridley@jkenvironments.com.au

Location: Mittagong
Sampler: NM

Sample Preserved in Esky on Ice

Tests Required

Date Sampled	Lab Ref:	Sample Number	Depth (m)	Sample Container	PID	Sample Description	Combo 6	Combo 3	Asbestos (NEPM)	Asbestos (ID)	Phenols	PFAS (Routine, Extended)	pH	CEC	Clay Content	TRH/BTEX	BTEX	Combo 3L
24/02/2022		SDUP18	-	G, A, P	-	Duplicate	X		X		X	X		SEND TO VIC				
25/02/2022	NR	SDUP19	-	G, A	-	Duplicate												
25/02/2022	76	SDUP20	-	G, A, P	-	Duplicate	X		X		X	X						
25/02/2022	77	SDUP21	-	G, A, P	-	Duplicate												
25/02/2022	78	TS-S3	-	V	-	Trip Spike											X	
25/02/2022	79	TB-S3	-	G, P	-	Trip Blank						X					X	
25/02/2022	80	FR1-Soil-SPT	-	G1 x2, H, BTEX x2, PVC	-	Field Rinsate						X	(Trace level)					X
23/02/2022	81	TP22-FCF1	0-0.1	A	-	Fragment				X								
23/02/2022	82	TP22-FCF2	0-0.1	A	-	Fragment												
23/02/2022	83	TP22-FCF1-Spoil		A	-	Fragment												
23/02/2022	84	TP22-FCF2	0.1-0.5	A	-	Fragment												
23/02/2022	85	TP22-FCF2-Spoil		A	-	Fragment												
25/02/2022	86	BH41-FCF1	0-0.1	A	-	Fragment				X								
25/02/2022	87	BH41-FCF2	0-0.1	A	-	Fragment												
23/02/2022	88	TP58-FCF1	0-0.15	A	-	Fragment				X								
23/02/2022	89	TP58-FCF2	0-0.15	A	-	Fragment												
23/02/2022	90	TP58-FCF3	0-0.15	A	-	Fragment												
23/02/2022	91	TP67-FCF1	0-0.05	A	-	Fragment				X								
extras	92	BH28	0.1-0.4															
	93	BH82																
	94	BH37	3.0-3.45															
	95	BH37	3.6-3.7															
	96	TH24																
	97	??																

Remarks (comments/detection limits required):

Sample Containers:
G - 250mg Glass Jar BTEX- BTEX Vial
A - Ziplock Asbestos Bag G1 - 500mL Amber Glass Bottle
P - PFAS Jar PVC- HDPE Plastic Bottle H - HNO3 Wash PVC

Relinquished By:	Date:	Time:	Received By:	Date:
		1645	KW	1/03/22

Envirolab Services Pty Ltd
ABN 37 112 535 645
12 Ashley St Chatswood NSW 2067
ph 02 9910 6200 fax 02 9910 6201
customerservice@envirolab.com.au
www.envirolab.com.au

CERTIFICATE OF ANALYSIS 290249-A

Client Details

Client	JK Environments
Attention	C Ridley
Address	PO Box 976, North Ryde BC, NSW, 1670

Sample Details

Your Reference	**E33051BR, Mittagong**
Number of Samples	Additional Testing
Date samples received	01/03/2022
Date completed instructions received	11/03/2022

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.

Samples were analysed as received from the client. Results relate specifically to the samples as received.

Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Please refer to the last page of this report for any comments relating to the results.

Report Details

Date results requested by	18/03/2022
Date of Issue	18/03/2022

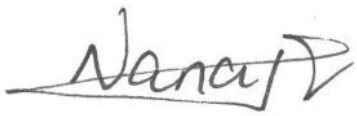
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Asbestos Approved By
Analysed by Asbestos Approved Analyst: Nyovan Moonean, Panika Wongchanda
Authorised by Asbestos Approved Signatory: Lucy Zhu

Results Approved By
Alexander Mitchell Maclean, Senior Chemist
Diego Bigolin, Inorganics Supervisor
Dragana Tomas, Senior Chemist
Hannah Nguyen, Metals Supervisor
Steven Luong, Organics Supervisor

Authorised By



Nancy Zhang, Laboratory Manager

TCLP Preparation - Acid						
Our Reference		290249-A-1	290249-A-5	290249-A-9	290249-A-16	290249-A-17
Your Reference	UNITS	TP22	TP58	TP60	TP67	TP67
Depth		0-0.1	0-0.1	0.1-0.3	0-0.05	0.2-0.4
Date Sampled		23/02/2022	23/02/2022	23/02/2022	23/02/2022	23/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
pH of soil for fluid# determ.	pH units	9.6	8.5	8.8	8.6	8.7
pH of soil TCLP (after HCl)	pH units	1.8	2.0	1.5	1.6	1.6
Extraction fluid used	-	1	1	1	1	1
pH of final Leachate	pH units	5.1	5.0	5.0	5.0	5.0

TCLP Preparation - Acid						
Our Reference		290249-A-22	290249-A-38	290249-A-51	290249-A-60	290249-A-65
Your Reference	UNITS	BH19	BH83	BH37	BH46	BH59
Depth		0-0.1	0-0.05	0-0.1	0-0.1	0-0.1
Date Sampled		24/02/2022	24/02/2022	24/02/2022	24/02/2022	24/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
pH of soil for fluid# determ.	pH units	8.7	9.2	9.3	9.1	8.9
pH of soil TCLP (after HCl)	pH units	1.6	1.6	1.6	1.6	1.7
Extraction fluid used	-	1	1	1	1	1
pH of final Leachate	pH units	5.2	5.0	5.0	5.0	5.0

Metals from Leaching Fluid pH 2.9 or 5						
Our Reference		290249-A-1	290249-A-9	290249-A-17	290249-A-22	290249-A-38
Your Reference	UNITS	TP22	TP60	TP67	BH19	BH83
Depth		0-0.1	0.1-0.3	0.2-0.4	0-0.1	0-0.05
Date Sampled		23/02/2022	23/02/2022	23/02/2022	24/02/2022	24/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	18/03/2022	18/03/2022	18/03/2022	18/03/2022	18/03/2022
Date analysed	-	18/03/2022	18/03/2022	18/03/2022	18/03/2022	18/03/2022
Lead	mg/L	0.3	<0.03	[NA]	1.2	0.2
Nickel	mg/L	[NA]	[NA]	0.03	[NA]	[NA]

Metals from Leaching Fluid pH 2.9 or 5			
Our Reference		290249-A-51	290249-A-60
Your Reference	UNITS	BH37	BH46
Depth		0-0.1	0-0.1
Date Sampled		24/02/2022	24/02/2022
Type of sample		Soil	Soil
Date extracted	-	18/03/2022	18/03/2022
Date analysed	-	18/03/2022	18/03/2022
Lead	mg/L	<0.03	0.09

PAHs in TCLP (USEPA 1311)			
Our Reference		290249-A-9	290249-A-65
Your Reference	UNITS	TP60	BH59
Depth		0.1-0.3	0-0.1
Date Sampled		23/02/2022	24/02/2022
Type of sample		Soil	Soil
Date extracted	-	16/03/2022	16/03/2022
Date analysed	-	16/03/2022	16/03/2022
Naphthalene in TCLP	mg/L	<0.001	<0.001
Acenaphthylene in TCLP	mg/L	<0.001	<0.001
Acenaphthene in TCLP	mg/L	<0.001	<0.001
Fluorene in TCLP	mg/L	<0.001	<0.001
Phenanthrene in TCLP	mg/L	<0.001	<0.001
Anthracene in TCLP	mg/L	<0.001	<0.001
Fluoranthene in TCLP	mg/L	<0.001	<0.001
Pyrene in TCLP	mg/L	<0.001	<0.001
Benzo(a)anthracene in TCLP	mg/L	<0.001	<0.001
Chrysene in TCLP	mg/L	<0.001	<0.001
Benzo(bjk)fluoranthene in TCLP	mg/L	<0.002	<0.002
Benzo(a)pyrene in TCLP	mg/L	<0.001	<0.001
Indeno(1,2,3-c,d)pyrene - TCLP	mg/L	<0.001	<0.001
Dibenzo(a,h)anthracene in TCLP	mg/L	<0.001	<0.001
Benzo(g,h,i)perylene in TCLP	mg/L	<0.001	<0.001
Total +ve PAH's	mg/L	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	100	100

PFAS in TCLP Extended						
Our Reference		290249-A-5	290249-A-16	290249-A-22	290249-A-51	290249-A-60
Your Reference	UNITS	TP58	TP67	BH19	BH37	BH46
Depth		0-0.1	0-0.05	0-0.1	0-0.1	0-0.1
Date Sampled		23/02/2022	23/02/2022	24/02/2022	24/02/2022	24/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	16/03/2022	16/03/2022	16/03/2022	16/03/2022	16/03/2022
Date analysed	-	16/03/2022	16/03/2022	16/03/2022	16/03/2022	16/03/2022
Perfluorobutanesulfonic acid	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluoropentanesulfonic acid	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorohexanesulfonic acid - PFHxS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluoroheptanesulfonic acid	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorooctanesulfonic acid PFOS	µg/L	<0.01	<0.01	<0.01	0.01	<0.01
Perfluorodecanesulfonic acid	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorobutanoic acid	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoropentanoic acid	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorohexanoic acid	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluoroheptanoic acid	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorooctanoic acid PFOA	µg/L	<0.01	<0.01	<0.01	0.01	<0.01
Perfluorononanoic acid	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorodecanoic acid	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05
Perfluorotridecanoic acid	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorotetradecanoic acid	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
4:2 FTS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
6:2 FTS	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
8:2 FTS	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
10:2 FTS	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctane sulfonamide	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
N-Methyl perfluorooctane sulfonamide	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctanesulfon amide	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
N-Me perfluorooctanesulfonamid oethanol	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05
N-Et perfluorooctanesulfonamid oethanol	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
MePerfluorooctanesulf- amid oacetic aci	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
EtPerfluorooctanesulf- amid oacetic acid	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Surrogate $^{13}C_8$ *PFOS*	%	98	103	101	102	101
Surrogate $^{13}C_2$ *PFOA*	%	108	93	101	110	107
Extracted ISTD $^{13}C_3$ *PFBS*	%	106	103	107	105	109
Extracted ISTD $^{18}O_2$ *PFHxS*	%	103	102	108	105	103
Extracted ISTD $^{13}C_4$ *PFOS*	%	102	107	109	109	111

PFAS in TCLP Extended						
Our Reference		290249-A-5	290249-A-16	290249-A-22	290249-A-51	290249-A-60
Your Reference	UNITS	TP58	TP67	BH19	BH37	BH46
Depth		0-0.1	0-0.05	0-0.1	0-0.1	0-0.1
Date Sampled		23/02/2022	23/02/2022	24/02/2022	24/02/2022	24/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Extracted ISTD $^{13}C_4$ *PFBA*	%	86	64	76	85	68
Extracted ISTD $^{13}C_3$ *PFPeA*	%	82	71	80	82	73
Extracted ISTD $^{13}C_2$ *PFHxA*	%	98	91	103	99	97
Extracted ISTD $^{13}C_4$ *PFHpA*	%	97	86	95	92	90
Extracted ISTD $^{13}C_4$ *PFOA*	%	103	101	108	103	98
Extracted ISTD $^{13}C_5$ *PFNA*	%	102	92	105	111	103
Extracted ISTD $^{13}C_2$ *PFDA*	%	90	86	88	94	85
Extracted ISTD $^{13}C_2$ *PFUnDA*	%	91	81	94	113	81
Extracted ISTD $^{13}C_2$ *PFDoDA*	%	92	89	95	107	83
Extracted ISTD $^{13}C_2$ *PFTeDA*	%	66	59	65	64	62
Extracted ISTD $^{13}C_2$ *4:2FTS*	%	91	69	89	87	73
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	85	74	79	84	72
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	87	75	80	87	70
Extracted ISTD $^{13}C_8$ *FOSA*	%	120	126	127	129	136
Extracted ISTD d_3 *N MeFOSA*	%	97	101	108	107	107
Extracted ISTD d_5 *N EtFOSA*	%	105	108	109	111	113
Extracted ISTD d_7 *N MeFOSE*	%	107	97	99	95	99
Extracted ISTD d_9 *N EtFOSE*	%	99	98	104	101	103
Extracted ISTD d_3 *N MeFOSAA*	%	68	59	66	68	59
Extracted ISTD d_5 *N EtFOSAA*	%	79	75	78	75	72
Total Positive PFHxS & PFOS	µg/L	<0.01	<0.01	<0.01	0.01	<0.01
Total Positive PFOS & PFOA	µg/L	<0.01	<0.01	<0.01	0.02	<0.01
Total Positive PFAS	µg/L	<0.01	<0.01	<0.01	0.02	<0.01

PAHs in Soil		
Our Reference		290249-A-10
Your Reference	UNITS	TP60
Depth		0.4-0.6
Date Sampled		23/02/2022
Type of sample		Soil
Date extracted	-	14/03/2022
Date analysed	-	14/03/2022
Naphthalene	mg/kg	<0.1
Acenaphthylene	mg/kg	<0.1
Acenaphthene	mg/kg	<0.1
Fluorene	mg/kg	<0.1
Phenanthrene	mg/kg	<0.1
Anthracene	mg/kg	<0.1
Fluoranthene	mg/kg	0.1
Pyrene	mg/kg	0.1
Benzo(a)anthracene	mg/kg	0.1
Chrysene	mg/kg	0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2
Benzo(a)pyrene	mg/kg	0.1
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1
Total +ve PAH's	mg/kg	0.61
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5
Surrogate p-Terphenyl-d14	%	85

PCBs in Soil		
Our Reference		290249-A-42
Your Reference	UNITS	BH6
Depth		0.8-0.95
Date Sampled		25/02/2022
Type of sample		Soil
Date extracted	-	14/03/2022
Date analysed	-	14/03/2022
Aroclor 1016	mg/kg	<0.1
Aroclor 1221	mg/kg	<0.1
Aroclor 1232	mg/kg	<0.1
Aroclor 1242	mg/kg	<0.1
Aroclor 1248	mg/kg	<0.1
Aroclor 1254	mg/kg	<0.1
Aroclor 1260	mg/kg	<0.1
Total +ve PCBs (1016-1260)	mg/kg	<0.1
Surrogate TCMX	%	82

sTPH in Soil (C10-C40)-Silica		
Our Reference		290249-A-9
Your Reference	UNITS	TP60
Depth		0.1-0.3
Date Sampled		23/02/2022
Type of sample		Soil
Date extracted	-	14/03/2022
Date analysed	-	16/03/2022
TPH C_{10} - C_{14}	mg/kg	<50
TPH C_{15} - C_{28}	mg/kg	110
TPH C_{29} - C_{36}	mg/kg	<100
TPH >C_{10} -C_{16}	mg/kg	<50
TPH >C_{16} -C_{34}	mg/kg	160
TPH >C_{34} -C_{40}	mg/kg	<100
Surrogate o-Terphenyl	%	85

CEC						
Our Reference		290249-A-11	290249-A-17	290249-A-29	290249-A-40	290249-A-51
Your Reference	UNITS	TP61	TP67	TP24	BH6	BH37
Depth		0-0.1	0.2-0.4	0-0.1	0-0.1	0-0.1
Date Sampled		23/02/2022	23/02/2022	24/02/2022	25/02/2022	24/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	16/03/2022	16/03/2022	16/03/2022	16/03/2022	16/03/2022
Date analysed	-	16/03/2022	16/03/2022	16/03/2022	16/03/2022	16/03/2022
Exchangeable Ca	meq/100g	11	4.1	18	5.0	25
Exchangeable K	meq/100g	0.6	0.2	0.7	0.2	0.2
Exchangeable Mg	meq/100g	1.9	1.4	3.1	0.2	0.4
Exchangeable Na	meq/100g	0.2	0.1	0.1	0.1	0.2
Cation Exchange Capacity	meq/100g	13	5.8	21	5.5	26

CEC		
Our Reference		290249-A-60
Your Reference	UNITS	BH46
Depth		0-0.1
Date Sampled		24/02/2022
Type of sample		Soil
Date prepared	-	16/03/2022
Date analysed	-	16/03/2022
Exchangeable Ca	meq/100g	15
Exchangeable K	meq/100g	0.4
Exchangeable Mg	meq/100g	1.6
Exchangeable Na	meq/100g	0.3
Cation Exchange Capacity	meq/100g	17

Misc Inorg - Soil						
Our Reference		290249-A-11	290249-A-29	290249-A-40	290249-A-51	290249-A-60
Your Reference	UNITS	TP61	TP24	BH6	BH37	BH46
Depth		0-0.1	0-0.1	0-0.1	0-0.1	0-0.1
Date Sampled		23/02/2022	24/02/2022	25/02/2022	24/02/2022	24/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	16/03/2022	16/03/2022	16/03/2022	16/03/2022	16/03/2022
Date analysed	-	16/03/2022	16/03/2022	16/03/2022	16/03/2022	16/03/2022
pH 1:5 soil:$CaCl_2$	pH Units	5.3	4.6	5.9	7.1	6.0

Moisture		
Our Reference		290249-A-10
Your Reference	UNITS	TP60
Depth		0.4-0.6
Date Sampled		23/02/2022
Type of sample		Soil
Date prepared	-	14/03/2022
Date analysed	-	15/03/2022
Moisture	%	19

Method ID	Methodology Summary
Inorg-001	pH - Measured using pH meter and electrode in accordance with APHA latest edition, 4500-H+. Please note that the results for water analyses are indicative only, as analysis outside of the APHA storage times.
INORG-004	Toxicity Characteristic Leaching Procedure (TCLP) using Zero Headspace Extraction (zHE) using AS4439 and USEPA 1311.
Inorg-004	Toxicity Characteristic Leaching Procedure (TCLP) using AS 4439 and USEPA 1311. Please note that the mass used may be scaled down from default based on sample mass available. Samples are stored at 2-6oC before and after leachate preparation.
Inorg-008	Moisture content determined by heating at 105+/-5 °C for a minimum of 12 hours.
Metals-020	Determination of various metals by ICP-AES following buffer determination as per USEPA 1311 and hence AS 4439.3. Extraction Fluid 1 refers to the pH 5.0 buffer and Extraction Fluid 2 is the pH 2.9 buffer.
Metals-020	Determination of exchangeable cations and cation exchange capacity in soils using 1M Ammonium Chloride exchange and ICP-OES analytical finish.
Org-020	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis.
Org-021	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-ECD.
Org-021	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-ECD. Note, the Total +ve PCBs PQL is reflective of the lowest individual PQL and is therefore" Total +ve PCBs" is simply a sum of the positive individual PCBs.
Org-022/025	Leachates are extracted with Dichloromethane and analysed by GC-MS/GC-MSMS.

Method ID	Methodology Summary
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS and/or GC-MS/MS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013. For soil results:- 1. 'EQ PQL'values are assuming all contributing PAHs reported as <PQL are actually at the PQL. This is the most conservative approach and can give false positive TEQs given that PAHs that contribute to the TEQ calculation may not be present. 2. 'EQ zero'values are assuming all contributing PAHs reported as <PQL are zero. This is the least conservative approach and is more susceptible to false negative TEQs when PAHs that contribute to the TEQ calculation are present but below PQL. 3. 'EQ half PQL'values are assuming all contributing PAHs reported as <PQL are half the stipulated PQL. Hence a mid-point between the most and least conservative approaches above. Note, the Total +ve PAHs PQL is reflective of the lowest individual PQL and is therefore "Total +ve PAHs" is simply a sum of the positive individual PAHs.
Org-029	Soil samples are extracted with basified Methanol. Waters and soil extracts are directly injected and/or concentrated/extracted using SPE. TCLPs/ASLP leachates are centrifuged, the supernatant is then analysed (including amendment with solvent) - as per the option in AS4439.3. Analysis is undertaken with LC-MS/MS. PFAS results include the sum of branched and linear isomers where applicable. Please note that PFAS results are corrected for Extracted Internal Standards (QSM 5.3 Table B-15 terminology), which are mass labelled analytes added prior to sample preparation to assess matrix effects and verify processing of the sample. PFAS analytes without a commercially available mass labelled analogue are corrected vs a closely eluting mass labelled PFAS compound. Surrogates are also reported, in this context they are mass labelled PFAS compounds added prior to extraction but are used as monitoring compounds only (not used for result correction). Envicarb (or similar) is used discretionally to remove interfering matrix components. Please contact the laboratory if estimates of Measurement Uncertainty are required as per WA DER.

QUALITY CONTROL: Metals from Leaching Fluid pH 2.9 or 5					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date extracted	-			18/03/2022	1	18/03/2022	18/03/2022		18/03/2022	[NT]
Date analysed	-			18/03/2022	1	18/03/2022	18/03/2022		18/03/2022	[NT]
Lead	mg/L	0.03	Metals-020	<0.03	1	0.3	0.3	0	93	[NT]
Nickel	mg/L	0.02	Metals-020	<0.02	[NT]	[NT]	[NT]	[NT]	94	[NT]

QUALITY CONTROL: PAHs in TCLP (USEPA 1311)					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	[NT]
Date extracted	-			16/03/2022	[NT]	[NT]	[NT]	[NT]	16/03/2022	[NT]
Date analysed	-			16/03/2022	[NT]	[NT]	[NT]	[NT]	16/03/2022	[NT]
Naphthalene in TCLP	mg/L	0.001	Org-022/025	<0.001	[NT]	[NT]	[NT]	[NT]	101	[NT]
Acenaphthylene in TCLP	mg/L	0.001	Org-022/025	<0.001	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Acenaphthene in TCLP	mg/L	0.001	Org-022/025	<0.001	[NT]	[NT]	[NT]	[NT]	99	[NT]
Fluorene in TCLP	mg/L	0.001	Org-022/025	<0.001	[NT]	[NT]	[NT]	[NT]	95	[NT]
Phenanthrene in TCLP	mg/L	0.001	Org-022/025	<0.001	[NT]	[NT]	[NT]	[NT]	106	[NT]
Anthracene in TCLP	mg/L	0.001	Org-022/025	<0.001	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Fluoranthene in TCLP	mg/L	0.001	Org-022/025	<0.001	[NT]	[NT]	[NT]	[NT]	110	[NT]
Pyrene in TCLP	mg/L	0.001	Org-022/025	<0.001	[NT]	[NT]	[NT]	[NT]	101	[NT]
Benzo(a)anthracene in TCLP	mg/L	0.001	Org-022/025	<0.001	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chrysene in TCLP	mg/L	0.001	Org-022/025	<0.001	[NT]	[NT]	[NT]	[NT]	73	[NT]
Benzo(bjk)fluoranthene in TCLP	mg/L	0.002	Org-022/025	<0.002	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzo(a)pyrene in TCLP	mg/L	0.001	Org-022/025	<0.001	[NT]	[NT]	[NT]	[NT]	104	[NT]
Indeno(1,2,3-c,d)pyrene - TCLP	mg/L	0.001	Org-022/025	<0.001	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dibenzo(a,h)anthracene in TCLP	mg/L	0.001	Org-022/025	<0.001	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzo(g,h,i)perylene in TCLP	mg/L	0.001	Org-022/025	<0.001	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	96	[NT]	[NT]	[NT]	[NT]	97	[NT]

QUALITY CONTROL: PFAS in TCLP Extended						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	290249-A-22
Date prepared	-			16/03/2022	5	16/03/2022	16/03/2022		16/03/2022	16/03/2022
Date analysed	-			16/03/2022	5	16/03/2022	16/03/2022		16/03/2022	16/03/2022
Perfluorobutanesulfonic acid	µg/L	0.01	Org-029	<0.01	5	<0.01	<0.01	0	113	106
Perfluoropentanesulfonic acid	µg/L	0.01	Org-029	<0.01	5	<0.01	<0.01	0	113	108
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.01	Org-029	<0.01	5	<0.01	<0.01	0	114	111
Perfluoroheptanesulfonic acid	µg/L	0.01	Org-029	<0.01	5	<0.01	<0.01	0	120	119
Perfluorooctanesulfonic acid PFOS	µg/L	0.01	Org-029	<0.01	5	<0.01	<0.01	0	116	106
Perfluorodecanesulfonic acid	µg/L	0.02	Org-029	<0.02	5	<0.02	<0.02	0	105	112
Perfluorobutanoic acid	µg/L	0.02	Org-029	<0.02	5	<0.02	<0.02	0	118	124
Perfluoropentanoic acid	µg/L	0.02	Org-029	<0.02	5	<0.02	<0.02	0	110	113
Perfluorohexanoic acid	µg/L	0.01	Org-029	<0.01	5	<0.01	<0.01	0	112	108
Perfluoroheptanoic acid	µg/L	0.01	Org-029	<0.01	5	<0.01	<0.01	0	115	102
Perfluorooctanoic acid PFOA	µg/L	0.01	Org-029	<0.01	5	<0.01	<0.01	0	111	112
Perfluorononanoic acid	µg/L	0.01	Org-029	<0.01	5	<0.01	<0.01	0	106	105
Perfluorodecanoic acid	µg/L	0.02	Org-029	<0.02	5	<0.02	<0.02	0	111	119
Perfluoroundecanoic acid	µg/L	0.02	Org-029	<0.02	5	<0.02	<0.02	0	103	109
Perfluorododecanoic acid	µg/L	0.05	Org-029	<0.05	5	<0.05	<0.05	0	115	112
Perfluorotridecanoic acid	µg/L	0.1	Org-029	<0.1	5	<0.1	<0.1	0	89	85
Perfluorotetradecanoic acid	µg/L	0.5	Org-029	<0.5	5	<0.5	<0.5	0	116	117
4:2 FTS	µg/L	0.01	Org-029	<0.01	5	<0.01	<0.01	0	118	112
6:2 FTS	µg/L	0.01	Org-029	<0.01	5	<0.01	<0.01	0	116	113
8:2 FTS	µg/L	0.02	Org-029	<0.02	5	<0.02	<0.02	0	112	111
10:2 FTS	µg/L	0.02	Org-029	<0.02	5	<0.02	<0.02	0	82	80
Perfluorooctane sulfonamide	µg/L	0.1	Org-029	<0.1	5	<0.1	<0.1	0	112	108
N-Methyl perfluorooctane sulfonamide	µg/L	0.05	Org-029	<0.05	5	<0.05	<0.05	0	113	109
N-Ethyl perfluorooctanesulfon amide	µg/L	0.1	Org-029	<0.1	5	<0.1	<0.1	0	114	108
N-Me perfluorooctanesulfonamid oethanol	µg/L	0.05	Org-029	<0.05	5	<0.05	<0.05	0	128	129
N-Et perfluorooctanesulfonamid oethanol	µg/L	0.5	Org-029	<0.5	5	<0.5	<0.5	0	111	104
MePerfluorooctanesulf- amid oacetic aci	µg/L	0.02	Org-029	<0.02	5	<0.02	<0.02	0	123	121
EtPerfluorooctanesulf- amid oacetic acid	µg/L	0.02	Org-029	<0.02	5	<0.02	<0.02	0	111	109
Surrogate $^{13}C_8$ *PFOS*	%		Org-029	101	5	98	101	3	102	100
Surrogate $^{13}C_2$ *PFOA*	%		Org-029	101	5	108	97	11	99	94

QUALITY CONTROL: PFAS in TCLP Extended						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	290249-A-22
Extracted ISTD $^{13}C_3$ *PFBS*	%		Org-029	96	5	106	107	1	99	109
Extracted ISTD $^{18}O_2$ *PFHxS*	%		Org-029	101	5	103	106	3	99	105
Extracted ISTD $^{13}C_4$ *PFOS*	%		Org-029	97	5	102	105	3	100	108
Extracted ISTD $^{13}C_4$ *PFBA*	%		Org-029	102	5	86	98	13	98	97
Extracted ISTD $^{13}C_3$ *PFPeA*	%		Org-029	90	5	82	90	9	86	89
Extracted ISTD $^{13}C_2$ *PFHxA*	%		Org-029	94	5	98	106	8	100	107
Extracted ISTD $^{13}C_4$ *PFHpA*	%		Org-029	95	5	97	94	3	89	101
Extracted ISTD $^{13}C_4$ *PFOA*	%		Org-029	102	5	103	116	12	104	108
Extracted ISTD $^{13}C_5$ *PFNA*	%		Org-029	102	5	102	107	5	101	110
Extracted ISTD $^{13}C_2$ *PFDA*	%		Org-029	99	5	90	101	12	91	91
Extracted ISTD $^{13}C_2$ *PFUnDA*	%		Org-029	91	5	91	108	17	103	104
Extracted ISTD $^{13}C_2$ *PFDoDA*	%		Org-029	93	5	92	104	12	91	100
Extracted ISTD $^{13}C_2$ *PFTeDA*	%		Org-029	58	5	66	69	4	61	68
Extracted ISTD $^{13}C_2$ *4:2FTS*	%		Org-029	99	5	91	109	18	101	109
Extracted ISTD $^{13}C_2$ *6:2FTS*	%		Org-029	82	5	85	93	9	86	93
Extracted ISTD $^{13}C_2$ *8:2FTS*	%		Org-029	91	5	87	96	10	87	90
Extracted ISTD $^{13}C_8$ *FOSA*	%		Org-029	110	5	120	118	2	109	115
Extracted ISTD d_3 *N MeFOSA*	%		Org-029	99	5	97	103	6	100	106
Extracted ISTD d_5 *N EtFOSA*	%		Org-029	96	5	105	106	1	100	110
Extracted ISTD d_7 *N MeFOSE*	%		Org-029	85	5	107	102	5	96	99

QUALITY CONTROL: PFAS in TCLP Extended						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	290249-A-22
Extracted ISTD d_9 *N EtFOSE*	%		Org-029	99	5	99	100	1	92	98
Extracted ISTD d_3 *N MeFOSAA*	%		Org-029	76	5	68	78	14	72	75
Extracted ISTD d_5 *N EtFOSAA*	%		Org-029	86	5	79	82	4	83	86

QUALITY CONTROL: PAHs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-11	[NT]
Date extracted	-			14/03/2022	[NT]	[NT]	[NT]	[NT]	14/03/2022	[NT]
Date analysed	-			14/03/2022	[NT]	[NT]	[NT]	[NT]	14/03/2022	[NT]
Naphthalene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	84	[NT]
Acenaphthylene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	83	[NT]
Fluorene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	88	[NT]
Phenanthrene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	80	[NT]
Anthracene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	86	[NT]
Pyrene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	89	[NT]
Benzo(a)anthracene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	87	[NT]
Benzo(b,j+k)fluoranthene	mg/kg	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-022/025	<0.05	[NT]	[NT]	[NT]	[NT]	98	[NT]
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	90	[NT]	[NT]	[NT]	[NT]	84	[NT]

QUALITY CONTROL: PCBs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-11	[NT]
Date extracted	-			14/03/2022	[NT]	[NT]	[NT]	[NT]	14/03/2022	[NT]
Date analysed	-			14/03/2022	[NT]	[NT]	[NT]	[NT]	14/03/2022	[NT]
Aroclor 1016	mg/kg	0.1	Org-021	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Aroclor 1221	mg/kg	0.1	Org-021	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Aroclor 1232	mg/kg	0.1	Org-021	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Aroclor 1242	mg/kg	0.1	Org-021	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Aroclor 1248	mg/kg	0.1	Org-021	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Aroclor 1254	mg/kg	0.1	Org-021	<0.1	[NT]	[NT]	[NT]	[NT]	90	[NT]
Aroclor 1260	mg/kg	0.1	Org-021	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate TCMX	%		Org-021	89	[NT]	[NT]	[NT]	[NT]	90	[NT]

QUALITY CONTROL: sTPH in Soil (C10-C40)-Silica					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-11	[NT]
Date extracted	-			14/03/2022	[NT]	[NT]	[NT]	[NT]	14/03/2022	[NT]
Date analysed	-			16/03/2022	[NT]	[NT]	[NT]	[NT]	16/03/2022	[NT]
TPH C_{10} - C_{14}	mg/kg	50	Org-020	<50	[NT]	[NT]	[NT]	[NT]	71	[NT]
TPH C_{15} - C_{28}	mg/kg	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	90	[NT]
TPH C_{29} - C_{36}	mg/kg	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	103	[NT]
TPH >C_{10} -C_{16}	mg/kg	50	Org-020	<50	[NT]	[NT]	[NT]	[NT]	71	[NT]
TPH >C_{16} -C_{34}	mg/kg	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	90	[NT]
TPH >C_{34} -C_{40}	mg/kg	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	103	[NT]
Surrogate o-Terphenyl	%		Org-020	120	[NT]	[NT]	[NT]	[NT]	114	[NT]

QUALITY CONTROL: CEC					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-11	[NT]
Date prepared	-			16/03/2022	[NT]	[NT]	[NT]	[NT]	16/03/2022	[NT]
Date analysed	-			16/03/2022	[NT]	[NT]	[NT]	[NT]	16/03/2022	[NT]
Exchangeable Ca	meq/100g	0.1	Metals-020	<0.1	[NT]	[NT]	[NT]	[NT]	123	[NT]
Exchangeable K	meq/100g	0.1	Metals-020	<0.1	[NT]	[NT]	[NT]	[NT]	110	[NT]
Exchangeable Mg	meq/100g	0.1	Metals-020	<0.1	[NT]	[NT]	[NT]	[NT]	117	[NT]
Exchangeable Na	meq/100g	0.1	Metals-020	<0.1	[NT]	[NT]	[NT]	[NT]	103	[NT]

QUALITY CONTROL: Misc Inorg - Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-11	[NT]
Date prepared	-			16/03/2022	11	16/03/2022	16/03/2022		16/03/2022	[NT]
Date analysed	-			16/03/2022	11	16/03/2022	16/03/2022		16/03/2022	[NT]
pH 1:5 soil:$CaCl_2$	pH Units		Inorg-001	[NT]	11	5.3	5.2	2	100	[NT]

Result Definitions

NT	Not tested
NA	Test not required
INS	Insufficient sample for this test
PQL	Practical Quantitation Limit
<	Less than
>	Greater than
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
NS	Not specified
NEPM	National Environmental Protection Measure
NR	Not Reported

Quality Control Definitions

Blank	This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate	This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike	A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample)	This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike	Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011.

The recommended maximums for analytes in urine are taken from “2018 TLVs and BEIs”, as published by ACGIH (where available). Limit provided for Nickel is a precautionary guideline as per Position Paper prepared by AIOH Exposure Standards Committee, 2016.

Guideline limits for Rinse Water Quality reported as per analytical requirements and specifications of AS 4187, Amdt 2 2019, Table 7.2

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: >10xPQL - RPD acceptance criteria will vary depending on the analytes and the analytical techniques but is typically in the range 20%-50% – see ELN-P05 QA/QC tables for details; <10xPQL - RPD are higher as the results approach PQL and the estimated measurement uncertainty will statistically increase.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals (not SPOCAS); 60-140% for organics/SPOCAS (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

Measurement Uncertainty estimates are available for most tests upon request.

Analysis of aqueous samples typically involves the extraction/digestion and/or analysis of the liquid phase only (i.e. NOT any settled sediment phase but inclusive of suspended particles if present), unless stipulated on the Envirolab COC and/or by correspondence. Notable exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, total recoverable metals and PFAS where solids are included by default.

Samples for Microbiological analysis (not Amoeba forms) received outside of the 2-8°C temperature range do not meet the ideal cooling conditions as stated in AS2031-2012.

Report Comments

Misc Inorg Soil - DRY 50g - Tests PH have exceeded the recommended technical holding times, Envirolab Group form 347 "Recommended Preservation and Holding Times" can be provided on request (available on the Envirolab website)

PAHs in Soil have exceeded the recommended technical holding times, Envirolab Group form 347 "Recommended Preservation and Holding Times" can be provided on request (available on the Envirolab website)

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ABN 37 112 535 645
12 Ashley St Chatswood NSW 2067
ph 02 9910 6200 fax 02 9910 6201
customerservice@envirolab.com.au
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SAMPLE RECEIPT ADVICE

Client Details

Client	JK Environments
Attention	C Ridley

Sample Login Details

Your reference	E33051BR, Mittagong
Envirolab Reference	290249-A
Date Sample Received	01/03/2022
Date Instructions Received	11/03/2022
Date Results Expected to be Reported	18/03/2022

Sample Condition

Samples received in appropriate condition for analysis	Yes
No. of Samples Provided	Additional Testing
Turnaround Time Requested	Standard
Temperature on Receipt (°C)	15
Cooling Method	Ice
Sampling Date Provided	YES

Comments

Nil

Please direct any queries to:

Aileen Hie	Jacinta Hurst
Phone: 02 9910 6200	**Phone: 02 9910 6200**
Fax: 02 9910 6201	**Fax: 02 9910 6201**
Email: ahie@envirolab.com.au	**Email: jhurst@envirolab.com.au**

Analysis Underway, details on the following page:

Envirolab Services Pty Ltd
ABN 37 112 535 645
12 Ashley St Chatswood NSW 2067
ph 02 9910 6200 fax 02 9910 6201
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Sample ID	TCLP Preparation - Acid	Metals from Leaching Fluid pH 2.9 or 5	Naphthalene in TCLP	Acenaphthylene in TCLP	Acenaphthene in TCLP	Fluorene in TCLP	Phenanthrene in TCLP	Anthracene in TCLP	Fluoranthene in TCLP	Pyrene in TCLP	Benzo(a)anthracene in TCLP	Chrysene in TCLP	Benzo(bjk)fluoranthene in TCLP	Benzo(a)pyrene in TCLP	Indeno(1,2,3-c,d)pyrene - TCLP	Dibenzo(a,h)anthracene in TCLP	Benzo(g,h,i)perylene in TCLP	Total +vePAH's	Surrogate p-Terphenyl-d14	PFAS in TCLP Extended	PAHs in Soil	PCBs in Soil	sTPH in Soil (C10-C40)-Silica	CEC	Misc Inorg - Soil	On Hold
TP22-0-0.1	✓	✓																								
TP22-0.15-0.35																										✓
TP22-0.5-0.7																										✓
TP22-0.8-1.0																										✓
TP58-0-0.1	✓																			✓						
TP58-0.15-0.35																										✓
TP58-0.6-0.8																										✓
TP60-0-0.1																										✓
TP60-0.1-0.3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				✓			
TP60-0.4-0.6																					✓					
TP61-0-0.1																								✓	✓	
TP61-0.1-0.25																										✓
TP61-0.25-0.45																										✓
TP61-0.55-0.75																										✓
TP61-0.9-1.1																										✓
TP67-0-0.05	✓																			✓						
TP67-0.2-0.4	✓	✓																						✓		
TP68-0-0.05																										✓
TP68-0.1-0.3																										✓
TP69-0-0.1																										✓

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Sample ID	TCLP Preparation - Acid	Metals from Leaching Fluid pH 2.9 or 5	Naphthalene in TCLP	Acenaphthylene in TCLP	Acenaphthene in TCLP	Fluorene in TCLP	Phenanthrene in TCLP	Anthracene in TCLP	Fluoranthene in TCLP	Pyrene in TCLP	Benzo(a)anthracene in TCLP	Chrysene in TCLP	Benzo(bjk)fluoranthene in TCLP	Benzo(a)pyrene in TCLP	Indeno(1,2,3-c,d)pyrene - TCLP	Dibenzo(a,h)anthracene in TCLP	Benzo(g,h,i)perylene in TCLP	Total +vePAH's	Surrogate p-Terphenyl-d14	PFAS in TCLP Extended	PAHs in Soil	PCBs in Soil	sTPH in Soil (C10-C40)-Silica	CEC	Misc Inorg - Soil	On Hold
TP69-0.1-0.3																										✓
BH19-0-0.1	✓	✓																		✓						
BH19-0.1-0.3																										✓
BH19-0.3-0.5																										✓
TP23-0-0.1																										✓
TP23 -0.1-0.3																										✓
TP23-0.6-0.8																										✓
TP23-1.0-1.2																										✓
TP24-0-0.1																								✓	✓	
TP24-0.2-0.4																										✓
TP24-1.0-1.2																										✓
BH53-0-0.1																										✓
BH53-0.2-0.4																										✓
TP54-0-0.1																										✓
TP54-0.1-0.3																										✓
TP54-0.6-0.8																										✓
TP54-1.1-1.3																										✓
BH83-0-0.05	✓	✓																								
BH83-0.05-0.14																										✓
BH6-0-0.1																								✓	✓	

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BH6-0.5-0.8																										✓
BH6-0.8-0.95																						✓				
BH6-1.5-1.95																										✓
BH10-0-0.1																										✓
BH10-0.2-0.5																										✓
BH10-0.5-0.95																										✓
BH10-1.5-1.7																										✓
BH28-0-0.1																										✓
BH28-0.5-0.95																										✓
BH28-1.5-1.95																										✓
BH37 -0-0.1	✓	✓																		✓				✓	✓	
BH37-0.5-0.9																										✓
BH37-1.0-1.2																										✓
BH37-1.5-1.95																										✓
BH41-0-0.1																										✓
BH41-0.5-0.95																										✓
BH41-1.0-1.2																										✓
BH41-1.5-1.95																										✓
BH41-2.8-3.0																										✓
BH46-0-0.1	✓	✓																		✓				✓	✓	

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BH46-0.5-0.7																										✓
BH46-0.7-0.95																										✓
BH46-1.5-1.95																										✓
BH46-3.0-3.45																										✓
BH59-0-0.1	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓								
BH59-0.5-0.95																										✓
BH59-1.5-1.95																										✓
BH59-3.2-3.45																										✓
BH82-0-0.1																										✓
BH82-0.2-0.5																										✓
BH82-0.7-0.95																										✓
BH82-1.5-1.95																										✓
SDUP15																										✓
-																										✓
SDUP17																										✓
SDUP20																										✓
SDUP21																										✓
TS-S3																										✓
TB-S3																										✓
FR1-Soil-SPT																										✓

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Sample ID	TCLP Preparation - Acid Metals from Leaching Fluid pH 2.9 or 5	Naphthalene in TCLP	Acenaphthylene in TCLP	Acenaphthene in TCLP	Fluorene in TCLP	Phenanthrene in TCLP	Anthracene in TCLP	Fluoranthene in TCLP	Pyrene in TCLP	Benzo(a)anthracene in TCLP	Chrysene in TCLP	Benzo(bjk)fluoranthene in TCLP	Benzo(a)pyrene in TCLP	Indeno(1,2,3-c,d)pyrene - TCLP	Dibenzo(a,h)anthracene in TCLP	Benzo(g,h,i)perylene in TCLP	Total +vePAH's	Surrogate p-Terphenyl-d14	PFAS in TCLP Extended	PAHs in Soil	PCBs in Soil	sTPH in Soil (C10-C40)-Silica	CEC	Misc Inorg - Soil	On Hold
TP22-FCF1-0-0.1																									✓
TP22-FCF2-0-0.1																									✓
TP22-FCF1-Spoil																									✓
TP22-FCF2-0.1-0.5																									✓
TP22-FCF2-Spoil																									✓
BH41-FCF1-0-0.1																									✓
BH41-FCF2-0-0.1																									✓
TP58-FCF1-0-0.15																									✓
TP58-FCF2-0-0.15																									✓
TP58-FCF3-0-0.15																									✓
TP67-FCF1-0-0.05																									✓
BH28-0.1-0.4																									✓
BH82-0.5-0.7																									✓
BH37-3.0-3.45																									✓
BH37-3.6-3.7																									✓
BH24																									✓
-																									✓
TP68 - [TRIPLICATE]-0-0.05																									✓

The '✓' indicates the testing you have requested. **THIS IS NOT A REPORT OF THE RESULTS.**

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Additional Info

Sample storage - Waters are routinely disposed of approximately 1 month and soils approximately 2 months from receipt. Requests for longer term sample storage must be received in writing.
Please contact the laboratory immediately if observed settled sediment present in water samples is to be included in the extraction and/or analysis (exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, Total Recoverable metals and PFAS analysis where solids are included by default.
TAT for Micro is dependent on incubation. This varies from 3 to 6 days.

Aileen Hie

From: Craig Ridley <CRidley@jkenvironments.com.au>
Sent: Friday, 11 March 2022 11:07 AM
To: Greta Petzold
Cc: Samplereceipt
Subject: Re: Results for Registration 290249 E33051BR, Mittagong

CAUTION: This email originated from outside of the organisation. Do not act on instructions, click links or open attachments unless you recognise the sender and know the content is authentic and safe.

Good morning Greta,

Can we please arrange the following additional tests for this sample batch (standard turnaround):

Sample ID	Lab Reference	Test Required
TP22 (0-0.1m)	290249-1	TCLP Lead
TP58 (0-0.1m)	290249-5	TCLP PFAS
TP60 (0.1-0.3m)	290249-9	TCLP Lead, TCLP PAH, TRH Silica Gel
TP60 (0.4-0.6m)	290249-10	PAH
TP61 (0-0.1m)	290249-11	CEC, pH (CaCl2)
TP67 (0-0.05)	290249-16	TCLP PFAS
TP67 (0.2-0.4m)	290249-17	TCLP Nickel, CEC
BH19 (0-0.1m)	290249-22	TCLP Lead, TCLP PFAS
TP24 (0-0.1m)	290249-29	CEC, pH (CaCl2)
BH83 (0-0.05m)	290249-38	TCLP Lead
BH6 (0-0.1m)	290249-40	CEC, pH (CaCl2)
BH6 (0.8-0.95m)	290249-42	PCB
BH37 (0-0.1m)	290249-51	TCLP PFAS, TCLP Lead, CEC, pH (CaCl2)
BH46 (0-0.1m)	290249-60	TCLP PFAS, TCLP Lead, CEC, pH (CaCl2)
BH59 (0-0.1m)	290249-65	TCLP PAH

Any issues, please call.

Thanks

Envirolab Ref: 290249 A
Due: 18/3/22
Std TAT.

Regards
Craig Ridley
Senior Environmental Scientist

T: +612 9888 5000
D: 0421 856 992
E: cridley@jkenvironments.com.au
www.jkenvironments.com.au

PO Box 976
NORTH RYDE BC NSW 1670
115 Wicks Road
MACQUARIE PARK NSW 2113

JKEnvironments

This email and any attachments are confidential and may be privileged in which case neither is intended to be waived. If you have received this message in error, please notify us and remove it from your system. It is your responsibility to check any attachments for viruses and defects before opening or sending them on. At the Company's discretion we may send a paper copy for confirmation. In the event of any discrepancy between paper and electronic versions the paper version is to take precedence.

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ph 02 9910 6200 fax 02 9910 6201
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CERTIFICATE OF ANALYSIS 290513

Client Details

Client	JK Environments
Attention	C Ridley
Address	PO Box 976, North Ryde BC, NSW, 1670

Sample Details

Your Reference	**E33051BR, Mittagong**
Number of Samples	3 Material
Date samples received	08/03/2022
Date completed instructions received	08/03/2022

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.

Samples were analysed as received from the client. Results relate specifically to the samples as received.

Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Report Details

Date results requested by	15/03/2022
Date of Issue	09/03/2022

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Accredited for compliance with ISO/IEC 17025 - Testing. **Tests not covered by NATA are denoted with ***

Asbestos Approved By
Analysed by Asbestos Approved Analyst: Panika Wongchanda, Wonnie Condos
Authorised by Asbestos Approved Signatory: Lucy Zhu

Results Approved By
Lucy Zhu, Asbestos Supervisor

Authorised By

Nancy Zhang, Laboratory Manager

Asbestos ID - materials				
Our Reference		290513-1	290513-2	290513-3
Sample ID	UNITS	FCF6-surface	FCF7-surface	FCF8-surface
Your Reference		Material	Material	Material
Date Sampled		28/02/22	28/02/22	28/02/22
Type of sample		Material	Material	Material
Date analysed	-	09/03/2022	09/03/2022	09/03/2022
Mass / Dimension of Sample	-	80x40x5mm	40x25x5mm	40x25x6mm
Sample Description	-	Grey fibre cement material	Grey fibre cement material	Grey render
Asbestos ID in materials	-	Chrysotile asbestos detected	Chrysotile asbestos detected	No asbestos detected Organic fibres detected
Trace Analysis	-	[NT]	[NT]	No asbestos detected

Method ID	Methodology Summary
ASB-001	Asbestos ID - Qualitative identification of asbestos in bulk samples using Polarised Light Microscopy and Dispersion Staining Techniques including Synthetic Mineral Fibre and Organic Fibre as per Australian Standard 4964-2004.

Result Definitions

NT	Not tested
NA	Test not required
INS	Insufficient sample for this test
PQL	Practical Quantitation Limit
<	Less than
>	Greater than
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
NS	Not specified
NEPM	National Environmental Protection Measure
NR	Not Reported

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ph 02 9910 6200 fax 02 9910 6201
customerservice@envirolab.com.au
www.envirolab.com.au

SAMPLE RECEIPT ADVICE

Client Details

Client	JK Environments
Attention	C Ridley

Sample Login Details

Your reference	E33051BR, Mittagong
Envirolab Reference	290513
Date Sample Received	08/03/2022
Date Instructions Received	08/03/2022
Date Results Expected to be Reported	15/03/2022

Sample Condition

Samples received in appropriate condition for analysis	Yes
No. of Samples Provided	3 Material
Turnaround Time Requested	Standard
Temperature on Receipt (°C)	20
Cooling Method	Not applicable
Sampling Date Provided	YES

Comments

Nil

Please direct any queries to:

Aileen Hie	Jacinta Hurst
Phone: 02 9910 6200	**Phone: 02 9910 6200**
Fax: 02 9910 6201	**Fax: 02 9910 6201**
Email: ahie@envirolab.com.au	**Email: jhurst@envirolab.com.au**

Analysis Underway, details on the following page:

Envirolab Services Pty Ltd
ABN 37 112 535 645
12 Ashley St Chatswood NSW 2067
ph 02 9910 6200 fax 02 9910 6201
customerservice@envirolab.com.au
www.envirolab.com.au

Sample ID	Asbestos ID - materials
Material-FCF6-surface	✓
Material-FCF7-surface	✓
Material-FCF8-surface	✓

The '✓' indicates the testing you have requested. **THIS IS NOT A REPORT OF THE RESULTS.**

Additional Info

Sample storage - Waters are routinely disposed of approximately 1 month and soils approximately 2 months from receipt.
Requests for longer term sample storage must be received in writing.
Please contact the laboratory immediately if observed settled sediment present in water samples is to be included in the extraction and/or analysis (exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, Total Recoverable metals and PFAS analysis where solids are included by default.
TAT for Micro is dependent on incubation. This varies from 3 to 6 days.

SAMPLE AND CHAIN OF CUSTODY FORM

TO:		FROM:
ENVIROLAB SERVICES PTY LTD 12 ASHLEY STREET CHATSWOOD NSW 2067 P: (02) 99106200 F: (02) 99106201 Attention: Aileen	JKE Job Number: E33051BR Date Results Required: STANDARD Page: 1 of 1	JKEnvironments REAR OF 115 WICKS ROAD MACQUARIE PARK, NSW 2113 P: 02-9888 5000 F: 02-9888 5001 Attention: cridley@jkenvironments.com.au

Location:	Mittagong	Sample Preserved in Esky on Ice
Sampler:	HW	Tests Required

Date Sampled	Lab Ref:	Sample Number	Depth (m)	Sample Container	PID	Sample Description	Asbestos
28/02/2022	1	FCF6-Surface	-	A	-	Fragment	X
28/02/2022	2	FCF7-Surface		A	-	Fragment	X
28/02/2022	3	FCF8-Surface		A	-	Fragment	X

Envirolab Services
12 Ashley St
Chatswood NSW 2067
Ph: (02) 9910 6200
Job no: 290513
Date received: 8/3/22
Time received: 1605
By:
Temp: Cool/Ambient
Cooling: Ice/Icepack
Security: Intact/Broken/None

Remarks (comments/detection limits required):	Sample Containers: G - 250mg Glass Jar A - Ziplock Asbestos Bag P - Plastic Bag			
Relinquished By: AD	Date: 08/03/22	Time: 1:40pm	Received By:	Date: 8/3/22

Envirolab Services Pty Ltd
ABN 37 112 535 645 - 002
25 Research Drive Croydon South VIC 3136
ph 03 9763 2500 fax 03 9763 2633
melbourne@envirolab.com.au
www.envirolab.com.au

CERTIFICATE OF ANALYSIS 30302

Client Details

Client	JK Environments
Attention	Craig Ridley
Address	PO Box 976, North Ryde BC, NSW, 1670

Sample Details

Your Reference	**E33051BR**
Number of Samples	1 Soil
Date samples received	08/03/2022
Date completed instructions received	08/03/2022

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.

Samples were analysed as received from the client. Results relate specifically to the samples as received.

Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Report Details

Date results requested by	15/03/2022
Date of Issue	15/03/2022

NATA Accreditation Number 2901. This document shall not be reproduced except in full.

Accredited for compliance with ISO/IEC 17025 - Testing. **Tests not covered by NATA are denoted with ***

Results Approved By
Chris De Luca, Operations Manager

Authorised By



Pamela Adams, Laboratory Manager

vTRH(C6-C10)/BTEXN in Soil		
Our Reference		30302-1
Your Reference	UNITS	SDUP23
Date Sampled		25/02/2022
Type of sample		Soil
Date extracted	-	11/03/2022
Date analysed	-	12/03/2022
vTRH C_6 - C_9	mg/kg	<25
vTRH C_6 - C_{10}	mg/kg	<25
TRH C_6 - C_{10} less BTEX (F1)	mg/kg	<25
Benzene	mg/kg	<0.2
Toluene	mg/kg	<0.5
Ethylbenzene	mg/kg	<1
m+p-xylene	mg/kg	<2
o-Xylene	mg/kg	<1
Naphthalene	mg/kg	<1
Total BTEX	mg/kg	<1
Total +ve Xylenes	mg/kg	<1
Surrogate aaa-Trifluorotoluene	%	100

TRH Soil C10-C40 NEPM		
Our Reference		30302-1
Your Reference	UNITS	SDUP23
Date Sampled		25/02/2022
Type of sample		Soil
Date extracted	-	11/03/2022
Date analysed	-	12/03/2022
TRH C_{10} - C_{14}	mg/kg	<50
TRH C_{15} - C_{28}	mg/kg	<100
TRH C_{29} - C_{36}	mg/kg	<100
Total +ve TRH (C10-C36)	mg/kg	<50
TRH >C_{10} -C_{16}	mg/kg	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	mg/kg	<50
TRH >C_{16} -C_{34}	mg/kg	<100
TRH >C_{34} -C_{40}	mg/kg	<100
Total +ve TRH (>C10-C40)	mg/kg	<50
Surrogate o-Terphenyl	%	72

PAHs in Soil		
Our Reference		30302-1
Your Reference	UNITS	SDUP23
Date Sampled		25/02/2022
Type of sample		Soil
Date extracted	-	11/03/2022
Date analysed	-	12/03/2022
Naphthalene	mg/kg	<0.1
Acenaphthylene	mg/kg	<0.1
Acenaphthene	mg/kg	<0.1
Fluorene	mg/kg	<0.1
Phenanthrene	mg/kg	<0.1
Anthracene	mg/kg	<0.1
Fluoranthene	mg/kg	0.2
Pyrene	mg/kg	0.3
Benzo(a)anthracene	mg/kg	0.1
Chrysene	mg/kg	0.2
Benzo(b,j&k)fluoranthene	mg/kg	0.3
Benzo(a)pyrene	mg/kg	0.19
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1
Total +ve PAH's	mg/kg	1.4
Benzo(a)pyrene TEQ calc (Zero)	mg/kg	<0.5
Benzo(a)pyrene TEQ calc (Half)	mg/kg	<0.5
Benzo(a)pyrene TEQ calc (PQL)	mg/kg	<0.5
Surrogate p-Terphenyl-d_{14}	%	118

Acid Extractable metals in soil		
Our Reference		30302-1
Your Reference	UNITS	SDUP23
Date Sampled		25/02/2022
Type of sample		Soil
Date digested	-	15/03/2022
Date analysed	-	15/03/2022
Arsenic	mg/kg	<4
Cadmium	mg/kg	<0.4
Chromium	mg/kg	18
Copper	mg/kg	19
Lead	mg/kg	120
Mercury	mg/kg	<0.1
Nickel	mg/kg	8
Zinc	mg/kg	81

Moisture		
Our Reference		30302-1
Your Reference	UNITS	SDUP23
Date Sampled		25/02/2022
Type of sample		Soil
Date prepared	-	12/03/2022
Date analysed	-	15/03/2022
Moisture	%	17

Method ID	Methodology Summary
Inorg-008	Moisture content determined by heating at 105°C for a minimum of 12 hours.
Metals-020 ICP-AES	Determination of various metals by ICP-AES.
Metals-021 CV-AAS	Determination of Mercury by Cold Vapour AAS.
Org-020	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis. Note, the Total +ve TRH PQL is reflective of the lowest individual PQL and is therefore "Total +ve TRH" is simply a sum of the positive individual TRH fractions (>C10-C40).
Org-022	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013. For soil results:- 1. 'EQ PQL'values are assuming all contributing PAHs reported as <PQL are actually at the PQL. This is the most conservative approach and can give false positive TEQs given that PAHs that contribute to the TEQ calculation may not be present. 2. 'EQ zero'values are assuming all contributing PAHs reported as <PQL are zero. This is the least conservative approach and is more susceptible to false negative TEQs when PAHs that contribute to the TEQ calculation are present but below PQL. 3. 'EQ half PQL'values are assuming all contributing PAHs reported as <PQL are half the stipulated PQL. Hence a mid-point between the most and least conservative approaches above. Note, the Total +ve PAHs PQL is reflective of the lowest individual PQL and is therefore" Total +ve PAHs" is simply a sum of the positive individual PAHs.
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS.
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater. Note, the Total +ve Xylene PQL is reflective of the lowest individual PQL and is therefore "Total +ve Xylenes" is simply a sum of the positive individual Xylenes.

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date extracted	-			11/03/2022	[NT]	[NT]	[NT]	[NT]	11/03/2022	[NT]
Date analysed	-			12/03/2022	[NT]	[NT]	[NT]	[NT]	12/03/2022	[NT]
vTRH C_6 - C_9	mg/kg	25	Org-023	<25	[NT]	[NT]	[NT]	[NT]	97	[NT]
vTRH C_6 - C_{10}	mg/kg	25	Org-023	<25	[NT]	[NT]	[NT]	[NT]	97	[NT]
Benzene	mg/kg	0.2	Org-023	<0.2	[NT]	[NT]	[NT]	[NT]	90	[NT]
Toluene	mg/kg	0.5	Org-023	<0.5	[NT]	[NT]	[NT]	[NT]	101	[NT]
Ethylbenzene	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	95	[NT]
m+p-xylene	mg/kg	2	Org-023	<2	[NT]	[NT]	[NT]	[NT]	99	[NT]
o-Xylene	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	97	[NT]
Naphthalene	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-023	111	[NT]	[NT]	[NT]	[NT]	109	[NT]

QUALITY CONTROL: TRH Soil C10-C40 NEPM						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date extracted	-			11/03/2022	[NT]	[NT]	[NT]	[NT]	11/03/2022	[NT]
Date analysed	-			12/03/2022	[NT]	[NT]	[NT]	[NT]	12/03/2022	[NT]
TRH C_{10} - C_{14}	mg/kg	50	Org-020	<50	[NT]	[NT]	[NT]	[NT]	80	[NT]
TRH C_{15} - C_{28}	mg/kg	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	82	[NT]
TRH C_{29} - C_{36}	mg/kg	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	93	[NT]
TRH >C_{10} -C_{16}	mg/kg	50	Org-020	<50	[NT]	[NT]	[NT]	[NT]	80	[NT]
TRH >C_{16} -C_{34}	mg/kg	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	82	[NT]
TRH >C_{34} -C_{40}	mg/kg	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	93	[NT]
Surrogate o-Terphenyl	%		Org-020	75	[NT]	[NT]	[NT]	[NT]	81	[NT]

QUALITY CONTROL: PAHs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date extracted	-			11/03/2022	[NT]	[NT]	[NT]	[NT]	11/03/2022	[NT]
Date analysed	-			12/03/2022	[NT]	[NT]	[NT]	[NT]	12/03/2022	[NT]
Naphthalene	mg/kg	0.1	Org-022	<0.1	[NT]	[NT]	[NT]	[NT]	96	[NT]
Acenaphthylene	mg/kg	0.1	Org-022	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-022	<0.1	[NT]	[NT]	[NT]	[NT]	96	[NT]
Fluorene	mg/kg	0.1	Org-022	<0.1	[NT]	[NT]	[NT]	[NT]	96	[NT]
Phenanthrene	mg/kg	0.1	Org-022	<0.1	[NT]	[NT]	[NT]	[NT]	96	[NT]
Anthracene	mg/kg	0.1	Org-022	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-022	<0.1	[NT]	[NT]	[NT]	[NT]	92	[NT]
Pyrene	mg/kg	0.1	Org-022	<0.1	[NT]	[NT]	[NT]	[NT]	94	[NT]
Benzo(a)anthracene	mg/kg	0.1	Org-022	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-022	<0.1	[NT]	[NT]	[NT]	[NT]	94	[NT]
Benzo(b,j&k)fluoranthene	mg/kg	0.2	Org-022	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-022	<0.05	[NT]	[NT]	[NT]	[NT]	92	[NT]
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-022	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-022	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-022	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate p-Terphenyl-d_{14}	%		Org-022	100	[NT]	[NT]	[NT]	[NT]	108	[NT]

QUALITY CONTROL: Acid Extractable metals in soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date digested	-			15/03/2022	[NT]	[NT]	[NT]	[NT]	15/03/2022	[NT]
Date analysed	-			15/03/2022	[NT]	[NT]	[NT]	[NT]	15/03/2022	[NT]
Arsenic	mg/kg	4	Metals-020 ICP-AES	<4	[NT]	[NT]	[NT]	[NT]	100	[NT]
Cadmium	mg/kg	0.4	Metals-020 ICP-AES	<0.4	[NT]	[NT]	[NT]	[NT]	101	[NT]
Chromium	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	[NT]	[NT]	102	[NT]
Copper	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	[NT]	[NT]	99	[NT]
Lead	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	[NT]	[NT]	100	[NT]
Mercury	mg/kg	0.1	Metals-021 CV-AAS	<0.1	[NT]	[NT]	[NT]	[NT]	104	[NT]
Nickel	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	[NT]	[NT]	97	[NT]
Zinc	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	[NT]	[NT]	97	[NT]

Result Definitions

NT	Not tested
NA	Test not required
INS	Insufficient sample for this test
PQL	Practical Quantitation Limit
<	Less than
>	Greater than
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
NS	Not specified
NEPM	National Environmental Protection Measure
NR	Not Reported

Quality Control Definitions

Blank	This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate	This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike	A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample)	This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike	Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011.

The recommended maximums for analytes in urine are taken from “2018 TLVs and BEIs”, as published by ACGIH (where available). Limit provided for Nickel is a precautionary guideline as per Position Paper prepared by AIOH Exposure Standards Committee, 2016.

Guideline limits for Rinse Water Quality reported as per analytical requirements and specifications of AS 4187, Amdt 2 2019, Table 7.2

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: >10xPQL - RPD acceptance criteria will vary depending on the analytes and the analytical techniques but is typically in the range 20%-50% – see ELN-P05 QA/QC tables for details; <10xPQL - RPD are higher as the results approach PQL and the estimated measurement uncertainty will statistically increase.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals (not SPOCAS); 60-140% for organics/SPOCAS (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

Measurement Uncertainty estimates are available for most tests upon request.

Analysis of aqueous samples typically involves the extraction/digestion and/or analysis of the liquid phase only (i.e. NOT any settled sediment phase but inclusive of suspended particles if present), unless stipulated on the Envirolab COC and/or by correspondence. Notable exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, total recoverable metals and PFAS where solids are included by default.

Samples for Microbiological analysis (not Amoeba forms) received outside of the 2-8°C temperature range do not meet the ideal cooling conditions as stated in AS2031-2012.

Envirolab Services Pty Ltd
ABN 37 112 535 645 - 002
25 Research Drive Croydon South VIC 3136
ph 03 9763 2500 fax 03 9763 2633
melbourne@envirolab.com.au
www.envirolab.com.au

SAMPLE RECEIPT ADVICE

Client Details

Client	JK Environments
Attention	Craig Ridley

Sample Login Details

Your reference	E33051BR
Envirolab Reference	30302
Date Sample Received	08/03/2022
Date Instructions Received	08/03/2022
Date Results Expected to be Reported	15/03/2022

Sample Condition

Samples received in appropriate condition for analysis	Yes
No. of Samples Provided	1 Soil
Turnaround Time Requested	Standard
Temperature on Receipt (°C)	11.6
Cooling Method	Icepack
Sampling Date Provided	YES

Comments

Nil

Please direct any queries to:

Pamela Adams	Chris De Luca
Phone: 03 9763 2500	**Phone: 03 9763 2500**
Fax: 03 9763 2633	**Fax: 03 9763 2633**
Email: padams@envirolab.com.au	**Email: cdeluca@envirolab.com.au**

Analysis Underway, details on the following page:

Envirolab Services Pty Ltd
ABN 37 112 535 645 - 002
25 Research Drive Croydon South VIC 3136
ph 03 9763 2500 fax 03 9763 2633
melbourne@envirolab.com.au
www.envirolab.com.au

Sample ID	vTRH(C6-C10)/BTEXN in Soil	TRH Soil C10-C40 NEPM	PAHs in Soil	Acid Extractable metalsin soil
SDUP23	✓	✓	✓	✓

The '✓' indicates the testing you have requested. **THIS IS NOT A REPORT OF THE RESULTS.**

Additional Info

Sample storage - Waters are routinely disposed of approximately 1 month and soils approximately 2 months from receipt.
Requests for longer term sample storage must be received in writing.
Please contact the laboratory immediately if observed settled sediment present in water samples is to be included in the extraction and/or analysis (exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, Total Recoverable metals and PFAS analysis where solids are included by default.

290257

SAMPLE AND CHAIN OF CUSTODY FORM

TO: ENVIROLAB SERVICES PTY LTD 12 ASHLEY STREET CHATSWOOD NSW 2067 P: (02) 99106200 F: (02) 99106201 Attention: Aileen	JKE Job Number: E33051BR Date Results Required: STANDARD Page: 4 of 5	FROM: JKEnvironments REAR OF 115 WICKS ROAD MACQUARIE PARK, NSW 2113 P: 02-9888 5000 F: 02-9888 5001 Attention: Craig Ridley cridley@jkenvironments.com.au

Location: Mittagong
Sampler: NM

Sample Preserved in Esky on Ice

Tests Required

Date Sampled	Lab Ref:	Sample Number	Depth (m)	Sample Container	PID	Sample Description	Combo 6	Combo 3	Asbestos (NEPM)	Asbestos (ID)	Phenols	PFAS (Routine, Extended)	pH	CEC	Clay Content	TRH/BTEX	BTEX	Combo 3L
25/02/2022	76	SDUP22	-	G, A, P	-	Duplicate		X										
25/02/2022	-	SDUP23	-	G, A, P	-	Duplicate		X	X	SEND TO VIC								
25/02/2022	77	SDUP24	-	G, A, P	-	Duplicate												
25/02/2022	78	SDUP25	-	A	-	Duplicate												
25/02/2022	79	SDUP26	-	A	-	Duplicate												
25/02/2022	80	SP3-1-FCF1	0-1.0	A	-	Fragment				X								
25/02/2022	81	SP3-2-FCF1-Spoil	-	A	-	Fragment												
25/02/2022	82	SP3-2-FCF1	0-1.0	A	-	Fragment				X								
25/02/2022	83	SP3-2-FCF2	1.0-2.0	A	-	Fragment												
25/02/2022	84	SP3-3-FCF2-TP Base	-	A	-	Fragment												
25/02/2022	85	SP3-3-FCF3	0-1.0	A	-	Fragment												
25/02/2022	86	SP3-3-FCF4	1.0-2.0	A	-	Fragment												
25/02/2022	87	SP4-1-FCF1-S	0-0.5	A	-	Fragment				X								
25/02/2022	88	SP4-2-FCF1	0-1.0	A	-	Fragment												
25/02/2022	89	SP5-1-FCF1	0-1.0	A	-	Fragment												
25/02/2022	90	SP5-1-FCF2	1.0-2.0	A	-	Fragment				X								
25/02/2022	91	SP5-1-FCF3	1.0-2.0	A	-	Fragment												
25/02/2022	92	SP5-2-FCF1-S	-	A	-	Fragment												
25/02/2022	93	SP5-2-FCF2	0-1.0	A	-	Fragment												
25/02/2022	94	SP5-2-FCF4	2.0-2.5	A	-	Fragment												
25/02/2022	95	SP5-3-FCF1	0-1.0	A	-	Fragment				X								
25/02/2022	96	SP5-3-FCF2	1.0-2.0	A	-	Fragment												
25/02/2022	97	SP6-1-FCF1	0-1.0	A	-	Fragment				X								
25/02/2022	98	SP6-2-FCF1	0-1.0	A	-	Fragment												
25/02/2022	99	SP7-2-FCF1	0-1.0	A	-	Fragment												

Remarks (comments/detection limits required):

Sample Containers:
G - 250mg Glass Jar
A - Ziplock Asbestos Bag
P - PFAS Jar

Envirolab Services
25 Research Drive
Croydon South VIC 3136
Ph: (03) 9763 2500

Job No: 30302
Date Received: 8/2/22
Time Received: 12:25pm
Received By: JS
Temp: Cool/Ambient 11.6°C
Cooling: Ice/Icepack
Security: Intact/Broken/None

Relinquished By:	Date:	Time:	Received By:	Date:
Christine Ross	07/02/22 1150			

Simon Song

From: Craig Ridley <CRidley@jkenvironments.com.au>
Sent: Monday, 7 March 2022 11:12 AM
To: Simon Song
Cc: Geoff Weir
Subject: Re: Sample Receipt for 290249 E33051BR, Mittagong

CAUTION: This email originated from outside of the organisation. Do not act on instructions, click links or open attachments unless you recognise the sender and know the content is authentic and safe.

Thanks for clarifying Simon.
Please see comments in red below.

Regards
Craig Ridley
Senior Environmental Scientist

T: +612 9888 5000
D: 0421 856 992
E: cridley@jkenvironments.com.au
www.jkenvironments.com.au

PO Box 976
NORTH RYDE BC NSW 1670
115 Wicks Road
MACQUARIE PARK NSW 2113

JKEnvironments

This email and any attachments are confidential and may be privileged in which case neither is intended to be waived. If you have received this message in error, please notify us and remove it from your system. It is your responsibility to check any attachments for viruses and defects before opening or sending them on. At the Company's discretion we may send a paper copy for confirmation. In the event of any discrepancy between paper and electronic versions the paper version is to take precedence.

From: Simon Song <SSong@envirolab.com.au>
Sent: Monday, March 7, 2022 10:43 AM
To: Craig Ridley
Subject: RE: Sample Receipt for 290249 E33051BR, Mittagong

Hi Craig,
TB-S3 is sorted,

Few thing need to be confirmed 290257-75

2x SDUP21 (Geoff emailed) - Sample labelled as '2nd' are SDUP21. Other sample are SDUP19 (290249)

SDUP 16 and SDUP 23, no NEPM bags - Noted. Remove analysis of NEPM Asbestos.

TP60 0.1-0.3 - 2 bags received only, test from bag - Analyse 1 bag for Combination #6. Other bag for ASB NEPM. Remove analysis for Phenols/PFAS.

~~# 290249~~

Kind Regards,

Simon Song | Senior Customer Service | Envirolab Services

Envirolab Services Pty Ltd
ABN 37 112 535 645
12 Ashley St Chatswood NSW 2067
ph 02 9910 6200 fax 02 9910 6201
customerservice@envirolab.com.au
www.envirolab.com.au

CERTIFICATE OF ANALYSIS 290257

Client Details

Client	JK Environments
Attention	C Ridley
Address	PO Box 976, North Ryde BC, NSW, 1670

Sample Details

Your Reference	**E33051BR, Mittagong**
Number of Samples	84 Soil, 23 Material
Date samples received	01/03/2022
Date completed instructions received	02/03/2022

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.

Samples were analysed as received from the client. Results relate specifically to the samples as received.

Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Please refer to the last page of this report for any comments relating to the results.

Report Details

Date results requested by	10/03/2022
Date of Issue	10/03/2022

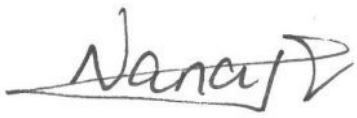
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Asbestos Approved By
Analysed by Asbestos Approved Analyst: Wonnie Condos
Authorised by Asbestos Approved Signatory: Lucy Zhu

Results Approved By
Alexander Mitchell Maclean, Senior Chemist
Dragana Tomas, Senior Chemist
Hannah Nguyen, Metals Supervisor
Kyle Gavrily, Chemist
Liam Timmins, Chemist
Lucy Zhu, Asbestos Supervisor
Steven Luong, Organics Supervisor
Thomas Lovatt, Chemist

Authorised By



Nancy Zhang, Laboratory Manager

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		290257-1	290257-3	290257-6	290257-13	290257-18
Your Reference	UNITS	SP2-1	SP2-1	SP2-2	SP3-1	SP3-2
Depth		0.5-0.7	1.5-1.7	1.0-1.2	0.3-0.5	0.8-1.0
Date Sampled		24/02/2022	24/02/2022	24/02/2022	25/02/2022	25/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
Date analysed	-	07/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
TRH C_6 - C_9	mg/kg	<25	<25	<25	<25	<25
TRH C_6 - C_{10}	mg/kg	<25	<25	<25	<25	<25
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Naphthalene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	88	85	82	81	90

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		290257-22	290257-24	290257-26	290257-31	290257-33
Your Reference	UNITS	SP3-3	SP3-3	SP4-1	SP4-2	SP4-3
Depth		0.8-1.1	1.8-2.0	0.3-0.5	0.8-1.0	0.3-0.5
Date Sampled		25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
Date analysed	-	04/03/2022	04/03/2022	07/03/2022	04/03/2022	04/03/2022
TRH C_6 - C_9	mg/kg	<25	<25	<25	<25	<25
TRH C_6 - C_{10}	mg/kg	<25	<25	<25	<25	<25
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Naphthalene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	72	73	93	72	78

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		290257-36	290257-37	290257-44	290257-49	290257-53
Your Reference	UNITS	SP5-1	SP5-1	SP5-2	SP6-1	SP6-3
Depth		0.3-0.5	0.8-1.0	2.3-2.5	0.3-0.5	0.3-0.5
Date Sampled		25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
Date analysed	-	04/03/2022	04/03/2022	07/03/2022	04/03/2022	04/03/2022
TRH C_6 - C_9	mg/kg	<25	<25	<25	<25	<25
TRH C_6 - C_{10}	mg/kg	<25	<25	<25	<25	<25
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Naphthalene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	81	81	87	89	85

vTRH(C6-C10)/BTEXN in Soil						
Our Reference		290257-55	290257-58	290257-60	290257-63	290257-71
Your Reference	UNITS	SP7-1	SP7-1	SP7-2	SP8-1	SP8-3
Depth		0.3-0.5	1.8-2.0	0.8-1.0	0.3-0.5	0.3-0.5
Date Sampled		25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
Date analysed	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
TRH C_6 - C_9	mg/kg	<25	<25	<25	<25	<25
TRH C_6 - C_{10}	mg/kg	<25	<25	<25	<25	<25
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Naphthalene	mg/kg	<1	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	80	87	69	71	87

vTRH(C6-C10)/BTEXN in Soil					
Our Reference		290257-73	290257-75	290257-76	290257-103
Your Reference	UNITS	SP8-3	SDUP21	SDUP22	TS-S4
Depth		1.3-1.5	-	-	-
Date Sampled		25/02/2022	25/02/2022	25/02/2022	25/02/2022
Type of sample		Soil	Soil	Soil	Soil
Date extracted	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022
Date analysed	-	04/03/2022	04/03/2022	04/03/2022	07/03/2022
TRH C_6 - C_9	mg/kg	<25	<25	<25	[NA]
TRH C_6 - C_{10}	mg/kg	<25	<25	<25	[NA]
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	<25	<25	<25	[NA]
Benzene	mg/kg	<0.2	<0.2	<0.2	99%
Toluene	mg/kg	<0.5	<0.5	<0.5	98%
Ethylbenzene	mg/kg	<1	<1	<1	99%
m+p-xylene	mg/kg	<2	<2	<2	98%
o-Xylene	mg/kg	<1	<1	<1	99%
Naphthalene	mg/kg	<1	<1	<1	[NA]
Total +ve Xylenes	mg/kg	<1	<1	<1	[NA]
Surrogate aaa-Trifluorotoluene	%	73	111	77	86

svTRH (C10-C40) in Soil						
Our Reference		290257-1	290257-3	290257-6	290257-13	290257-18
Your Reference	UNITS	SP2-1	SP2-1	SP2-2	SP3-1	SP3-2
Depth		0.5-0.7	1.5-1.7	1.0-1.2	0.3-0.5	0.8-1.0
Date Sampled		24/02/2022	24/02/2022	24/02/2022	25/02/2022	25/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
Date analysed	-	05/03/2022	05/03/2022	05/03/2022	05/03/2022	05/03/2022
TRH C_{10} - C_{14}	mg/kg	<50	<50	<50	<50	<50
TRH C_{15} - C_{28}	mg/kg	100	<100	<100	<100	160
TRH C_{29} - C_{36}	mg/kg	<100	<100	160	<100	110
Total +ve TRH (C10-C36)	mg/kg	100	<50	160	<50	270
TRH >C_{10} -C_{16}	mg/kg	<50	<50	<50	<50	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH >C_{16} -C_{34}	mg/kg	120	<100	180	<100	240
TRH >C_{34} -C_{40}	mg/kg	<100	<100	160	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	120	<50	340	<50	240
Surrogate o-Terphenyl	%	103	99	103	93	100

svTRH (C10-C40) in Soil						
Our Reference		290257-22	290257-24	290257-26	290257-31	290257-33
Your Reference	UNITS	SP3-3	SP3-3	SP4-1	SP4-2	SP4-3
Depth		0.8-1.1	1.8-2.0	0.3-0.5	0.8-1.0	0.3-0.5
Date Sampled		25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
Date analysed	-	05/03/2022	05/03/2022	05/03/2022	05/03/2022	05/03/2022
TRH C_{10} - C_{14}	mg/kg	<50	<50	<50	<50	<50
TRH C_{15} - C_{28}	mg/kg	<100	<100	550	720	520
TRH C_{29} - C_{36}	mg/kg	<100	<100	500	670	460
Total +ve TRH (C10-C36)	mg/kg	<50	<50	1,100	1,400	980
TRH >C_{10} -C_{16}	mg/kg	<50	<50	57	60	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	mg/kg	<50	<50	57	60	<50
TRH >C_{16} -C_{34}	mg/kg	<100	100	900	1,200	840
TRH >C_{34} -C_{40}	mg/kg	<100	<100	320	460	320
Total +ve TRH (>C10-C40)	mg/kg	<50	100	1,300	1,700	1,200
Surrogate o-Terphenyl	%	100	99	#	#	132

svTRH (C10-C40) in Soil						
Our Reference		290257-36	290257-37	290257-44	290257-49	290257-53
Your Reference	UNITS	SP5-1	SP5-1	SP5-2	SP6-1	SP6-3
Depth		0.3-0.5	0.8-1.0	2.3-2.5	0.3-0.5	0.3-0.5
Date Sampled		25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
Date analysed	-	05/03/2022	05/03/2022	05/03/2022	05/03/2022	05/03/2022
TRH C_{10} - C_{14}	mg/kg	<50	<50	<50	<50	<50
TRH C_{15} - C_{28}	mg/kg	<100	<100	<100	160	180
TRH C_{29} - C_{36}	mg/kg	<100	<100	<100	250	200
Total +ve TRH (C10-C36)	mg/kg	<50	<50	<50	420	380
TRH >C_{10} -C_{16}	mg/kg	<50	<50	<50	<50	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH >C_{16} -C_{34}	mg/kg	<100	<100	110	330	320
TRH >C_{34} -C_{40}	mg/kg	<100	<100	<100	190	140
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	110	530	460
Surrogate o-Terphenyl	%	106	106	99	96	97

svTRH (C10-C40) in Soil						
Our Reference		290257-55	290257-58	290257-60	290257-63	290257-71
Your Reference	UNITS	SP7-1	SP7-1	SP7-2	SP8-1	SP8-3
Depth		0.3-0.5	1.8-2.0	0.8-1.0	0.3-0.5	0.3-0.5
Date Sampled		25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
Date analysed	-	05/03/2022	05/03/2022	05/03/2022	05/03/2022	05/03/2022
TRH C_{10} - C_{14}	mg/kg	<50	<50	<50	<50	<50
TRH C_{15} - C_{28}	mg/kg	<100	<100	<100	<100	<100
TRH C_{29} - C_{36}	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (C10-C36)	mg/kg	<50	<50	<50	<50	<50
TRH >C_{10} -C_{16}	mg/kg	<50	<50	<50	<50	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH >C_{16} -C_{34}	mg/kg	<100	<100	<100	<100	<100
TRH >C_{34} -C_{40}	mg/kg	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	<50	<50	<50
Surrogate o-Terphenyl	%	81	80	79	85	80

svTRH (C10-C40) in Soil				
Our Reference		290257-73	290257-75	290257-76
Your Reference	UNITS	SP8-3	SDUP21	SDUP22
Depth		1.3-1.5	-	-
Date Sampled		25/02/2022	25/02/2022	25/02/2022
Type of sample		Soil	Soil	Soil
Date extracted	-	04/03/2022	04/03/2022	04/03/2022
Date analysed	-	05/03/2022	08/03/2022	05/03/2022
TRH C_{10} - C_{14}	mg/kg	<50	<50	<50
TRH C_{15} - C_{28}	mg/kg	<100	<100	590
TRH C_{29} - C_{36}	mg/kg	100	<100	580
Total +ve TRH (C10-C36)	mg/kg	100	<50	1,200
TRH >C_{10} -C_{16}	mg/kg	<50	<50	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	mg/kg	<50	<50	<50
TRH >C_{16} -C_{34}	mg/kg	150	<100	970
TRH >C_{34} -C_{40}	mg/kg	<100	<100	440
Total +ve TRH (>C10-C40)	mg/kg	150	<50	1,400
Surrogate o-Terphenyl	%	86	89	#

PAHs in Soil						
Our Reference		290257-1	290257-3	290257-6	290257-13	290257-18
Your Reference	UNITS	SP2-1	SP2-1	SP2-2	SP3-1	SP3-2
Depth		0.5-0.7	1.5-1.7	1.0-1.2	0.3-0.5	0.8-1.0
Date Sampled		24/02/2022	24/02/2022	24/02/2022	25/02/2022	25/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
Date analysed	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	<0.05	0.07
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PAH's	mg/kg	<0.05	<0.05	<0.05	<0.05	0.07
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate p-Terphenyl-d14	%	116	122	106	122	122

PAHs in Soil						
Our Reference		290257-22	290257-24	290257-26	290257-31	290257-33
Your Reference	UNITS	SP3-3	SP3-3	SP4-1	SP4-2	SP4-3
Depth		0.8-1.1	1.8-2.0	0.3-0.5	0.8-1.0	0.3-0.5
Date Sampled		25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
Date analysed	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
Naphthalene	mg/kg	<0.1	<0.1	0.3	0.4	0.3
Acenaphthylene	mg/kg	<0.1	<0.1	2.5	3.6	3.0
Acenaphthene	mg/kg	<0.1	<0.1	0.4	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	0.3	0.4	0.2
Phenanthrene	mg/kg	0.2	<0.1	3.2	5.6	2.7
Anthracene	mg/kg	<0.1	<0.1	2.1	3.3	2.4
Fluoranthene	mg/kg	0.2	<0.1	9.0	14	12
Pyrene	mg/kg	0.2	<0.1	10	18	15
Benzo(a)anthracene	mg/kg	0.1	<0.1	9.5	12	10
Chrysene	mg/kg	<0.1	<0.1	5.4	9.4	8.2
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	14	19	17
Benzo(a)pyrene	mg/kg	0.1	<0.05	10	14	12
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	6.1	7.2	6.3
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	2.2	3.5	1.5
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	6.5	8.3	7.5
Total +ve PAH's	mg/kg	0.87	<0.05	82	120	98
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	16	21	17
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	16	21	17
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	16	21	17
Surrogate p-Terphenyl-d14	%	117	113	95	100	78

PAHs in Soil						
Our Reference		290257-36	290257-37	290257-44	290257-49	290257-53
Your Reference	UNITS	SP5-1	SP5-1	SP5-2	SP6-1	SP6-3
Depth		0.3-0.5	0.8-1.0	2.3-2.5	0.3-0.5	0.3-0.5
Date Sampled		25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	04/03/2022	04/03/2022	04/03/2022	08/03/2022	04/03/2022
Date analysed	-	04/03/2022	04/03/2022	04/03/2022	08/03/2022	04/03/2022
Naphthalene	mg/kg	<0.1	<0.1	0.1	0.3	0.2
Acenaphthylene	mg/kg	<0.1	<0.1	1.1	1.4	1.6
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	0.1	0.2	0.1
Phenanthrene	mg/kg	<0.1	<0.1	0.7	0.9	2.2
Anthracene	mg/kg	<0.1	<0.1	0.8	1.2	1.6
Fluoranthene	mg/kg	<0.1	<0.1	2.7	2.6	5.2
Pyrene	mg/kg	<0.1	<0.1	3.3	3.6	6.6
Benzo(a)anthracene	mg/kg	<0.1	<0.1	3.7	3.4	3.8
Chrysene	mg/kg	<0.1	<0.1	1.9	2.2	3.5
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	5.6	5.8	6.5
Benzo(a)pyrene	mg/kg	<0.05	<0.05	4.6	4.1	4.6
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	2.9	3.4	2.2
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	1.1	1.3	0.8
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	3.3	4.3	2.6
Total +ve PAH's	mg/kg	<0.05	<0.05	32	35	41
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	7.0	6.7	6.6
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	7.0	6.7	6.6
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	7.0	6.7	6.6
Surrogate p-Terphenyl-d14	%	116	110	102	101	84

PAHs in Soil						
Our Reference		290257-55	290257-58	290257-60	290257-63	290257-71
Your Reference	UNITS	SP7-1	SP7-1	SP7-2	SP8-1	SP8-3
Depth		0.3-0.5	1.8-2.0	0.8-1.0	0.3-0.5	0.3-0.5
Date Sampled		25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
Date analysed	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	0.3	<0.1
Pyrene	mg/kg	<0.1	<0.1	<0.1	0.4	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	0.3	<0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1	0.2	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	0.5	<0.2
Benzo(a)pyrene	mg/kg	<0.05	0.07	<0.05	0.3	0.09
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	0.2	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	0.2	<0.1
Total +ve PAH's	mg/kg	<0.05	0.07	<0.05	2.4	0.09
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	0.5	<0.5
Surrogate p-Terphenyl-d14	%	128	114	118	105	98

PAHs in Soil					
Our Reference		290257-73	290257-75	290257-76	290257-110
Your Reference	UNITS	SP8-3	SDUP21	SDUP22	SP8-3 - [TRIPLICATE]
Depth		1.3-1.5	-	-	1.3-1.5
Date Sampled		25/02/2022	25/02/2022	25/02/2022	25/02/2022
Type of sample		Soil	Soil	Soil	Soil
Date extracted	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022
Date analysed	-	04/03/2022	04/03/2022	04/03/2022	09/03/2022
Naphthalene	mg/kg	<0.1	<0.1	0.3	<0.1
Acenaphthylene	mg/kg	0.6	<0.1	2.8	0.3
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	0.3	<0.1
Phenanthrene	mg/kg	0.7	<0.1	3.7	0.2
Anthracene	mg/kg	0.5	<0.1	2.6	0.2
Fluoranthene	mg/kg	2.9	<0.1	11	0.9
Pyrene	mg/kg	4.2	<0.1	14	1.2
Benzo(a)anthracene	mg/kg	3.2	<0.1	11	1.0
Chrysene	mg/kg	2.1	<0.1	6.8	0.6
Benzo(b,j+k)fluoranthene	mg/kg	4.4	<0.2	16	1
Benzo(a)pyrene	mg/kg	3.2	<0.05	12	1.2
Indeno(1,2,3-c,d)pyrene	mg/kg	1.2	<0.1	5.9	0.6
Dibenzo(a,h)anthracene	mg/kg	0.4	<0.1	2.7	0.2
Benzo(g,h,i)perylene	mg/kg	1.4	<0.1	7.0	0.7
Total +ve PAH's	mg/kg	25	<0.05	96	8.6
Benzo(a)pyrene TEQ calc (zero)	mg/kg	4.5	<0.5	18	1.7
Benzo(a)pyrene TEQ calc(half)	mg/kg	4.5	<0.5	18	1.7
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	4.5	<0.5	18	1.7
Surrogate p-Terphenyl-d14	%	105	94	95	104

Organochlorine Pesticides in soil						
Our Reference		290257-1	290257-13	290257-33	290257-37	290257-53
Your Reference	UNITS	SP2-1	SP3-1	SP4-3	SP5-1	SP6-3
Depth		0.5-0.7	0.3-0.5	0.3-0.5	0.8-1.0	0.3-0.5
Date Sampled		24/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
Date analysed	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
HCB	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve DDT+DDD+DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	111	117	80	105	87

Organochlorine Pesticides in soil			
Our Reference		290257-58	290257-71
Your Reference	UNITS	SP7-1	SP8-3
Depth		1.8-2.0	0.3-0.5
Date Sampled		25/02/2022	25/02/2022
Type of sample		Soil	Soil
Date extracted	-	04/03/2022	04/03/2022
Date analysed	-	04/03/2022	04/03/2022
alpha-BHC	mg/kg	<0.1	<0.1
HCB	mg/kg	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1
Total +ve DDT+DDD+DDE	mg/kg	<0.1	<0.1
Surrogate TCMX	%	106	93

Organophosphorus Pesticides in Soil						
Our Reference		290257-1	290257-13	290257-33	290257-37	290257-53
Your Reference	UNITS	SP2-1	SP3-1	SP4-3	SP5-1	SP6-3
Depth		0.5-0.7	0.3-0.5	0.3-0.5	0.8-1.0	0.3-0.5
Date Sampled		24/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
Date analysed	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
Dichlorvos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dimethoate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Diazinon	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos-methyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ronnel	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fenitrothion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Malathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Parathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Bromophos-ethyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ethion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Azinphos-methyl (Guthion)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	111	117	80	105	87

Organophosphorus Pesticides in Soil			
Our Reference		290257-58	290257-71
Your Reference	UNITS	SP7-1	SP8-3
Depth		1.8-2.0	0.3-0.5
Date Sampled		25/02/2022	25/02/2022
Type of sample		Soil	Soil
Date extracted	-	04/03/2022	04/03/2022
Date analysed	-	04/03/2022	04/03/2022
Dichlorvos	mg/kg	<0.1	<0.1
Dimethoate	mg/kg	<0.1	<0.1
Diazinon	mg/kg	<0.1	<0.1
Chlorpyriphos-methyl	mg/kg	<0.1	<0.1
Ronnel	mg/kg	<0.1	<0.1
Fenitrothion	mg/kg	<0.1	<0.1
Malathion	mg/kg	<0.1	<0.1
Chlorpyriphos	mg/kg	<0.1	<0.1
Parathion	mg/kg	<0.1	<0.1
Bromophos-ethyl	mg/kg	<0.1	<0.1
Ethion	mg/kg	<0.1	<0.1
Azinphos-methyl (Guthion)	mg/kg	<0.1	<0.1
Surrogate TCMX	%	106	93

PCBs in Soil						
Our Reference		290257-1	290257-13	290257-33	290257-37	290257-53
Your Reference	UNITS	SP2-1	SP3-1	SP4-3	SP5-1	SP6-3
Depth		0.5-0.7	0.3-0.5	0.3-0.5	0.8-1.0	0.3-0.5
Date Sampled		24/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
Date analysed	-	04/03/2022	04/03/2022	04/03/2022	07/03/2022	04/03/2022
Aroclor 1016	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1221	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1232	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1242	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1248	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1254	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1260	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PCBs (1016-1260)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	111	117	80	105	87

PCBs in Soil			
Our Reference		290257-58	290257-71
Your Reference	UNITS	SP7-1	SP8-3
Depth		1.8-2.0	0.3-0.5
Date Sampled		25/02/2022	25/02/2022
Type of sample		Soil	Soil
Date extracted	-	04/03/2022	04/03/2022
Date analysed	-	07/03/2022	04/03/2022
Aroclor 1016	mg/kg	<0.1	<0.1
Aroclor 1221	mg/kg	<0.1	<0.1
Aroclor 1232	mg/kg	<0.1	<0.1
Aroclor 1242	mg/kg	<0.1	<0.1
Aroclor 1248	mg/kg	<0.1	<0.1
Aroclor 1254	mg/kg	0.6	<0.1
Aroclor 1260	mg/kg	<0.1	<0.1
Total +ve PCBs (1016-1260)	mg/kg	0.6	<0.1
Surrogate TCMX	%	106	93

Acid Extractable metals in soil						
Our Reference		290257-1	290257-3	290257-6	290257-13	290257-18
Your Reference	UNITS	SP2-1	SP2-1	SP2-2	SP3-1	SP3-2
Depth		0.5-0.7	1.5-1.7	1.0-1.2	0.3-0.5	0.8-1.0
Date Sampled		24/02/2022	24/02/2022	24/02/2022	25/02/2022	25/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
Date analysed	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
Arsenic	mg/kg	<4	<4	<4	4	9
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	7	8	8	9	10
Copper	mg/kg	9	10	8	25	46
Lead	mg/kg	47	70	44	250	360
Mercury	mg/kg	<0.1	<0.1	<0.1	0.1	0.1
Nickel	mg/kg	8	4	4	6	6
Zinc	mg/kg	39	46	45	160	310

Acid Extractable metals in soil						
Our Reference		290257-22	290257-24	290257-26	290257-31	290257-33
Your Reference	UNITS	SP3-3	SP3-3	SP4-1	SP4-2	SP4-3
Depth		0.8-1.1	1.8-2.0	0.3-0.5	0.8-1.0	0.3-0.5
Date Sampled		25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
Date analysed	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
Arsenic	mg/kg	9	5	7	7	7
Cadmium	mg/kg	0.5	0.5	<0.4	<0.4	<0.4
Chromium	mg/kg	12	10	33	55	44
Copper	mg/kg	43	51	22	21	23
Lead	mg/kg	390	670	68	50	98
Mercury	mg/kg	0.2	0.1	0.1	<0.1	<0.1
Nickel	mg/kg	6	6	16	19	17
Zinc	mg/kg	340	360	56	48	65

Acid Extractable metals in soil						
Our Reference		290257-36	290257-37	290257-44	290257-49	290257-53
Your Reference	UNITS	SP5-1	SP5-1	SP5-2	SP6-1	SP6-3
Depth		0.3-0.5	0.8-1.0	2.3-2.5	0.3-0.5	0.3-0.5
Date Sampled		25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
Date analysed	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
Arsenic	mg/kg	7	8	5	4	<4
Cadmium	mg/kg	0.5	0.8	0.5	<0.4	<0.4
Chromium	mg/kg	12	13	11	21	21
Copper	mg/kg	55	99	96	26	17
Lead	mg/kg	850	1,100	800	110	110
Mercury	mg/kg	0.2	0.3	0.3	0.2	<0.1
Nickel	mg/kg	8	11	8	11	12
Zinc	mg/kg	430	640	370	66	44

Acid Extractable metals in soil						
Our Reference		290257-55	290257-58	290257-60	290257-63	290257-71
Your Reference	UNITS	SP7-1	SP7-1	SP7-2	SP8-1	SP8-3
Depth		0.3-0.5	1.8-2.0	0.8-1.0	0.3-0.5	0.3-0.5
Date Sampled		25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
Date analysed	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
Arsenic	mg/kg	6	11	4	6	<4
Cadmium	mg/kg	<0.4	0.5	<0.4	<0.4	<0.4
Chromium	mg/kg	11	30	10	24	9
Copper	mg/kg	24	41	37	260	11
Lead	mg/kg	180	260	280	620	41
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	5	6	6	10	5
Zinc	mg/kg	190	310	240	320	29

Acid Extractable metals in soil						
Our Reference		290257-73	290257-75	290257-76	290257-108	290257-109
Your Reference	UNITS	SP8-3	SDUP21	SDUP22	SP2-1 - [TRIPLICATE]	SP5-1 - [TRIPLICATE]
Depth		1.3-1.5	-	-	0.5-0.7	0.8-1.0
Date Sampled		25/02/2022	25/02/2022	25/02/2022	24/02/2022	25/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	04/03/2022	07/03/2022	04/03/2022	04/03/2022	04/03/2022
Date analysed	-	04/03/2022	07/03/2022	04/03/2022	04/03/2022	04/03/2022
Arsenic	mg/kg	<4	<4	7	<4	7
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	0.7
Chromium	mg/kg	13	7	73	6	12
Copper	mg/kg	35	5	28	6	83
Lead	mg/kg	250	18	83	34	980
Mercury	mg/kg	<0.1	<0.1	0.3	<0.1	0.3
Nickel	mg/kg	5	2	17	2	9
Zinc	mg/kg	120	19	59	29	600

Moisture						
Our Reference		290257-1	290257-3	290257-6	290257-13	290257-18
Your Reference	UNITS	SP2-1	SP2-1	SP2-2	SP3-1	SP3-2
Depth		0.5-0.7	1.5-1.7	1.0-1.2	0.3-0.5	0.8-1.0
Date Sampled		24/02/2022	24/02/2022	24/02/2022	25/02/2022	25/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
Date analysed	-	07/03/2022	07/03/2022	07/03/2022	07/03/2022	07/03/2022
Moisture	%	12	9.7	11	12	17

Moisture						
Our Reference		290257-22	290257-24	290257-26	290257-31	290257-33
Your Reference	UNITS	SP3-3	SP3-3	SP4-1	SP4-2	SP4-3
Depth		0.8-1.1	1.8-2.0	0.3-0.5	0.8-1.0	0.3-0.5
Date Sampled		25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
Date analysed	-	07/03/2022	07/03/2022	07/03/2022	07/03/2022	07/03/2022
Moisture	%	18	16	9.3	9.5	11

Moisture						
Our Reference		290257-36	290257-37	290257-44	290257-49	290257-53
Your Reference	UNITS	SP5-1	SP5-1	SP5-2	SP6-1	SP6-3
Depth		0.3-0.5	0.8-1.0	2.3-2.5	0.3-0.5	0.3-0.5
Date Sampled		25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
Date analysed	-	07/03/2022	07/03/2022	07/03/2022	07/03/2022	07/03/2022
Moisture	%	17	18	16	18	13

Moisture						
Our Reference		290257-55	290257-58	290257-60	290257-63	290257-71
Your Reference	UNITS	SP7-1	SP7-1	SP7-2	SP8-1	SP8-3
Depth		0.3-0.5	1.8-2.0	0.8-1.0	0.3-0.5	0.3-0.5
Date Sampled		25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
Date analysed	-	07/03/2022	07/03/2022	07/03/2022	07/03/2022	07/03/2022
Moisture	%	18	17	16	19	15

Moisture				
Our Reference		290257-73	290257-75	290257-76
Your Reference	UNITS	SP8-3	SDUP21	SDUP22
Depth		1.3-1.5	-	-
Date Sampled		25/02/2022	25/02/2022	25/02/2022
Type of sample		Soil	Soil	Soil
Date prepared	-	04/03/2022	04/03/2022	04/03/2022
Date analysed	-	07/03/2022	07/03/2022	07/03/2022
Moisture	%	11	16	11

Asbestos ID - soils NEPM - ASB-001						
Our Reference		290257-1	290257-13	290257-18	290257-33	290257-37
Your Reference	UNITS	SP2-1	SP3-1	SP3-2	SP4-3	SP5-1
Depth		0.5-0.7	0.3-0.5	0.8-1.0	0.3-0.5	0.8-1.0
Date Sampled		24/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date analysed	-	10/03/2022	10/03/2022	10/03/2022	10/03/2022	10/03/2022
Sample mass tested	g	765.22	657.29	459.8	744.25	544.56
Sample Description	-	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks
Asbestos ID in soil (AS4964) >0.1g/kg	-	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	Chrysotile asbestos detected Amosite asbestos detected Organic fibres detected
Trace Analysis	-	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected
Total Asbestos[#1]	g/kg	<0.1	<0.1	<0.1	<0.1	0.2338
Asbestos ID in soil <0.1g/kg*	-	No visible asbestos detected	Chrysotile	No visible asbestos detected	No visible asbestos detected	See Above
ACM >7mm Estimation*	g	–	0.0206	–	–	0.1273
FA and AF Estimation*	g	–	–	–	–	–
ACM >7mm Estimation*	%(w/w)	<0.01	<0.01	<0.01	<0.01	0.0234
FA and AF Estimation*#2	%(w/w)	<0.001	<0.001	<0.001	<0.001	<0.001

Asbestos ID - soils NEPM - ASB-001				
Our Reference		290257-53	290257-58	290257-71
Your Reference	UNITS	SP6-3	SP7-1	SP8-3
Depth		0.3-0.5	1.8-2.0	0.3-0.5
Date Sampled		25/02/2022	25/02/2022	25/02/2022
Type of sample		Soil	Soil	Soil
Date analysed	-	10/03/2022	10/03/2022	10/03/2022
Sample mass tested	g	806.95	626.26	475.44
Sample Description	-	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks	Brown coarse-grained soil & rocks
Asbestos ID in soil (AS4964) >0.1g/kg	-	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected
Trace Analysis	-	No asbestos detected	No asbestos detected	No asbestos detected
Total Asbestos[#1]	g/kg	<0.1	<0.1	<0.1
Asbestos ID in soil <0.1g/kg*	-	No visible asbestos detected	No visible asbestos detected	No visible asbestos detected
ACM >7mm Estimation*	g	–	–	–
FA and AF Estimation*	g	–	–	–
ACM >7mm Estimation*	%(w/w)	<0.01	<0.01	<0.01
FA and AF Estimation*#2	%(w/w)	<0.001	<0.001	<0.001

PFAS in Soils Extended						
Our Reference		290257-13	290257-18	290257-33	290257-37	290257-53
Your Reference	UNITS	SP3-1	SP3-2	SP4-3	SP5-1	SP6-3
Depth		0.3-0.5	0.8-1.0	0.3-0.5	0.8-1.0	0.3-0.5
Date Sampled		25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
Date analysed	-	04/03/2022	04/03/2022	04/03/2022	04/03/2022	04/03/2022
Perfluorobutanesulfonic acid	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluoropentanesulfonic acid	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorohexanesulfonic acid - PFHxS	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluoroheptanesulfonic acid	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorooctanesulfonic acid PFOS	µg/kg	0.4	0.4	0.3	0.5	0.3
Perfluorodecanesulfonic acid	µg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Perfluorobutanoic acid	µg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Perfluoropentanoic acid	µg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Perfluorohexanoic acid	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluoroheptanoic acid	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorooctanoic acid PFOA	µg/kg	<0.1	<0.1	<0.1	0.1	<0.1
Perfluorononanoic acid	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.2
Perfluorodecanoic acid	µg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Perfluoroundecanoic acid	µg/kg	<0.5	<0.5	<0.5	<0.5	<2
Perfluorododecanoic acid	µg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Perfluorotridecanoic acid	µg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Perfluorotetradecanoic acid	µg/kg	<5	<5	<5	<5	<5
4:2 FTS	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
6:2 FTS	µg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
8:2 FTS	µg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
10:2 FTS	µg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Perfluorooctane sulfonamide	µg/kg	<1	<1	<1	<1	<1
N-Methyl perfluorooctane sulfonamide	µg/kg	<1	<1	<1	<1	<1
N-Ethyl perfluorooctanesulfon amide	µg/kg	<1	<1	<1	<1	<1
N-Me perfluorooctanesulfonamid oethanol	µg/kg	<1	<1	<1	<1	<1
N-Et perfluorooctanesulfonamid oethanol	µg/kg	<5	<5	<5	<5	<5
MePerfluorooctanesulf- amid oacetic acid	µg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
EtPerfluorooctanesulf amid oacetic acid	µg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Surrogate $^{13}C_8$ *PFOS*	%	110	102	109	110	93
Surrogate $^{13}C_2$ *PFOA*	%	93	97	98	97	96
Extracted ISTD $^{13}C_3$ *PFBS*	%	96	97	96	95	90
Extracted ISTD $^{18}O_2$ *PFHxS*	%	90	96	93	96	86
Extracted ISTD $^{13}C_4$ *PFOS*	%	83	92	89	89	90

PFAS in Soils Extended						
Our Reference		290257-13	290257-18	290257-33	290257-37	290257-53
Your Reference	UNITS	SP3-1	SP3-2	SP4-3	SP5-1	SP6-3
Depth		0.3-0.5	0.8-1.0	0.3-0.5	0.8-1.0	0.3-0.5
Date Sampled		25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Extracted ISTD $^{13}C_4$ *PFBA*	%	95	98	95	95	88
Extracted ISTD $^{13}C_3$ *PFPeA*	%	97	99	103	99	97
Extracted ISTD $^{13}C_2$ *PFHxA*	%	99	102	106	100	99
Extracted ISTD $^{13}C_4$ *PFHpA*	%	88	92	98	95	82
Extracted ISTD $^{13}C_4$ *PFOA*	%	81	89	88	91	68
Extracted ISTD $^{13}C_5$ *PFNA*	%	82	98	107	100	53
Extracted ISTD $^{13}C_2$ *PFDA*	%	73	91	105	99	48
Extracted ISTD $^{13}C_2$ *PFUnDA*	%	23	54	53	53	#
Extracted ISTD $^{13}C_2$ *PFDoDA*	%	44	101	112	109	37
Extracted ISTD $^{13}C_2$ *PFTeDA*	%	56	87	75	91	45
Extracted ISTD $^{13}C_2$ *4:2FTS*	%	97	103	119	99	105
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	85	99	150	106	77
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	80	122	#	124	83
Extracted ISTD $^{13}C_8$ *FOSA*	%	72	92	85	92	50
Extracted ISTD d_3 *N MeFOSA*	%	38	71	53	68	31
Extracted ISTD d_5 *N EtFOSA*	%	74	86	61	87	40
Extracted ISTD d_7 *N MeFOSE*	%	48	82	53	83	32
Extracted ISTD d_9 *N EtFOSE*	%	83	97	63	97	36
Extracted ISTD d_3 *N MeFOSAA*	%	61	104	138	102	55
Extracted ISTD d_5 *N EtFOSAA*	%	39	76	93	77	37
Total Positive PFHxS & PFOS	µg/kg	0.4	0.4	0.3	0.5	0.3
Total Positive PFOS & PFOA	µg/kg	0.4	0.4	0.3	0.6	0.3
Total Positive PFAS	µg/kg	0.4	0.4	0.3	0.6	0.3

PFAS in Soils Extended			
Our Reference		290257-58	290257-71
Your Reference	UNITS	SP7-1	SP8-3
Depth		1.8-2.0	0.3-0.5
Date Sampled		25/02/2022	25/02/2022
Type of sample		Soil	Soil
Date prepared	-	04/03/2022	04/03/2022
Date analysed	-	04/03/2022	04/03/2022
Perfluorobutanesulfonic acid	µg/kg	<0.1	<0.1
Perfluoropentanesulfonic acid	µg/kg	<0.1	<0.1
Perfluorohexanesulfonic acid - PFHxS	µg/kg	<0.1	<0.1
Perfluoroheptanesulfonic acid	µg/kg	<0.1	<0.1
Perfluorooctanesulfonic acid PFOS	µg/kg	0.4	0.8
Perfluorodecanesulfonic acid	µg/kg	<0.2	<0.2
Perfluorobutanoic acid	µg/kg	<0.2	0.2
Perfluoropentanoic acid	µg/kg	<0.2	<0.2
Perfluorohexanoic acid	µg/kg	<0.1	<0.1
Perfluoroheptanoic acid	µg/kg	<0.1	<0.1
Perfluorooctanoic acid PFOA	µg/kg	0.1	0.1
Perfluorononanoic acid	µg/kg	<0.1	<0.1
Perfluorodecanoic acid	µg/kg	<0.5	<0.5
Perfluoroundecanoic acid	µg/kg	<0.5	<0.5
Perfluorododecanoic acid	µg/kg	<0.5	<0.5
Perfluorotridecanoic acid	µg/kg	<0.5	<0.5
Perfluorotetradecanoic acid	µg/kg	<5	<5
4:2 FTS	µg/kg	<0.1	<0.1
6:2 FTS	µg/kg	<0.1	<0.1
8:2 FTS	µg/kg	<0.2	<0.2
10:2 FTS	µg/kg	<0.2	<0.2
Perfluorooctane sulfonamide	µg/kg	<1	<1
N-Methyl perfluorooctane sulfonamide	µg/kg	<1	<1
N-Ethyl perfluorooctanesulfon amide	µg/kg	<1	<1
N-Me perfluorooctanesulfonamid oethanol	µg/kg	<1	<1
N-Et perfluorooctanesulfonamid oethanol	µg/kg	<5	<5
MePerfluorooctanesulf- amid oacetic acid	µg/kg	<0.2	<0.2
EtPerfluorooctanesulf amid oacetic acid	µg/kg	<0.2	<0.2
Surrogate $^{13}C_8$ *PFOS*	%	103	109
Surrogate $^{13}C_2$ *PFOA*	%	96	94
Extracted ISTD $^{13}C_3$ *PFBS*	%	96	97
Extracted ISTD $^{18}O_2$ *PFHxS*	%	99	98
Extracted ISTD $^{13}C_4$ *PFOS*	%	93	92

PFAS in Soils Extended			
Our Reference		290257-58	290257-71
Your Reference	UNITS	SP7-1	SP8-3
Depth		1.8-2.0	0.3-0.5
Date Sampled		25/02/2022	25/02/2022
Type of sample		Soil	Soil
Extracted ISTD $^{13}C_4$ *PFBA*	%	93	91
Extracted ISTD $^{13}C_3$ *PFPeA*	%	99	100
Extracted ISTD $^{13}C_2$ *PFHxA*	%	102	105
Extracted ISTD $^{13}C_4$ *PFHpA*	%	93	97
Extracted ISTD $^{13}C_4$ *PFOA*	%	92	98
Extracted ISTD $^{13}C_5$ *PFNA*	%	104	115
Extracted ISTD $^{13}C_2$ *PFDA*	%	94	111
Extracted ISTD $^{13}C_2$ *PFUnDA*	%	62	76
Extracted ISTD $^{13}C_2$ *PFDoDA*	%	102	130
Extracted ISTD $^{13}C_2$ *PFTeDA*	%	87	94
Extracted ISTD $^{13}C_2$ *4:2FTS*	%	100	101
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	102	114
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	122	167
Extracted ISTD $^{13}C_8$ *FOSA*	%	90	100
Extracted ISTD d_3 *N MeFOSA*	%	73	80
Extracted ISTD d_5 *N EtFOSA*	%	87	89
Extracted ISTD d_7 *N MeFOSE*	%	82	86
Extracted ISTD d_9 *N EtFOSE*	%	97	97
Extracted ISTD d_3 *N MeFOSAA*	%	105	132
Extracted ISTD d_5 *N EtFOSAA*	%	80	108
Total Positive PFHxS & PFOS	µg/kg	0.4	0.8
Total Positive PFOS & PFOA	µg/kg	0.5	0.9
Total Positive PFAS	µg/kg	0.5	1.2

Asbestos ID - materials						
Our Reference		290257-80	290257-82	290257-87	290257-90	290257-95
Your Reference	UNITS	SP3-1-FCF1	SP3-2-FCF1	SP4-1-FCF1-Spoil	SP5-1-FCF2	SP5-3-FCF1
Depth		0-1.0	0-1.0	0-0.5	1.0-2.0	0-1.0
Date Sampled		25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
Type of sample		Material	Material	Material	Material	Material
Date analysed	-	08/03/2022	08/03/2022	08/03/2022	08/03/2022	08/03/2022
Mass / Dimension of Sample	-	50x45x5mm	75x60x5mm	55x35x5mm	50x35x5mm	110x50x5mm
Sample Description	-	Grey fibre cement material	Beige fibre cement material	Beige fibre cement material	Grey fibre cement material	Grey fibre cement material
Asbestos ID in materials	-	Chrysotile asbestos detected Organic fibres detected	Chrysotile asbestos detected Organic fibres detected	Chrysotile asbestos detected Amosite asbestos detected Crocidolite asbestos detected Organic fibres detected	Chrysotile asbestos detected Amosite asbestos detected	Chrysotile asbestos detected Amosite asbestos detected
Trace Analysis	-	[NT]	[NT]	[NT]	[NT]	[NT]

Asbestos ID - materials				
Our Reference		290257-97	290257-100	290257-102
Your Reference	UNITS	SP6-1-FCF1	SP7-3-FCF1-Spoil -	SP8-3-FCF2-Spoil
Depth		0-1.0	-	-
Date Sampled		25/02/2022	25/02/2022	25/02/2022
Type of sample		Material	Material	Material
Date analysed	-	08/03/2022	08/03/2022	08/03/2022
Mass / Dimension of Sample	-	50x40x5mm	45x25x5mm	50x40x5mm
Sample Description	-	Beige fibre cement material	Grey fibre cement material	Grey fibre cement material
Asbestos ID in materials	-	Chrysotile asbestos detected Organic fibres detected	No asbestos detected	Chrysotile asbestos detected
Trace Analysis	-	[NT]	No asbestos detected	[NT]

Method ID	Methodology Summary
ASB-001	Asbestos ID - Qualitative identification of asbestos in bulk samples using Polarised Light Microscopy and Dispersion Staining Techniques including Synthetic Mineral Fibre and Organic Fibre as per Australian Standard 4964-2004.
ASB-001	Asbestos ID - Identification of asbestos in soil samples using Polarised Light Microscopy and Dispersion Staining Techniques. Minimum 500mL soil sample was analysed as recommended by "National Environment Protection (Assessment of site contamination) Measure, Schedule B1 and "The Guidelines from the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia - May 2009" with a reporting limit of 0.1g/kg (0.01% w/w) as per Australian Standard AS4964-2004. Results reported denoted with * are outside our scope of NATA accreditation. **NOTE** #1 Total Asbestos g/kg was analysed and reported as per Australian Standard AS4964 (This is the sum of ACM >7mm, <7mm and FA/AF) **NOTE** #2 The screening level of 0.001% w/w asbestos in soil for FA and AF only applies where the FA and AF are able to be quantified by gravimetric procedures. This screening level is not applicable to free fibres. Estimation = Estimated asbestos weight Results reported with "--" is equivalent to no visible asbestos identified using Polarised Light microscopy and Dispersion Staining Techniques.
Inorg-008	Moisture content determined by heating at 105+/-5 °C for a minimum of 12 hours.
Metals-020	Determination of various metals by ICP-AES.
Metals-021	Determination of Mercury by Cold Vapour AAS.
Org-020	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis.
Org-020	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis. Note, the Total +ve TRH PQL is reflective of the lowest individual PQL and is therefore "Total +ve TRH" is simply a sum of the positive individual TRH fractions (>C10-C40).
Org-021	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-ECD.

Method ID	Methodology Summary
Org-021	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-ECD. Note, the Total +ve PCBs PQL is reflective of the lowest individual PQL and is therefore" Total +ve PCBs" is simply a sum of the positive individual PCBs.
Org-022	Determination of VOCs sampled onto coconut shell charcoal sorbent tubes, that can be desorbed using carbon disulphide, and analysed by GC-MS.
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS/GC-MSMS.
Org-022/025	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-MS/GC-MSMS. Note, the Total +ve reported DDD+DDE+DDT PQL is reflective of the lowest individual PQL and is therefore simply a sum of the positive individually report DDD+DDE+DDT.
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS and/or GC-MS/MS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013. For soil results:- 1. 'EQ PQL'values are assuming all contributing PAHs reported as <PQL are actually at the PQL. This is the most conservative approach and can give false positive TEQs given that PAHs that contribute to the TEQ calculation may not be present. 2. 'EQ zero'values are assuming all contributing PAHs reported as <PQL are zero. This is the least conservative approach and is more susceptible to false negative TEQs when PAHs that contribute to the TEQ calculation are present but below PQL. 3. 'EQ half PQL'values are assuming all contributing PAHs reported as <PQL are half the stipulated PQL. Hence a mid-point between the most and least conservative approaches above. Note, the Total +ve PAHs PQL is reflective of the lowest individual PQL and is therefore "Total +ve PAHs" is simply a sum of the positive individual PAHs.
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS.
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater. Note, the Total +ve Xylene PQL is reflective of the lowest individual PQL and is therefore "Total +ve Xylenes" is simply a sum of the positive individual Xylenes.

Method ID	Methodology Summary
Org-029	Soil samples are extracted with basified Methanol. Waters and soil extracts are directly injected and/or concentrated/extracted using SPE. TCLPs/ASLP leachates are centrifuged, the supernatant is then analysed (including amendment with solvent) - as per the option in AS4439.3. Analysis is undertaken with LC-MS/MS. PFAS results include the sum of branched and linear isomers where applicable. Please note that PFAS results are corrected for Extracted Internal Standards (QSM 5.3 Table B-15 terminology), which are mass labelled analytes added prior to sample preparation to assess matrix effects and verify processing of the sample. PFAS analytes without a commercially available mass labelled analogue are corrected vs a closely eluting mass labelled PFAS compound. Surrogates are also reported, in this context they are mass labelled PFAS compounds added prior to extraction but are used as monitoring compounds only (not used for result correction). Envicarb (or similar) is used discretionally to remove interfering matrix components. Please contact the laboratory if estimates of Measurement Uncertainty are required as per WA DER.

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-6	290257-13
Date extracted	-			04/03/2022	1	04/03/2022	04/03/2022		04/03/2022	04/03/2022
Date analysed	-			04/03/2022	1	07/03/2022	07/03/2022		04/03/2022	04/03/2022
TRH C_6 - C_9	mg/kg	25	Org-023	<25	1	<25	<25	0	83	71
TRH C_6 - C_{10}	mg/kg	25	Org-023	<25	1	<25	<25	0	83	71
Benzene	mg/kg	0.2	Org-023	<0.2	1	<0.2	<0.2	0	83	70
Toluene	mg/kg	0.5	Org-023	<0.5	1	<0.5	<0.5	0	90	76
Ethylbenzene	mg/kg	1	Org-023	<1	1	<1	<1	0	62	70
m+p-xylene	mg/kg	2	Org-023	<2	1	<2	<2	0	89	70
o-Xylene	mg/kg	1	Org-023	<1	1	<1	<1	0	81	65
Naphthalene	mg/kg	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-023	108	1	88	104	17	87	83

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-7	290257-76
Date extracted	-			[NT]	37	04/03/2022	04/03/2022		04/03/2022	04/03/2022
Date analysed	-			[NT]	37	04/03/2022	07/03/2022		04/03/2022	04/03/2022
TRH C_6 - C_9	mg/kg	25	Org-023	[NT]	37	<25	<25	0	81	82
TRH C_6 - C_{10}	mg/kg	25	Org-023	[NT]	37	<25	<25	0	81	82
Benzene	mg/kg	0.2	Org-023	[NT]	37	<0.2	<0.2	0	83	86
Toluene	mg/kg	0.5	Org-023	[NT]	37	<0.5	<0.5	0	88	92
Ethylbenzene	mg/kg	1	Org-023	[NT]	37	<1	<1	0	67	67
m+p-xylene	mg/kg	2	Org-023	[NT]	37	<2	<2	0	84	83
o-Xylene	mg/kg	1	Org-023	[NT]	37	<1	<1	0	82	79
Naphthalene	mg/kg	1	Org-023	[NT]	37	<1	<1	0	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-023	[NT]	37	81	91	12	76	83

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	73	04/03/2022	04/03/2022		[NT]	[NT]
Date analysed	-			[NT]	73	04/03/2022	04/03/2022		[NT]	[NT]
TRH C_6 - C_9	mg/kg	25	Org-023	[NT]	73	<25	<25	0	[NT]	[NT]
TRH C_6 - C_{10}	mg/kg	25	Org-023	[NT]	73	<25	<25	0	[NT]	[NT]
Benzene	mg/kg	0.2	Org-023	[NT]	73	<0.2	<0.2	0	[NT]	[NT]
Toluene	mg/kg	0.5	Org-023	[NT]	73	<0.5	<0.5	0	[NT]	[NT]
Ethylbenzene	mg/kg	1	Org-023	[NT]	73	<1	<1	0	[NT]	[NT]
m+p-xylene	mg/kg	2	Org-023	[NT]	73	<2	<2	0	[NT]	[NT]
o-Xylene	mg/kg	1	Org-023	[NT]	73	<1	<1	0	[NT]	[NT]
Naphthalene	mg/kg	1	Org-023	[NT]	73	<1	<1	0	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-023	[NT]	73	73	88	19	[NT]	[NT]

QUALITY CONTROL: svTRH (C10-C40) in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-6	290257-13
Date extracted	-			04/03/2022	1	04/03/2022	04/03/2022		04/03/2022	04/03/2022
Date analysed	-			05/03/2022	1	05/03/2022	05/03/2022		05/03/2022	05/03/2022
TRH C_{10} - C_{14}	mg/kg	50	Org-020	<50	1	<50	<50	0	98	88
TRH C_{15} - C_{28}	mg/kg	100	Org-020	<100	1	100	<100	0	102	78
TRH C_{29} - C_{36}	mg/kg	100	Org-020	<100	1	<100	<100	0	121	127
TRH >C_{10} -C_{16}	mg/kg	50	Org-020	<50	1	<50	<50	0	98	88
TRH >C_{16} -C_{34}	mg/kg	100	Org-020	<100	1	120	<100	18	102	78
TRH >C_{34} -C_{40}	mg/kg	100	Org-020	<100	1	<100	<100	0	121	127
Surrogate o-Terphenyl	%		Org-020	89	1	103	111	7	118	113

QUALITY CONTROL: svTRH (C10-C40) in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-7	290257-76
Date extracted	-			[NT]	37	04/03/2022	04/03/2022		04/03/2022	04/03/2022
Date analysed	-			[NT]	37	05/03/2022	05/03/2022		05/03/2022	05/03/2022
TRH C_{10} - C_{14}	mg/kg	50	Org-020	[NT]	37	<50	<50	0	71	100
TRH C_{15} - C_{28}	mg/kg	100	Org-020	[NT]	37	<100	<100	0	102	85
TRH C_{29} - C_{36}	mg/kg	100	Org-020	[NT]	37	<100	<100	0	109	#
TRH >C_{10} -C_{16}	mg/kg	50	Org-020	[NT]	37	<50	<50	0	71	100
TRH >C_{16} -C_{34}	mg/kg	100	Org-020	[NT]	37	<100	140	33	102	85
TRH >C_{34} -C_{40}	mg/kg	100	Org-020	[NT]	37	<100	<100	0	109	#
Surrogate o-Terphenyl	%		Org-020	[NT]	37	106	98	8	123	111

QUALITY CONTROL: svTRH (C10-C40) in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	73	04/03/2022	04/03/2022		[NT]	[NT]
Date analysed	-			[NT]	73	05/03/2022	05/03/2022		[NT]	[NT]
TRH C_{10} - C_{14}	mg/kg	50	Org-020	[NT]	73	<50	<50	0	[NT]	[NT]
TRH C_{15} - C_{28}	mg/kg	100	Org-020	[NT]	73	<100	<100	0	[NT]	[NT]
TRH C_{29} - C_{36}	mg/kg	100	Org-020	[NT]	73	100	<100	0	[NT]	[NT]
TRH >C_{10} -C_{16}	mg/kg	50	Org-020	[NT]	73	<50	<50	0	[NT]	[NT]
TRH >C_{16} -C_{34}	mg/kg	100	Org-020	[NT]	73	150	<100	40	[NT]	[NT]
TRH >C_{34} -C_{40}	mg/kg	100	Org-020	[NT]	73	<100	<100	0	[NT]	[NT]
Surrogate o-Terphenyl	%		Org-020	[NT]	73	86	80	7	[NT]	[NT]

QUALITY CONTROL: PAHs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-6	290257-13
Date extracted	-			08/03/2022	1	04/03/2022	04/03/2022		04/03/2022	04/03/2022
Date analysed	-			09/03/2022	1	04/03/2022	04/03/2022		04/03/2022	04/03/2022
Naphthalene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	113	103
Acenaphthylene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	105	101
Fluorene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	114	111
Phenanthrene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	110	108
Anthracene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	116	114
Pyrene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	117	115
Benzo(a)anthracene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	91	89
Benzo(b,j+k)fluoranthene	mg/kg	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-022/025	<0.05	1	<0.05	<0.05	0	118	110
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	114	1	116	117	1	111	111

QUALITY CONTROL: PAHs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-7	290257-76
Date extracted	-			[NT]	37	04/03/2022	04/03/2022		04/03/2022	04/03/2022
Date analysed	-			[NT]	37	04/03/2022	04/03/2022		04/03/2022	04/03/2022
Naphthalene	mg/kg	0.1	Org-022/025	[NT]	37	<0.1	<0.1	0	113	120
Acenaphthylene	mg/kg	0.1	Org-022/025	[NT]	37	<0.1	<0.1	0	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-022/025	[NT]	37	<0.1	<0.1	0	109	96
Fluorene	mg/kg	0.1	Org-022/025	[NT]	37	<0.1	<0.1	0	116	140
Phenanthrene	mg/kg	0.1	Org-022/025	[NT]	37	<0.1	<0.1	0	112	#
Anthracene	mg/kg	0.1	Org-022/025	[NT]	37	<0.1	<0.1	0	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-022/025	[NT]	37	<0.1	<0.1	0	125	#
Pyrene	mg/kg	0.1	Org-022/025	[NT]	37	<0.1	<0.1	0	127	#
Benzo(a)anthracene	mg/kg	0.1	Org-022/025	[NT]	37	<0.1	<0.1	0	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-022/025	[NT]	37	<0.1	<0.1	0	97	#
Benzo(b,j+k)fluoranthene	mg/kg	0.2	Org-022/025	[NT]	37	<0.2	<0.2	0	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-022/025	[NT]	37	<0.05	0.05	0	120	#
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-022/025	[NT]	37	<0.1	<0.1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-022/025	[NT]	37	<0.1	<0.1	0	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-022/025	[NT]	37	<0.1	<0.1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	[NT]	37	110	114	4	117	136

QUALITY CONTROL: PAHs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	73	04/03/2022	04/03/2022		[NT]	[NT]
Date analysed	-			[NT]	73	04/03/2022	04/03/2022		[NT]	[NT]
Naphthalene	mg/kg	0.1	Org-022/025	[NT]	73	<0.1	<0.1	0	[NT]	[NT]
Acenaphthylene	mg/kg	0.1	Org-022/025	[NT]	73	0.6	0.3	67	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-022/025	[NT]	73	<0.1	<0.1	0	[NT]	[NT]
Fluorene	mg/kg	0.1	Org-022/025	[NT]	73	<0.1	<0.1	0	[NT]	[NT]
Phenanthrene	mg/kg	0.1	Org-022/025	[NT]	73	0.7	<0.1	150	[NT]	[NT]
Anthracene	mg/kg	0.1	Org-022/025	[NT]	73	0.5	<0.1	133	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-022/025	[NT]	73	2.9	0.4	152	[NT]	[NT]
Pyrene	mg/kg	0.1	Org-022/025	[NT]	73	4.2	0.5	157	[NT]	[NT]
Benzo(a)anthracene	mg/kg	0.1	Org-022/025	[NT]	73	3.2	0.3	166	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-022/025	[NT]	73	2.1	0.3	150	[NT]	[NT]
Benzo(b,j+k)fluoranthene	mg/kg	0.2	Org-022/025	[NT]	73	4.4	0.5	159	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-022/025	[NT]	73	3.2	0.4	156	[NT]	[NT]
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-022/025	[NT]	73	1.2	0.2	143	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-022/025	[NT]	73	0.4	<0.1	120	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-022/025	[NT]	73	1.4	0.3	129	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	[NT]	73	105	101	4	[NT]	[NT]

QUALITY CONTROL: Organochlorine Pesticides in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-6	290257-13
Date extracted	-			04/03/2022	1	04/03/2022	04/03/2022		04/03/2022	04/03/2022
Date analysed	-			04/03/2022	1	04/03/2022	04/03/2022		04/03/2022	04/03/2022
alpha-BHC	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	106	102
HCB	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
beta-BHC	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	114	110
gamma-BHC	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Heptachlor	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	107	107
delta-BHC	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Aldrin	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	99	97
Heptachlor Epoxide	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	116	114
gamma-Chlordane	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
alpha-chlordane	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Endosulfan I	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
pp-DDE	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	117	113
Dieldrin	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	116	106
Endrin	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	115	113
Endosulfan II	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
pp-DDD	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	98	98
Endrin Aldehyde	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
pp-DDT	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Endosulfan Sulphate	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	94	79
Methoxychlor	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-022/025	90	1	111	109	2	110	110

QUALITY CONTROL: Organochlorine Pesticides in soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	37	04/03/2022	04/03/2022		[NT]	[NT]
Date analysed	-			[NT]	37	04/03/2022	04/03/2022		[NT]	[NT]
alpha-BHC	mg/kg	0.1	Org-022/025	[NT]	37	<0.1	<0.1	0	[NT]	[NT]
HCB	mg/kg	0.1	Org-022/025	[NT]	37	<0.1	<0.1	0	[NT]	[NT]
beta-BHC	mg/kg	0.1	Org-022/025	[NT]	37	<0.1	<0.1	0	[NT]	[NT]
gamma-BHC	mg/kg	0.1	Org-022/025	[NT]	37	<0.1	<0.1	0	[NT]	[NT]
Heptachlor	mg/kg	0.1	Org-022/025	[NT]	37	<0.1	<0.1	0	[NT]	[NT]
delta-BHC	mg/kg	0.1	Org-022/025	[NT]	37	<0.1	<0.1	0	[NT]	[NT]
Aldrin	mg/kg	0.1	Org-022/025	[NT]	37	<0.1	<0.1	0	[NT]	[NT]
Heptachlor Epoxide	mg/kg	0.1	Org-022/025	[NT]	37	<0.1	<0.1	0	[NT]	[NT]
gamma-Chlordane	mg/kg	0.1	Org-022/025	[NT]	37	<0.1	<0.1	0	[NT]	[NT]
alpha-chlordane	mg/kg	0.1	Org-022/025	[NT]	37	<0.1	<0.1	0	[NT]	[NT]
Endosulfan I	mg/kg	0.1	Org-022/025	[NT]	37	<0.1	<0.1	0	[NT]	[NT]
pp-DDE	mg/kg	0.1	Org-022/025	[NT]	37	<0.1	<0.1	0	[NT]	[NT]
Dieldrin	mg/kg	0.1	Org-022/025	[NT]	37	<0.1	<0.1	0	[NT]	[NT]
Endrin	mg/kg	0.1	Org-022/025	[NT]	37	<0.1	<0.1	0	[NT]	[NT]
Endosulfan II	mg/kg	0.1	Org-022/025	[NT]	37	<0.1	<0.1	0	[NT]	[NT]
pp-DDD	mg/kg	0.1	Org-022/025	[NT]	37	<0.1	<0.1	0	[NT]	[NT]
Endrin Aldehyde	mg/kg	0.1	Org-022/025	[NT]	37	<0.1	<0.1	0	[NT]	[NT]
pp-DDT	mg/kg	0.1	Org-022/025	[NT]	37	<0.1	<0.1	0	[NT]	[NT]
Endosulfan Sulphate	mg/kg	0.1	Org-022/025	[NT]	37	<0.1	<0.1	0	[NT]	[NT]
Methoxychlor	mg/kg	0.1	Org-022/025	[NT]	37	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-022/025	[NT]	37	105	113	7	[NT]	[NT]

QUALITY CONTROL: Organophosphorus Pesticides in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-6	290257-13
Date extracted	-			04/03/2022	1	04/03/2022	04/03/2022		04/03/2022	04/03/2022
Date analysed	-			04/03/2022	1	04/03/2022	04/03/2022		04/03/2022	04/03/2022
Dichlorvos	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	126	110
Dimethoate	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Diazinon	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Chlorpyriphos-methyl	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Ronnel	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	112	106
Fenitrothion	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	128	123
Malathion	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	124	124
Chlorpyriphos	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	128	118
Parathion	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	105	111
Bromophos-ethyl	mg/kg	0.1	Org-022	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Ethion	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	129	115
Azinphos-methyl (Guthion)	mg/kg	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-022/025	90	1	111	109	2	110	110

QUALITY CONTROL: Organophosphorus Pesticides in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	37	04/03/2022	04/03/2022		[NT]	[NT]
Date analysed	-			[NT]	37	04/03/2022	04/03/2022		[NT]	[NT]
Dichlorvos	mg/kg	0.1	Org-022/025	[NT]	37	<0.1	<0.1	0	[NT]	[NT]
Dimethoate	mg/kg	0.1	Org-022/025	[NT]	37	<0.1	<0.1	0	[NT]	[NT]
Diazinon	mg/kg	0.1	Org-022/025	[NT]	37	<0.1	<0.1	0	[NT]	[NT]
Chlorpyriphos-methyl	mg/kg	0.1	Org-022/025	[NT]	37	<0.1	<0.1	0	[NT]	[NT]
Ronnel	mg/kg	0.1	Org-022/025	[NT]	37	<0.1	<0.1	0	[NT]	[NT]
Fenitrothion	mg/kg	0.1	Org-022/025	[NT]	37	<0.1	<0.1	0	[NT]	[NT]
Malathion	mg/kg	0.1	Org-022/025	[NT]	37	<0.1	<0.1	0	[NT]	[NT]
Chlorpyriphos	mg/kg	0.1	Org-022/025	[NT]	37	<0.1	<0.1	0	[NT]	[NT]
Parathion	mg/kg	0.1	Org-022/025	[NT]	37	<0.1	<0.1	0	[NT]	[NT]
Bromophos-ethyl	mg/kg	0.1	Org-022	[NT]	37	<0.1	<0.1	0	[NT]	[NT]
Ethion	mg/kg	0.1	Org-022/025	[NT]	37	<0.1	<0.1	0	[NT]	[NT]
Azinphos-methyl (Guthion)	mg/kg	0.1	Org-022/025	[NT]	37	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-022/025	[NT]	37	105	113	7	[NT]	[NT]

QUALITY CONTROL: PCBs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-6	290257-13
Date extracted	-			04/03/2022	1	04/03/2022	04/03/2022		04/03/2022	04/03/2022
Date analysed	-			04/03/2022	1	04/03/2022	04/03/2022		04/03/2022	04/03/2022
Aroclor 1016	mg/kg	0.1	Org-021	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1221	mg/kg	0.1	Org-021	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1232	mg/kg	0.1	Org-021	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1242	mg/kg	0.1	Org-021	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1248	mg/kg	0.1	Org-021	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1254	mg/kg	0.1	Org-021	<0.1	1	<0.1	<0.1	0	103	80
Aroclor 1260	mg/kg	0.1	Org-021	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-021	90	1	111	109	2	110	110

QUALITY CONTROL: PCBs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	37	04/03/2022	04/03/2022		[NT]	[NT]
Date analysed	-			[NT]	37	07/03/2022	07/03/2022		[NT]	[NT]
Aroclor 1016	mg/kg	0.1	Org-021	[NT]	37	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1221	mg/kg	0.1	Org-021	[NT]	37	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1232	mg/kg	0.1	Org-021	[NT]	37	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1242	mg/kg	0.1	Org-021	[NT]	37	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1248	mg/kg	0.1	Org-021	[NT]	37	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1254	mg/kg	0.1	Org-021	[NT]	37	<0.1	0.3	100	[NT]	[NT]
Aroclor 1260	mg/kg	0.1	Org-021	[NT]	37	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-021	[NT]	37	105	113	7	[NT]	[NT]

QUALITY CONTROL: PCBs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	58	04/03/2022	04/03/2022		[NT]	[NT]
Date analysed	-			[NT]	58	07/03/2022	07/03/2022		[NT]	[NT]
Aroclor 1016	mg/kg	0.1	Org-021	[NT]	58	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1221	mg/kg	0.1	Org-021	[NT]	58	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1232	mg/kg	0.1	Org-021	[NT]	58	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1242	mg/kg	0.1	Org-021	[NT]	58	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1248	mg/kg	0.1	Org-021	[NT]	58	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1254	mg/kg	0.1	Org-021	[NT]	58	0.6	0.7	15	[NT]	[NT]
Aroclor 1260	mg/kg	0.1	Org-021	[NT]	58	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-021	[NT]	58	106	87	20	[NT]	[NT]

QUALITY CONTROL: Acid Extractable metals in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-6	290257-13
Date prepared	-			04/03/2022	1	04/03/2022	04/03/2022		04/03/2022	04/03/2022
Date analysed	-			04/03/2022	1	04/03/2022	04/03/2022		04/03/2022	04/03/2022
Arsenic	mg/kg	4	Metals-020	<4	1	<4	<4	0	84	94
Cadmium	mg/kg	0.4	Metals-020	<0.4	1	<0.4	<0.4	0	84	88
Chromium	mg/kg	1	Metals-020	<1	1	7	7	0	84	96
Copper	mg/kg	1	Metals-020	<1	1	9	8	12	85	104
Lead	mg/kg	1	Metals-020	<1	1	47	48	2	85	#
Mercury	mg/kg	0.1	Metals-021	<0.1	1	<0.1	<0.1	0	97	124
Nickel	mg/kg	1	Metals-020	<1	1	8	3	91	84	92
Zinc	mg/kg	1	Metals-020	<1	1	39	38	3	84	##

QUALITY CONTROL: Acid Extractable metals in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-7	290257-76
Date prepared	-			[NT]	37	04/03/2022	04/03/2022		04/03/2022	04/03/2022
Date analysed	-			[NT]	37	04/03/2022	04/03/2022		04/03/2022	04/03/2022
Arsenic	mg/kg	4	Metals-020	[NT]	37	8	5	46	92	79
Cadmium	mg/kg	0.4	Metals-020	[NT]	37	0.8	0.5	46	90	72
Chromium	mg/kg	1	Metals-020	[NT]	37	13	9	36	91	73
Copper	mg/kg	1	Metals-020	[NT]	37	99	47	71	91	89
Lead	mg/kg	1	Metals-020	[NT]	37	1100	860	24	91	73
Mercury	mg/kg	0.1	Metals-021	[NT]	37	0.3	0.2	40	103	75
Nickel	mg/kg	1	Metals-020	[NT]	37	11	6	59	90	76
Zinc	mg/kg	1	Metals-020	[NT]	37	640	450	35	90	76

QUALITY CONTROL: Acid Extractable metals in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	73	04/03/2022	04/03/2022		[NT]	[NT]
Date analysed	-			[NT]	73	04/03/2022	04/03/2022		[NT]	[NT]
Arsenic	mg/kg	4	Metals-020	[NT]	73	<4	<4	0	[NT]	[NT]
Cadmium	mg/kg	0.4	Metals-020	[NT]	73	<0.4	<0.4	0	[NT]	[NT]
Chromium	mg/kg	1	Metals-020	[NT]	73	13	17	27	[NT]	[NT]
Copper	mg/kg	1	Metals-020	[NT]	73	35	43	21	[NT]	[NT]
Lead	mg/kg	1	Metals-020	[NT]	73	250	250	0	[NT]	[NT]
Mercury	mg/kg	0.1	Metals-021	[NT]	73	<0.1	<0.1	0	[NT]	[NT]
Nickel	mg/kg	1	Metals-020	[NT]	73	5	8	46	[NT]	[NT]
Zinc	mg/kg	1	Metals-020	[NT]	73	120	130	8	[NT]	[NT]

QUALITY CONTROL: PFAS in Soils Extended						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-6	290257-13
Date prepared	-			04/03/2022	37	04/03/2022	04/03/2022		04/03/2022	04/03/2022
Date analysed	-			04/03/2022	37	04/03/2022	04/03/2022		04/03/2022	04/03/2022
Perfluorobutanesulfonic acid	µg/kg	0.1	Org-029	<0.1	37	<0.1	<0.1	0	106	101
Perfluoropentanesulfonic acid	µg/kg	0.1	Org-029	<0.1	37	<0.1	<0.1	0	102	100
Perfluorohexanesulfonic acid - PFHxS	µg/kg	0.1	Org-029	<0.1	37	<0.1	<0.1	0	106	104
Perfluoroheptanesulfonic acid	µg/kg	0.1	Org-029	<0.1	37	<0.1	<0.1	0	112	104
Perfluorooctanesulfonic acid PFOS	µg/kg	0.1	Org-029	<0.1	37	0.5	0.6	18	120	110
Perfluorodecanesulfonic acid	µg/kg	0.2	Org-029	<0.2	37	<0.2	<0.2	0	99	69
Perfluorobutanoic acid	µg/kg	0.2	Org-029	<0.2	37	<0.2	<0.2	0	102	101
Perfluoropentanoic acid	µg/kg	0.2	Org-029	<0.2	37	<0.2	<0.2	0	102	102
Perfluorohexanoic acid	µg/kg	0.1	Org-029	<0.1	37	<0.1	<0.1	0	99	101
Perfluoroheptanoic acid	µg/kg	0.1	Org-029	<0.1	37	<0.1	<0.1	0	104	103
Perfluorooctanoic acid PFOA	µg/kg	0.1	Org-029	<0.1	37	0.1	0.1	0	112	111
Perfluorononanoic acid	µg/kg	0.1	Org-029	<0.1	37	<0.1	<0.1	0	95	91
Perfluorodecanoic acid	µg/kg	0.5	Org-029	<0.5	37	<0.5	<0.5	0	90	97
Perfluoroundecanoic acid	µg/kg	0.5	Org-029	<0.5	37	<0.5	<0.5	0	114	115
Perfluorododecanoic acid	µg/kg	0.5	Org-029	<0.5	37	<0.5	<0.5	0	102	104
Perfluorotridecanoic acid	µg/kg	0.5	Org-029	<0.5	37	<0.5	<0.5	0	100	103
Perfluorotetradecanoic acid	µg/kg	5	Org-029	<5	37	<5	<5	0	106	106
4:2 FTS	µg/kg	0.1	Org-029	<0.1	37	<0.1	<0.1	0	102	105
6:2 FTS	µg/kg	0.1	Org-029	<0.1	37	<0.1	<0.1	0	109	111
8:2 FTS	µg/kg	0.2	Org-029	<0.2	37	<0.2	<0.2	0	103	103
10:2 FTS	µg/kg	0.2	Org-029	<0.2	37	<0.2	<0.2	0	114	71
Perfluorooctane sulfonamide	µg/kg	1	Org-029	<1	37	<1	<1	0	105	103
N-Methyl perfluorooctane sulfonamide	µg/kg	1	Org-029	<1	37	<1	<1	0	108	110
N-Ethyl perfluorooctanesulfon amide	µg/kg	1	Org-029	<1	37	<1	<1	0	103	100
N-Me perfluorooctanesulfonamid oethanol	µg/kg	1	Org-029	<1	37	<1	<1	0	101	87
N-Et perfluorooctanesulfonamid oethanol	µg/kg	5	Org-029	<5	37	<5	<5	0	95	94
MePerfluorooctanesulf- amid oacetic acid	µg/kg	0.2	Org-029	<0.2	37	<0.2	<0.2	0	101	97
EtPerfluorooctanesulf amid oacetic acid	µg/kg	0.2	Org-029	<0.2	37	<0.2	<0.2	0	106	117
Surrogate $^{13}C_8$ *PFOS*	%		Org-029	108	37	110	95	15	112	107
Surrogate $^{13}C_2$ *PFOA*	%		Org-029	95	37	97	97	0	96	95

QUALITY CONTROL: PFAS in Soils Extended						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-6	290257-13
Extracted ISTD $^{13}C_3$ *PFBS*	%		Org-029	109	37	95	97	2	104	100
Extracted ISTD $^{18}O_2$ *PFHxS*	%		Org-029	107	37	96	97	1	98	96
Extracted ISTD $^{13}C_4$ *PFOS*	%		Org-029	98	37	89	98	10	92	87
Extracted ISTD $^{13}C_4$ *PFBA*	%		Org-029	115	37	95	97	2	106	99
Extracted ISTD $^{13}C_3$ *PFPeA*	%		Org-029	114	37	99	99	0	103	99
Extracted ISTD $^{13}C_2$ *PFHxA*	%		Org-029	119	37	100	100	0	110	106
Extracted ISTD $^{13}C_4$ *PFHpA*	%		Org-029	101	37	95	94	1	96	92
Extracted ISTD $^{13}C_4$ *PFOA*	%		Org-029	99	37	91	92	1	95	85
Extracted ISTD $^{13}C_5$ *PFNA*	%		Org-029	117	37	100	104	4	107	83
Extracted ISTD $^{13}C_2$ *PFDA*	%		Org-029	114	37	99	98	1	101	75
Extracted ISTD $^{13}C_2$ *PFUnDA*	%		Org-029	107	37	53	59	11	104	22
Extracted ISTD $^{13}C_2$ *PFDoDA*	%		Org-029	130	37	109	109	0	116	46
Extracted ISTD $^{13}C_2$ *PFTeDA*	%		Org-029	108	37	91	90	1	102	59
Extracted ISTD $^{13}C_2$ *4:2FTS*	%		Org-029	105	37	99	101	2	102	97
Extracted ISTD $^{13}C_2$ *6:2FTS*	%		Org-029	106	37	106	106	0	101	87
Extracted ISTD $^{13}C_2$ *8:2FTS*	%		Org-029	132	37	124	125	1	115	81
Extracted ISTD $^{13}C_8$ *FOSA*	%		Org-029	112	37	92	93	1	102	75
Extracted ISTD d_3 *N MeFOSA*	%		Org-029	103	37	68	74	8	97	41
Extracted ISTD d_5 *N EtFOSA*	%		Org-029	110	37	87	87	0	102	79
Extracted ISTD d_7 *N MeFOSE*	%		Org-029	106	37	83	80	4	103	50

QUALITY CONTROL: PFAS in Soils Extended						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-6	290257-13
Extracted ISTD d_9 *N EtFOSE*	%		Org-029	122	37	97	98	1	111	90
Extracted ISTD d_3 *N MeFOSAA*	%		Org-029	122	37	102	109	7	114	69
Extracted ISTD d_5 *N EtFOSAA*	%		Org-029	139	37	77	80	4	119	39

Result Definitions

NT	Not tested
NA	Test not required
INS	Insufficient sample for this test
PQL	Practical Quantitation Limit
<	Less than
>	Greater than
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
NS	Not specified
NEPM	National Environmental Protection Measure
NR	Not Reported

Quality Control Definitions

Blank	This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate	This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike	A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample)	This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike	Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011.

The recommended maximums for analytes in urine are taken from “2018 TLVs and BEIs”, as published by ACGIH (where available). Limit provided for Nickel is a precautionary guideline as per Position Paper prepared by AIOH Exposure Standards Committee, 2016.

Guideline limits for Rinse Water Quality reported as per analytical requirements and specifications of AS 4187, Amdt 2 2019, Table 7.2

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: >10xPQL - RPD acceptance criteria will vary depending on the analytes and the analytical techniques but is typically in the range 20%-50% – see ELN-P05 QA/QC tables for details; <10xPQL - RPD are higher as the results approach PQL and the estimated measurement uncertainty will statistically increase.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals (not SPOCAS); 60-140% for organics/SPOCAS (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

Measurement Uncertainty estimates are available for most tests upon request.

Analysis of aqueous samples typically involves the extraction/digestion and/or analysis of the liquid phase only (i.e. NOT any settled sediment phase but inclusive of suspended particles if present), unless stipulated on the Envirolab COC and/or by correspondence. Notable exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, total recoverable metals and PFAS where solids are included by default.

Samples for Microbiological analysis (not Amoeba forms) received outside of the 2-8°C temperature range do not meet the ideal cooling conditions as stated in AS2031-2012.

Report Comments

TRH Soil C10-C40 NEPM - # Percent recovery for the surrogate/matrix spike is not possible to report as the high concentration of analytes in samples 290257-26,31,76,76ms have caused interference.

For PFAS Extracted Internal Standards denoted with # or outside the 50-150% acceptance range, the respective target analyte results may be unaffected, in other circumstances the PQL has been raised to accommodate the outlier(s).

PFAS in Soil:
PQL raised for PFNA and PFUnDA for 290257-53 due to matrix interference.

Acid Extractable Metals in Soil:
-The laboratory RPD acceptance criteria has been exceeded for 290257-1 for Cu. Therefore a triplicate result has been issued as laboratory sample number 290257-108.
-The laboratory RPD acceptance criteria has been exceeded for 290257-37 for Cu and Ni. Therefore a triplicate result has been issued as laboratory sample number 290257-109.
- # Percent recovery is not applicable due to the high concentration of the element/s in the sample/s. However an acceptable recovery was obtained for the LCS.
- ## Percent recovery is not possible to report due to the inhomogeneous nature of the element/s in the sample/s. However an acceptable recovery was obtained for the LCS.

PAH_S:
- # Percent recovery for the surrogate/matrix spike is not possible to report as the high concentration of analytes in samples 290257-76ms have caused interference.
- The RPD for duplicate results is accepted due to the non homogenous nature of sample/s 290257-73,73d.
- The laboratory RPD acceptance criteria has been exceeded for 290257-73. Therefore a triplicate result has been issued as laboratory sample number 290257-110.

Asbestos-ID in soil: NEPM
This report is consistent with the reporting recommendations in the National Environment Protection (Assessment of Site Contamination) Measure, Schedule B1, May 2013. This is reported outside our scope of NATA accreditation.

Factual description of asbestos identified in the soil samples: NEPM
Sample 290257-13; Chrysotile asbestos identified in 0.1372g of fibre cement material >7mm

Sample 290257-37; Chrysotile and Amosite asbestos identified in 0.8489g of fibre cement material >7mm

Envirolab Services Pty Ltd
ABN 37 112 535 645
12 Ashley St Chatswood NSW 2067
ph 02 9910 6200 fax 02 9910 6201
customerservice@envirolab.com.au
www.envirolab.com.au

SAMPLE RECEIPT ADVICE

Client Details

Client	JK Environments
Attention	C Ridley

Sample Login Details

Your reference	E33051BR, Mittagong
Envirolab Reference	290257
Date Sample Received	01/03/2022
Date Instructions Received	02/03/2022
Date Results Expected to be Reported	10/03/2022

Sample Condition

Samples received in appropriate condition for analysis	Yes
No. of Samples Provided	84 Soil, 23 Material
Turnaround Time Requested	Standard
Temperature on Receipt (°C)	10
Cooling Method	Ice
Sampling Date Provided	YES

Comments

Nil

Please direct any queries to:

Aileen Hie	Jacinta Hurst
Phone: 02 9910 6200	**Phone: 02 9910 6200**
Fax: 02 9910 6201	**Fax: 02 9910 6201**
Email: ahie@envirolab.com.au	**Email: jhurst@envirolab.com.au**

Analysis Underway, details on the following page:

Envirolab Services Pty Ltd
ABN 37 112 535 645
12 Ashley St Chatswood NSW 2067
ph 02 9910 6200 fax 02 9910 6201
customerservice@envirolab.com.au
www.envirolab.com.au

Sample ID	vTRH(C6-C10)/BTEXN in Soil	svTRH (C10-C40) in Soil	PAHs in Soil	Organochlorine Pesticides in soil	Organophosphorus Pesticides in Soil	PCBs in Soil	Acid Extractable metalsin soil	Asbestos ID - soils NEPM - ASB-001	PFAS in Soils Extended	Asbestos ID - materials	On Hold
SP2-1 -0.5-0.7	✓	✓	✓	✓	✓	✓	✓	✓			
SP2-1-1.0-1.2											✓
SP2-1-1.5-1.7	✓	✓	✓				✓				
SP2-1-1.8-2.0											✓
SP2-2-0.5-0.7											✓
SP2-2-1.0-1.2	✓	✓	✓				✓				
SP2-2-1.5-1.7											✓
SP2-2-1.7-1.9											✓
SP2-3-0.4-0.5											✓
SP2-3-0.9-1.0											✓
SP2-3-1.4-1.5											✓
SP2-3-1.6-1.8											✓
SP3-1-0.3-0.5	✓	✓	✓	✓	✓	✓	✓	✓	✓		
SP3-1-0.8-1.0											✓
SP3-1-1.3-1.5											✓
SP3-1-1.8-2.0											✓
SP3-2-0.3-0.5											✓
SP3-2-0.8-1.0	✓	✓	✓				✓	✓	✓		
SP3-2-1.3-1.5											✓
SP3-2-1.8-2.0											✓
SP3-3-0.3-0.5											✓
SP3-3-0.8-1.1	✓	✓	✓				✓				
SP3-3-1.3-1.5											✓
SP3-3-1.8-2.0	✓	✓	✓				✓				
SP3-3-2.0-2.2											✓
SP4-1 -0.3-0.5	✓	✓	✓				✓				
SP4-1-0.8-1.0											✓
SP4-1-1.3-1.5											✓
SP4-1-1.8-2.0											✓
SP4-2-0.3-0.5											✓
SP4-2-0.8-1.0	✓	✓	✓				✓				
SP4-2-1.3-1.5											✓

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Sample ID	vTRH(C6-C10)/BTEXN in Soil	svTRH (C10-C40) in Soil	PAHs in Soil	Organochlorine Pesticides in soil	Organophosphorus Pesticides in Soil	PCBs in Soil	Acid Extractable metalsin soil	Asbestos ID - soils NEPM - ASB-001	PFAS in Soils Extended	Asbestos ID - materials	On Hold
SP4-3-0.3-0.5	✓	✓	✓	✓	✓	✓	✓	✓	✓		
SP4-3-0.8-1.0											✓
SP4-3-1.3-1.5											✓
SP5-1-0.3-0.5	✓	✓	✓				✓				
SP5-1-0.8-1.0	✓	✓	✓	✓	✓	✓	✓	✓	✓		
SP5-1-1.3-1.5											✓
SP5-1-1.8-2.0											✓
SP5-2-0.5-0.5											✓
SP5-2-0.8-1.0											✓
SP5-2-1.3-1.5											✓
SP5-2-1.8-2.0											✓
SP5-2-2.3-2.5	✓	✓	✓				✓				
SP5-3-0.3-0.5											✓
SP5-3-0.8-1.0											✓
SP5-3-1.3-1.5											✓
SP5-3-1.8-2.0											✓
SP6-1-0.3-0.5	✓	✓	✓				✓				
SP6-1-0.8-1.0											✓
SP6-2 -0.3-0.5											✓
SP6-2-0.8-1.0											✓
SP6-3-0.3-0.5	✓	✓	✓	✓	✓	✓	✓	✓	✓		
SP6-3-0.8-1.0											✓
SP7-1-0.3-0.5	✓	✓	✓				✓				
SP7-1-0.8-1.0											✓
SP7-1-1.3-1.5											✓
SP7-1-1.8-2.0	✓	✓	✓	✓	✓	✓	✓	✓	✓		
SP7-2-0.3-0.5											✓
SP7-2-0.8-1.0	✓	✓	✓				✓				
SP7-2-1.3-1.5											✓
SP7-3-0.3-0.5											✓
SP8-1-0.3-0.5	✓	✓	✓				✓				
SP8-1-0.8-1.0											✓

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ph 02 9910 6200 fax 02 9910 6201
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Sample ID	vTRH(C6-C10)/BTEXN in Soil	svTRH (C10-C40) in Soil	PAHs in Soil	Organochlorine Pesticides in soil	Organophosphorus Pesticides in Soil	PCBs in Soil	Acid Extractable metalsin soil	Asbestos ID - soils NEPM - ASB-001	PFAS in Soils Extended	Asbestos ID - materials	On Hold
SP8-1-1.3-1.5											✓
SP8-1-1.8-2.0											✓
SP8-2-0.3-0.5											✓
SP8-2-0.8-1.0											✓
SP8-2-1.3-1.5											✓
SP8-2-1.8-2.0											✓
SP8-3-0.3-0.5	✓	✓	✓	✓	✓	✓	✓	✓	✓		
SP8-3-0.8-1.0											✓
SP8-3-1.3-1.5	✓	✓	✓				✓				
SP8-3-1.8-2.0											✓
SDUP21	✓	✓	✓				✓				
SDUP22 -	✓	✓	✓				✓				
SDUP24											✓
SDUP25											✓
SDUP26											✓
SP3-1-FCF1-0-1.0										✓	
SP3-2-FCF1-Spoil											✓
SP3-2-FCF1-0-1.0										✓	
SP3-2-FCF2-1.0-2.0											✓
SP3-3-FCF2-TP Base											✓
SP3-3-FCF3-0-.1.0											✓
SP3-3-FCF4-1.0-2.0											✓
SP4-1-FCF1-Spoil-0-0.5										✓	
SP4-2-FCF1-0-1.0											✓
SP5-1-FCF1-0-1.0											✓
SP5-1-FCF2-1.0-2.0										✓	
SP5-1-FCF3-1.0-2.0											✓
SP5-2-FCF1-Spoil											✓
SP5-2-FCF2-0-1.0											✓
SP5-2-FCF4-2.0-2.5											✓
SP5-3-FCF1-0-1.0										✓	
SP5-3-FCF2-1.0-2.0											✓

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Sample ID	vTRH(C6-C10)/BTEXN in Soil	svTRH (C10-C40) in Soil	PAHs in Soil	Organochlorine Pesticides in soil	Organophosphorus Pesticides in Soil	PCBs in Soil	Acid Extractable metalsin soil	Asbestos ID - soils NEPM - ASB-001	PFAS in Soils Extended	Asbestos ID - materials	On Hold
SP6-1-FCF1-0-1.0										✓	
SP6-2-FCF1-0-1.0											✓
SP7-2-FCF1-0-1.0											✓
SP7-3-FCF1-Spoil -										✓	
SP8-3-FCF1-Spoil											✓
SP8-3-FCF2-Spoil										✓	
TS-S4	✓										
-											✓
SP7-3-0.8-1.0											✓
SP7-3-1.5-1.7											✓
SP7-3-1.8-2.0											✓

The '✓' indicates the testing you have requested. **THIS IS NOT A REPORT OF THE RESULTS.**

Additional Info

Sample storage - Waters are routinely disposed of approximately 1 month and soils approximately 2 months from receipt.
Requests for longer term sample storage must be received in writing.
Please contact the laboratory immediately if observed settled sediment present in water samples is to be included in the extraction and/or analysis (exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, Total Recoverable metals and PFAS analysis where solids are included by default.
TAT for Micro is dependent on incubation. This varies from 3 to 6 days.

COC @ 2/3 1641

SAMPLE AND CHAIN OF CUSTODY FORM

TO:
ENVIROLAB SERVICES PTY LTD
12 ASHLEY STREET
CHATSWOOD NSW 2067
P: (02) 99106200
F: (02) 99106201

Attention: Aileen

JKE Job Number: E33051BR

Date Results Required: STANDARD

Page: 1 of 5

FROM:
JKEnvironments
REAR OF 115 WICKS ROAD
MACQUARIE PARK, NSW 2113
P: 02-9888 5000 F: 02-9888 5001
Attention: Craig Ridley
cridley@jkenvironments.com.au

Location: Mittagong
Sampler: NM

Sample Preserved in Esky on Ice

Tests Required

Date Sampled	Lab Ref:	Sample Number	Depth (m)	Sample Container	PID	Sample Description	Combo 6	Combo 3	Asbestos (NEPM)	Asbestos (ID)	Phenols	PFAS (Routine, Extended)	pH	CEC	Clay Content	TRH/BTEX	BTEX	Combo 3L
24/02/2022	1	SP2-1	0.5-0.7	G, A, P	0	F: Silty Clayey Sand	X		X									
24/02/2022	2	SP2-1	1.0-1.2	G, A, P	0	F: Silty Clayey Sand												
24/02/2022	3	SP2-1	1.5-1.7	G, A, P	0	F: Silty Clayey Sand		X										
24/02/2022	4	SP2-1	1.8-2.0	G, A, P	0	F: Silty Clayey Sand												
24/02/2022	5	SP2-2	0.5-0.7	G, A, P	0	F: Silty Clayey Sand												
24/02/2022	6	SP2-2	1.0-1.2	G, A, P	0	F: Silty Clayey Sand		X										
24/02/2022	7	SP2-2	1.5-1.7	G, A, P	0	F: Silty Clayey Sand												
24/02/2022	8	SP2-2	1.7-1.9	G, A, P	0	F: Silty Clayey Sand												
24/02/2022	9	SP2-3	0.4-0.5	G, A, P	0	F: Silty Clayey Sand												
24/02/2022	10	SP2-3	0.9-1.0	G, A, P	0	F: Silty Clayey Sand												
24/02/2022	11	SP2-3	1.4-1.5	G, A, P	0	F: Silty Clayey Sand												
24/02/2022	12	SP2-3	1.6-1.8	G, A, P	0	F: Silty Clayey Sand												
25/02/2022	13	SP3-1	0.3-0.5	G, A, P	0	F: Silty Sandy Clay	X		X			X						
25/02/2022	14	SP3-1	0.8-1.0	G, A, P	0	F: Silty Sandy Clay												
25/02/2022	15	SP3-1	1.3-1.5	G, A, P	0	F: Silty Sandy Clay												
25/02/2022	16	SP3-1	1.8-2.0	G, A, P	0	F: Silty Sandy Clay												
25/02/2022	17	SP3-2	0.3-0.5	G, A, P	0	F: Silty Sandy Clay												
25/02/2022	18	SP3-2	0.8-1.0	G, A, P	0	F: Silty Sandy Clay		X	X			X						
25/02/2022	19	SP3-2	1.3-1.5	G, A, P	0	F: Silty Sandy Clay												
25/02/2022	20	SP3-2	1.8-2.0	G, A, P	0	F: Silty Sandy Clay												
25/02/2022	21	SP3-3	0.3-0.5	G, A, P	0	F: Silty Sandy Clay												
25/02/2022	22	SP3-3	0.8-1.1	G, A, P	0	F: Silty Sandy Clay		X										
25/02/2022	23	SP3-3	1.3-1.5	G, A, P	0	F: Silty Sandy Clay												
25/02/2022	24	SP3-3	1.8-2.0	G, A, P	0	F: Silty Sandy Clay		X										
25/02/2022	25	SP3-3	2.0-2.2	G, A, P	0	F: Silty Sandy Clay												

Envirolab Services
12 Ashley St
Chatswood NSW 2067
Ph: (02) 9910 6200

Job no: 296257
Date Received: 01.03.2022
Time Received: 1645
Received by: TSHAW
Temp: Cool/Ambient
Cooling: Ice/Ice-pack
Security: Intact

Remarks (comments/detection limits required):

Sample Containers:
G - 250mg Glass Jar
A - Ziplock Asbestos Bag
P - PFAS Jar

Relinquished By:	Date:	Time:	Received By:	Date:
C.RIDLEY	2.3.22	1645	TSHAW	01.03.2022 1645

SAMPLE AND CHAIN OF CUSTODY FORM

TO:		FROM:
ENVIROLAB SERVICES PTY LTD 12 ASHLEY STREET CHATSWOOD NSW 2067 P: (02) 99106200 F: (02) 99106201 Attention: Aileen	JKE Job Number: E33051BR Date Results Required: STANDARD Page: 2 of 5	JKEnvironments REAR OF 115 WICKS ROAD MACQUARIE PARK, NSW 2113 P: 02-9888 5000 F: 02-9888 5001 Attention: Craig Ridley cridley@jkenvironments.com.au

Location:	Mittagong	Sample Preserved in Esky on Ice
Sampler:	NM	Tests Required

Date Sampled	Lab Ref:	Sample Number	Depth (m)	Sample Container	PID	Sample Description	Combo 6	Combo 3	Asbestos (NEPM)	Asbestos (ID)	Phenols	PFAS (Routine, Extended)	pH	CEC	Clay Content	TRH/BTEX	BTEX	Combo 3L
25/02/2022	26	SP4-1	0.3-0.5	G, A, P	0	F: Silty Clayey Sand		X										
25/02/2022	27	SP4-1	0.8-1.0	G, A, P	0	F: Silty Clayey Sand												
25/02/2022	28	SP4-1	1.3-1.5	G, A, P	0	F: Silty Clayey Sand												
25/02/2022	29	SP4-1	1.8-2.0	G, A, P	0	F: Silty Clayey Sand												
25/02/2022	30	SP4-2	0.3-0.5	G, A, P	0	F: Silty Clayey Sand												
25/02/2022	31	SP4-2	0.8-1.0	G, A, P	0	F: Silty Clayey Sand		X										
25/02/2022	32	SP4-2	1.3-1.5	G, A, P	0	F: Silty Clayey Sand												
25/02/2022	33	SP4-3	0.3-0.5	G, A, P	5.1	F: Silty Clayey Sand	X		X			X						
25/02/2022	34	SP4-3	0.8-1.0	G, A, P	0	F: Silty Clayey Sand												
25/02/2022	35	SP4-3	1.3-1.5	G, A, P	0	F: Silty Clayey Sand												
25/02/2022	36	SP5-1	0.3-0.5	G, A, P	0	F: Silty Sandy Clay		X										
25/02/2022	37	SP5-1	0.8-1.0	G, A, P	0	F: Silty Sandy Clay	X		X			X						
25/02/2022	38	SP5-1	1.3-1.5	G, A, P	0	F: Silty Sandy Clay												
25/02/2022	39	SP5-1	1.8-2.0	G, A, P	0	F: Silty Sandy Clay												
25/02/2022	40	SP5-2	0.5-0.5	G, A, P	0	F: Silty Sandy Clay												
25/02/2022	41	SP5-2	0.8-1.0	G, A, P	0	F: Silty Sandy Clay												
25/02/2022	42	SP5-2	1.3-1.5	G, A, P	0	F: Silty Sandy Clay												
25/02/2022	43	SP5-2	1.8-2.0	G, A, P	0	F: Silty Sandy Clay												
25/02/2022	44	SP5-2	2.3-2.5	G, A, P	0	F: Silty Sandy Clay		X										
25/02/2022	45	SP5-3	0.3-0.5	G, A, P	0	F: Silty Sandy Clay												
25/02/2022	46	SP5-3	0.8-1.0	G, A, P	0	F: Silty Sandy Clay												
25/02/2022	47	SP5-3	1.3-1.5	G, A, P	0	F: Silty Sandy Clay												
25/02/2022	48	SP5-3	1.8-2.0	G, A, P	0	F: Silty Sandy Clay												
25/02/2022	49	SP6-1	0.3-0.5	G, A, P	0	F: Silty Clayey Sand		X										
25/02/2022	50	SP6-1	0.8-1.0	G, A, P	0	F: Silty Clayey Sand												

Remarks (comments/detection limits required):

Sample Containers:
G - 250mg Glass Jar
A - Ziplock Asbestos Bag
P - PFAS Jar

Relinquished By:	Date:	Time:	Received By:	Date:

SAMPLE AND CHAIN OF CUSTODY FORM

TO:		FROM:
ENVIROLAB SERVICES PTY LTD 12 ASHLEY STREET CHATSWOOD NSW 2067 P: (02) 99106200 F: (02) 99106201 Attention: Aileen	JKE Job Number: E33051BR Date Results Required: STANDARD Page: 3 of 5	JKEnvironments REAR OF 115 WICKS ROAD MACQUARIE PARK, NSW 2113 P: 02-9888 5000 F: 02-9888 5001 Attention: Craig Ridley cridley@jkenvironments.com.au

Location:	Mittagong	Sample Preserved in Esky on Ice
Sampler:	NM	Tests Required

Date Sampled	Lab Ref:	Sample Number	Depth (m)	Sample Container	PID	Sample Description	Combo 6	Combo 3	Asbestos (NEPM)	Asbestos (ID)	Phenols	PFAS (Routine, Extended)	pH	CEC	Clay Content	TRH/BTEX	BTEX	Combo 3L
25/02/2022	51	SP6-2	0.3-0.5	G, A, P	0	F: Silty Clayey Sand												
25/02/2022	52	SP6-2	0.8-1.0	G, A, P	0	F: Silty Clayey Sand												
25/02/2022	53	SP6-3	0.3-0.5	G, A, P	4.7	F: Silty Clayey Sand	X		X			X						
25/02/2022	54	SP6-3	0.8-1.0	G, A, P	4.7	F: Silty Clayey Sand												
25/02/2022	55	SP7-1	0.3-0.5	G, A, P	3.6	F: Silty Sandy Clay		X										
25/02/2022	56	SP7-1	0.8-1.0	G, A, P	2	F: Silty Sandy Clay												
25/02/2022	57	SP7-1	1.3-1.5	G, A, P	2.4	F: Silty Sandy Clay												
25/02/2022	58	SP7-1	1.8-2.0	G, A, P	4.9	F: Silty Sandy Clay	X		X			X						
25/02/2022	59	SP7-2	0.3-0.5	G, A, P	0	F: Silty Sandy Clay												
25/02/2022	60	SP7-2	0.8-1.0	G, A, P	3.6	F: Silty Sandy Clay		X										
25/02/2022	61	SP7-2	1.3-1.5	G, A, P	1.8	F: Silty Sandy Clay												
25/02/2022	62	SP7-3	0.3-0.5	G, A, P	1.4	F: Silty Sandy Clay												
25/02/2022	63	SP8-1	0.3-0.5	G, A, P	1.6	F: Silty Sandy Clay		X										
25/02/2022	64	SP8-1	0.8-1.0	G, A, P	1.2	F: Silty Sandy Clay												
25/02/2022	65	SP8-1	1.3-1.5	G, A, P	1	F: Silty Sandy Clay												
25/02/2022	66	SP8-1	1.8-2.0	G, A, P	1.7	F: Silty Sandy Clay												
25/02/2022	67	SP8-2	0.3-0.5	G, A, P	0.9	F: Silty Sandy Clay												
25/02/2022	68	SP8-2	0.8-1.0	G, A, P	1.8	F: Silty Sandy Clay												
25/02/2022	69	SP8-2	1.3-1.5	G, A, P	1.2	F: Silty- Sandy Clay												
25/02/2022	70	SP8-2	1.8-2.0	G, A, P	1.2	F: Silty Sandy Clay												
25/02/2022	71	SP8-3	0.3-0.5	G, A, P	1.5	F: Silty Sandy Clay	X		X			X						
25/02/2022	72	SP8-3	0.8-1.0	G, A, P	1.4	F: Silty Sandy Clay												
25/02/2022	73	SP8-3	1.3-1.5	G, A, P	2.3	F: Silty Sandy Clay		X										
25/02/2022	74	SP8-3	1.8-2.0	G, A, P	1.5	F: Silty Sandy Clay												
25/02/2022	75	SDUP21	-	G, A, P	-	Duplicate		X										

Remarks (comments/detection limits required):

Sample Containers:
G - 250mg Glass Jar
A - Ziplock Asbestos Bag
P - PFAS Jar

Relinquished By:	Date:	Time:	Received By:	Date:

SAMPLE AND CHAIN OF CUSTODY FORM

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ENVIROLAB SERVICES PTY LTD 12 ASHLEY STREET CHATSWOOD NSW 2067 P: (02) 99106200 F: (02) 99106201 Attention: Aileen	JKE Job Number: E33051BR Date Results Required: STANDARD Page: 4 of 5	JKEnvironments REAR OF 115 WICKS ROAD MACQUARIE PARK, NSW 2113 P: 02-9888 5000 F: 02-9888 5001 Attention: Craig Ridley cridley@jkenvironments.com.au

Location:	Mittagong	Sample Preserved in Esky on Ice
Sampler:	NM	Tests Required

Date Sampled	Lab Ref:	Sample Number	Depth (m)	Sample Container	PID	Sample Description	Combo 6	Combo 3	Asbestos (NEPM)	Asbestos (ID)	Phenols	PFAS (Routine, Extended)	pH	CEC	Clay Content	TRH/BTEX	BTEX	Combo 3L
25/02/2022	76	SDUP22	-	G, A, P	-	Duplicate		X										
25/02/2022	–	SDUP23	-	G, A, P	-	Duplicate		X	X	SEND TO VIC								
25/02/2022	77	SDUP24	-	G, A, P	-	Duplicate												
25/02/2022	78	SDUP25	-	A	-	Duplicate												
25/02/2022	79	SDUP26	-	A	-	Duplicate												
25/02/2022	80	SP3-1-FCF1	0-1.0	A	-	Fragment				X								
25/02/2022	81	SP3-2-FCF1-Spoil	-	A	-	Fragment												
25/02/2022	82	SP3-2-FCF1	0-1.0	A		Fragment				X								
25/02/2022	83	SP3-2-FCF2	1.0-2.0	A	-	Fragment												
25/02/2022	84	SP3-3-FCF2-TP Base	-	A		Fragment												
25/02/2022	85	SP3-3-FCF3	0-.1.0	A	-	Fragment												
25/02/2022	86	SP3-3-FCF4	1.0-2.0	A	-	Fragment												
25/02/2022	87	SP4-1-FCF1-S	0-0.5	A	-	Fragment				X								
25/02/2022	88	SP4-2-FCF1	0-1.0	A	-	Fragment												
25/02/2022	89	SP5-1-FCF1	0-1.0	A	-	Fragment												
25/02/2022	90	SP5-1-FCF2	1.0-2.0	A	-	Fragment				X								
25/02/2022	91	SP5-1-FCF3	1.0-2.0	A	-	Fragment												
25/02/2022	92	SP5-2-FCF1-S	-	A	-	Fragment												
25/02/2022	93	SP5-2-FCF2	0-1.0	A	-	Fragment												
25/02/2022	94	SP5-2-FCF4	2.0-2.5	A	-	Fragment				–								
25/02/2022	95	SP5-3-FCF1	0-1.0	A	-	Fragment				X								
25/02/2022	96	SP5-3-FCF2	1.0-2.0	A	-	Fragment												
25/02/2022	97	SP6-1-FCF1	0-1.0	A	-	Fragment				X								
25/02/2022	98	SP6-2-FCF1	0-1.0	A	-	Fragment												
25/02/2022	99	SP7-2-FCF1	0-1.0	A	-	Fragment												

Remarks (comments/detection limits required):

Sample Containers:
G - 250mg Glass Jar
A - Ziplock Asbestos Bag
P - PFAS Jar

Relinquished By:	Date:	Time:	Received By:	Date:

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Location:	Mittagong	Sample Preserved in Esky on Ice																
Sampler:	NM	Tests Required																
Date Sampled	Lab Ref:	Sample Number	Depth (m)	Sample Container	PID	Sample Description	Combo 6	Combo 3	Asbestos (NEPM)	Asbestos (ID)	Phenols	PFAS (Routine, Extended)	pH	CEC	Clay Content	TRH/BTEX	BTEX	Combo 3L
25/02/2022	100	SP7-3-FCF1-Spoil	-	A	-	Fragment				X								
25/02/2022	101	SP8-3-FCF1-Spoil	-	A	-	Fragment												
25/02/2022	102	SP8-3-FCF2-Spoil	-	A	-	Fragment				X								
25/02/2022	103	TS-S4	-	V	-	Trip Spike											X	
	104	TB-S3																
	105	SP7-3	0.8-1.0															
	106	SP7-3	1.5-1.7															
	107	SP7-3	1.8-2.0															

Remarks (comments/detection limits required):	Sample Containers: G - 250mg Glass Jar A - Ziplock Asbestos Bag P - PFAS Jar

Relinquished By:	Date:	Time:	Received By:	Date:

Envirolab Services Pty Ltd
ABN 37 112 535 645
12 Ashley St Chatswood NSW 2067
ph 02 9910 6200 fax 02 9910 6201
customerservice@envirolab.com.au
www.envirolab.com.au

CERTIFICATE OF ANALYSIS 290257-A

Client Details

Client	JK Environments
Attention	C Ridley
Address	PO Box 976, North Ryde BC, NSW, 1670

Sample Details

Your Reference	**E33051BR, Mittagong**
Number of Samples	Additional Testing
Date samples received	01/03/2022
Date completed instructions received	11/03/2022

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.

Samples were analysed as received from the client. Results relate specifically to the samples as received.

Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Please refer to the last page of this report for any comments relating to the results.

Report Details

Date results requested by	18/03/2022
Date of Issue	18/03/2022

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Asbestos Approved By
Analysed by Asbestos Approved Analyst: Wonnie Condos
Authorised by Asbestos Approved Signatory: Panika Wongchanda

Results Approved By
Alexander Mitchell Maclean, Senior Chemist
Dragana Tomas, Senior Chemist
Hannah Nguyen, Metals Supervisor
Panika Wongchanda, Asbestos Approved Identifier/Counter

Authorised By



Nancy Zhang, Laboratory Manager

TCLP Preparation - Acid						
Our Reference		290257-A-22	290257-A-31	290257-A-37	290257-A-44	290257-A-53
Your Reference	UNITS	SP3-3	SP4-2	SP5-1	SP5-2	SP6-3
Depth		0.8-1.1	0.8-1.0	0.8-1.0	2.3-2.5	0.3-0.5
Date Sampled		25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
pH of soil for fluid# determ.	pH units	8.7	8.8	8.6	8.4	8.5
pH of soil TCLP (after HCl)	pH units	1.6	1.6	1.6	1.6	1.6
Extraction fluid used	-	1	1	1	1	1
pH of final Leachate	pH units	5.2	5.1	5.0	5.1	5.0

TCLP Preparation - Acid			
Our Reference		290257-A-60	290257-A-63
Your Reference	UNITS	SP7-2	SP8-1
Depth		0.8-1.0	0.3-0.5
Date Sampled		25/02/2022	25/02/2022
Type of sample		Soil	Soil
pH of soil for fluid# determ.	pH units	8.5	8.4
pH of soil TCLP (after HCl)	pH units	1.6	1.6
Extraction fluid used	-	1	1
pH of final Leachate	pH units	5.0	5.1

Metals from Leaching Fluid pH 2.9 or 5						
Our Reference		290257-A-22	290257-A-37	290257-A-44	290257-A-53	290257-A-60
Your Reference	UNITS	SP3-3	SP5-1	SP5-2	SP6-3	SP7-2
Depth		0.8-1.1	0.8-1.0	2.3-2.5	0.3-0.5	0.8-1.0
Date Sampled		25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	18/03/2022	18/03/2022	18/03/2022	18/03/2022	18/03/2022
Date analysed	-	18/03/2022	18/03/2022	18/03/2022	18/03/2022	18/03/2022
Lead	mg/L	0.07	<0.03	0.2	<0.03	0.08

Metals from Leaching Fluid pH 2.9 or 5		
Our Reference		290257-A-63
Your Reference	UNITS	SP8-1
Depth		0.3-0.5
Date Sampled		25/02/2022
Type of sample		Soil
Date extracted	-	18/03/2022
Date analysed	-	18/03/2022
Lead	mg/L	0.34

PAHs in TCLP (USEPA 1311)				
Our Reference		290257-A-31	290257-A-44	290257-A-53
Your Reference	UNITS	SP4-2	SP5-2	SP6-3
Depth		0.8-1.0	2.3-2.5	0.3-0.5
Date Sampled		25/02/2022	25/02/2022	25/02/2022
Type of sample		Soil	Soil	Soil
Date extracted	-	16/03/2022	16/03/2022	16/03/2022
Date analysed	-	16/03/2022	16/03/2022	16/03/2022
Naphthalene in TCLP	mg/L	<0.001	<0.001	<0.001
Acenaphthylene in TCLP	mg/L	<0.001	<0.001	<0.001
Acenaphthene in TCLP	mg/L	<0.001	<0.001	<0.001
Fluorene in TCLP	mg/L	<0.001	<0.001	<0.001
Phenanthrene in TCLP	mg/L	<0.001	<0.001	<0.001
Anthracene in TCLP	mg/L	<0.001	<0.001	<0.001
Fluoranthene in TCLP	mg/L	<0.001	<0.001	<0.001
Pyrene in TCLP	mg/L	<0.001	<0.001	<0.001
Benzo(a)anthracene in TCLP	mg/L	<0.001	<0.001	<0.001
Chrysene in TCLP	mg/L	<0.001	<0.001	<0.001
Benzo(bjk)fluoranthene in TCLP	mg/L	<0.002	<0.002	<0.002
Benzo(a)pyrene in TCLP	mg/L	<0.001	<0.001	<0.001
Indeno(1,2,3-c,d)pyrene - TCLP	mg/L	<0.001	<0.001	<0.001
Dibenzo(a,h)anthracene in TCLP	mg/L	<0.001	<0.001	<0.001
Benzo(g,h,i)perylene in TCLP	mg/L	<0.001	<0.001	<0.001
Total +ve PAH's	mg/L	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	100	88	101

PFAS in TCLP Extended			
Our Reference		290257-A-37	290257-A-53
Your Reference	UNITS	SP5-1	SP6-3
Depth		0.8-1.0	0.3-0.5
Date Sampled		25/02/2022	25/02/2022
Type of sample		Soil	Soil
Date prepared	-	16/03/2022	16/03/2022
Date analysed	-	16/03/2022	16/03/2022
Perfluorobutanesulfonic acid	µg/L	<0.01	<0.01
Perfluoropentanesulfonic acid	µg/L	<0.01	<0.01
Perfluorohexanesulfonic acid - PFHxS	µg/L	<0.01	<0.01
Perfluoroheptanesulfonic acid	µg/L	<0.01	<0.01
Perfluorooctanesulfonic acid PFOS	µg/L	<0.01	<0.01
Perfluorodecanesulfonic acid	µg/L	<0.02	<0.02
Perfluorobutanoic acid	µg/L	<0.02	<0.02
Perfluoropentanoic acid	µg/L	<0.02	<0.02
Perfluorohexanoic acid	µg/L	<0.01	<0.01
Perfluoroheptanoic acid	µg/L	<0.01	<0.01
Perfluorooctanoic acid PFOA	µg/L	<0.01	<0.01
Perfluorononanoic acid	µg/L	<0.01	<0.01
Perfluorodecanoic acid	µg/L	<0.02	<0.02
Perfluoroundecanoic acid	µg/L	<0.02	<0.02
Perfluorododecanoic acid	µg/L	<0.05	<0.05
Perfluorotridecanoic acid	µg/L	<0.1	<0.1
Perfluorotetradecanoic acid	µg/L	<0.5	<0.5
4:2 FTS	µg/L	<0.01	<0.01
6:2 FTS	µg/L	<0.01	<0.01
8:2 FTS	µg/L	<0.02	<0.02
10:2 FTS	µg/L	<0.02	<0.02
Perfluorooctane sulfonamide	µg/L	<0.1	<0.1
N-Methyl perfluorooctane sulfonamide	µg/L	<0.05	<0.05
N-Ethyl perfluorooctanesulfon amide	µg/L	<0.1	<0.1
N-Me perfluorooctanesulfonamid oethanol	µg/L	<0.05	<0.05
N-Et perfluorooctanesulfonamid oethanol	µg/L	<0.5	<0.5
MePerfluorooctanesulf- amid oacetic aci	µg/L	<0.02	<0.02
EtPerfluorooctanesulf- amid oacetic acid	µg/L	<0.02	<0.02
Surrogate $^{13}C_8$ *PFOS*	%	103	106
Surrogate $^{13}C_2$ *PFOA*	%	96	102
Extracted ISTD $^{13}C_3$ *PFBS*	%	108	107
Extracted ISTD $^{18}O_2$ *PFHxS*	%	108	110
Extracted ISTD $^{13}C_4$ *PFOS*	%	112	110

PFAS in TCLP Extended			
Our Reference		290257-A-37	290257-A-53
Your Reference	UNITS	SP5-1	SP6-3
Depth		0.8-1.0	0.3-0.5
Date Sampled		25/02/2022	25/02/2022
Type of sample		Soil	Soil
Extracted ISTD $^{13}C_4$ *PFBA*	%	82	99
Extracted ISTD $^{13}C_3$ *PFPeA*	%	83	93
Extracted ISTD $^{13}C_2$ *PFHxA*	%	107	117
Extracted ISTD $^{13}C_4$ *PFHpA*	%	99	102
Extracted ISTD $^{13}C_4$ *PFOA*	%	115	117
Extracted ISTD $^{13}C_5$ *PFNA*	%	117	114
Extracted ISTD $^{13}C_2$ *PFDA*	%	101	110
Extracted ISTD $^{13}C_2$ *PFUnDA*	%	94	99
Extracted ISTD $^{13}C_2$ *PFDoDA*	%	99	100
Extracted ISTD $^{13}C_2$ *PFTeDA*	%	62	71
Extracted ISTD $^{13}C_2$ *4:2FTS*	%	93	119
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	82	98
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	93	94
Extracted ISTD $^{13}C_8$ *FOSA*	%	127	122
Extracted ISTD d_3 *N MeFOSA*	%	109	109
Extracted ISTD d_5 *N EtFOSA*	%	113	114
Extracted ISTD d_7 *N MeFOSE*	%	91	100
Extracted ISTD d_9 *N EtFOSE*	%	95	106
Extracted ISTD d_3 *N MeFOSAA*	%	66	80
Extracted ISTD d_5 *N EtFOSAA*	%	85	94
Total Positive PFHxS & PFOS	µg/L	<0.01	<0.01
Total Positive PFOS & PFOA	µg/L	<0.01	<0.01
Total Positive PFAS	µg/L	<0.01	<0.01

Asbestos ID - materials		
Our Reference		290257-A-99
Your Reference	UNITS	SP7-2-FCF1
Depth		0-1.0
Date Sampled		25/02/2022
Type of sample		Material
Date analysed	-	15/03/2022
Mass / Dimension of Sample	-	30x25x5mm
Sample Description	-	Beige fibre cement material
Asbestos ID in materials	-	No asbestos detected Organic fibres detected
Trace Analysis	-	No asbestos detected

Method ID	Methodology Summary
ASB-001	Asbestos ID - Qualitative identification of asbestos in bulk samples using Polarised Light Microscopy and Dispersion Staining Techniques including Synthetic Mineral Fibre and Organic Fibre as per Australian Standard 4964-2004.
INORG-004	Toxicity Characteristic Leaching Procedure (TCLP) using Zero Headspace Extraction (zHE) using AS4439 and USEPA 1311.
Inorg-004	Toxicity Characteristic Leaching Procedure (TCLP) using AS 4439 and USEPA 1311. Please note that the mass used may be scaled down from default based on sample mass available. Samples are stored at 2-6oC before and after leachate preparation.
Metals-020	Determination of various metals by ICP-AES following buffer determination as per USEPA 1311 and hence AS 4439.3. Extraction Fluid 1 refers to the pH 5.0 buffer and Extraction Fluid 2 is the pH 2.9 buffer.
Org-022/025	Leachates are extracted with Dichloromethane and analysed by GC-MS/GC-MSMS.
Org-029	Soil samples are extracted with basified Methanol. Waters and soil extracts are directly injected and/or concentrated/extracted using SPE. TCLPs/ASLP leachates are centrifuged, the supernatant is then analysed (including amendment with solvent) - as per the option in AS4439.3. Analysis is undertaken with LC-MS/MS. PFAS results include the sum of branched and linear isomers where applicable. Please note that PFAS results are corrected for Extracted Internal Standards (QSM 5.3 Table B-15 terminology), which are mass labelled analytes added prior to sample preparation to assess matrix effects and verify processing of the sample. PFAS analytes without a commercially available mass labelled analogue are corrected vs a closely eluting mass labelled PFAS compound. Surrogates are also reported, in this context they are mass labelled PFAS compounds added prior to extraction but are used as monitoring compounds only (not used for result correction). Envicarb (or similar) is used discretionally to remove interfering matrix components. Please contact the laboratory if estimates of Measurement Uncertainty are required as per WA DER.

QUALITY CONTROL: Metals from Leaching Fluid pH 2.9 or 5						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	290257-A-37
Date extracted	-			18/03/2022	22	18/03/2022	18/03/2022		18/03/2022	18/03/2022
Date analysed	-			18/03/2022	22	18/03/2022	18/03/2022		18/03/2022	18/03/2022
Lead	mg/L	0.03	Metals-020	<0.03	22	0.07	0.08	13	93	72

QUALITY CONTROL: PAHs in TCLP (USEPA 1311)					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	290257-A-31
Date extracted	-			16/03/2022	[NT]	[NT]	[NT]	[NT]	16/03/2022	16/03/2022
Date analysed	-			16/03/2022	[NT]	[NT]	[NT]	[NT]	16/03/2022	16/03/2022
Naphthalene in TCLP	mg/L	0.001	Org-022/025	<0.001	[NT]	[NT]	[NT]	[NT]	101	108
Acenaphthylene in TCLP	mg/L	0.001	Org-022/025	<0.001	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Acenaphthene in TCLP	mg/L	0.001	Org-022/025	<0.001	[NT]	[NT]	[NT]	[NT]	99	105
Fluorene in TCLP	mg/L	0.001	Org-022/025	<0.001	[NT]	[NT]	[NT]	[NT]	95	104
Phenanthrene in TCLP	mg/L	0.001	Org-022/025	<0.001	[NT]	[NT]	[NT]	[NT]	106	107
Anthracene in TCLP	mg/L	0.001	Org-022/025	<0.001	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Fluoranthene in TCLP	mg/L	0.001	Org-022/025	<0.001	[NT]	[NT]	[NT]	[NT]	110	113
Pyrene in TCLP	mg/L	0.001	Org-022/025	<0.001	[NT]	[NT]	[NT]	[NT]	101	106
Benzo(a)anthracene in TCLP	mg/L	0.001	Org-022/025	<0.001	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chrysene in TCLP	mg/L	0.001	Org-022/025	<0.001	[NT]	[NT]	[NT]	[NT]	73	68
Benzo(bjk)fluoranthene in TCLP	mg/L	0.002	Org-022/025	<0.002	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzo(a)pyrene in TCLP	mg/L	0.001	Org-022/025	<0.001	[NT]	[NT]	[NT]	[NT]	104	101
Indeno(1,2,3-c,d)pyrene - TCLP	mg/L	0.001	Org-022/025	<0.001	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dibenzo(a,h)anthracene in TCLP	mg/L	0.001	Org-022/025	<0.001	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzo(g,h,i)perylene in TCLP	mg/L	0.001	Org-022/025	<0.001	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	96	[NT]	[NT]	[NT]	[NT]	97	99

QUALITY CONTROL: PFAS in TCLP Extended						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	[NT]
Date prepared	-			16/03/2022	37	16/03/2022	16/03/2022		16/03/2022	[NT]
Date analysed	-			16/03/2022	37	16/03/2022	16/03/2022		16/03/2022	[NT]
Perfluorobutanesulfonic acid	µg/L	0.01	Org-029	<0.01	37	<0.01	<0.01	0	113	[NT]
Perfluoropentanesulfonic acid	µg/L	0.01	Org-029	<0.01	37	<0.01	<0.01	0	113	[NT]
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.01	Org-029	<0.01	37	<0.01	<0.01	0	114	[NT]
Perfluoroheptanesulfonic acid	µg/L	0.01	Org-029	<0.01	37	<0.01	<0.01	0	120	[NT]
Perfluorooctanesulfonic acid PFOS	µg/L	0.01	Org-029	<0.01	37	<0.01	<0.01	0	116	[NT]
Perfluorodecanesulfonic acid	µg/L	0.02	Org-029	<0.02	37	<0.02	<0.02	0	105	[NT]
Perfluorobutanoic acid	µg/L	0.02	Org-029	<0.02	37	<0.02	<0.02	0	118	[NT]
Perfluoropentanoic acid	µg/L	0.02	Org-029	<0.02	37	<0.02	<0.02	0	110	[NT]
Perfluorohexanoic acid	µg/L	0.01	Org-029	<0.01	37	<0.01	<0.01	0	112	[NT]
Perfluoroheptanoic acid	µg/L	0.01	Org-029	<0.01	37	<0.01	<0.01	0	115	[NT]
Perfluorooctanoic acid PFOA	µg/L	0.01	Org-029	<0.01	37	<0.01	<0.01	0	111	[NT]
Perfluorononanoic acid	µg/L	0.01	Org-029	<0.01	37	<0.01	<0.01	0	106	[NT]
Perfluorodecanoic acid	µg/L	0.02	Org-029	<0.02	37	<0.02	<0.02	0	111	[NT]
Perfluoroundecanoic acid	µg/L	0.02	Org-029	<0.02	37	<0.02	<0.02	0	103	[NT]
Perfluorododecanoic acid	µg/L	0.05	Org-029	<0.05	37	<0.05	<0.05	0	115	[NT]
Perfluorotridecanoic acid	µg/L	0.1	Org-029	<0.1	37	<0.1	<0.1	0	89	[NT]
Perfluorotetradecanoic acid	µg/L	0.5	Org-029	<0.5	37	<0.5	<0.5	0	116	[NT]
4:2 FTS	µg/L	0.01	Org-029	<0.01	37	<0.01	<0.01	0	118	[NT]
6:2 FTS	µg/L	0.01	Org-029	<0.01	37	<0.01	<0.01	0	116	[NT]
8:2 FTS	µg/L	0.02	Org-029	<0.02	37	<0.02	<0.02	0	112	[NT]
10:2 FTS	µg/L	0.02	Org-029	<0.02	37	<0.02	<0.02	0	82	[NT]
Perfluorooctane sulfonamide	µg/L	0.1	Org-029	<0.1	37	<0.1	<0.1	0	112	[NT]
N-Methyl perfluorooctane sulfonamide	µg/L	0.05	Org-029	<0.05	37	<0.05	<0.05	0	113	[NT]
N-Ethyl perfluorooctanesulfon amide	µg/L	0.1	Org-029	<0.1	37	<0.1	<0.1	0	114	[NT]
N-Me perfluorooctanesulfonamid oethanol	µg/L	0.05	Org-029	<0.05	37	<0.05	<0.05	0	128	[NT]
N-Et perfluorooctanesulfonamid oethanol	µg/L	0.5	Org-029	<0.5	37	<0.5	<0.5	0	111	[NT]
MePerfluorooctanesulf- amid oacetic aci	µg/L	0.02	Org-029	<0.02	37	<0.02	<0.02	0	123	[NT]
EtPerfluorooctanesulf- amid oacetic acid	µg/L	0.02	Org-029	<0.02	37	<0.02	<0.02	0	111	[NT]
Surrogate $^{13}C_8$ *PFOS*	%		Org-029	101	37	103	108	5	102	[NT]
Surrogate $^{13}C_2$ *PFOA*	%		Org-029	101	37	96	105	9	99	[NT]

QUALITY CONTROL: PFAS in TCLP Extended						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	[NT]
Extracted ISTD $^{13}C_3$ *PFBS*	%		Org-029	96	37	108	107	1	99	[NT]
Extracted ISTD $^{18}O_2$ *PFHxS*	%		Org-029	101	37	108	107	1	99	[NT]
Extracted ISTD $^{13}C_4$ *PFOS*	%		Org-029	97	37	112	110	2	100	[NT]
Extracted ISTD $^{13}C_4$ *PFBA*	%		Org-029	102	37	82	51	47	98	[NT]
Extracted ISTD $^{13}C_3$ *PFPeA*	%		Org-029	90	37	83	65	24	86	[NT]
Extracted ISTD $^{13}C_2$ *PFHxA*	%		Org-029	94	37	107	91	16	100	[NT]
Extracted ISTD $^{13}C_4$ *PFHpA*	%		Org-029	95	37	99	89	11	89	[NT]
Extracted ISTD $^{13}C_4$ *PFOA*	%		Org-029	102	37	115	101	13	104	[NT]
Extracted ISTD $^{13}C_5$ *PFNA*	%		Org-029	102	37	117	107	9	101	[NT]
Extracted ISTD $^{13}C_2$ *PFDA*	%		Org-029	99	37	101	92	9	91	[NT]
Extracted ISTD $^{13}C_2$ *PFUnDA*	%		Org-029	91	37	94	85	10	103	[NT]
Extracted ISTD $^{13}C_2$ *PFDoDA*	%		Org-029	93	37	99	91	8	91	[NT]
Extracted ISTD $^{13}C_2$ *PFTeDA*	%		Org-029	58	37	62	57	8	61	[NT]
Extracted ISTD $^{13}C_2$ *4:2FTS*	%		Org-029	99	37	93	61	42	101	[NT]
Extracted ISTD $^{13}C_2$ *6:2FTS*	%		Org-029	82	37	82	71	14	86	[NT]
Extracted ISTD $^{13}C_2$ *8:2FTS*	%		Org-029	91	37	93	72	25	87	[NT]
Extracted ISTD $^{13}C_8$ *FOSA*	%		Org-029	110	37	127	136	7	109	[NT]
Extracted ISTD d_3 *N MeFOSA*	%		Org-029	99	37	109	112	3	100	[NT]
Extracted ISTD d_5 *N EtFOSA*	%		Org-029	96	37	113	114	1	100	[NT]
Extracted ISTD d_7 *N MeFOSE*	%		Org-029	85	37	91	95	4	96	[NT]

QUALITY CONTROL: PFAS in TCLP Extended						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	[NT]
Extracted ISTD d_9 *N EtFOSE*	%		Org-029	99	37	95	101	6	92	[NT]
Extracted ISTD d_3 *N MeFOSAA*	%		Org-029	76	37	66	59	11	72	[NT]
Extracted ISTD d_5 *N EtFOSAA*	%		Org-029	86	37	85	78	9	83	[NT]

Result Definitions

NT	Not tested
NA	Test not required
INS	Insufficient sample for this test
PQL	Practical Quantitation Limit
<	Less than
>	Greater than
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
NS	Not specified
NEPM	National Environmental Protection Measure
NR	Not Reported

Quality Control Definitions

Blank	This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate	This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike	A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample)	This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike	Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011.

The recommended maximums for analytes in urine are taken from “2018 TLVs and BEIs”, as published by ACGIH (where available). Limit provided for Nickel is a precautionary guideline as per Position Paper prepared by AIOH Exposure Standards Committee, 2016.

Guideline limits for Rinse Water Quality reported as per analytical requirements and specifications of AS 4187, Amdt 2 2019, Table 7.2

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: >10xPQL - RPD acceptance criteria will vary depending on the analytes and the analytical techniques but is typically in the range 20%-50% – see ELN-P05 QA/QC tables for details; <10xPQL - RPD are higher as the results approach PQL and the estimated measurement uncertainty will statistically increase.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals (not SPOCAS); 60-140% for organics/SPOCAS (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

Measurement Uncertainty estimates are available for most tests upon request.

Analysis of aqueous samples typically involves the extraction/digestion and/or analysis of the liquid phase only (i.e. NOT any settled sediment phase but inclusive of suspended particles if present), unless stipulated on the Envirolab COC and/or by correspondence. Notable exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, total recoverable metals and PFAS where solids are included by default.

Samples for Microbiological analysis (not Amoeba forms) received outside of the 2-8°C temperature range do not meet the ideal cooling conditions as stated in AS2031-2012.

Report Comments

For PFAS Extracted Internal Standards denoted with # or outside the 50-150% acceptance range, the respective target analyte results may be unaffected, in other circumstances the PQL has been raised to accommodate the outlier(s).

Envirolab Services Pty Ltd
ABN 37 112 535 645
12 Ashley St Chatswood NSW 2067
ph 02 9910 6200 fax 02 9910 6201
customerservice@envirolab.com.au
www.envirolab.com.au

SAMPLE RECEIPT ADVICE

Client Details

Client	JK Environments
Attention	C Ridley

Sample Login Details

Your reference	E33051BR, Mittagong
Envirolab Reference	290257-A
Date Sample Received	01/03/2022
Date Instructions Received	11/03/2022
Date Results Expected to be Reported	18/03/2022

Sample Condition

Samples received in appropriate condition for analysis	Yes
No. of Samples Provided	Additional Testing
Turnaround Time Requested	Standard
Temperature on Receipt (°C)	10
Cooling Method	Ice
Sampling Date Provided	YES

Comments

Nil

Please direct any queries to:

Aileen Hie	Jacinta Hurst
Phone: 02 9910 6200	**Phone: 02 9910 6200**
Fax: 02 9910 6201	**Fax: 02 9910 6201**
Email: ahie@envirolab.com.au	**Email: jhurst@envirolab.com.au**

Analysis Underway, details on the following page:

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12 Ashley St Chatswood NSW 2067
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Sample ID	TCLP Preparation - Acid	Metals from Leaching Fluid pH 2.9 or 5	Naphthalene in TCLP	Acenaphthylene in TCLP	Acenaphthene in TCLP	Fluorene in TCLP	Phenanthrene in TCLP	Anthracene in TCLP	Fluoranthene in TCLP	Pyrene in TCLP	Benzo(a)anthracene in TCLP	Chrysene in TCLP	Benzo(bjk)fluoranthene in TCLP	Benzo(a)pyrene in TCLP	Indeno(1,2,3-c,d)pyrene - TCLP	Dibenzo(a,h)anthracene in TCLP	Benzo(g,h,i)perylene in TCLP	Total +vePAH's	Surrogate p-Terphenyl-d14	PFAS in TCLP Extended	Asbestos ID - materials	On Hold
SP2-1 -0.5-0.7																						✓
SP2-1-1.0-1.2																						✓
SP2-1-1.5-1.7																						✓
SP2-1-1.8-2.0																						✓
SP2-2-0.5-0.7																						✓
SP2-2-1.0-1.2																						✓
SP2-2-1.5-1.7																						✓
SP2-2-1.7-1.9																						✓
SP2-3-0.4-0.5																						✓
SP2-3-0.9-1.0																						✓
SP2-3-1.4-1.5																						✓
SP2-3-1.6-1.8																						✓
SP3-1-0.3-0.5																						✓
SP3-1-0.8-1.0																						✓
SP3-1-1.3-1.5																						✓
SP3-1-1.8-2.0																						✓
SP3-2-0.3-0.5																						✓
SP3-2-0.8-1.0																						✓
SP3-2-1.3-1.5																						✓
SP3-2-1.8-2.0																						✓

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Sample ID	TCLP Preparation - Acid	Metals from Leaching Fluid pH 2.9 or 5	Naphthalene in TCLP	Acenaphthylene in TCLP	Acenaphthene in TCLP	Fluorene in TCLP	Phenanthrene in TCLP	Anthracene in TCLP	Fluoranthene in TCLP	Pyrene in TCLP	Benzo(a)anthracene in TCLP	Chrysene in TCLP	Benzo(bjk)fluoranthene in TCLP	Benzo(a)pyrene in TCLP	Indeno(1,2,3-c,d)pyrene - TCLP	Dibenzo(a,h)anthracene in TCLP	Benzo(g,h,i)perylene in TCLP	Total +vePAH's	Surrogate p-Terphenyl-d14	PFAS in TCLP Extended	Asbestos ID - materials	On Hold
SP3-3-0.3-0.5																						✓
SP3-3-0.8-1.1	✓	✓																				
SP3-3-1.3-1.5																						✓
SP3-3-1.8-2.0																						✓
SP3-3-2.0-2.2																						✓
SP4-1 -0.3-0.5																						✓
SP4-1-0.8-1.0																						✓
SP4-1-1.3-1.5																						✓
SP4-1-1.8-2.0																						✓
SP4-2-0.3-0.5																						✓
SP4-2-0.8-1.0	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
SP4-2-1.3-1.5																						✓
SP4-3-0.3-0.5																						✓
SP4-3-0.8-1.0																						✓
SP4-3-1.3-1.5																						✓
SP5-1-0.3-0.5																						✓
SP5-1-0.8-1.0	✓	✓																		✓		
SP5-1-1.3-1.5																						✓
SP5-1-1.8-2.0																						✓
SP5-2-0.5-0.5																						✓

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Sample ID	TCLP Preparation - Acid Metals from Leaching Fluid pH 2.9 or 5	Naphthalene in TCLP	Acenaphthylene in TCLP	Acenaphthene in TCLP	Fluorene in TCLP	Phenanthrene in TCLP	Anthracene in TCLP	Fluoranthene in TCLP	Pyrene in TCLP	Benzo(a)anthracene in TCLP	Chrysene in TCLP	Benzo(bjk)fluoranthene in TCLP	Benzo(a)pyrene in TCLP	Indeno(1,2,3-c,d)pyrene - TCLP	Dibenzo(a,h)anthracene in TCLP	Benzo(g,h,i)perylene in TCLP	Total +vePAH's	Surrogate p-Terphenyl-d14	PFAS in TCLP Extended	Asbestos ID - materials	On Hold
SP5-2-0.8-1.0																					✓
SP5-2-1.3-1.5																					✓
SP5-2-1.8-2.0																					✓
SP5-2-2.3-2.5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
SP5-3-0.3-0.5																					✓
SP5-3-0.8-1.0																					✓
SP5-3-1.3-1.5																					✓
SP5-3-1.8-2.0																					✓
SP6-1-0.3-0.5																					✓
SP6-1-0.8-1.0																					✓
SP6-2 -0.3-0.5																					✓
SP6-2-0.8-1.0																					✓
SP6-3-0.3-0.5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
SP6-3-0.8-1.0																					✓
SP7-1-0.3-0.5																					✓
SP7-1-0.8-1.0																					✓
SP7-1-1.3-1.5																					✓
SP7-1-1.8-2.0																					✓
SP7-2-0.3-0.5																					✓
SP7-2-0.8-1.0	✓	✓																			

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Sample ID	TCLP Preparation - Acid	Metals from Leaching Fluid pH 2.9 or 5	Naphthalene in TCLP	Acenaphthylene in TCLP	Acenaphthene in TCLP	Fluorene in TCLP	Phenanthrene in TCLP	Anthracene in TCLP	Fluoranthene in TCLP	Pyrene in TCLP	Benzo(a)anthracene in TCLP	Chrysene in TCLP	Benzo(bjk)fluoranthene in TCLP	Benzo(a)pyrene in TCLP	Indeno(1,2,3-c,d)pyrene - TCLP	Dibenzo(a,h)anthracene in TCLP	Benzo(g,h,i)perylene in TCLP	Total +vePAH's	Surrogate p-Terphenyl-d14	PFAS in TCLP Extended	Asbestos ID - materials	On Hold
SP7-2-1.3-1.5																						✓
SP7-3-0.3-0.5																						✓
SP8-1-0.3-0.5	✓	✓																				
SP8-1-0.8-1.0																						✓
SP8-1-1.3-1.5																						✓
SP8-1-1.8-2.0																						✓
SP8-2-0.3-0.5																						✓
SP8-2-0.8-1.0																						✓
SP8-2-1.3-1.5																						✓
SP8-2-1.8-2.0																						✓
SP8-3-0.3-0.5																						✓
SP8-3-0.8-1.0																						✓
SP8-3-1.3-1.5																						✓
SP8-3-1.8-2.0																						✓
SDUP21																						✓
SDUP22																						✓
SDUP24																						✓
SDUP25																						✓
SDUP26																						✓
SP3-1-FCF1-0-1.0																						✓

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Sample ID	TCLP Preparation - Acid Metals from Leaching Fluid pH 2.9 or 5	Naphthalene in TCLP	Acenaphthylene in TCLP	Acenaphthene in TCLP	Fluorene in TCLP	Phenanthrene in TCLP	Anthracene in TCLP	Fluoranthene in TCLP	Pyrene in TCLP	Benzo(a)anthracene in TCLP	Chrysene in TCLP	Benzo(bjk)fluoranthene in TCLP	Benzo(a)pyrene in TCLP	Indeno(1,2,3-c,d)pyrene - TCLP	Dibenzo(a,h)anthracene in TCLP	Benzo(g,h,i)perylene in TCLP	Total +vePAH's	Surrogate p-Terphenyl-d14	PFAS in TCLP Extended	Asbestos ID - materials	On Hold
SP3-2-FCF1-Spoil																					✓
SP3-2-FCF1-0-1.0																					✓
SP3-2-FCF2-1.0-2.0																					✓
SP3-3-FCF2-TP Base																					✓
SP3-3-FCF3-0-.1.0																					✓
SP3-3-FCF4-1.0-2.0																					✓
SP4-1-FCF1-Spoil-0-0.5																					✓
SP4-2-FCF1-0-1.0																					✓
SP5-1-FCF1-0-1.0																					✓
SP5-1-FCF2-1.0-2.0																					✓
SP5-1-FCF3-1.0-2.0																					✓
SP5-2-FCF1-Spoil																					✓
SP5-2-FCF2-0-1.0																					✓
SP5-2-FCF4-2.0-2.5																					✓
SP5-3-FCF1-0-1.0																					✓
SP5-3-FCF2-1.0-2.0																					✓
SP6-1-FCF1-0-1.0																					✓
SP6-2-FCF1-0-1.0																					✓
SP7-2-FCF1-0-1.0																				✓	
SP7-3-FCF1-Spoil -																					✓

Envirolab Services Pty Ltd
ABN 37 112 535 645
12 Ashley St Chatswood NSW 2067
ph 02 9910 6200 fax 02 9910 6201
customerservice@envirolab.com.au
www.envirolab.com.au

Sample ID	TCLP Preparation - Acid Metals from Leaching Fluid pH 2.9 or 5	Naphthalene in TCLP	Acenaphthylene in TCLP	Acenaphthene in TCLP	Fluorene in TCLP	Phenanthrene in TCLP	Anthracene in TCLP	Fluoranthene in TCLP	Pyrene in TCLP	Benzo(a)anthracene in TCLP	Chrysene in TCLP	Benzo(bjk)fluoranthene in TCLP	Benzo(a)pyrene in TCLP	Indeno(1,2,3-c,d)pyrene - TCLP	Dibenzo(a,h)anthracene in TCLP	Benzo(g,h,i)perylene in TCLP	Total +vePAH's	Surrogate p-Terphenyl-d14	PFAS in TCLP Extended	Asbestos ID - materials	On Hold
SP8-3-FCF1-Spoil																					✓
SP8-3-FCF2-Spoil																					✓
TS-S4																					✓
-																					✓
SP7-3-0.8-1.0																					✓
SP7-3-1.5-1.7																					✓
SP7-3-1.8-2.0																					✓
SP2-1 - [TRIPLICATE]-0.5-0.7																					✓
SP5-1 - [TRIPLICATE]-0.8-1.0																					✓
SP8-3 - [TRIPLICATE]-1.3-1.5																					✓

The '✓' indicates the testing you have requested. **THIS IS NOT A REPORT OF THE RESULTS.**

Additional Info

Sample storage - Waters are routinely disposed of approximately 1 month and soils approximately 2 months from receipt.

Requests for longer term sample storage must be received in writing.

Please contact the laboratory immediately if observed settled sediment present in water samples is to be included in the extraction and/or analysis (exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, Total Recoverable metals and PFAS analysis where solids are included by default.

TAT for Micro is dependent on incubation. This varies from 3 to 6 days.

Aileen Hie

From: Craig Ridley <CRidley@jkenvironments.com.au>
Sent: Friday, 11 March 2022 11:08 AM
To: Greta Petzold
Cc: Samplereceipt
Subject: Re: Results for Registration 290257 E33051BR, Mittagong

CAUTION: This email originated from outside of the organisation. Do not act on instructions, click links or open attachments unless you recognise the sender and know the content is authentic and safe.

Good morning Greta,

Can we please arrange for the following additional tests for this sample batch (Standard turnaround):

Sample ID	Lab Reference	Test Required
SP3-3 (0.8-1.1m)	290257-22	TCLP Lead
SP4-2 (0.8-1.0m)	290257-31	TCLP PAH
SP5-1 (0.8-1.0m)	290257-37	TCLP Lead, TCLP PFAS
SP5-2 (2.3-2.5m)	290257-44	TCLP Lead, TCLP PAH
SP6-3 (0.3-0.5m)	290257-53	TCLP Lead, TCLP PAH, TCLP PFAS
SP7-2 (0.8-1.0m)	290257-60	TCLP Lead
SP8-1 (0.3-0.5m)	290257-63	TCLP Lead
SP7-2-FCF1 (0-1m)	290257-99	Asbestos

Any issues, please call.

Thanks,

Envirolab Ref: 290257A
Due: 18/3/22
std TIA

Regards
Craig Ridley
Senior Environmental Scientist

T: +612 9888 5000
D: 0421 856 992
E: cridley@jkenvironments.com.au
www.jkenvironments.com.au

PO Box 976
NORTH RYDE BC NSW 1670
115 Wicks Road
MACQUARIE PARK NSW 2113

JKEnvironments

This email and any attachments are confidential and may be privileged in which case neither is intended to be waived. If you have received this message in error, please notify us and remove it from your system. It is your responsibility to check any attachments for viruses and defects before opening or sending them on. At the Company's discretion we may send a paper copy for confirmation. In the event of any discrepancy between paper and electronic versions the paper version is to take precedence.

From: Greta Petzold <GPetzold@envirolab.com.au>
Sent: Thursday, March 10, 2022 2:53 PM
To: Craig Ridley
Subject: Results for Registration 290257 E33051BR, Mittagong

Please refer to attached for:
a copy of the Certificate of Analysis
a copy of the COC/paperwork received from you
an Excel or .csv file containing the results

Envirolab Services Pty Ltd
ABN 37 112 535 645 - 002
25 Research Drive Croydon South VIC 3136
ph 03 9763 2500 fax 03 9763 2633
melbourne@envirolab.com.au
www.envirolab.com.au

CERTIFICATE OF ANALYSIS 30360

Client Details

Client	JK Environments
Attention	Craig Ridley
Address	PO Box 976, North Ryde BC, NSW, 1670

Sample Details

Your Reference	**E33051BR**
Number of Samples	1 Water
Date samples received	11/03/2022
Date completed instructions received	11/03/2022

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.

Samples were analysed as received from the client. Results relate specifically to the samples as received.

Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Please refer to the last page of this report for any comments relating to the results.

Report Details

Date results requested by	18/03/2022
Date of Issue	17/03/2022

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Accredited for compliance with ISO/IEC 17025 - Testing. **Tests not covered by NATA are denoted with ***

Results Approved By
Chris De Luca, Operations Manager
Phalak Inthakesone, Group Organics Manager

Authorised By



Pamela Adams, Laboratory Manager

VOCs in water - Routine Level		
Our Reference		30360-1
Your Reference	UNITS	WDUP2
Date Sampled		07/03/2022
Type of sample		Water
Date extracted	-	12/03/2022
Date analysed	-	12/03/2022
Dichlorodifluoromethane	µg/L	<10
Chloromethane	µg/L	<10
Vinyl Chloride	µg/L	<10
Bromomethane	µg/L	<10
Chloroethane	µg/L	<10
Trichlorofluoromethane	µg/L	<10
1,1-Dichloroethene	µg/L	<1
Trans-1,2-dichloroethene	µg/L	<1
1,1-dichloroethane	µg/L	<1
Cis-1,2-dichloroethene	µg/L	<1
Bromochloromethane	µg/L	<1
Chloroform	µg/L	<1
2,2-dichloropropane	µg/L	<1
1,2-dichloroethane	µg/L	<1
1,1,1-trichloroethane	µg/L	<1
1,1-dichloropropene	µg/L	<1
Cyclohexane	µg/L	<1
Carbon tetrachloride	µg/L	<1
Benzene	µg/L	<1
Dibromomethane	µg/L	<1
1,2-dichloropropane	µg/L	<1
Trichloroethene	µg/L	<1
Bromodichloromethane	µg/L	<1
trans-1,3-dichloropropene	µg/L	<1
cis-1,3-dichloropropene	µg/L	<1
1,1,2-trichloroethane	µg/L	<1
Toluene	µg/L	<1
1,3-dichloropropane	µg/L	<1
Dibromochloromethane	µg/L	<1
1,2-dibromoethane	µg/L	<1
Tetrachloroethene	µg/L	<1
1,1,1,2-tetrachloroethane	µg/L	<1
Chlorobenzene	µg/L	<1
Ethylbenzene	µg/L	<1

VOCs in water - Routine Level		
Our Reference		30360-1
Your Reference	UNITS	WDUP2
Date Sampled		07/03/2022
Type of sample		Water
Bromoform	µg/L	<1
m+p-xylene	µg/L	<2
Styrene	µg/L	<1
1,1,2,2-tetrachloroethane	µg/L	<1
o-xylene	µg/L	<1
1,2,3-trichloropropane	µg/L	<1
Isopropylbenzene	µg/L	<1
Bromobenzene	µg/L	<1
n-propyl benzene	µg/L	<1
2-chlorotoluene	µg/L	<1
4-chlorotoluene	µg/L	<1
1,3,5-trimethyl benzene	µg/L	<1
Tert-butyl benzene	µg/L	<1
1,2,4-trimethyl benzene	µg/L	<1
1,3-dichlorobenzene	µg/L	<1
Sec-butyl benzene	µg/L	<1
1,4-dichlorobenzene	µg/L	<1
4-isopropyl toluene	µg/L	<1
1,2-dichlorobenzene	µg/L	<1
n-butyl benzene	µg/L	<1
1,2-dibromo-3-chloropropane	µg/L	<1
1,2,4-trichlorobenzene	µg/L	<1
Hexachlorobutadiene	µg/L	<1
1,2,3-trichlorobenzene	µg/L	<1
Surrogate Dibromofluoromethane	%	110
Surrogate toluene-d8	%	111
Surrogate 4-BFB	%	97

vTRH(C6-C10)/BTEXN in Water		
Our Reference	UNITS	30360-1
Your Reference		WDUP2
Date Sampled		07/03/2022
Type of sample		Water
Date extracted	-	12/03/2022
Date analysed	-	12/03/2022
TRH C_6 - C_9	µg/L	<10
TRH C_6 - C_{10}	µg/L	<10
TRH C_6 -C_{10} less BTEX (F1)	µg/L	<10
Benzene	µg/L	<1
Toluene	µg/L	<1
Ethylbenzene	µg/L	<1
m+p-xylene	µg/L	<2
o-xylene	µg/L	<1
Naphthalene	µg/L	<1
Total +ve Xylenes	µg/L	<1
Total BTEX in water	µg/L	<1
Surrogate Dibromofluoromethane	%	121
Surrogate toluene-d8	%	116
Surrogate 4-BFB	%	100

TRH Water(C10-C40) NEPM		
Our Reference	UNITS	30360-1
Your Reference		WDUP2
Date Sampled		07/03/2022
Type of sample		Water
Date extracted	-	11/03/2022
Date analysed	-	15/03/2022
TRH C_{10} - C_{14}	µg/L	<50
TRH C_{15} - C_{28}	µg/L	<100
TRH C_{29} - C_{36}	µg/L	<100
Total +ve TRH (C10-C36)	µg/L	<50
TRH >C_{10} - C_{16}	µg/L	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	µg/L	<50
TRH >C_{16} - C_{34}	µg/L	<100
TRH >C_{34} - C_{40}	µg/L	<100
Total +ve TRH (>C10-C40)	µg/L	<50
Surrogate o-Terphenyl	%	70

PAHs in Water - Low Level		
Our Reference		30360-1
Your Reference	UNITS	WDUP2
Date Sampled		07/03/2022
Type of sample		Water
Date extracted	-	11/03/2022
Date analysed	-	15/03/2022
Naphthalene	µg/L	<0.1
Acenaphthylene	µg/L	<0.1
Acenaphthene	µg/L	<0.1
Fluorene	µg/L	<0.1
Phenanthrene	µg/L	<0.1
Anthracene	µg/L	<0.1
Fluoranthene	µg/L	<0.1
Pyrene	µg/L	<0.1
Benzo(a)anthracene	µg/L	<0.1
Chrysene	µg/L	<0.1
Benzo(b,j&k)fluoranthene	µg/L	<0.2
Benzo(a)pyrene	µg/L	<0.1
Indeno(1,2,3-c,d)pyrene	µg/L	<0.1
Dibenzo(a,h)anthracene	µg/L	<0.1
Benzo(g,h,i)perylene	µg/L	<0.1
Total +ve PAH's	µg/L	NIL (+)VE PAH
Benzo(a)pyrene TEQ	µg/L	<0.5
Surrogate p-Terphenyl-d_{14}	%	95

HM in water - dissolved		
Our Reference		30360-1
Your Reference	UNITS	WDUP2
Date Sampled		07/03/2022
Type of sample		Water
Date prepared	-	15/03/2022
Date analysed	-	16/03/2022
Arsenic-Dissolved	µg/L	<1
Cadmium-Dissolved	µg/L	<0.1
Chromium-Dissolved	µg/L	<1
Copper-Dissolved	µg/L	<1
Lead-Dissolved	µg/L	<1
Nickel-Dissolved	µg/L	2
Zinc-Dissolved	µg/L	18
Mercury-Dissolved	µg/L	<0.05

PFAS in water TRACE Extended		
Our Reference		30360-1
Your Reference	UNITS	WDUP2
Date Sampled		07/03/2022
Type of sample		Water
Date prepared	-	16/03/2022
Date analysed	-	16/03/2022
Perfluorobutanesulfonic acid	µg/L	<0.0004
Perfluoropentanesulfonic acid	µg/L	<0.001
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.0002
Perfluoroheptanesulfonic acid	µg/L	<0.001
Perfluorooctanesulfonic acid PFOS	µg/L	0.0002
Perfluorodecanesulfonic acid	µg/L	<0.002
Perfluorobutanoic acid	µg/L	<0.002
Perfluoropentanoic acid	µg/L	<0.002
Perfluorohexanoic acid	µg/L	<0.0004
Perfluoroheptanoic acid	µg/L	<0.0004
Perfluorooctanoic acid PFOA	µg/L	<0.0002
Perfluorononanoic acid	µg/L	<0.001
Perfluorodecanoic acid	µg/L	<0.002
Perfluoroundecanoic acid	µg/L	<0.002
Perfluorododecanoic acid	µg/L	<0.005
Perfluorotridecanoic acid	µg/L	<0.01
Perfluorotetradecanoic acid	µg/L	<0.05
4:2 FTS	µg/L	<0.001
6:2 FTS	µg/L	<0.0004
8:2 FTS	µg/L	<0.0004
10:2 FTS	µg/L	<0.002
Perfluorooctane sulfonamide	µg/L	<0.01
N-Methyl perfluorooctane sulfonamide	µg/L	<0.005
N-Ethyl perfluorooctanesulfon -amide	µg/L	<0.01
N-Me perfluorooctanesulfonamid -oethanol	µg/L	<0.005
N-Et perfluorooctanesulfonamid -oethanol	µg/L	<0.05
MePerfluorooctanesulf- amid oacetic acid	µg/L	<0.002
EtPerfluorooctanesulf- amid oacetic acid	µg/L	<0.002
Surrogate $^{13}C_8$ PFOS	%	98
Surrogate $^{13}C_2$ PFOA	%	100
Extracted ISTD $^{13}C_3$ *PFBS*	%	80
Extracted ISTD $^{18}O_2$ *PFHxS*	%	92
Extracted ISTD $^{13}C_4$ *PFOS*	%	79
Extracted ISTD $^{13}C_4$ *PFBA*	%	36

PFAS in water TRACE Extended		
Our Reference		30360-1
Your Reference	UNITS	WDUP2
Date Sampled		07/03/2022
Type of sample		Water
Extracted ISTD $^{13}C_3$ *PFPeA*	%	30
Extracted ISTD $^{13}C_2$ *PFHxA*	%	49
Extracted ISTD $^{13}C_4$ *PFHpA*	%	62
Extracted ISTD $^{13}C_4$ *PFOA*	%	73
Extracted ISTD $^{13}C_5$ *PFNA*	%	77
Extracted ISTD $^{13}C_2$ *PFDA*	%	80
Extracted ISTD $^{13}C_2$ *PFUnDA*	%	76
Extracted ISTD $^{13}C_2$ *PFDoDA*	%	66
Extracted ISTD $^{13}C_2$ *PFTeDA*	%	78
Extracted ISTD $^{13}C_2$ *4:2FTS*	%	65
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	123
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	174
Extracted ISTD $^{13}C_8$ *FOSA*	%	63
Extracted ISTD d_3 *N MeFOSA*	%	44
Extracted ISTD d_5 *N EtFOSAA*	%	46
Extracted ISTD d_7 *N MeFOSE*	%	50
Extracted ISTD d_9 *N EtFOSE*	%	49
Extracted ISTD d_3 *N MeFOSAA*	%	86
Extracted ISTD d_5 *N EtFOSAA*	%	101
Total Positive PFHxS & PFOS	µg/L	0.0005
Total Positive PFOS & PFOA	µg/L	0.0002
Total Positive PFAS	µg/L	0.0005

Method ID	Methodology Summary
Metals-021 CV-AAS	Determination of Mercury by Cold Vapour AAS.
Metals-022 ICP-MS	Determination of various metals by ICP-MS.
Org-020	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis. Note, the Total +ve TRH PQL is reflective of the lowest individual PQL and is therefore "Total +ve TRH" is simply a sum of the positive individual TRH fractions (>C10-C40).
Org-022	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater 2013.
Org-023	Water samples are analysed directly by purge and trap GC-MS.
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater. Note, the Total +ve Xylene PQL is reflective of the lowest individual PQL and is therefore "Total +ve Xylenes" is simply a sum of the positive individual Xylenes.
Org-029	Soil samples are extracted with basified Methanol. Waters and soil extracts are directly injected and/or concentrated/extracted using SPE. TCLP/ASLP leachates are centrifuged, the supernatant is then analysed (including amendment with solvent) - as per the option in AS4439.3. Analysis is undertaken with LC-MS/MS. PFAS results include the sum of branched and linear isomers where applicable. Please note that PFAS results are corrected for Extracted Internal Standards (QSM 5.3 Table B-15 terminology), which are mass labelled analytes added prior to sample preparation to assess matrix effects and verify processing of the sample. PFAS analytes without a commercially available mass labelled analogue are corrected vs a closely eluting mass labelled PFAS compound. Surrogates are also reported, in this context they are mass labelled PFAS compounds added prior to extraction but are used as monitoring compounds only (not used for result correction). Envicarb (or similar) is used discretionally to remove interfering matrix components. Please contact the laboratory if estimates of Measurement Uncertainty are required as per WA DER

QUALITY CONTROL: VOCs in water - Routine Level					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date extracted	-			12/03/2022	[NT]	[NT]	[NT]	[NT]	12/03/2022	[NT]
Date analysed	-			12/03/2022	[NT]	[NT]	[NT]	[NT]	12/03/2022	[NT]
Dichlorodifluoromethane	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chloromethane	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Vinyl Chloride	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Bromomethane	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chloroethane	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Trichlorofluoromethane	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,1-Dichloroethene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Trans-1,2-dichloroethene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,1-dichloroethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	99	[NT]
Cis-1,2-dichloroethene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Bromochloromethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chloroform	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	100	[NT]
2,2-dichloropropane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2-dichloroethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	93	[NT]
1,1,1-trichloroethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	99	[NT]
1,1-dichloropropene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Cyclohexane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Carbon tetrachloride	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dibromomethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2-dichloropropane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Trichloroethene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	93	[NT]
Bromodichloromethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	94	[NT]
trans-1,3-dichloropropene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
cis-1,3-dichloropropene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,1,2-trichloroethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Toluene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,3-dichloropropane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dibromochloromethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	93	[NT]
1,2-dibromoethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Tetrachloroethene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	96	[NT]
1,1,1,2-tetrachloroethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chlorobenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Ethylbenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Bromoform	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
m+p-xylene	µg/L	2	Org-023	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Styrene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,1,2,2-tetrachloroethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]

QUALITY CONTROL: VOCs in water - Routine Level					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
o-xylene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2,3-trichloropropane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Isopropylbenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Bromobenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
n-propyl benzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2-chlorotoluene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
4-chlorotoluene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,3,5-trimethyl benzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Tert-butyl benzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2,4-trimethyl benzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,3-dichlorobenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Sec-butyl benzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,4-dichlorobenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
4-isopropyl toluene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2-dichlorobenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
n-butyl benzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2-dibromo-3-chloropropane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2,4-trichlorobenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Hexachlorobutadiene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2,3-trichlorobenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate Dibromofluoromethane	%		Org-023	106	[NT]	[NT]	[NT]	[NT]	93	[NT]
Surrogate toluene-d8	%		Org-023	104	[NT]	[NT]	[NT]	[NT]	96	[NT]
Surrogate 4-BFB	%		Org-023	94	[NT]	[NT]	[NT]	[NT]	91	[NT]

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	30360-1
Date extracted	-			12/03/2022	[NT]	[NT]	[NT]	[NT]	12/03/2022	12/03/2022
Date analysed	-			12/03/2022	[NT]	[NT]	[NT]	[NT]	12/03/2022	12/03/2022
TRH C_6 - C_9	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	92	96
TRH C_6 - C_{10}	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	92	96
Benzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	89	92
Toluene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	99	100
Ethylbenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	87	90
m+p-xylene	µg/L	2	Org-023	<2	[NT]	[NT]	[NT]	[NT]	93	99
o-xylene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	87	90
Naphthalene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	91	89
Surrogate Dibromofluoromethane	%		Org-023	116	[NT]	[NT]	[NT]	[NT]	99	96
Surrogate toluene-d8	%		Org-023	110	[NT]	[NT]	[NT]	[NT]	101	99
Surrogate 4-BFB	%		Org-023	97	[NT]	[NT]	[NT]	[NT]	96	95

QUALITY CONTROL: TRH Water(C10-C40) NEPM						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date extracted	-			11/03/2022	[NT]	[NT]	[NT]	[NT]	11/03/2022	[NT]
Date analysed	-			15/03/2022	[NT]	[NT]	[NT]	[NT]	15/03/2022	[NT]
TRH C_{10} - C_{14}	µg/L	50	Org-020	<50	[NT]	[NT]	[NT]	[NT]	81	[NT]
TRH C_{15} - C_{28}	µg/L	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	98	[NT]
TRH C_{29} - C_{36}	µg/L	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	107	[NT]
TRH >C_{10} - C_{16}	µg/L	50	Org-020	<50	[NT]	[NT]	[NT]	[NT]	81	[NT]
TRH >C_{16} - C_{34}	µg/L	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	98	[NT]
TRH >C_{34} - C_{40}	µg/L	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	107	[NT]
Surrogate o-Terphenyl	%		Org-020	64	[NT]	[NT]	[NT]	[NT]	80	[NT]

QUALITY CONTROL: PAHs in Water - Low Level						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date extracted	-			11/03/2022	[NT]	[NT]	[NT]	[NT]	11/03/2022	[NT]
Date analysed	-			15/03/2022	[NT]	[NT]	[NT]	[NT]	15/03/2022	[NT]
Naphthalene	µg/L	0.1	Org-022	<0.1	[NT]	[NT]	[NT]	[NT]	76	[NT]
Acenaphthylene	µg/L	0.1	Org-022	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Acenaphthene	µg/L	0.1	Org-022	<0.1	[NT]	[NT]	[NT]	[NT]	86	[NT]
Fluorene	µg/L	0.1	Org-022	<0.1	[NT]	[NT]	[NT]	[NT]	86	[NT]
Phenanthrene	µg/L	0.1	Org-022	<0.1	[NT]	[NT]	[NT]	[NT]	94	[NT]
Anthracene	µg/L	0.1	Org-022	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Fluoranthene	µg/L	0.1	Org-022	<0.1	[NT]	[NT]	[NT]	[NT]	96	[NT]
Pyrene	µg/L	0.1	Org-022	<0.1	[NT]	[NT]	[NT]	[NT]	98	[NT]
Benzo(a)anthracene	µg/L	0.1	Org-022	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chrysene	µg/L	0.1	Org-022	<0.1	[NT]	[NT]	[NT]	[NT]	86	[NT]
Benzo(b,j&k)fluoranthene	µg/L	0.2	Org-022	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzo(a)pyrene	µg/L	0.1	Org-022	<0.1	[NT]	[NT]	[NT]	[NT]	88	[NT]
Indeno(1,2,3-c,d)pyrene	µg/L	0.1	Org-022	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dibenzo(a,h)anthracene	µg/L	0.1	Org-022	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzo(g,h,i)perylene	µg/L	0.1	Org-022	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate p-Terphenyl-d_{14}	%		Org-022	92	[NT]	[NT]	[NT]	[NT]	90	[NT]

QUALITY CONTROL: HM in water - dissolved						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date prepared	-			15/03/2022	[NT]	[NT]	[NT]	[NT]	15/03/2022	[NT]
Date analysed	-			16/03/2022	[NT]	[NT]	[NT]	[NT]	16/03/2022	[NT]
Arsenic-Dissolved	µg/L	1	Metals-022 ICP-MS	<1	[NT]	[NT]	[NT]	[NT]	96	[NT]
Cadmium-Dissolved	µg/L	0.1	Metals-022 ICP-MS	<0.1	[NT]	[NT]	[NT]	[NT]	96	[NT]
Chromium-Dissolved	µg/L	1	Metals-022 ICP-MS	<1	[NT]	[NT]	[NT]	[NT]	89	[NT]
Copper-Dissolved	µg/L	1	Metals-022 ICP-MS	<1	[NT]	[NT]	[NT]	[NT]	96	[NT]
Lead-Dissolved	µg/L	1	Metals-022 ICP-MS	<1	[NT]	[NT]	[NT]	[NT]	93	[NT]
Nickel-Dissolved	µg/L	1	Metals-022 ICP-MS	<1	[NT]	[NT]	[NT]	[NT]	96	[NT]
Zinc-Dissolved	µg/L	1	Metals-022 ICP-MS	<1	[NT]	[NT]	[NT]	[NT]	96	[NT]
Mercury-Dissolved	µg/L	0.05	Metals-021 CV-AAS	<0.05	[NT]	[NT]	[NT]	[NT]	109	[NT]

QUALITY CONTROL: PFAS in water TRACE Extended					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Perfluorobutanesulfonic acid	µg/L	0.0004	Org-029	<0.0004	[NT]	[NT]	[NT]	[NT]	95	[NT]
Perfluoropentanesulfonic acid	µg/L	0.001	Org-029	<0.001	[NT]	[NT]	[NT]	[NT]	104	[NT]
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.0002	Org-029	<0.0002	[NT]	[NT]	[NT]	[NT]	99	[NT]
Perfluoroheptanesulfonic acid	µg/L	0.001	Org-029	<0.001	[NT]	[NT]	[NT]	[NT]	92	[NT]
Perfluorooctanesulfonic acid PFOS	µg/L	0.0002	Org-029	<0.0002	[NT]	[NT]	[NT]	[NT]	96	[NT]
Perfluorodecanesulfonic acid	µg/L	0.002	Org-029	<0.002	[NT]	[NT]	[NT]	[NT]	72	[NT]
Perfluorobutanoic acid	µg/L	0.002	Org-029	<0.002	[NT]	[NT]	[NT]	[NT]	96	[NT]
Perfluoropentanoic acid	µg/L	0.002	Org-029	<0.002	[NT]	[NT]	[NT]	[NT]	96	[NT]
Perfluorohexanoic acid	µg/L	0.0004	Org-029	<0.0004	[NT]	[NT]	[NT]	[NT]	98	[NT]
Perfluoroheptanoic acid	µg/L	0.0004	Org-029	<0.0004	[NT]	[NT]	[NT]	[NT]	98	[NT]
Perfluorooctanoic acid PFOA	µg/L	0.0002	Org-029	<0.0002	[NT]	[NT]	[NT]	[NT]	100	[NT]
Perfluorononanoic acid	µg/L	0.001	Org-029	<0.001	[NT]	[NT]	[NT]	[NT]	96	[NT]
Perfluorodecanoic acid	µg/L	0.002	Org-029	<0.002	[NT]	[NT]	[NT]	[NT]	101	[NT]
Perfluoroundecanoic acid	µg/L	0.002	Org-029	<0.002	[NT]	[NT]	[NT]	[NT]	101	[NT]
Perfluorododecanoic acid	µg/L	0.005	Org-029	<0.005	[NT]	[NT]	[NT]	[NT]	102	[NT]
Perfluorotridecanoic acid	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	85	[NT]
Perfluorotetradecanoic acid	µg/L	0.05	Org-029	<0.05	[NT]	[NT]	[NT]	[NT]	94	[NT]
4:2 FTS	µg/L	0.001	Org-029	<0.001	[NT]	[NT]	[NT]	[NT]	96	[NT]
6:2 FTS	µg/L	0.0004	Org-029	<0.0004	[NT]	[NT]	[NT]	[NT]	91	[NT]
8:2 FTS	µg/L	0.0004	Org-029	<0.0004	[NT]	[NT]	[NT]	[NT]	92	[NT]
10:2 FTS	µg/L	0.002	Org-029	<0.002	[NT]	[NT]	[NT]	[NT]	86	[NT]
Perfluorooctane sulfonamide	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	97	[NT]
N-Methyl perfluorooctane sulfonamide	µg/L	0.005	Org-029	<0.005	[NT]	[NT]	[NT]	[NT]	94	[NT]
N-Ethyl perfluorooctanesulfon -amide	µg/L	0.01	Org-029	<0.01	[NT]	[NT]	[NT]	[NT]	92	[NT]
N-Me perfluorooctanesulfonamid -oethanol	µg/L	0.005	Org-029	<0.005	[NT]	[NT]	[NT]	[NT]	96	[NT]
N-Et perfluorooctanesulfonamid -oethanol	µg/L	0.05	Org-029	<0.05	[NT]	[NT]	[NT]	[NT]	99	[NT]
MePerfluorooctanesulf- amid oacetic acid	µg/L	0.002	Org-029	<0.002	[NT]	[NT]	[NT]	[NT]	108	[NT]
EtPerfluorooctanesulf- amid oacetic acid	µg/L	0.002	Org-029	<0.002	[NT]	[NT]	[NT]	[NT]	96	[NT]
Surrogate $^{13}C_8$ PFOS	%		Org-029	96	[NT]	[NT]	[NT]	[NT]	99	[NT]
Surrogate $^{13}C_2$ PFOA	%		Org-029	101	[NT]	[NT]	[NT]	[NT]	102	[NT]
Extracted ISTD $^{13}C_3$ PFBS	%		Org-029	100	[NT]	[NT]	[NT]	[NT]	102	[NT]

QUALITY CONTROL: PFAS in water TRACE Extended					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Extracted ISTD $^{18}O_2$ *PFHxS*	%		Org-029	99	[NT]	[NT]	[NT]	[NT]	98	[NT]
Extracted ISTD $^{13}C_4$ *PFOS*	%		Org-029	92	[NT]	[NT]	[NT]	[NT]	82	[NT]
Extracted ISTD $^{13}C_4$ *PFBA*	%		Org-029	106	[NT]	[NT]	[NT]	[NT]	106	[NT]
Extracted ISTD $^{13}C_3$ *PFPeA*	%		Org-029	104	[NT]	[NT]	[NT]	[NT]	103	[NT]
Extracted ISTD $^{13}C_2$ *PFHxA*	%		Org-029	103	[NT]	[NT]	[NT]	[NT]	105	[NT]
Extracted ISTD $^{13}C_4$ *PFHpA*	%		Org-029	99	[NT]	[NT]	[NT]	[NT]	100	[NT]
Extracted ISTD $^{13}C_4$ *PFOA*	%		Org-029	99	[NT]	[NT]	[NT]	[NT]	100	[NT]
Extracted ISTD $^{13}C_5$ *PFNA*	%		Org-029	97	[NT]	[NT]	[NT]	[NT]	100	[NT]
Extracted ISTD $^{13}C_2$ *PFDA*	%		Org-029	93	[NT]	[NT]	[NT]	[NT]	90	[NT]
Extracted ISTD $^{13}C_2$ *PFUnDA*	%		Org-029	85	[NT]	[NT]	[NT]	[NT]	83	[NT]
Extracted ISTD $^{13}C_2$ *PFDoDA*	%		Org-029	64	[NT]	[NT]	[NT]	[NT]	67	[NT]
Extracted ISTD $^{13}C_2$ *PFTeDA*	%		Org-029	52	[NT]	[NT]	[NT]	[NT]	59	[NT]
Extracted ISTD $^{13}C_2$ *4:2FTS*	%		Org-029	117	[NT]	[NT]	[NT]	[NT]	116	[NT]
Extracted ISTD $^{13}C_2$ *6:2FTS*	%		Org-029	118	[NT]	[NT]	[NT]	[NT]	127	[NT]
Extracted ISTD $^{13}C_2$ *8:2FTS*	%		Org-029	134	[NT]	[NT]	[NT]	[NT]	132	[NT]
Extracted ISTD $^{13}C_8$ *FOSA*	%		Org-029	86	[NT]	[NT]	[NT]	[NT]	83	[NT]
Extracted ISTD d_3 *N MeFOSA*	%		Org-029	61	[NT]	[NT]	[NT]	[NT]	63	[NT]
Extracted ISTD d_5 *N EtFOSAA*	%		Org-029	55	[NT]	[NT]	[NT]	[NT]	57	[NT]
Extracted ISTD d_7 *N MeFOSE*	%		Org-029	62	[NT]	[NT]	[NT]	[NT]	69	[NT]
Extracted ISTD d_9 *N EtFOSE*	%		Org-029	60	[NT]	[NT]	[NT]	[NT]	59	[NT]

QUALITY CONTROL: PFAS in water TRACE Extended						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Extracted ISTD d_3 *N MeFOSAA*	%		Org-029	84	[NT]	[NT]	[NT]	[NT]	87	[NT]
Extracted ISTD d_5 *N EtFOSAA*	%		Org-029	97	[NT]	[NT]	[NT]	[NT]	103	[NT]

Result Definitions

NT	Not tested
NA	Test not required
INS	Insufficient sample for this test
PQL	Practical Quantitation Limit
<	Less than
>	Greater than
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
NS	Not specified
NEPM	National Environmental Protection Measure
NR	Not Reported

Quality Control Definitions

Blank	This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate	This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike	A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample)	This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike	Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011.

The recommended maximums for analytes in urine are taken from “2018 TLVs and BEIs”, as published by ACGIH (where available). Limit provided for Nickel is a precautionary guideline as per Position Paper prepared by AIOH Exposure Standards Committee, 2016.

Guideline limits for Rinse Water Quality reported as per analytical requirements and specifications of AS 4187, Amdt 2 2019, Table 7.2

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: >10xPQL - RPD acceptance criteria will vary depending on the analytes and the analytical techniques but is typically in the range 20%-50% – see ELN-P05 QA/QC tables for details; <10xPQL - RPD are higher as the results approach PQL and the estimated measurement uncertainty will statistically increase.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals (not SPOCAS); 60-140% for organics/SPOCAS (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

Measurement Uncertainty estimates are available for most tests upon request.

Analysis of aqueous samples typically involves the extraction/digestion and/or analysis of the liquid phase only (i.e. NOT any settled sediment phase but inclusive of suspended particles if present), unless stipulated on the Envirolab COC and/or by correspondence. Notable exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, total recoverable metals and PFAS where solids are included by default.

Samples for Microbiological analysis (not Amoeba forms) received outside of the 2-8°C temperature range do not meet the ideal cooling conditions as stated in AS2031-2012.

Report Comments

PFAS: For PFAS Extracted Internal Standards denoted with # or outside the 50-150% acceptance range, the respective target analyte results may be unaffected, in other circumstances the PQL has been raised to accommodate the outlier(s).

Envirolab Services Pty Ltd
ABN 37 112 535 645 - 002
25 Research Drive Croydon South VIC 3136
ph 03 9763 2500 fax 03 9763 2633
melbourne@envirolab.com.au
www.envirolab.com.au

SAMPLE RECEIPT ADVICE

Client Details

Client	JK Environments
Attention	Craig Ridley

Sample Login Details

Your reference	E33051BR
Envirolab Reference	30360
Date Sample Received	11/03/2022
Date Instructions Received	11/03/2022
Date Results Expected to be Reported	18/03/2022

Sample Condition

Samples received in appropriate condition for analysis	Yes
No. of Samples Provided	1 Water
Turnaround Time Requested	Standard
Temperature on Receipt (°C)	16.5
Cooling Method	Ice Pack
Sampling Date Provided	YES

Comments

Nil

Please direct any queries to:

Pamela Adams	Chris De Luca
Phone: 03 9763 2500	**Phone: 03 9763 2500**
Fax: 03 9763 2633	**Fax: 03 9763 2633**
Email: padams@envirolab.com.au	**Email: cdeluca@envirolab.com.au**

Analysis Underway, details on the following page:

Envirolab Services Pty Ltd
ABN 37 112 535 645 - 002
25 Research Drive Croydon South VIC 3136
ph 03 9763 2500 fax 03 9763 2633
melbourne@envirolab.com.au
www.envirolab.com.au

Sample ID	VOCs in water - Routine Level	vTRH(C6-C10)/BTEXN in Water	TRH Water(C10-C40) NEPM	PAHs in Water - Low Level	HM in water - dissolved	PFAS in water TRACE Extended
WDUP2	✓	✓	✓	✓	✓	✓

The '✓' indicates the testing you have requested. **THIS IS NOT A REPORT OF THE RESULTS.**

Additional Info

Sample storage - Waters are routinely disposed of approximately 1 month and soils approximately 2 months from receipt.
Requests for longer term sample storage must be received in writing.
Please contact the laboratory immediately if observed settled sediment present in water samples is to be included in the extraction and/or analysis (exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, Total Recoverable metals and PFAS analysis where solids are included by default.

SAMPLE AND CHAIN OF CUSTODY FORM

TO:		FROM:
ENVIROLAB SERVICES PTY LTD 12 ASHLEY STREET CHATSWOOD NSW 2067 P: (02) 99106200 F: (02) 99106201 Attention: Aileen	JKE Job Number: E33051BR Date Results Required: STANDARD Page: 1 of 1	JKEnvironments REAR OF 115 WICKS ROAD MACQUARIE PARK, NSW 2113 P: 02-9888 5000 F: 02-9888 5001 Attention: Craig Ridley Cridley@jkenvironments.com.au

Location: Mittagong
Sampler: HW

Sample Preserved in Esky on Ice

Tests Required

Date Sampled	Lab Ref:	Sample Number	Sample Containers	PID	Sample Description	Combo 3L	VOCs	pH / EC	PFAS - trace extended	BTEX
8/03/2022	1	MW6	2xG1, 4xV, H, PVC1, PVC2	0.6	Water	X	X	X	X	
8/03/2022	2	MW10	2xG1, 4xV, H, PVC1, PVC2	0	Water	X	X	X	X	
8/03/2022	3	MW28	2xG1, 4xV, H, PVC1, PVC2	0.1	Water	X	X	X	X	
8/03/2022	4	MW37	2xG1, 4xV, H, PVC1, PVC2	0.5	Water	X	X	X	X	
8/03/2022	5	MW41	2xG1, 4xV, H, PVC1, PVC2	0.1	Water	X	X	X	X	
7/03/2022	6	MW59	2xG1, 4xV, H, PVC1, PVC2	0.7	Water	X	X	X	X	
7/03/2022	7	MW82	2xG1, 4xV, H, PVC1, PVC2	0.5	Water	X	X	X	X	
7/03/2022	8	WDUP1	2xG1, 4xV, H, PVC2	NA	Water	X	X		X	
7/03/2022	9	WDUP2	2xG1, 4xV, H, PVC2	NA	Water	X	X		X	
7-8/03/22	10	TS-W1	V	NA	Water spike					X
7-8/03/22	11	TB-W1	V	NA	Water blank					X
7-8/03/22	12	TBPFAS-W1	PVC2	NA	Water blank				X	

Send to VIC

Envirolab Services
12 Ashley St
Chatswood NSW 2067
Ph: (02) 9910 6200
Job No: 290597
Date Received: 9/3/2022
Time Received: 1320
By:
Temp: Cool/Ambient 18
Cooling: Ice/Icepack 7°
Security: Intact/Broken/None

Remarks (comments/detection limits required):
All analysis PQLs to ANZECC (2000) Detection Limits Please.
Send WDUP2 to VIC as inter-lab duplicate.

Sample Containers:
G1 - 150mL Amber Glass Bottle PVC2 - HDPE PFAS Bottles
V - BTEX Vial H - HNO3 Wash PVC
PVC1 - HDPE Plastic Bottles

Relinquished By: HW	Date: 9/03/22	Time: 10:30am	Received By: Christine ELS SYD	Date: 1320 09/03/22

Relinquished by:
ELS SYD
A-BM
10/3/22, 1115

7°C

Envirolab Services Pty Ltd
ABN 37 112 535 645
12 Ashley St Chatswood NSW 2067
ph 02 9910 6200 fax 02 9910 6201
customerservice@envirolab.com.au
www.envirolab.com.au

CERTIFICATE OF ANALYSIS 290597

Client Details

Client	JK Environments
Attention	C Ridley
Address	PO Box 976, North Ryde BC, NSW, 1670

Sample Details

Your Reference	**E33051BR, Mittagong**
Number of Samples	11 Water
Date samples received	09/03/2022
Date completed instructions received	09/03/2022

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.

Samples were analysed as received from the client. Results relate specifically to the samples as received.

Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Please refer to the last page of this report for any comments relating to the results.

Report Details

Date results requested by	16/03/2022
Date of Issue	16/03/2022

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Accredited for compliance with ISO/IEC 17025 - Testing. **Tests not covered by NATA are denoted with ***

Results Approved By
Alexander Mitchell Maclean, Senior Chemist
Dragana Tomas, Senior Chemist
Hannah Nguyen, Metals Supervisor
Jenny He, Chemist
Kyle Gavrily, Chemist

Authorised By



Nancy Zhang, Laboratory Manager

VOCs in water						
Our Reference		290597-1	290597-2	290597-3	290597-4	290597-5
Your Reference	UNITS	MW6	MW10	MW28	MW37	MW41
Date Sampled		08/03/2022	08/03/2022	08/03/2022	08/03/2022	08/03/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	10/03/2022	10/03/2022	10/03/2022	10/03/2022	10/03/2022
Date analysed	-	10/03/2022	10/03/2022	10/03/2022	10/03/2022	10/03/2022
Dichlorodifluoromethane	µg/L	<10	<10	<10	<10	<10
Chloromethane	µg/L	<10	<10	<10	<10	<10
Vinyl Chloride	µg/L	<10	<10	<10	<10	<10
Bromomethane	µg/L	<10	<10	<10	<10	<10
Chloroethane	µg/L	<10	<10	<10	<10	<10
Trichlorofluoromethane	µg/L	<10	<10	<10	<10	<10
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1
Trans-1,2-dichloroethene	µg/L	<1	<1	<1	<1	<1
1,1-dichloroethane	µg/L	<1	<1	<1	<1	<1
Cis-1,2-dichloroethene	µg/L	<1	<1	<1	<1	<1
Bromochloromethane	µg/L	<1	<1	<1	<1	<1
Chloroform	µg/L	<1	<1	<1	<1	<1
2,2-dichloropropane	µg/L	<1	<1	<1	<1	<1
1,2-dichloroethane	µg/L	<1	<1	<1	<1	<1
1,1,1-trichloroethane	µg/L	<1	<1	<1	<1	<1
1,1-dichloropropene	µg/L	<1	<1	<1	<1	<1
Cyclohexane	µg/L	<1	<1	<1	<1	<1
Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1
Benzene	µg/L	<1	<1	<1	<1	<1
Dibromomethane	µg/L	<1	<1	<1	<1	<1
1,2-dichloropropane	µg/L	<1	<1	<1	<1	<1
Trichloroethene	µg/L	<1	<1	<1	<1	<1
Bromodichloromethane	µg/L	<1	<1	<1	<1	<1
trans-1,3-dichloropropene	µg/L	<1	<1	<1	<1	<1
cis-1,3-dichloropropene	µg/L	<1	<1	<1	<1	<1
1,1,2-trichloroethane	µg/L	<1	<1	<1	<1	<1
Toluene	µg/L	<1	<1	<1	<1	<1
1,3-dichloropropane	µg/L	<1	<1	<1	<1	<1
Dibromochloromethane	µg/L	<1	<1	<1	<1	<1
1,2-dibromoethane	µg/L	<1	<1	<1	<1	<1
Tetrachloroethene	µg/L	<1	<1	<1	<1	<1
1,1,1,2-tetrachloroethane	µg/L	<1	<1	<1	<1	<1
Chlorobenzene	µg/L	<1	<1	<1	<1	<1
Ethylbenzene	µg/L	<1	1	<1	<1	<1

VOCs in water						
Our Reference		290597-1	290597-2	290597-3	290597-4	290597-5
Your Reference	UNITS	MW6	MW10	MW28	MW37	MW41
Date Sampled		08/03/2022	08/03/2022	08/03/2022	08/03/2022	08/03/2022
Type of sample		Water	Water	Water	Water	Water
Bromoform	µg/L	<1	<1	<1	<1	<1
m+p-xylene	µg/L	<2	<2	<2	<2	<2
Styrene	µg/L	<1	<1	<1	<1	<1
1,1,2,2-tetrachloroethane	µg/L	<1	<1	<1	<1	<1
o-xylene	µg/L	<1	<1	<1	<1	<1
1,2,3-trichloropropane	µg/L	<1	<1	<1	<1	<1
Isopropylbenzene	µg/L	<1	<1	<1	<1	<1
Bromobenzene	µg/L	<1	<1	<1	<1	<1
n-propyl benzene	µg/L	<1	<1	<1	<1	<1
2-chlorotoluene	µg/L	<1	<1	<1	<1	<1
4-chlorotoluene	µg/L	<1	<1	<1	<1	<1
1,3,5-trimethyl benzene	µg/L	<1	<1	<1	<1	<1
Tert-butyl benzene	µg/L	<1	<1	<1	<1	<1
1,2,4-trimethyl benzene	µg/L	<1	<1	<1	<1	<1
1,3-dichlorobenzene	µg/L	<1	<1	<1	<1	<1
Sec-butyl benzene	µg/L	<1	<1	<1	<1	<1
1,4-dichlorobenzene	µg/L	<1	<1	<1	<1	<1
4-isopropyl toluene	µg/L	<1	<1	<1	<1	<1
1,2-dichlorobenzene	µg/L	<1	<1	<1	<1	<1
n-butyl benzene	µg/L	<1	<1	<1	<1	<1
1,2-dibromo-3-chloropropane	µg/L	<1	<1	<1	<1	<1
1,2,4-trichlorobenzene	µg/L	<1	<1	<1	<1	<1
Hexachlorobutadiene	µg/L	<1	<1	<1	<1	<1
1,2,3-trichlorobenzene	µg/L	<1	<1	<1	<1	<1
Surrogate Dibromofluoromethane	%	97	96	98	96	96
Surrogate toluene-d8	%	98	97	98	98	99
Surrogate 4-BFB	%	103	103	103	104	102

VOCs in water				
Our Reference		290597-6	290597-7	290597-8
Your Reference	UNITS	MW59	MW82	WDUP1
Date Sampled		07/03/2022	07/03/2022	07/03/2022
Type of sample		Water	Water	Water
Date extracted	-	10/03/2022	10/03/2022	10/03/2022
Date analysed	-	10/03/2022	10/03/2022	10/03/2022
Dichlorodifluoromethane	µg/L	<10	<10	<10
Chloromethane	µg/L	<10	<10	<10
Vinyl Chloride	µg/L	<10	<10	<10
Bromomethane	µg/L	<10	<10	<10
Chloroethane	µg/L	<10	<10	<10
Trichlorofluoromethane	µg/L	<10	<10	<10
1,1-Dichloroethene	µg/L	<1	<1	<1
Trans-1,2-dichloroethene	µg/L	<1	<1	<1
1,1-dichloroethane	µg/L	<1	<1	<1
Cis-1,2-dichloroethene	µg/L	<1	<1	<1
Bromochloromethane	µg/L	<1	<1	<1
Chloroform	µg/L	<1	<1	<1
2,2-dichloropropane	µg/L	<1	<1	<1
1,2-dichloroethane	µg/L	<1	<1	<1
1,1,1-trichloroethane	µg/L	<1	<1	<1
1,1-dichloropropene	µg/L	<1	<1	<1
Cyclohexane	µg/L	<1	<1	<1
Carbon tetrachloride	µg/L	<1	<1	<1
Benzene	µg/L	<1	<1	<1
Dibromomethane	µg/L	<1	<1	<1
1,2-dichloropropane	µg/L	<1	<1	<1
Trichloroethene	µg/L	<1	<1	<1
Bromodichloromethane	µg/L	<1	<1	<1
trans-1,3-dichloropropene	µg/L	<1	<1	<1
cis-1,3-dichloropropene	µg/L	<1	<1	<1
1,1,2-trichloroethane	µg/L	<1	<1	<1
Toluene	µg/L	<1	<1	<1
1,3-dichloropropane	µg/L	<1	<1	<1
Dibromochloromethane	µg/L	<1	<1	<1
1,2-dibromoethane	µg/L	<1	<1	<1
Tetrachloroethene	µg/L	<1	<1	<1
1,1,1,2-tetrachloroethane	µg/L	<1	<1	<1
Chlorobenzene	µg/L	<1	<1	<1
Ethylbenzene	µg/L	<1	<1	<1

VOCs in water				
Our Reference	UNITS	290597-6	290597-7	290597-8
Your Reference		MW59	MW82	WDUP1
Date Sampled		07/03/2022	07/03/2022	07/03/2022
Type of sample		Water	Water	Water
Bromoform	µg/L	<1	<1	<1
m+p-xylene	µg/L	<2	<2	<2
Styrene	µg/L	<1	<1	<1
1,1,2,2-tetrachloroethane	µg/L	<1	<1	<1
o-xylene	µg/L	<1	<1	<1
1,2,3-trichloropropane	µg/L	<1	<1	<1
Isopropylbenzene	µg/L	<1	<1	<1
Bromobenzene	µg/L	<1	<1	<1
n-propyl benzene	µg/L	<1	<1	<1
2-chlorotoluene	µg/L	<1	<1	<1
4-chlorotoluene	µg/L	<1	<1	<1
1,3,5-trimethyl benzene	µg/L	<1	<1	<1
Tert-butyl benzene	µg/L	<1	<1	<1
1,2,4-trimethyl benzene	µg/L	<1	<1	<1
1,3-dichlorobenzene	µg/L	<1	<1	<1
Sec-butyl benzene	µg/L	<1	<1	<1
1,4-dichlorobenzene	µg/L	<1	<1	<1
4-isopropyl toluene	µg/L	<1	<1	<1
1,2-dichlorobenzene	µg/L	<1	<1	<1
n-butyl benzene	µg/L	<1	<1	<1
1,2-dibromo-3-chloropropane	µg/L	<1	<1	<1
1,2,4-trichlorobenzene	µg/L	<1	<1	<1
Hexachlorobutadiene	µg/L	<1	<1	<1
1,2,3-trichlorobenzene	µg/L	<1	<1	<1
Surrogate Dibromofluoromethane	%	95	96	95
Surrogate toluene-d8	%	97	97	98
Surrogate 4-BFB	%	103	104	103

vTRH(C6-C10)/BTEXN in Water						
Our Reference		290597-1	290597-2	290597-3	290597-4	290597-5
Your Reference	UNITS	MW6	MW10	MW28	MW37	MW41
Date Sampled		08/03/2022	08/03/2022	08/03/2022	08/03/2022	08/03/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	10/03/2022	10/03/2022	10/03/2022	10/03/2022	10/03/2022
Date analysed	-	10/03/2022	10/03/2022	10/03/2022	10/03/2022	10/03/2022
TRH C_6 - C_9	µg/L	<10	<10	<10	<10	<10
TRH C_6 - C_{10}	µg/L	<10	<10	<10	<10	<10
TRH C_6 - C_{10} less BTEX (F1)	µg/L	<10	<10	<10	<10	<10
Benzene	µg/L	<1	<1	<1	<1	<1
Toluene	µg/L	<1	<1	<1	<1	<1
Ethylbenzene	µg/L	<1	1	<1	<1	<1
m+p-xylene	µg/L	<2	<2	<2	<2	<2
o-xylene	µg/L	<1	<1	<1	<1	<1
Naphthalene	µg/L	<1	<1	<1	<1	<1
Surrogate Dibromofluoromethane	%	97	96	98	96	96
Surrogate toluene-d8	%	98	97	98	98	99
Surrogate 4-BFB	%	103	103	103	104	102

vTRH(C6-C10)/BTEXN in Water						
Our Reference		290597-6	290597-7	290597-8	290597-9	290597-10
Your Reference	UNITS	MW59	MW82	WDUP1	TS-W1	TB-W1
Date Sampled		07/03/2022	07/03/2022	07/03/2022	07/03/2022	07/03/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	10/03/2022	10/03/2022	10/03/2022	10/03/2022	10/03/2022
Date analysed	-	10/03/2022	10/03/2022	10/03/2022	10/03/2022	10/03/2022
TRH C_6 - C_9	µg/L	<10	<10	<10	[NA]	<10
TRH C_6 - C_{10}	µg/L	<10	<10	<10	[NA]	<10
TRH C_6 - C_{10} less BTEX (F1)	µg/L	<10	<10	<10	[NA]	<10
Benzene	µg/L	<1	<1	<1	83%	<1
Toluene	µg/L	<1	<1	<1	86%	<1
Ethylbenzene	µg/L	<1	<1	<1	101%	<1
m+p-xylene	µg/L	<2	<2	<2	94%	<2
o-xylene	µg/L	<1	<1	<1	95%	<1
Naphthalene	µg/L	<1	<1	<1	[NA]	<1
Surrogate Dibromofluoromethane	%	95	96	95	96	96
Surrogate toluene-d8	%	97	97	98	100	97
Surrogate 4-BFB	%	103	104	103	99	103

svTRH (C10-C40) in Water						
Our Reference		290597-1	290597-2	290597-3	290597-4	290597-5
Your Reference	UNITS	MW6	MW10	MW28	MW37	MW41
Date Sampled		08/03/2022	08/03/2022	08/03/2022	08/03/2022	08/03/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	11/03/2022	11/03/2022	11/03/2022	11/03/2022	11/03/2022
Date analysed	-	12/03/2022	12/03/2022	12/03/2022	12/03/2022	12/03/2022
TRH C_{10} - C_{14}	µg/L	<50	<50	<50	<50	<50
TRH C_{15} - C_{28}	µg/L	<100	<100	<100	<100	<100
TRH C_{29} - C_{36}	µg/L	<100	<100	<100	<100	<100
Total +ve TRH (C10-C36)	µg/L	<50	<50	<50	<50	<50
TRH >C_{10} - C_{16}	µg/L	<50	<50	<50	<50	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	µg/L	<50	<50	<50	<50	<50
TRH >C_{16} - C_{34}	µg/L	<100	<100	<100	<100	<100
TRH >C_{34} - C_{40}	µg/L	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	µg/L	<50	<50	<50	<50	<50
Surrogate o-Terphenyl	%	85	86	85	87	96

svTRH (C10-C40) in Water				
Our Reference		290597-6	290597-7	290597-8
Your Reference	UNITS	MW59	MW82	WDUP1
Date Sampled		07/03/2022	07/03/2022	07/03/2022
Type of sample		Water	Water	Water
Date extracted	-	11/03/2022	11/03/2022	11/03/2022
Date analysed	-	12/03/2022	12/03/2022	12/03/2022
TRH C_{10} - C_{14}	µg/L	<50	<50	<50
TRH C_{15} - C_{28}	µg/L	<100	<100	<100
TRH C_{29} - C_{36}	µg/L	<100	<100	<100
Total +ve TRH (C10-C36)	µg/L	<50	<50	<50
TRH >C_{10} - C_{16}	µg/L	<50	<50	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	µg/L	<50	<50	<50
TRH >C_{16} - C_{34}	µg/L	<100	<100	<100
TRH >C_{34} - C_{40}	µg/L	<100	<100	<100
Total +ve TRH (>C10-C40)	µg/L	<50	<50	<50
Surrogate o-Terphenyl	%	92	94	86

PAHs in Water - Low Level						
Our Reference	UNITS	290597-1	290597-2	290597-3	290597-4	290597-5
Your Reference		MW6	MW10	MW28	MW37	MW41
Date Sampled		08/03/2022	08/03/2022	08/03/2022	08/03/2022	08/03/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	11/03/2022	11/03/2022	11/03/2022	11/03/2022	11/03/2022
Date analysed	-	14/03/2022	14/03/2022	14/03/2022	14/03/2022	14/03/2022
Naphthalene	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Acenaphthylene	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Indeno(1,2,3-c,d)pyrene	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene TEQ	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Total +ve PAH's	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate p-Terphenyl-d14	%	116	104	103	113	119

PAHs in Water - Low Level				
Our Reference	UNITS	290597-6	290597-7	290597-8
Your Reference		MW59	MW82	WDUP1
Date Sampled		07/03/2022	07/03/2022	07/03/2022
Type of sample		Water	Water	Water
Date extracted	-	11/03/2022	11/03/2022	11/03/2022
Date analysed	-	14/03/2022	14/03/2022	14/03/2022
Naphthalene	µg/L	<0.2	<0.2	<0.2
Acenaphthylene	µg/L	<0.1	<0.1	<0.1
Acenaphthene	µg/L	<0.1	<0.1	<0.1
Fluorene	µg/L	<0.1	<0.1	<0.1
Phenanthrene	µg/L	<0.1	<0.1	<0.1
Anthracene	µg/L	<0.1	<0.1	<0.1
Fluoranthene	µg/L	<0.1	<0.1	<0.1
Pyrene	µg/L	<0.1	<0.1	<0.1
Benzo(a)anthracene	µg/L	<0.1	<0.1	<0.1
Chrysene	µg/L	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	µg/L	<0.2	<0.2	<0.2
Benzo(a)pyrene	µg/L	<0.1	<0.1	<0.1
Indeno(1,2,3-c,d)pyrene	µg/L	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	µg/L	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	µg/L	<0.1	<0.1	<0.1
Benzo(a)pyrene TEQ	µg/L	<0.5	<0.5	<0.5
Total +ve PAH's	µg/L	<0.1	<0.1	<0.1
Surrogate p-Terphenyl-d14	%	112	111	112

HM in water - dissolved						
Our Reference		290597-1	290597-2	290597-3	290597-4	290597-5
Your Reference	UNITS	MW6	MW10	MW28	MW37	MW41
Date Sampled		08/03/2022	08/03/2022	08/03/2022	08/03/2022	08/03/2022
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	10/03/2022	10/03/2022	10/03/2022	10/03/2022	10/03/2022
Date analysed	-	10/03/2022	10/03/2022	10/03/2022	10/03/2022	10/03/2022
Arsenic-Dissolved	µg/L	<1	1	<1	<1	<1
Cadmium-Dissolved	µg/L	<0.1	<0.1	0.1	<0.1	<0.1
Chromium-Dissolved	µg/L	<1	2	<1	<1	<1
Copper-Dissolved	µg/L	<1	3	<1	<1	<1
Lead-Dissolved	µg/L	<1	<1	<1	<1	<1
Mercury-Dissolved	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05
Nickel-Dissolved	µg/L	<1	2	2	<1	3
Zinc-Dissolved	µg/L	14	7	18	5	48

HM in water - dissolved				
Our Reference		290597-6	290597-7	290597-8
Your Reference	UNITS	MW59	MW82	WDUP1
Date Sampled		07/03/2022	07/03/2022	07/03/2022
Type of sample		Water	Water	Water
Date prepared	-	10/03/2022	10/03/2022	10/03/2022
Date analysed	-	10/03/2022	10/03/2022	10/03/2022
Arsenic-Dissolved	µg/L	<1	<1	<1
Cadmium-Dissolved	µg/L	0.2	47	46
Chromium-Dissolved	µg/L	<1	<1	<1
Copper-Dissolved	µg/L	<1	17	16
Lead-Dissolved	µg/L	<1	<1	<1
Mercury-Dissolved	µg/L	<0.05	<0.05	<0.05
Nickel-Dissolved	µg/L	22	1,500	1,500
Zinc-Dissolved	µg/L	68	5,800	5,700

PFAS in Waters Trace Extended						
Our Reference		290597-1	290597-2	290597-3	290597-4	290597-5
Your Reference	UNITS	MW6	MW10	MW28	MW37	MW41
Date Sampled		08/03/2022	08/03/2022	08/03/2022	08/03/2022	08/03/2022
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	11/03/2022	15/03/2022	11/03/2022	11/03/2022	11/03/2022
Date analysed	-	11/03/2022	15/03/2022	11/03/2022	11/03/2022	11/03/2022
Perfluorobutanesulfonic acid	µg/L	0.0055	0.0007	<0.0004	0.003	0.003
Perfluoropentanesulfonic acid	µg/L	0.002	<0.001	<0.001	<0.001	0.001
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.0087	0.001	0.0003	0.0065	0.0046
Perfluoroheptanesulfonic acid	µg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Perfluorooctanesulfonic acid PFOS	µg/L	0.0062	0.001	0.0003	0.018	0.0041
Perfluorodecanesulfonic acid	µg/L	<0.002	<0.002	<0.002	<0.002	<0.002
Perfluorobutanoic acid	µg/L	0.054	<0.02	<0.02	0.032	0.033
Perfluoropentanoic acid	µg/L	0.006	0.003	<0.002	0.02	0.008
Perfluorohexanoic acid	µg/L	0.0065	0.0008	<0.0004	0.017	0.0068
Perfluoroheptanoic acid	µg/L	0.004	0.0006	<0.0004	0.0096	0.0055
Perfluorooctanoic acid PFOA	µg/L	0.0086	0.0007	<0.0002	0.024	0.0061
Perfluorononanoic acid	µg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Perfluorodecanoic acid	µg/L	<0.002	<0.002	<0.002	<0.002	<0.002
Perfluoroundecanoic acid	µg/L	<0.002	<0.002	<0.002	<0.002	<0.002
Perfluorododecanoic acid	µg/L	<0.005	<0.005	<0.005	<0.005	<0.005
Perfluorotridecanoic acid	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorotetradecanoic acid	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05
4:2 FTS	µg/L	<0.001	<0.001	<0.001	<0.001	<0.001
6:2 FTS	µg/L	0.0041	0.001	0.0006	0.0007	0.0054
8:2 FTS	µg/L	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004
10:2 FTS	µg/L	<0.002	<0.002	<0.002	<0.002	<0.002
Perfluorooctane sulfonamide	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
N-Methyl perfluorooctane sulfonamide	µg/L	<0.005	<0.005	<0.005	<0.005	<0.005
N-Ethyl perfluorooctanesulfon amide	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
N-Me perfluorooctanesulfonamid oethanol	µg/L	<0.005	<0.005	<0.005	<0.005	<0.005
N-Et perfluorooctanesulfonamid oethanol	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05
MePerfluorooctanesulf- amid oacetic acid	µg/L	<0.002	<0.002	<0.002	<0.002	<0.002
EtPerfluorooctanesulf- amid oacetic acid	µg/L	<0.002	<0.002	<0.002	<0.002	<0.002
Surrogate $^{13}C_8$ *PFOS*	%	99	98	99	101	102
Surrogate $^{13}C_2$ *PFOA*	%	101	104	110	106	108
Extracted ISTD $^{13}C_3$ *PFBS*	%	69	78	76	63	70
Extracted ISTD $^{18}O_2$ *PFHxS*	%	93	88	110	106	121
Extracted ISTD $^{13}C_4$ *PFOS*	%	75	84	78	76	84
Extracted ISTD $^{13}C_4$ *PFBA*	%	99	#	#	79	94

PFAS in Waters Trace Extended						
Our Reference		290597-1	290597-2	290597-3	290597-4	290597-5
Your Reference	UNITS	MW6	MW10	MW28	MW37	MW41
Date Sampled		08/03/2022	08/03/2022	08/03/2022	08/03/2022	08/03/2022
Type of sample		Water	Water	Water	Water	Water
Extracted ISTD $^{13}C_3$ *PFPeA*	%	53	42	60	24	43
Extracted ISTD $^{13}C_2$ *PFHxA*	%	92	68	96	48	78
Extracted ISTD $^{13}C_4$ *PFHpA*	%	89	74	104	72	104
Extracted ISTD $^{13}C_4$ *PFOA*	%	105	90	112	89	111
Extracted ISTD $^{13}C_5$ *PFNA*	%	117	109	120	110	128
Extracted ISTD $^{13}C_2$ *PFDA*	%	120	116	135	136	146
Extracted ISTD $^{13}C_2$ *PFUnDA*	%	107	122	125	125	136
Extracted ISTD $^{13}C_2$ *PFDoDA*	%	114	148	98	99	128
Extracted ISTD $^{13}C_2$ *PFTeDA*	%	75	96	83	88	96
Extracted ISTD $^{13}C_2$ *4:2FTS*	%	106	70	117	85	116
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	97	89	99	102	121
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	103	121	113	125	138
Extracted ISTD $^{13}C_8$ *FOSA*	%	68	78	73	72	75
Extracted ISTD d_3 *N MeFOSA*	%	51	52	55	60	65
Extracted ISTD d_5 *N EtFOSA*	%	59	53	55	61	63
Extracted ISTD d_7 *N MeFOSE*	%	63	69	68	79	85
Extracted ISTD d_9 *N EtFOSE*	%	70	63	65	69	76
Extracted ISTD d_3 *N MeFOSAA*	%	141	162	138	142	176
Extracted ISTD d_5 *N EtFOSAA*	%	110	169	101	124	146
Total Positive PFHxS & PFOS	µg/L	0.015	0.002	0.0006	0.025	0.0087
Total Positive PFOS & PFOA	µg/L	0.015	0.002	0.0003	0.042	0.010
Total Positive PFAS	µg/L	0.10	0.0090	0.001	0.13	0.077

PFAS in Waters Trace Extended					
Our Reference		290597-6	290597-7	290597-8	290597-11
Your Reference	UNITS	MW59	MW82	WDUP1	TBPFAS-W1
Date Sampled		07/03/2022	07/03/2022	07/03/2022	07/03/2022
Type of sample		Water	Water	Water	Water
Date prepared	-	15/03/2022	11/03/2022	11/03/2022	11/03/2022
Date analysed	-	15/03/2022	11/03/2022	11/03/2022	11/03/2022
Perfluorobutanesulfonic acid	µg/L	<0.0004	<0.0004	<0.0004	<0.0004
Perfluoropentanesulfonic acid	µg/L	<0.001	<0.001	<0.001	<0.001
Perfluorohexanesulfonic acid - PFHxS	µg/L	<0.0002	<0.0002	<0.0002	<0.0002
Perfluoroheptanesulfonic acid	µg/L	<0.001	<0.001	<0.001	<0.001
Perfluorooctanesulfonic acid PFOS	µg/L	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorodecanesulfonic acid	µg/L	<0.002	<0.002	<0.002	<0.002
Perfluorobutanoic acid	µg/L	<0.02	<0.02	<0.02	<0.002
Perfluoropentanoic acid	µg/L	<0.002	<0.002	<0.002	<0.002
Perfluorohexanoic acid	µg/L	0.003	<0.0004	<0.0004	<0.0004
Perfluoroheptanoic acid	µg/L	<0.0004	<0.0004	<0.0004	<0.0004
Perfluorooctanoic acid PFOA	µg/L	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorononanoic acid	µg/L	<0.001	<0.001	<0.001	<0.001
Perfluorodecanoic acid	µg/L	<0.002	<0.002	<0.002	<0.002
Perfluoroundecanoic acid	µg/L	<0.002	<0.002	<0.002	<0.002
Perfluorododecanoic acid	µg/L	<0.005	<0.005	<0.005	<0.005
Perfluorotridecanoic acid	µg/L	<0.01	<0.01	<0.01	<0.01
Perfluorotetradecanoic acid	µg/L	<0.05	<0.05	<0.05	<0.05
4:2 FTS	µg/L	<0.001	<0.001	<0.001	<0.001
6:2 FTS	µg/L	0.052	0.001	0.002	<0.0004
8:2 FTS	µg/L	<0.0004	<0.0004	<0.0004	<0.0004
10:2 FTS	µg/L	<0.002	<0.002	<0.002	<0.002
Perfluorooctane sulfonamide	µg/L	<0.01	<0.01	<0.01	<0.01
N-Methyl perfluorooctane sulfonamide	µg/L	<0.005	<0.005	<0.005	<0.005
N-Ethyl perfluorooctanesulfon amide	µg/L	<0.01	<0.01	<0.01	<0.01
N-Me perfluorooctanesulfonamid oethanol	µg/L	<0.005	<0.005	<0.005	<0.005
N-Et perfluorooctanesulfonamid oethanol	µg/L	<0.05	<0.05	<0.05	<0.05
MePerfluorooctanesulf- amid oacetic acid	µg/L	<0.002	<0.002	<0.002	<0.002
EtPerfluorooctanesulf- amid oacetic acid	µg/L	<0.002	<0.002	<0.002	<0.002
Surrogate $^{13}C_8$ *PFOS*	%	104	104	97	100
Surrogate $^{13}C_2$ *PFOA*	%	102	110	106	103
Extracted ISTD $^{13}C_3$ *PFBS*	%	73	91	87	97
Extracted ISTD $^{18}O_2$ *PFHxS*	%	89	131	134	118
Extracted ISTD $^{13}C_4$ *PFOS*	%	78	83	92	82
Extracted ISTD $^{13}C_4$ *PFBA*	%	#	#	#	105

PFAS in Waters Trace Extended					
Our Reference	UNITS	290597-6	290597-7	290597-8	290597-11
Your Reference		MW59	MW82	WDUP1	TBPFAS-W1
Date Sampled		07/03/2022	07/03/2022	07/03/2022	07/03/2022
Type of sample		Water	Water	Water	Water
Extracted ISTD $^{13}C_3$ *PFPeA*	%	39	80	76	111
Extracted ISTD $^{13}C_2$ *PFHxA*	%	78	133	122	120
Extracted ISTD $^{13}C_4$ *PFHpA*	%	81	130	137	124
Extracted ISTD $^{13}C_4$ *PFOA*	%	94	126	129	116
Extracted ISTD $^{13}C_5$ *PFNA*	%	113	127	135	125
Extracted ISTD $^{13}C_2$ *PFDA*	%	103	146	144	124
Extracted ISTD $^{13}C_2$ *PFUnDA*	%	104	120	132	113
Extracted ISTD $^{13}C_2$ *PFDoDA*	%	130	110	111	98
Extracted ISTD $^{13}C_2$ *PFTeDA*	%	88	94	98	76
Extracted ISTD $^{13}C_2$ *4:2FTS*	%	64	109	125	135
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	84	102	104	112
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	92	116	113	107
Extracted ISTD $^{13}C_8$ *FOSA*	%	73	78	71	82
Extracted ISTD d_3 *N MeFOSA*	%	44	59	55	59
Extracted ISTD d_5 *N EtFOSA*	%	47	59	51	60
Extracted ISTD d_7 *N MeFOSE*	%	63	76	69	68
Extracted ISTD d_9 *N EtFOSE*	%	58	70	64	66
Extracted ISTD d_3 *N MeFOSAA*	%	132	128	145	151
Extracted ISTD d_5 *N EtFOSAA*	%	138	109	107	117
Total Positive PFHxS & PFOS	µg/L	<0.0002	<0.0002	<0.0002	<0.0002
Total Positive PFOS & PFOA	µg/L	<0.0002	<0.0002	<0.0002	<0.0002
Total Positive PFAS	µg/L	0.055	0.001	0.002	<0.0002

Miscellaneous Inorganics						
Our Reference		290597-1	290597-2	290597-3	290597-4	290597-5
Your Reference	UNITS	MW6	MW10	MW28	MW37	MW41
Date Sampled		08/03/2022	08/03/2022	08/03/2022	08/03/2022	08/03/2022
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	09/03/2022	09/03/2022	09/03/2022	09/03/2022	09/03/2022
Date analysed	-	09/03/2022	09/03/2022	09/03/2022	09/03/2022	09/03/2022
pH	pH Units	6.8	6.6	5.8	6.7	6.1
Electrical Conductivity	µS/cm	360	200	94	470	470

Miscellaneous Inorganics			
Our Reference		290597-6	290597-7
Your Reference	UNITS	MW59	MW82
Date Sampled		07/03/2022	07/03/2022
Type of sample		Water	Water
Date prepared	-	09/03/2022	09/03/2022
Date analysed	-	09/03/2022	09/03/2022
pH	pH Units	6.1	5.2
Electrical Conductivity	µS/cm	690	8,200

Method ID	Methodology Summary
Inorg-001	pH - Measured using pH meter and electrode in accordance with APHA latest edition, 4500-H+. Please note that the results for water analyses are indicative only, as analysis outside of the APHA storage times.
Inorg-002	Conductivity and Salinity - measured using a conductivity cell at 25°C in accordance with APHA latest edition 2510 and Rayment & Lyons.
Metals-021	Determination of Mercury by Cold Vapour AAS.
Metals-022	Determination of various metals by ICP-MS.
Org-020	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis.
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS/GC-MSMS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013.
Org-023	Water samples are analysed directly by purge and trap GC-MS.
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.
Org-029	Soil samples are extracted with basified Methanol. Waters and soil extracts are directly injected and/or concentrated/extracted using SPE. TCLPs/ASLP leachates are centrifuged, the supernatant is then analysed (including amendment with solvent) - as per the option in AS4439.3. Analysis is undertaken with LC-MS/MS. PFAS results include the sum of branched and linear isomers where applicable. Please note that PFAS results are corrected for Extracted Internal Standards (QSM 5.3 Table B-15 terminology), which are mass labelled analytes added prior to sample preparation to assess matrix effects and verify processing of the sample. PFAS analytes without a commercially available mass labelled analogue are corrected vs a closely eluting mass labelled PFAS compound. Surrogates are also reported, in this context they are mass labelled PFAS compounds added prior to extraction but are used as monitoring compounds only (not used for result correction). Envicarb (or similar) is used discretionally to remove interfering matrix components. Please contact the laboratory if estimates of Measurement Uncertainty are required as per WA DER.

QUALITY CONTROL: VOCs in water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	[NT]
Date extracted	-			10/03/2022	2	10/03/2022	10/03/2022		10/03/2022	[NT]
Date analysed	-			10/03/2022	2	10/03/2022	10/03/2022		10/03/2022	[NT]
Dichlorodifluoromethane	µg/L	10	Org-023	<10	2	<10	<10	0	[NT]	[NT]
Chloromethane	µg/L	10	Org-023	<10	2	<10	<10	0	[NT]	[NT]
Vinyl Chloride	µg/L	10	Org-023	<10	2	<10	<10	0	[NT]	[NT]
Bromomethane	µg/L	10	Org-023	<10	2	<10	<10	0	[NT]	[NT]
Chloroethane	µg/L	10	Org-023	<10	2	<10	<10	0	[NT]	[NT]
Trichlorofluoromethane	µg/L	10	Org-023	<10	2	<10	<10	0	[NT]	[NT]
1,1-Dichloroethene	µg/L	1	Org-023	<1	2	<1	<1	0	[NT]	[NT]
Trans-1,2-dichloroethene	µg/L	1	Org-023	<1	2	<1	<1	0	[NT]	[NT]
1,1-dichloroethane	µg/L	1	Org-023	<1	2	<1	<1	0	94	[NT]
Cis-1,2-dichloroethene	µg/L	1	Org-023	<1	2	<1	<1	0	[NT]	[NT]
Bromochloromethane	µg/L	1	Org-023	<1	2	<1	<1	0	[NT]	[NT]
Chloroform	µg/L	1	Org-023	<1	2	<1	<1	0	98	[NT]
2,2-dichloropropane	µg/L	1	Org-023	<1	2	<1	<1	0	[NT]	[NT]
1,2-dichloroethane	µg/L	1	Org-023	<1	2	<1	<1	0	98	[NT]
1,1,1-trichloroethane	µg/L	1	Org-023	<1	2	<1	<1	0	95	[NT]
1,1-dichloropropene	µg/L	1	Org-023	<1	2	<1	<1	0	[NT]	[NT]
Cyclohexane	µg/L	1	Org-023	<1	2	<1	<1	0	[NT]	[NT]
Carbon tetrachloride	µg/L	1	Org-023	<1	2	<1	<1	0	[NT]	[NT]
Benzene	µg/L	1	Org-023	<1	2	<1	<1	0	[NT]	[NT]
Dibromomethane	µg/L	1	Org-023	<1	2	<1	<1	0	[NT]	[NT]
1,2-dichloropropane	µg/L	1	Org-023	<1	2	<1	<1	0	[NT]	[NT]
Trichloroethene	µg/L	1	Org-023	<1	2	<1	<1	0	112	[NT]
Bromodichloromethane	µg/L	1	Org-023	<1	2	<1	<1	0	86	[NT]
trans-1,3-dichloropropene	µg/L	1	Org-023	<1	2	<1	<1	0	[NT]	[NT]
cis-1,3-dichloropropene	µg/L	1	Org-023	<1	2	<1	<1	0	[NT]	[NT]
1,1,2-trichloroethane	µg/L	1	Org-023	<1	2	<1	<1	0	[NT]	[NT]
Toluene	µg/L	1	Org-023	<1	2	<1	<1	0	[NT]	[NT]
1,3-dichloropropane	µg/L	1	Org-023	<1	2	<1	<1	0	[NT]	[NT]
Dibromochloromethane	µg/L	1	Org-023	<1	2	<1	<1	0	81	[NT]
1,2-dibromoethane	µg/L	1	Org-023	<1	2	<1	<1	0	[NT]	[NT]
Tetrachloroethene	µg/L	1	Org-023	<1	2	<1	<1	0	97	[NT]
1,1,1,2-tetrachloroethane	µg/L	1	Org-023	<1	2	<1	<1	0	[NT]	[NT]
Chlorobenzene	µg/L	1	Org-023	<1	2	<1	<1	0	[NT]	[NT]
Ethylbenzene	µg/L	1	Org-023	<1	2	1	2	67	[NT]	[NT]
Bromoform	µg/L	1	Org-023	<1	2	<1	<1	0	[NT]	[NT]
m+p-xylene	µg/L	2	Org-023	<2	2	<2	<2	0	[NT]	[NT]
Styrene	µg/L	1	Org-023	<1	2	<1	<1	0	[NT]	[NT]
1,1,2,2-tetrachloroethane	µg/L	1	Org-023	<1	2	<1	<1	0	[NT]	[NT]

QUALITY CONTROL: VOCs in water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	[NT]
o-xylene	µg/L	1	Org-023	<1	2	<1	<1	0	[NT]	[NT]
1,2,3-trichloropropane	µg/L	1	Org-023	<1	2	<1	<1	0	[NT]	[NT]
Isopropylbenzene	µg/L	1	Org-023	<1	2	<1	<1	0	[NT]	[NT]
Bromobenzene	µg/L	1	Org-023	<1	2	<1	<1	0	[NT]	[NT]
n-propyl benzene	µg/L	1	Org-023	<1	2	<1	<1	0	[NT]	[NT]
2-chlorotoluene	µg/L	1	Org-023	<1	2	<1	<1	0	[NT]	[NT]
4-chlorotoluene	µg/L	1	Org-023	<1	2	<1	<1	0	[NT]	[NT]
1,3,5-trimethyl benzene	µg/L	1	Org-023	<1	2	<1	<1	0	[NT]	[NT]
Tert-butyl benzene	µg/L	1	Org-023	<1	2	<1	<1	0	[NT]	[NT]
1,2,4-trimethyl benzene	µg/L	1	Org-023	<1	2	<1	<1	0	[NT]	[NT]
1,3-dichlorobenzene	µg/L	1	Org-023	<1	2	<1	<1	0	[NT]	[NT]
Sec-butyl benzene	µg/L	1	Org-023	<1	2	<1	<1	0	[NT]	[NT]
1,4-dichlorobenzene	µg/L	1	Org-023	<1	2	<1	<1	0	[NT]	[NT]
4-isopropyl toluene	µg/L	1	Org-023	<1	2	<1	<1	0	[NT]	[NT]
1,2-dichlorobenzene	µg/L	1	Org-023	<1	2	<1	<1	0	[NT]	[NT]
n-butyl benzene	µg/L	1	Org-023	<1	2	<1	<1	0	[NT]	[NT]
1,2-dibromo-3-chloropropane	µg/L	1	Org-023	<1	2	<1	<1	0	[NT]	[NT]
1,2,4-trichlorobenzene	µg/L	1	Org-023	<1	2	<1	<1	0	[NT]	[NT]
Hexachlorobutadiene	µg/L	1	Org-023	<1	2	<1	<1	0	[NT]	[NT]
1,2,3-trichlorobenzene	µg/L	1	Org-023	<1	2	<1	<1	0	[NT]	[NT]
Surrogate Dibromofluoromethane	%		Org-023	97	2	96	96	0	99	[NT]
Surrogate toluene-d8	%		Org-023	98	2	97	97	0	101	[NT]
Surrogate 4-BFB	%		Org-023	102	2	103	104	1	98	[NT]

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	[NT]
Date extracted	-			10/03/2022	2	10/03/2022	10/03/2022		10/03/2022	[NT]
Date analysed	-			10/03/2022	2	10/03/2022	10/03/2022		10/03/2022	[NT]
TRH C_6 - C_9	µg/L	10	Org-023	<10	2	<10	<10	0	101	[NT]
TRH C_6 - C_{10}	µg/L	10	Org-023	<10	2	<10	<10	0	101	[NT]
Benzene	µg/L	1	Org-023	<1	2	<1	<1	0	98	[NT]
Toluene	µg/L	1	Org-023	<1	2	<1	<1	0	97	[NT]
Ethylbenzene	µg/L	1	Org-023	<1	2	1	2	67	102	[NT]
m+p-xylene	µg/L	2	Org-023	<2	2	<2	<2	0	103	[NT]
o-xylene	µg/L	1	Org-023	<1	2	<1	<1	0	99	[NT]
Naphthalene	µg/L	1	Org-023	<1	2	<1	<1	0	[NT]	[NT]
Surrogate Dibromofluoromethane	%		Org-023	97	2	96	96	0	99	[NT]
Surrogate toluene-d8	%		Org-023	98	2	97	97	0	101	[NT]
Surrogate 4-BFB	%		Org-023	102	2	103	104	1	98	[NT]

QUALITY CONTROL: svTRH (C10-C40) in Water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	290597-2
Date extracted	-			11/03/2022	1	11/03/2022	11/03/2022		11/03/2022	11/03/2022
Date analysed	-			11/03/2022	1	12/03/2022	12/03/2022		11/03/2022	12/03/2022
TRH C_{10} - C_{14}	µg/L	50	Org-020	<50	1	<50	<50	0	79	73
TRH C_{15} - C_{28}	µg/L	100	Org-020	<100	1	<100	<100	0	85	78
TRH C_{29} - C_{36}	µg/L	100	Org-020	<100	1	<100	<100	0	94	104
TRH >C_{10} - C_{16}	µg/L	50	Org-020	<50	1	<50	<50	0	79	73
TRH >C_{16} - C_{34}	µg/L	100	Org-020	<100	1	<100	<100	0	85	78
TRH >C_{34} - C_{40}	µg/L	100	Org-020	<100	1	<100	<100	0	94	104
Surrogate o-Terphenyl	%		Org-020	92	1	85	91	7	111	100

QUALITY CONTROL: PAHs in Water - Low Level						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	290597-3
Date extracted	-			11/03/2022	1	11/03/2022	11/03/2022		11/03/2022	11/03/2022
Date analysed	-			14/03/2022	1	14/03/2022	14/03/2022		14/03/2022	14/03/2022
Naphthalene	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	86	105
Acenaphthylene	µg/L	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Acenaphthene	µg/L	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	89	99
Fluorene	µg/L	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	95	99
Phenanthrene	µg/L	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	98	104
Anthracene	µg/L	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Fluoranthene	µg/L	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	102	100
Pyrene	µg/L	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	101	103
Benzo(a)anthracene	µg/L	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Chrysene	µg/L	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	67	71
Benzo(b,j+k)fluoranthene	µg/L	0.2	Org-022/025	<0.2	1	<0.2	<0.2	0	[NT]	[NT]
Benzo(a)pyrene	µg/L	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	102	116
Indeno(1,2,3-c,d)pyrene	µg/L	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	µg/L	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Benzo(g,h,i)perylene	µg/L	0.1	Org-022/025	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	115	1	116	109	6	106	111

QUALITY CONTROL: HM in water - dissolved						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W3	290597-2
Date prepared	-			10/03/2022	1	10/03/2022	10/03/2022		10/03/2022	10/03/2022
Date analysed	-			10/03/2022	1	10/03/2022	10/03/2022		10/03/2022	10/03/2022
Arsenic-Dissolved	µg/L	1	Metals-022	<1	1	<1	<1	0	91	[NT]
Cadmium-Dissolved	µg/L	0.1	Metals-022	<0.1	1	<0.1	0.1	0	92	[NT]
Chromium-Dissolved	µg/L	1	Metals-022	<1	1	<1	<1	0	91	[NT]
Copper-Dissolved	µg/L	1	Metals-022	<1	1	<1	<1	0	90	[NT]
Lead-Dissolved	µg/L	1	Metals-022	<1	1	<1	<1	0	89	[NT]
Mercury-Dissolved	µg/L	0.05	Metals-021	<0.05	1	<0.05	<0.05	0	100	96
Nickel-Dissolved	µg/L	1	Metals-022	<1	1	<1	<1	0	91	[NT]
Zinc-Dissolved	µg/L	1	Metals-022	<1	1	14	14	0	90	[NT]

QUALITY CONTROL: HM in water - dissolved						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	8	10/03/2022	10/03/2022		[NT]	[NT]
Date analysed	-			[NT]	8	10/03/2022	10/03/2022		[NT]	[NT]
Arsenic-Dissolved	µg/L	1	Metals-022	[NT]	8	<1	[NT]		[NT]	[NT]
Cadmium-Dissolved	µg/L	0.1	Metals-022	[NT]	8	46	[NT]		[NT]	[NT]
Chromium-Dissolved	µg/L	1	Metals-022	[NT]	8	<1	[NT]		[NT]	[NT]
Copper-Dissolved	µg/L	1	Metals-022	[NT]	8	16	[NT]		[NT]	[NT]
Lead-Dissolved	µg/L	1	Metals-022	[NT]	8	<1	[NT]		[NT]	[NT]
Mercury-Dissolved	µg/L	0.05	Metals-021	[NT]	8	<0.05	<0.05	0	[NT]	[NT]
Nickel-Dissolved	µg/L	1	Metals-022	[NT]	8	1500	[NT]		[NT]	[NT]
Zinc-Dissolved	µg/L	1	Metals-022	[NT]	8	5700	[NT]		[NT]	[NT]

QUALITY CONTROL: PFAS in Waters Trace Extended						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	290597-2
Date prepared	-			11/03/2022	1	11/03/2022	11/03/2022		11/03/2022	11/03/2022
Date analysed	-			11/03/2022	1	11/03/2022	11/03/2022		11/03/2022	11/03/2022
Perfluorobutanesulfonic acid	µg/L	0.0004	Org-029	<0.0004	1	0.0055	0.0053	4	99	129
Perfluoropentanesulfonic acid	µg/L	0.001	Org-029	<0.001	1	0.002	0.002	0	107	130
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.0002	Org-029	<0.0002	1	0.0087	0.0082	6	99	91
Perfluoroheptanesulfonic acid	µg/L	0.001	Org-029	<0.001	1	<0.001	<0.001	0	77	76
Perfluorooctanesulfonic acid PFOS	µg/L	0.0002	Org-029	<0.0002	1	0.0062	0.0059	5	96	101
Perfluorodecanesulfonic acid	µg/L	0.002	Org-029	<0.002	1	<0.002	<0.002	0	69	60
Perfluorobutanoic acid	µg/L	0.002	Org-029	<0.002	1	0.054	0.053	2	107	115
Perfluoropentanoic acid	µg/L	0.002	Org-029	<0.002	1	0.006	0.006	0	96	109
Perfluorohexanoic acid	µg/L	0.0004	Org-029	<0.0004	1	0.0065	0.0062	5	101	88
Perfluoroheptanoic acid	µg/L	0.0004	Org-029	<0.0004	1	0.004	0.003	29	103	119
Perfluorooctanoic acid PFOA	µg/L	0.0002	Org-029	<0.0002	1	0.0086	0.0082	5	91	103
Perfluorononanoic acid	µg/L	0.001	Org-029	<0.001	1	<0.001	<0.001	0	84	96
Perfluorodecanoic acid	µg/L	0.002	Org-029	<0.002	1	<0.002	<0.002	0	84	70
Perfluoroundecanoic acid	µg/L	0.002	Org-029	<0.002	1	<0.002	<0.002	0	87	77
Perfluorododecanoic acid	µg/L	0.005	Org-029	<0.005	1	<0.005	<0.005	0	107	109
Perfluorotridecanoic acid	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	106	126
Perfluorotetradecanoic acid	µg/L	0.05	Org-029	<0.05	1	<0.05	<0.05	0	120	113
4:2 FTS	µg/L	0.001	Org-029	<0.001	1	<0.001	<0.001	0	109	101
6:2 FTS	µg/L	0.0004	Org-029	<0.0004	1	0.0041	0.004	2	110	125
8:2 FTS	µg/L	0.0004	Org-029	<0.0004	1	<0.0004	<0.0004	0	104	122
10:2 FTS	µg/L	0.002	Org-029	<0.002	1	<0.002	<0.002	0	135	103
Perfluorooctane sulfonamide	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	109	112
N-Methyl perfluorooctane sulfonamide	µg/L	0.005	Org-029	<0.005	1	<0.005	<0.005	0	131	98
N-Ethyl perfluorooctanesulfon amide	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	115	93
N-Me perfluorooctanesulfonamid oethanol	µg/L	0.005	Org-029	<0.005	1	<0.005	<0.005	0	115	123
N-Et perfluorooctanesulfonamid oethanol	µg/L	0.05	Org-029	<0.05	1	<0.05	<0.05	0	122	118
MePerfluorooctanesulf- amid oacetic acid	µg/L	0.002	Org-029	<0.002	1	<0.002	<0.002	0	84	89
EtPerfluorooctanesulf- amid oacetic acid	µg/L	0.002	Org-029	<0.002	1	<0.002	<0.002	0	105	122
Surrogate $^{13}C_8$ *PFOS*	%		Org-029	98	1	99	99	0	97	98
Surrogate $^{13}C_2$ *PFOA*	%		Org-029	100	1	101	100	1	99	109

QUALITY CONTROL: PFAS in Waters Trace Extended						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	290597-2
Extracted ISTD $^{13}C_3$ *PFBS*	%		Org-029	90	1	69	68	1	89	66
Extracted ISTD $^{18}O_2$ *PFHxS*	%		Org-029	91	1	93	106	13	95	96
Extracted ISTD $^{13}C_4$ *PFOS*	%		Org-029	82	1	75	75	0	88	74
Extracted ISTD $^{13}C_4$ *PFBA*	%		Org-029	90	1	99	100	1	89	16
Extracted ISTD $^{13}C_3$ *PFPeA*	%		Org-029	104	1	53	56	6	101	47
Extracted ISTD $^{13}C_2$ *PFHxA*	%		Org-029	104	1	92	95	3	106	89
Extracted ISTD $^{13}C_4$ *PFHpA*	%		Org-029	105	1	89	110	21	108	88
Extracted ISTD $^{13}C_4$ *PFOA*	%		Org-029	105	1	105	111	6	111	90
Extracted ISTD $^{13}C_5$ *PFNA*	%		Org-029	103	1	117	112	4	113	103
Extracted ISTD $^{13}C_2$ *PFDA*	%		Org-029	99	1	120	125	4	109	129
Extracted ISTD $^{13}C_2$ *PFUnDA*	%		Org-029	95	1	107	111	4	99	115
Extracted ISTD $^{13}C_2$ *PFDoDA*	%		Org-029	104	1	114	105	8	107	101
Extracted ISTD $^{13}C_2$ *PFTeDA*	%		Org-029	73	1	75	79	5	70	89
Extracted ISTD $^{13}C_2$ *4:2FTS*	%		Org-029	101	1	106	125	16	99	115
Extracted ISTD $^{13}C_2$ *6:2FTS*	%		Org-029	108	1	97	102	5	92	99
Extracted ISTD $^{13}C_2$ *8:2FTS*	%		Org-029	106	1	103	107	4	94	106
Extracted ISTD $^{13}C_8$ *FOSA*	%		Org-029	80	1	68	65	5	75	61
Extracted ISTD d_3 *N MeFOSA*	%		Org-029	39	1	51	52	2	37	59
Extracted ISTD d_5 *N EtFOSA*	%		Org-029	37	1	59	56	5	41	58
Extracted ISTD d_7 *N MeFOSE*	%		Org-029	53	1	63	63	0	54	67

QUALITY CONTROL: PFAS in Waters Trace Extended						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	290597-2
Extracted ISTD d_9 *N EtFOSE*	%		Org-029	58	1	70	65	7	58	70
Extracted ISTD d_3 *N MeFOSAA*	%		Org-029	126	1	141	140	1	129	142
Extracted ISTD d_5 *N EtFOSAA*	%		Org-029	104	1	110	107	3	100	99

QUALITY CONTROL: Miscellaneous Inorganics						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date prepared	-			09/03/2022	1	09/03/2022	09/03/2022		09/03/2022	[NT]
Date analysed	-			09/03/2022	1	09/03/2022	09/03/2022		09/03/2022	[NT]
pH	pH Units		Inorg-001	[NT]	1	6.8	6.7	1	100	[NT]
Electrical Conductivity	µS/cm	1	Inorg-002	<1	1	360	360	0	100	[NT]

Result Definitions

NT	Not tested
NA	Test not required
INS	Insufficient sample for this test
PQL	Practical Quantitation Limit
<	Less than
>	Greater than
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
NS	Not specified
NEPM	National Environmental Protection Measure
NR	Not Reported

Quality Control Definitions

Blank	This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate	This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike	A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample)	This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike	Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011.

The recommended maximums for analytes in urine are taken from “2018 TLVs and BEIs”, as published by ACGIH (where available). Limit provided for Nickel is a precautionary guideline as per Position Paper prepared by AIOH Exposure Standards Committee, 2016.

Guideline limits for Rinse Water Quality reported as per analytical requirements and specifications of AS 4187, Amdt 2 2019, Table 7.2

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: >10xPQL - RPD acceptance criteria will vary depending on the analytes and the analytical techniques but is typically in the range 20%-50% – see ELN-P05 QA/QC tables for details; <10xPQL - RPD are higher as the results approach PQL and the estimated measurement uncertainty will statistically increase.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals (not SPOCAS); 60-140% for organics/SPOCAS (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

Measurement Uncertainty estimates are available for most tests upon request.

Analysis of aqueous samples typically involves the extraction/digestion and/or analysis of the liquid phase only (i.e. NOT any settled sediment phase but inclusive of suspended particles if present), unless stipulated on the Envirolab COC and/or by correspondence. Notable exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, total recoverable metals and PFAS where solids are included by default.

Samples for Microbiological analysis (not Amoeba forms) received outside of the 2-8°C temperature range do not meet the ideal cooling conditions as stated in AS2031-2012.

Report Comments

MISC_INORG:pH:Samples #6 and #7 were out of the recommended holding time for this analysis.

For PFAS Extracted Internal Standards denoted with # or outside the 50-150% acceptance range, the respective target analyte results may be unaffected, in other circumstances the PQL has been raised to accommodate the outlier(s).

MeFOSA and EtFOSA Extracted Internal Standard is outside of global acceptance criteria (50-150%) for (LCS and/or MB) but within analyte specific acceptance criteria.

Envirolab Services Pty Ltd
ABN 37 112 535 645
12 Ashley St Chatswood NSW 2067
ph 02 9910 6200 fax 02 9910 6201
customerservice@envirolab.com.au
www.envirolab.com.au

SAMPLE RECEIPT ADVICE

Client Details

Client	JK Environments
Attention	C Ridley

Sample Login Details

Your reference	E33051BR, Mittagong
Envirolab Reference	290597
Date Sample Received	09/03/2022
Date Instructions Received	09/03/2022
Date Results Expected to be Reported	16/03/2022

Sample Condition

Samples received in appropriate condition for analysis	Yes
No. of Samples Provided	11 Water
Turnaround Time Requested	Standard
Temperature on Receipt (°C)	7
Cooling Method	Ice
Sampling Date Provided	YES

Comments

Nil

Please direct any queries to:

Aileen Hie	Jacinta Hurst
Phone: 02 9910 6200	**Phone: 02 9910 6200**
Fax: 02 9910 6201	**Fax: 02 9910 6201**
Email: ahie@envirolab.com.au	**Email: jhurst@envirolab.com.au**

Analysis Underway, details on the following page:

Envirolab Services Pty Ltd
ABN 37 112 535 645
12 Ashley St Chatswood NSW 2067
ph 02 9910 6200 fax 02 9910 6201
customerservice@envirolab.com.au
www.envirolab.com.au

Sample ID	VOCs in water	vTRH(C6-C10)/BTEXN in Water	svTRH (C10-C40) in Water	PAHs in Water - Low Level	HM in water - dissolved	PFAS in Waters Trace Extended	pH	Electrical Conductivity
MW6	✓	✓	✓	✓	✓	✓	✓	✓
MW10	✓	✓	✓	✓	✓	✓	✓	✓
MW28	✓	✓	✓	✓	✓	✓	✓	✓
MW37	✓	✓	✓	✓	✓	✓	✓	✓
MW41	✓	✓	✓	✓	✓	✓	✓	✓
MW59	✓	✓	✓	✓	✓	✓	✓	✓
MW82	✓	✓	✓	✓	✓	✓	✓	✓
WDUP1	✓	✓	✓	✓	✓	✓		
TS-W1		✓						
TB-W1		✓						
TBPFAS-W1						✓		

The '✓' indicates the testing you have requested. **THIS IS NOT A REPORT OF THE RESULTS.**

Additional Info

Sample storage - Waters are routinely disposed of approximately 1 month and soils approximately 2 months from receipt.
Requests for longer term sample storage must be received in writing.
Please contact the laboratory immediately if observed settled sediment present in water samples is to be included in the extraction and/or analysis (exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, Total Recoverable metals and PFAS analysis where solids are included by default.
TAT for Micro is dependent on incubation. This varies from 3 to 6 days.

SAMPLE AND CHAIN OF CUSTODY FORM

TO:		FROM:
ENVIROLAB SERVICES PTY LTD 12 ASHLEY STREET CHATSWOOD NSW 2067 P: (02) 99106200 F: (02) 99106201 Attention: Alleen	JKE Job Number: E33051BR Date Results Required: STANDARD Page: 1 of 1	JKEnvironments REAR OF 115 WICKS ROAD MACQUARIE PARK, NSW 2113 P: 02-9888 5000 F: 02-9888 5001 Attention: Craig Ridley Cridley@jkenvironments.com.au

Location:	Mittagong	Sample Preserved in Esky on Ice
Sampler:	HW	Tests Required

Date Sampled	Lab Ref:	Sample Number	Sample Containers	PID	Sample Description	Combo 3L	VOCs	pH / EC	PFAS - trace extended	BTEX							
8/03/2022	1	MW6	2xG1, 4xV, H, PVC1, PVC2	0.6	Water	X	X	X	X								
8/03/2022	2	MW10	2xG1, 4xV, H, PVC1, PVC2	0	Water	X	X	X	X								
8/03/2022	3	MW28	2xG1, 4xV, H, PVC1, PVC2	0.1	Water	X	X	X	X								
8/03/2022	4	MW37	2xG1, 4xV, H, PVC1, PVC2	0.5	Water	X	X	X	X								
8/03/2022	5	MW41	2xG1, 4xV, H, PVC1, PVC2	0.1	Water	X	X	X	X								
7/03/2022	6	MW59	2xG1, 4xV, H, PVC1, PVC2	0.7	Water	X	X	X	X								
7/03/2022	7	MW82	2xG1, 4xV, H, PVC1, PVC2	0.5	Water	X	X	X	X								
7/03/2022	8	WDUP1	2xG1, 4xV, H, PVC2	NA	Water	X	X		X								
7/03/2022	9	WDUP2	2xG1, 4xV, H, PVC2	NA	Water	X	X		X		Send to VIC						
7-8/03/22	10	TS-W1	V	NA	Water spike					X							
7-8/03/22	11	TB-W1	V	NA	Water blank					X							
7-8/03/22		TBPFAS-W1	PVC2	NA	Water blank				X								

Envirolab Services
12 Ashley St
Chatswood NSW, 2067
Ph: (02) 9910 6200

Job No: 290597
Date Received: 9/3/2022
Time Received: 1320
Received By:
Temp: Cool/Ambient
Cooling: Ice/Icepack
Security: Intact/Broken/None

Remarks (comments/detection limits required):	Sample Containers:
All analysis PQLs to ANZECC (2000) Detection Limits Please. Send WDUP2 to VIC as inter-lab duplicate.	G1 - 150mL Amber Glass Bottle PVC2 - HDPE PFAS Bottles V - BTEX Vial H - HNO3 Wash PVC PVC1 - HDPE Plastic Bottles

Relinquished By: HW	Date: 9/03/22	Time: 10:30am	Received By: Christine ELS SYD	Date: 1320 09/03/22

7°C

Envirolab Services Pty Ltd
ABN 37 112 535 645 - 002
25 Research Drive Croydon South VIC 3136
ph 03 9763 2500 fax 03 9763 2633
melbourne@envirolab.com.au
www.envirolab.com.au

CERTIFICATE OF ANALYSIS 30530

Client Details

Client	JK Environments
Attention	Craig Ridley
Address	PO Box 976, North Ryde BC, NSW, 1670

Sample Details

Your Reference	**E33051BR**
Number of Samples	1 Water
Date samples received	23/03/2022
Date completed instructions received	23/03/2022

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.

Samples were analysed as received from the client. Results relate specifically to the samples as received.

Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Report Details

Date results requested by	29/03/2022
Date of Issue	29/03/2022

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Accredited for compliance with ISO/IEC 17025 - Testing. **Tests not covered by NATA are denoted with ***

Results Approved By
Chris De Luca, Operations Manager

Authorised By



Pamela Adams, Laboratory Manager

VOCs in water - Routine Level		
Our Reference		30530-1
Your Reference	UNITS	WDUP4
Date Sampled		18/03/2022
Type of sample		Water
Date extracted	-	28/03/2022
Date analysed	-	28/03/2022
Dichlorodifluoromethane	µg/L	<10
Chloromethane	µg/L	<10
Vinyl Chloride	µg/L	<10
Bromomethane	µg/L	<10
Chloroethane	µg/L	<10
Trichlorofluoromethane	µg/L	<10
1,1-Dichloroethene	µg/L	<1
Trans-1,2-dichloroethene	µg/L	<1
1,1-dichloroethane	µg/L	<1
Cis-1,2-dichloroethene	µg/L	<1
Bromochloromethane	µg/L	<1
Chloroform	µg/L	<1
2,2-dichloropropane	µg/L	<1
1,2-dichloroethane	µg/L	<1
1,1,1-trichloroethane	µg/L	<1
1,1-dichloropropene	µg/L	<1
Cyclohexane	µg/L	<1
Carbon tetrachloride	µg/L	<1
Benzene	µg/L	<1
Dibromomethane	µg/L	<1
1,2-dichloropropane	µg/L	<1
Trichloroethene	µg/L	<1
Bromodichloromethane	µg/L	<1
trans-1,3-dichloropropene	µg/L	<1
cis-1,3-dichloropropene	µg/L	<1
1,1,2-trichloroethane	µg/L	<1
Toluene	µg/L	<1
1,3-dichloropropane	µg/L	<1
Dibromochloromethane	µg/L	<1
1,2-dibromoethane	µg/L	<1
Tetrachloroethene	µg/L	<1
1,1,1,2-tetrachloroethane	µg/L	<1
Chlorobenzene	µg/L	<1
Ethylbenzene	µg/L	<1

VOCs in water - Routine Level		
Our Reference		30530-1
Your Reference	UNITS	WDUP4
Date Sampled		18/03/2022
Type of sample		Water
Bromoform	µg/L	<1
m+p-xylene	µg/L	<2
Styrene	µg/L	<1
1,1,2,2-tetrachloroethane	µg/L	<1
o-xylene	µg/L	<1
1,2,3-trichloropropane	µg/L	<1
Isopropylbenzene	µg/L	<1
Bromobenzene	µg/L	<1
n-propyl benzene	µg/L	<1
2-chlorotoluene	µg/L	<1
4-chlorotoluene	µg/L	<1
1,3,5-trimethyl benzene	µg/L	<1
Tert-butyl benzene	µg/L	<1
1,2,4-trimethyl benzene	µg/L	<1
1,3-dichlorobenzene	µg/L	<1
Sec-butyl benzene	µg/L	<1
1,4-dichlorobenzene	µg/L	<1
4-isopropyl toluene	µg/L	<1
1,2-dichlorobenzene	µg/L	<1
n-butyl benzene	µg/L	<1
1,2-dibromo-3-chloropropane	µg/L	<1
1,2,4-trichlorobenzene	µg/L	<1
Hexachlorobutadiene	µg/L	<1
1,2,3-trichlorobenzene	µg/L	<1
Surrogate Dibromofluoromethane	%	106
Surrogate toluene-d8	%	108
Surrogate 4-BFB	%	96

vTRH(C6-C10)/BTEXN in Water		
Our Reference	UNITS	30530-1
Your Reference		WDUP4
Date Sampled		18/03/2022
Type of sample		Water
Date extracted	-	28/03/2022
Date analysed	-	28/03/2022
TRH C_6 - C_9	µg/L	<10
TRH C_6 - C_{10}	µg/L	<10
TRH C_6 -C_{10} less BTEX (F1)	µg/L	<10
Benzene	µg/L	<1
Toluene	µg/L	<1
Ethylbenzene	µg/L	<1
m+p-xylene	µg/L	<2
o-xylene	µg/L	<1
Naphthalene	µg/L	<1
Total +ve Xylenes	µg/L	<1
Total BTEX in water	µg/L	<1
Surrogate Dibromofluoromethane	%	115
Surrogate toluene-d8	%	113
Surrogate 4-BFB	%	98

TRH Water(C10-C40) NEPM		
Our Reference	UNITS	30530-1
Your Reference		WDUP4
Date Sampled		18/03/2022
Type of sample		Water
Date extracted	-	23/03/2022
Date analysed	-	24/03/2022
TRH C_{10} - C_{14}	µg/L	<50
TRH C_{15} - C_{28}	µg/L	<100
TRH C_{29} - C_{36}	µg/L	<100
Total +ve TRH (C10-C36)	µg/L	<50
TRH >C_{10} - C_{16}	µg/L	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	µg/L	<50
TRH >C_{16} - C_{34}	µg/L	<100
TRH >C_{34} - C_{40}	µg/L	<100
Total +ve TRH (>C10-C40)	µg/L	<50
Surrogate o-Terphenyl	%	87

PAHs in Water - Low Level		
Our Reference		30530-1
Your Reference	UNITS	WDUP4
Date Sampled		18/03/2022
Type of sample		Water
Date extracted	-	24/03/2022
Date analysed	-	24/03/2022
Naphthalene	µg/L	<0.1
Acenaphthylene	µg/L	<0.1
Acenaphthene	µg/L	<0.1
Fluorene	µg/L	<0.1
Phenanthrene	µg/L	<0.1
Anthracene	µg/L	<0.1
Fluoranthene	µg/L	<0.1
Pyrene	µg/L	<0.1
Benzo(a)anthracene	µg/L	<0.1
Chrysene	µg/L	<0.1
Benzo(b,j&k)fluoranthene	µg/L	<0.2
Benzo(a)pyrene	µg/L	<0.1
Indeno(1,2,3-c,d)pyrene	µg/L	<0.1
Dibenzo(a,h)anthracene	µg/L	<0.1
Benzo(g,h,i)perylene	µg/L	<0.1
Total +ve PAH's	µg/L	NIL (+)VE PAH
Benzo(a)pyrene TEQ	µg/L	<0.5
Surrogate p-Terphenyl-d_{14}	%	94

HM in water - dissolved		
Our Reference		30530-1
Your Reference	UNITS	WDUP4
Date Sampled		18/03/2022
Type of sample		Water
Date prepared	-	24/03/2022
Date analysed	-	24/03/2022
Arsenic-Dissolved	µg/L	<1
Cadmium-Dissolved	µg/L	0.1
Chromium-Dissolved	µg/L	<1
Copper-Dissolved	µg/L	1
Lead-Dissolved	µg/L	<1
Nickel-Dissolved	µg/L	2
Zinc-Dissolved	µg/L	5
Mercury-Dissolved	µg/L	<0.05

Method ID	Methodology Summary
Metals-021 CV-AAS	Determination of Mercury by Cold Vapour AAS.
Metals-022 ICP-MS	Determination of various metals by ICP-MS.
Org-020	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis. Note, the Total +ve TRH PQL is reflective of the lowest individual PQL and is therefore "Total +ve TRH" is simply a sum of the positive individual TRH fractions (>C10-C40).
Org-022	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater 2013.
Org-023	Water samples are analysed directly by purge and trap GC-MS.
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater. Note, the Total +ve Xylene PQL is reflective of the lowest individual PQL and is therefore "Total +ve Xylenes" is simply a sum of the positive individual Xylenes.

QUALITY CONTROL: VOCs in water - Routine Level						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date extracted	-			28/03/2022	1	28/03/2022	28/03/2022		28/03/2022	[NT]
Date analysed	-			28/03/2022	1	28/03/2022	28/03/2022		28/03/2022	[NT]
Dichlorodifluoromethane	µg/L	10	Org-023	<10	1	<10	<10	0	[NT]	[NT]
Chloromethane	µg/L	10	Org-023	<10	1	<10	<10	0	[NT]	[NT]
Vinyl Chloride	µg/L	10	Org-023	<10	1	<10	<10	0	[NT]	[NT]
Bromomethane	µg/L	10	Org-023	<10	1	<10	<10	0	[NT]	[NT]
Chloroethane	µg/L	10	Org-023	<10	1	<10	<10	0	[NT]	[NT]
Trichlorofluoromethane	µg/L	10	Org-023	<10	1	<10	<10	0	[NT]	[NT]
1,1-Dichloroethene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Trans-1,2-dichloroethene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,1-dichloroethane	µg/L	1	Org-023	<1	1	<1	<1	0	109	[NT]
Cis-1,2-dichloroethene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Bromochloromethane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Chloroform	µg/L	1	Org-023	<1	1	<1	<1	0	110	[NT]
2,2-dichloropropane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,2-dichloroethane	µg/L	1	Org-023	<1	1	<1	<1	0	105	[NT]
1,1,1-trichloroethane	µg/L	1	Org-023	<1	1	<1	<1	0	107	[NT]
1,1-dichloropropene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Cyclohexane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Carbon tetrachloride	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Benzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Dibromomethane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,2-dichloropropane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Trichloroethene	µg/L	1	Org-023	<1	1	<1	<1	0	110	[NT]
Bromodichloromethane	µg/L	1	Org-023	<1	1	<1	<1	0	100	[NT]
trans-1,3-dichloropropene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
cis-1,3-dichloropropene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,1,2-trichloroethane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Toluene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,3-dichloropropane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Dibromochloromethane	µg/L	1	Org-023	<1	1	<1	<1	0	95	[NT]
1,2-dibromoethane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Tetrachloroethene	µg/L	1	Org-023	<1	1	<1	<1	0	108	[NT]
1,1,1,2-tetrachloroethane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Chlorobenzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Ethylbenzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Bromoform	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
m+p-xylene	µg/L	2	Org-023	<2	1	<2	<2	0	[NT]	[NT]
Styrene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,1,2,2-tetrachloroethane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]

QUALITY CONTROL: VOCs in water - Routine Level						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
o-xylene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,2,3-trichloropropane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Isopropylbenzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Bromobenzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
n-propyl benzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
2-chlorotoluene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
4-chlorotoluene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,3,5-trimethyl benzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Tert-butyl benzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,2,4-trimethyl benzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,3-dichlorobenzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Sec-butyl benzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,4-dichlorobenzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
4-isopropyl toluene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,2-dichlorobenzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
n-butyl benzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,2-dibromo-3-chloropropane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,2,4-trichlorobenzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Hexachlorobutadiene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,2,3-trichlorobenzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Surrogate Dibromofluoromethane	%		Org-023	102	1	106	105	1	96	[NT]
Surrogate toluene-d8	%		Org-023	106	1	108	107	1	98	[NT]
Surrogate 4-BFB	%		Org-023	98	1	96	95	1	97	[NT]

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date extracted	-			28/03/2022	1	28/03/2022	28/03/2022		28/03/2022	[NT]
Date analysed	-			28/03/2022	1	28/03/2022	28/03/2022		28/03/2022	[NT]
TRH C_6 - C_9	µg/L	10	Org-023	<10	1	<10	<10	0	100	[NT]
TRH C_6 - C_{10}	µg/L	10	Org-023	<10	1	<10	<10	0	100	[NT]
Benzene	µg/L	1	Org-023	<1	1	<1	<1	0	100	[NT]
Toluene	µg/L	1	Org-023	<1	1	<1	<1	0	108	[NT]
Ethylbenzene	µg/L	1	Org-023	<1	1	<1	<1	0	97	[NT]
m+p-xylene	µg/L	2	Org-023	<2	1	<2	<2	0	98	[NT]
o-xylene	µg/L	1	Org-023	<1	1	<1	<1	0	97	[NT]
Naphthalene	µg/L	1	Org-023	<1	1	<1	<1	0	92	[NT]
Surrogate Dibromofluoromethane	%		Org-023	110	1	115	114	1	94	[NT]
Surrogate toluene-d8	%		Org-023	110	1	113	112	1	98	[NT]
Surrogate 4-BFB	%		Org-023	99	1	98	97	1	97	[NT]

QUALITY CONTROL: TRH Water(C10-C40) NEPM						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date extracted	-			23/03/2022	[NT]	[NT]	[NT]	[NT]	23/03/2022	[NT]
Date analysed	-			24/03/2022	[NT]	[NT]	[NT]	[NT]	24/03/2022	[NT]
TRH C_{10} - C_{14}	µg/L	50	Org-020	<50	[NT]	[NT]	[NT]	[NT]	98	[NT]
TRH C_{15} - C_{28}	µg/L	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	122	[NT]
TRH C_{29} - C_{36}	µg/L	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	107	[NT]
TRH >C_{10} - C_{16}	µg/L	50	Org-020	<50	[NT]	[NT]	[NT]	[NT]	98	[NT]
TRH >C_{16} - C_{34}	µg/L	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	122	[NT]
TRH >C_{34} - C_{40}	µg/L	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	107	[NT]
Surrogate o-Terphenyl	%		Org-020	120	[NT]	[NT]	[NT]	[NT]	97	[NT]

QUALITY CONTROL: PAHs in Water - Low Level						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date extracted	-			24/03/2022	[NT]	[NT]	[NT]	[NT]	24/03/2022	[NT]
Date analysed	-			24/03/2022	[NT]	[NT]	[NT]	[NT]	24/03/2022	[NT]
Naphthalene	µg/L	0.1	Org-022	<0.1	[NT]	[NT]	[NT]	[NT]	100	[NT]
Acenaphthylene	µg/L	0.1	Org-022	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Acenaphthene	µg/L	0.1	Org-022	<0.1	[NT]	[NT]	[NT]	[NT]	106	[NT]
Fluorene	µg/L	0.1	Org-022	<0.1	[NT]	[NT]	[NT]	[NT]	118	[NT]
Phenanthrene	µg/L	0.1	Org-022	<0.1	[NT]	[NT]	[NT]	[NT]	110	[NT]
Anthracene	µg/L	0.1	Org-022	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Fluoranthene	µg/L	0.1	Org-022	<0.1	[NT]	[NT]	[NT]	[NT]	122	[NT]
Pyrene	µg/L	0.1	Org-022	<0.1	[NT]	[NT]	[NT]	[NT]	120	[NT]
Benzo(a)anthracene	µg/L	0.1	Org-022	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chrysene	µg/L	0.1	Org-022	<0.1	[NT]	[NT]	[NT]	[NT]	102	[NT]
Benzo(b,j&k)fluoranthene	µg/L	0.2	Org-022	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzo(a)pyrene	µg/L	0.1	Org-022	<0.1	[NT]	[NT]	[NT]	[NT]	108	[NT]
Indeno(1,2,3-c,d)pyrene	µg/L	0.1	Org-022	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dibenzo(a,h)anthracene	µg/L	0.1	Org-022	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzo(g,h,i)perylene	µg/L	0.1	Org-022	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate p-Terphenyl-d_{14}	%		Org-022	106	[NT]	[NT]	[NT]	[NT]	102	[NT]

QUALITY CONTROL: HM in water - dissolved						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date prepared	-			24/03/2022	[NT]	[NT]	[NT]	[NT]	24/03/2022	[NT]
Date analysed	-			24/03/2022	[NT]	[NT]	[NT]	[NT]	24/03/2022	[NT]
Arsenic-Dissolved	µg/L	1	Metals-022 ICP-MS	<1	[NT]	[NT]	[NT]	[NT]	98	[NT]
Cadmium-Dissolved	µg/L	0.1	Metals-022 ICP-MS	<0.1	[NT]	[NT]	[NT]	[NT]	99	[NT]
Chromium-Dissolved	µg/L	1	Metals-022 ICP-MS	<1	[NT]	[NT]	[NT]	[NT]	96	[NT]
Copper-Dissolved	µg/L	1	Metals-022 ICP-MS	<1	[NT]	[NT]	[NT]	[NT]	100	[NT]
Lead-Dissolved	µg/L	1	Metals-022 ICP-MS	<1	[NT]	[NT]	[NT]	[NT]	105	[NT]
Nickel-Dissolved	µg/L	1	Metals-022 ICP-MS	<1	[NT]	[NT]	[NT]	[NT]	98	[NT]
Zinc-Dissolved	µg/L	1	Metals-022 ICP-MS	<1	[NT]	[NT]	[NT]	[NT]	99	[NT]
Mercury-Dissolved	µg/L	0.05	Metals-021 CV-AAS	<0.05	[NT]	[NT]	[NT]	[NT]	92	[NT]

Result Definitions

NT	Not tested
NA	Test not required
INS	Insufficient sample for this test
PQL	Practical Quantitation Limit
<	Less than
>	Greater than
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
NS	Not specified
NEPM	National Environmental Protection Measure
NR	Not Reported

Quality Control Definitions

Blank	This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate	This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike	A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample)	This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike	Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011.

The recommended maximums for analytes in urine are taken from “2018 TLVs and BEIs”, as published by ACGIH (where available). Limit provided for Nickel is a precautionary guideline as per Position Paper prepared by AIOH Exposure Standards Committee, 2016.

Guideline limits for Rinse Water Quality reported as per analytical requirements and specifications of AS 4187, Amdt 2 2019, Table 7.2

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: >10xPQL - RPD acceptance criteria will vary depending on the analytes and the analytical techniques but is typically in the range 20%-50% – see ELN-P05 QA/QC tables for details; <10xPQL - RPD are higher as the results approach PQL and the estimated measurement uncertainty will statistically increase.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals (not SPOCAS); 60-140% for organics/SPOCAS (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

Measurement Uncertainty estimates are available for most tests upon request.

Analysis of aqueous samples typically involves the extraction/digestion and/or analysis of the liquid phase only (i.e. NOT any settled sediment phase but inclusive of suspended particles if present), unless stipulated on the Envirolab COC and/or by correspondence. Notable exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, total recoverable metals and PFAS where solids are included by default.

Samples for Microbiological analysis (not Amoeba forms) received outside of the 2-8°C temperature range do not meet the ideal cooling conditions as stated in AS2031-2012.

Envirolab Services Pty Ltd
ABN 37 112 535 645 - 002
25 Research Drive Croydon South VIC 3136
ph 03 9763 2500 fax 03 9763 2633
melbourne@envirolab.com.au
www.envirolab.com.au

SAMPLE RECEIPT ADVICE

Client Details

Client	JK Environments
Attention	Craig Ridley

Sample Login Details

Your reference	E33051BR
Envirolab Reference	30530
Date Sample Received	23/03/2022
Date Instructions Received	23/03/2022
Date Results Expected to be Reported	29/03/2022

Sample Condition

Samples received in appropriate condition for analysis	Yes
No. of Samples Provided	1 Water
Turnaround Time Requested	Standard
Temperature on Receipt (°C)	8.8
Cooling Method	Ice Pack
Sampling Date Provided	YES

Comments

Nil

Please direct any queries to:

Pamela Adams	Chris De Luca
Phone: 03 9763 2500	**Phone: 03 9763 2500**
Fax: 03 9763 2633	**Fax: 03 9763 2633**
Email: padams@envirolab.com.au	**Email: cdeluca@envirolab.com.au**

Analysis Underway, details on the following page:

Envirolab Services Pty Ltd
ABN 37 112 535 645 - 002
25 Research Drive Croydon South VIC 3136
ph 03 9763 2500 fax 03 9763 2633
melbourne@envirolab.com.au
www.envirolab.com.au

Sample ID	VOCs in water - Routine Level	vTRH(C6-C10)/BTEXN in Water	TRH Water(C10-C40) NEPM	PAHs in Water - Low Level	HM in water - dissolved
WDUP4	✓	✓	✓	✓	✓

The '✓' indicates the testing you have requested. **THIS IS NOT A REPORT OF THE RESULTS.**

Additional Info

Sample storage - Waters are routinely disposed of approximately 1 month and soils approximately 2 months from receipt.
Requests for longer term sample storage must be received in writing.
Please contact the laboratory immediately if observed settled sediment present in water samples is to be included in the extraction and/or analysis (exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, Total Recoverable metals and PFAS analysis where solids are included by default.

SAMPLE AND CHAIN OF CUSTODY FORM

TO:
ENVIROLAB SERVICES PTY LTD
12 ASHLEY STREET
CHATSWOOD NSW 2067
P: (02) 99106200
F: (02) 99106201

Attention: Aileen

JKE Job Number: E33051BR

Date Results Required: STANDARD

Page: 1 of 1

FROM:
JKEnvironments
REAR OF 115 WICKS ROAD
MACQUARIE PARK, NSW 2113
P: 02-9888 5000 F: 02-9888 5001
Attention: Craig Ridley
cridley@jkenvironments.com.au

Location: Mittagong
Sampler: HW

Sample Preserved in Esky on Ice
Tests Required

Date Sampled	Lab Ref:	Sample Number	Sample Containers	PID	Sample Description	Combo 3L	VOCs	pH / EC	PFAS - trace extended	BTEX
18/03/2022	1	SW1	2xG1, 4xV, H, PVC1, PVC2	NA	Water	X	X	X	X	
18/03/2022	2	SW2	2xG1, 4xV, H, PVC1, PVC2	NA	Water	X	X	X	X	
18/03/2022	3	SW3	2xG1, 4xV, H, PVC1, PVC2	NA	Water	X	X	X	X	
18/03/2022	4	MW46	2xG1, 4xV, H, PVC1, PVC2	0.1	Water	X	X	X	X	
18/03/2022	5	WDUP3	2xG1, 4xV, H, PVC2	NA	Water duplicate	X	X			
18/03/2022	-	WDUP4	2xG1, 4xV, H, PVC2	NA	Water duplicate	X	X	Send to VIC		
18/03/2022	6	TS-W2	V	NA	Water spike					X
18/03/2022	7	TB-W2	V	NA	Water blank					X
18/03/2022	8	PFASTB-W2	PVC2	NA	PFAS water blank				X	

(1)

ENVIROLAB
Envirolab Services
25 Research Drive
Croydon South VIC 3136
Ph: (03) 9763 2500
Job No: 30530
Date Received: 23/3/22
Time Received: 12:20
Received By: GS
Temp: Cool/Ambient
Cooling: Ice/Icepack 8.8
Security: Intact/Broken/None

ENVIROLAB
Envirolab Services
12 Ashley St
Chatswood NSW 2067
Ph: (02) 9910 6200
Job No: 299471
Date Received: 23/3/22
Time Received: 1345
Received By: MM
Temp: Cool/Ambient
Cooling: Ice/Icepack
Security: Intact/Broken/None

Remarks (comments/detection limits required):
All analysis PQLs to ANZECC (2000) Detection Limits Please
Send WDUP4 to Vic as inter-lab duplicate sample

Sample Containers:
G1 - 100mL Amber Glass Bottle PVC2 - PFAS HDPE Bottle
V - BTEX Vial H - HNO3 Wash PVC
PVC1 - HDPE Bottles

Relinquished By: HW	Date: 21/03/22	Time: 1:25pm	Received By:	Date:
		1940 -	CMUENZE	21/3/22

Relinquished by Ensuring
CMUENZE
22/3/22 1230
MM

Envirolab Services Pty Ltd
ABN 37 112 535 645
12 Ashley St Chatswood NSW 2067
ph 02 9910 6200 fax 02 9910 6201
customerservice@envirolab.com.au
www.envirolab.com.au

CERTIFICATE OF ANALYSIS 291471

Client Details

Client	JK Environments
Attention	C Ridley
Address	PO Box 976, North Ryde BC, NSW, 1670

Sample Details

Your Reference	**E33051BR, Mittagong**
Number of Samples	8 Water
Date samples received	22/03/2022
Date completed instructions received	21/03/2022

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.

Samples were analysed as received from the client. Results relate specifically to the samples as received.

Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Please refer to the last page of this report for any comments relating to the results.

Report Details

Date results requested by	28/03/2022
Date of Issue	28/03/2022

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Accredited for compliance with ISO/IEC 17025 - Testing. **Tests not covered by NATA are denoted with ***

Results Approved By
Alexander Mitchell Maclean, Senior Chemist
Diego Bigolin, Inorganics Supervisor
Dragana Tomas, Senior Chemist
Giovanni Agosti, Group Technical Manager
Steven Luong, Senior Chemist

Authorised By



Nancy Zhang, Laboratory Manager

VOCs in water						
Our Reference		291471-1	291471-2	291471-3	291471-4	291471-5
Your Reference	UNITS	SW1	SW2	SW3	MW46	WDUP3
Date Sampled		18/03/2022	18/03/2022	18/03/2022	18/03/2022	18/03/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	22/03/2022	22/03/2022	22/03/2022	22/03/2022	22/03/2022
Date analysed	-	23/03/2022	23/03/2022	23/03/2022	23/03/2022	23/03/2022
Dichlorodifluoromethane	µg/L	<10	<10	<10	<10	<10
Chloromethane	µg/L	<10	<10	<10	<10	<10
Vinyl Chloride	µg/L	<10	<10	<10	<10	<10
Bromomethane	µg/L	<10	<10	<10	<10	<10
Chloroethane	µg/L	<10	<10	<10	<10	<10
Trichlorofluoromethane	µg/L	<10	<10	<10	<10	<10
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1
Trans-1,2-dichloroethene	µg/L	<1	<1	<1	<1	<1
1,1-dichloroethane	µg/L	<1	<1	<1	<1	<1
Cis-1,2-dichloroethene	µg/L	<1	<1	<1	<1	<1
Bromochloromethane	µg/L	<1	<1	<1	<1	<1
Chloroform	µg/L	<1	<1	<1	<1	<1
2,2-dichloropropane	µg/L	<1	<1	<1	<1	<1
1,2-dichloroethane	µg/L	<1	<1	<1	<1	<1
1,1,1-trichloroethane	µg/L	<1	<1	<1	<1	<1
1,1-dichloropropene	µg/L	<1	<1	<1	<1	<1
Cyclohexane	µg/L	<1	<1	<1	<1	<1
Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1
Benzene	µg/L	<1	<1	<1	<1	<1
Dibromomethane	µg/L	<1	<1	<1	<1	<1
1,2-dichloropropane	µg/L	<1	<1	<1	<1	<1
Trichloroethene	µg/L	<1	<1	<1	<1	<1
Bromodichloromethane	µg/L	<1	<1	<1	<1	<1
trans-1,3-dichloropropene	µg/L	<1	<1	<1	<1	<1
cis-1,3-dichloropropene	µg/L	<1	<1	<1	<1	<1
1,1,2-trichloroethane	µg/L	<1	<1	<1	<1	<1
Toluene	µg/L	<1	<1	<1	<1	<1
1,3-dichloropropane	µg/L	<1	<1	<1	<1	<1
Dibromochloromethane	µg/L	<1	<1	<1	<1	<1
1,2-dibromoethane	µg/L	<1	<1	<1	<1	<1
Tetrachloroethene	µg/L	<1	<1	<1	<1	<1
1,1,1,2-tetrachloroethane	µg/L	<1	<1	<1	<1	<1
Chlorobenzene	µg/L	<1	<1	<1	<1	<1
Ethylbenzene	µg/L	<1	<1	<1	<1	<1

VOCs in water						
Our Reference		291471-1	291471-2	291471-3	291471-4	291471-5
Your Reference	UNITS	SW1	SW2	SW3	MW46	WDUP3
Date Sampled		18/03/2022	18/03/2022	18/03/2022	18/03/2022	18/03/2022
Type of sample		Water	Water	Water	Water	Water
Bromoform	µg/L	<1	<1	<1	<1	<1
m+p-xylene	µg/L	<2	<2	<2	<2	<2
Styrene	µg/L	<1	<1	<1	<1	<1
1,1,2,2-tetrachloroethane	µg/L	<1	<1	<1	<1	<1
o-xylene	µg/L	<1	<1	<1	<1	<1
1,2,3-trichloropropane	µg/L	<1	<1	<1	<1	<1
Isopropylbenzene	µg/L	<1	<1	<1	<1	<1
Bromobenzene	µg/L	<1	<1	<1	<1	<1
n-propyl benzene	µg/L	<1	<1	<1	<1	<1
2-chlorotoluene	µg/L	<1	<1	<1	<1	<1
4-chlorotoluene	µg/L	<1	<1	<1	<1	<1
1,3,5-trimethyl benzene	µg/L	<1	<1	<1	<1	<1
Tert-butyl benzene	µg/L	<1	<1	<1	<1	<1
1,2,4-trimethyl benzene	µg/L	<1	<1	<1	<1	<1
1,3-dichlorobenzene	µg/L	<1	<1	<1	<1	<1
Sec-butyl benzene	µg/L	<1	<1	<1	<1	<1
1,4-dichlorobenzene	µg/L	<1	<1	<1	<1	<1
4-isopropyl toluene	µg/L	<1	<1	<1	<1	<1
1,2-dichlorobenzene	µg/L	<1	<1	<1	<1	<1
n-butyl benzene	µg/L	<1	<1	<1	<1	<1
1,2-dibromo-3-chloropropane	µg/L	<1	<1	<1	<1	<1
1,2,4-trichlorobenzene	µg/L	<1	<1	<1	<1	<1
Hexachlorobutadiene	µg/L	<1	<1	<1	<1	<1
1,2,3-trichlorobenzene	µg/L	<1	<1	<1	<1	<1
Surrogate Dibromofluoromethane	%	113	112	104	100	101
Surrogate toluene-d8	%	114	114	109	104	106
Surrogate 4-BFB	%	100	103	100	101	101

vTRH(C6-C10)/BTEXN in Water						
Our Reference		291471-1	291471-2	291471-3	291471-4	291471-5
Your Reference	UNITS	SW1	SW2	SW3	MW46	WDUP3
Date Sampled		18/03/2022	18/03/2022	18/03/2022	18/03/2022	18/03/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	22/03/2022	22/03/2022	22/03/2022	22/03/2022	22/03/2022
Date analysed	-	23/03/2022	23/03/2022	23/03/2022	23/03/2022	23/03/2022
TRH C_6 - C_9	µg/L	<10	<10	<10	<10	<10
TRH C_6 - C_{10}	µg/L	<10	<10	<10	<10	<10
TRH C_6 - C_{10} less BTEX (F1)	µg/L	<10	<10	<10	<10	<10
Benzene	µg/L	<1	<1	<1	<1	<1
Toluene	µg/L	<1	<1	<1	<1	<1
Ethylbenzene	µg/L	<1	<1	<1	<1	<1
m+p-xylene	µg/L	<2	<2	<2	<2	<2
o-xylene	µg/L	<1	<1	<1	<1	<1
Naphthalene	µg/L	<1	<1	<1	<1	<1
Surrogate Dibromofluoromethane	%	113	112	104	100	101
Surrogate toluene-d8	%	114	114	109	104	106
Surrogate 4-BFB	%	100	103	100	101	101

vTRH(C6-C10)/BTEXN in Water			
Our Reference		291471-6	291471-7
Your Reference	UNITS	TS-W2	TB-W2
Date Sampled		18/03/2022	18/03/2022
Type of sample		Water	Water
Date extracted	-	22/03/2022	22/03/2022
Date analysed	-	23/03/2022	23/03/2022
Benzene	µg/L	83%	<1
Toluene	µg/L	103%	<1
Ethylbenzene	µg/L	105%	<1
m+p-xylene	µg/L	100%	<2
o-xylene	µg/L	103%	<1
Naphthalene	µg/L	[NT]	<1
Surrogate Dibromofluoromethane	%	103	92
Surrogate toluene-d8	%	107	95
Surrogate 4-BFB	%	98	101

svTRH (C10-C40) in Water						
Our Reference		291471-1	291471-2	291471-3	291471-4	291471-5
Your Reference	UNITS	SW1	SW2	SW3	MW46	WDUP3
Date Sampled		18/03/2022	18/03/2022	18/03/2022	18/03/2022	18/03/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	25/03/2022	25/03/2022	25/03/2022	25/03/2022	25/03/2022
Date analysed	-	26/03/2022	26/03/2022	26/03/2022	26/03/2022	26/03/2022
TRH C_{10} - C_{14}	µg/L	<50	<50	<50	<50	<50
TRH C_{15} - C_{28}	µg/L	<100	<100	<100	<100	<100
TRH C_{29} - C_{36}	µg/L	<100	<100	<100	<100	<100
Total +ve TRH (C10-C36)	µg/L	<50	<50	<50	<50	<50
TRH >C_{10} - C_{16}	µg/L	<50	<50	<50	<50	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	µg/L	<50	<50	<50	<50	<50
TRH >C_{16} - C_{34}	µg/L	<100	<100	<100	<100	<100
TRH >C_{34} - C_{40}	µg/L	<100	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	µg/L	<50	<50	<50	<50	<50
Surrogate o-Terphenyl	%	106	107	101	104	106

PAHs in Water - Low Level						
Our Reference	UNITS	291471-1	291471-2	291471-3	291471-4	291471-5
Your Reference		SW1	SW2	SW3	MW46	WDUP3
Date Sampled		18/03/2022	18/03/2022	18/03/2022	18/03/2022	18/03/2022
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	25/03/2022	25/03/2022	25/03/2022	25/03/2022	25/03/2022
Date analysed	-	25/03/2022	25/03/2022	25/03/2022	25/03/2022	25/03/2022
Naphthalene	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Acenaphthylene	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Indeno(1,2,3-c,d)pyrene	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene TEQ	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Total +ve PAH's	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate p-Terphenyl-d14	%	132	123	127	128	128

HM in water - dissolved						
Our Reference		291471-1	291471-2	291471-3	291471-4	291471-5
Your Reference	UNITS	SW1	SW2	SW3	MW46	WDUP3
Date Sampled		18/03/2022	18/03/2022	18/03/2022	18/03/2022	18/03/2022
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	23/03/2022	23/03/2022	23/03/2022	23/03/2022	23/03/2022
Date analysed	-	23/03/2022	23/03/2022	23/03/2022	23/03/2022	23/03/2022
Arsenic-Dissolved	µg/L	<1	<1	<1	2	<1
Cadmium-Dissolved	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Chromium-Dissolved	µg/L	<1	<1	<1	<1	<1
Copper-Dissolved	µg/L	<1	<1	<1	<1	<1
Lead-Dissolved	µg/L	<1	<1	<1	<1	<1
Mercury-Dissolved	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05
Nickel-Dissolved	µg/L	1	1	1	2	1
Zinc-Dissolved	µg/L	4	4	6	49	6

PFAS in Waters Trace Extended						
Our Reference		291471-1	291471-2	291471-3	291471-4	291471-8
Your Reference	UNITS	SW1	SW2	SW3	MW46	PFASTB-W2
Date Sampled		18/03/2022	18/03/2022	18/03/2022	18/03/2022	18/03/2022
Type of sample		Water	Water	Water	Water	Water
Date prepared	-	23/03/2022	23/03/2022	23/03/2022	23/03/2022	23/03/2022
Date analysed	-	23/03/2022	23/03/2022	23/03/2022	23/03/2022	23/03/2022
Perfluorobutanesulfonic acid	µg/L	0.002	0.002	0.002	<0.0004	<0.0004
Perfluoropentanesulfonic acid	µg/L	0.001	0.001	0.001	<0.001	<0.001
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.0092	0.0090	0.0090	<0.0002	<0.0002
Perfluoroheptanesulfonic acid	µg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Perfluorooctanesulfonic acid PFOS	µg/L	0.0068	0.0074	0.0071	0.0003	<0.0002
Perfluorodecanesulfonic acid	µg/L	<0.002	<0.002	<0.002	<0.002	<0.002
Perfluorobutanoic acid	µg/L	<0.02	<0.02	<0.02	<0.02	<0.002
Perfluoropentanoic acid	µg/L	<0.002	<0.002	<0.002	<0.002	<0.002
Perfluorohexanoic acid	µg/L	0.002	0.002	0.002	0.0005	<0.0004
Perfluoroheptanoic acid	µg/L	<0.0004	0.0005	0.0004	<0.0004	<0.0004
Perfluorooctanoic acid PFOA	µg/L	0.001	0.001	0.001	0.0004	<0.0002
Perfluorononanoic acid	µg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Perfluorodecanoic acid	µg/L	<0.002	<0.002	<0.002	<0.002	<0.002
Perfluoroundecanoic acid	µg/L	<0.002	<0.002	<0.002	<0.002	<0.002
Perfluorododecanoic acid	µg/L	<0.005	<0.005	<0.005	<0.005	<0.005
Perfluorotridecanoic acid	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorotetradecanoic acid	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05
4:2 FTS	µg/L	<0.001	<0.001	<0.001	<0.001	<0.001
6:2 FTS	µg/L	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004
8:2 FTS	µg/L	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004
10:2 FTS	µg/L	<0.002	<0.002	<0.002	<0.002	<0.002
Perfluorooctane sulfonamide	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
N-Methyl perfluorooctane sulfonamide	µg/L	<0.005	<0.005	<0.005	<0.005	<0.005
N-Ethyl perfluorooctanesulfon amide	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
N-Me perfluorooctanesulfonamid oethanol	µg/L	<0.005	<0.005	<0.005	<0.005	<0.005
N-Et perfluorooctanesulfonamid oethanol	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05
MePerfluorooctanesulf- amid oacetic acid	µg/L	<0.002	<0.002	<0.002	<0.002	<0.002
EtPerfluorooctanesulf- amid oacetic acid	µg/L	<0.002	<0.002	<0.002	<0.002	<0.002
Surrogate $^{13}C_8$ *PFOS*	%	97	92	94	99	96
Surrogate $^{13}C_2$ *PFOA*	%	90	93	95	94	91
Extracted ISTD $^{13}C_3$ *PFBS*	%	53	55	57	68	73
Extracted ISTD $^{18}O_2$ *PFHxS*	%	88	97	98	109	100
Extracted ISTD $^{13}C_4$ *PFOS*	%	73	72	77	77	81
Extracted ISTD $^{13}C_4$ *PFBA*	%	#	#	#	#	111

PFAS in Waters Trace Extended						
Our Reference		291471-1	291471-2	291471-3	291471-4	291471-8
Your Reference	UNITS	SW1	SW2	SW3	MW46	PFASTB-W2
Date Sampled		18/03/2022	18/03/2022	18/03/2022	18/03/2022	18/03/2022
Type of sample		Water	Water	Water	Water	Water
Extracted ISTD $^{13}C_3$ *PFPeA*	%	21	25	27	51	108
Extracted ISTD $^{13}C_2$ *PFHxA*	%	42	44	46	92	113
Extracted ISTD $^{13}C_4$ *PFHpA*	%	58	66	71	106	108
Extracted ISTD $^{13}C_4$ *PFOA*	%	68	70	72	100	109
Extracted ISTD $^{13}C_5$ *PFNA*	%	79	79	80	102	107
Extracted ISTD $^{13}C_2$ *PFDA*	%	80	86	90	103	98
Extracted ISTD $^{13}C_2$ *PFUnDA*	%	85	89	96	102	89
Extracted ISTD $^{13}C_2$ *PFDoDA*	%	76	77	81	91	77
Extracted ISTD $^{13}C_2$ *PFTeDA*	%	85	108	117	105	82
Extracted ISTD $^{13}C_2$ *4:2FTS*	%	74	81	86	166	169
Extracted ISTD $^{13}C_2$ *6:2FTS*	%	95	100	109	163	132
Extracted ISTD $^{13}C_2$ *8:2FTS*	%	113	121	139	139	135
Extracted ISTD $^{13}C_8$ *FOSA*	%	55	60	57	72	84
Extracted ISTD d_3 *N MeFOSA*	%	51	51	46	46	48
Extracted ISTD d_5 *N EtFOSA*	%	48	45	43	41	44
Extracted ISTD d_7 *N MeFOSE*	%	60	68	67	71	71
Extracted ISTD d_9 *N EtFOSE*	%	62	63	64	68	67
Extracted ISTD d_3 *N MeFOSAA*	%	71	69	64	117	110
Extracted ISTD d_5 *N EtFOSAA*	%	88	92	94	135	108
Total Positive PFHxS & PFOS	µg/L	0.016	0.016	0.016	0.0003	<0.0002
Total Positive PFOS & PFOA	µg/L	0.0081	0.0084	0.0083	0.0007	<0.0002
Total Positive PFAS	µg/L	0.022	0.023	0.023	0.001	<0.0002

Miscellaneous Inorganics					
Our Reference		291471-1	291471-2	291471-3	291471-4
Your Reference	UNITS	SW1	SW2	SW3	MW46
Date Sampled		18/03/2022	18/03/2022	18/03/2022	18/03/2022
Type of sample		Water	Water	Water	Water
Date prepared	-	22/03/2022	22/03/2022	22/03/2022	22/03/2022
Date analysed	-	22/03/2022	22/03/2022	22/03/2022	22/03/2022
pH	pH Units	7.6	7.5	7.3	7.0
Electrical Conductivity	µS/cm	190	180	180	1,800

Method ID	Methodology Summary
Inorg-001	pH - Measured using pH meter and electrode in accordance with APHA latest edition, 4500-H+. Please note that the results for water analyses are indicative only, as analysis outside of the APHA storage times.
Inorg-002	Conductivity and Salinity - measured using a conductivity cell at 25°C in accordance with APHA latest edition 2510 and Rayment & Lyons.
Metals-021	Determination of Mercury by Cold Vapour AAS.
Metals-022	Determination of various metals by ICP-MS.
Org-020	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis.
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS/GC-MSMS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013.
Org-023	Water samples are analysed directly by purge and trap GC-MS.
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.
Org-029	Soil samples are extracted with basified Methanol. Waters and soil extracts are directly injected and/or concentrated/extracted using SPE. TCLPs/ASLP leachates are centrifuged, the supernatant is then analysed (including amendment with solvent) - as per the option in AS4439.3. Analysis is undertaken with LC-MS/MS. PFAS results include the sum of branched and linear isomers where applicable. Please note that PFAS results are corrected for Extracted Internal Standards (QSM 5.3 Table B-15 terminology), which are mass labelled analytes added prior to sample preparation to assess matrix effects and verify processing of the sample. PFAS analytes without a commercially available mass labelled analogue are corrected vs a closely eluting mass labelled PFAS compound. Surrogates are also reported, in this context they are mass labelled PFAS compounds added prior to extraction but are used as monitoring compounds only (not used for result correction). Envicarb (or similar) is used discretionally to remove interfering matrix components. Please contact the laboratory if estimates of Measurement Uncertainty are required as per WA DER.

QUALITY CONTROL: VOCs in water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W3	[NT]
Date extracted	-			22/03/2022	1	22/03/2022	24/03/2022		22/03/2022	[NT]
Date analysed	-			23/03/2022	1	23/03/2022	25/03/2022		23/03/2022	[NT]
Dichlorodifluoromethane	µg/L	10	Org-023	<10	1	<10	<10	0	[NT]	[NT]
Chloromethane	µg/L	10	Org-023	<10	1	<10	<10	0	[NT]	[NT]
Vinyl Chloride	µg/L	10	Org-023	<10	1	<10	<10	0	[NT]	[NT]
Bromomethane	µg/L	10	Org-023	<10	1	<10	<10	0	[NT]	[NT]
Chloroethane	µg/L	10	Org-023	<10	1	<10	<10	0	[NT]	[NT]
Trichlorofluoromethane	µg/L	10	Org-023	<10	1	<10	<10	0	[NT]	[NT]
1,1-Dichloroethene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Trans-1,2-dichloroethene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,1-dichloroethane	µg/L	1	Org-023	<1	1	<1	<1	0	117	[NT]
Cis-1,2-dichloroethene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Bromochloromethane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Chloroform	µg/L	1	Org-023	<1	1	<1	<1	0	125	[NT]
2,2-dichloropropane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,2-dichloroethane	µg/L	1	Org-023	<1	1	<1	<1	0	115	[NT]
1,1,1-trichloroethane	µg/L	1	Org-023	<1	1	<1	<1	0	90	[NT]
1,1-dichloropropene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Cyclohexane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Carbon tetrachloride	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Benzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Dibromomethane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,2-dichloropropane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Trichloroethene	µg/L	1	Org-023	<1	1	<1	<1	0	90	[NT]
Bromodichloromethane	µg/L	1	Org-023	<1	1	<1	<1	0	111	[NT]
trans-1,3-dichloropropene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
cis-1,3-dichloropropene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,1,2-trichloroethane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Toluene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,3-dichloropropane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Dibromochloromethane	µg/L	1	Org-023	<1	1	<1	<1	0	125	[NT]
1,2-dibromoethane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Tetrachloroethene	µg/L	1	Org-023	<1	1	<1	<1	0	117	[NT]
1,1,1,2-tetrachloroethane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Chlorobenzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Ethylbenzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Bromoform	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
m+p-xylene	µg/L	2	Org-023	<2	1	<2	<2	0	[NT]	[NT]
Styrene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,1,2,2-tetrachloroethane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]

QUALITY CONTROL: VOCs in water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W3	[NT]
o-xylene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,2,3-trichloropropane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Isopropylbenzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Bromobenzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
n-propyl benzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
2-chlorotoluene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
4-chlorotoluene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,3,5-trimethyl benzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Tert-butyl benzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,2,4-trimethyl benzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,3-dichlorobenzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Sec-butyl benzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,4-dichlorobenzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
4-isopropyl toluene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,2-dichlorobenzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
n-butyl benzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,2-dibromo-3-chloropropane	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,2,4-trichlorobenzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Hexachlorobutadiene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
1,2,3-trichlorobenzene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Surrogate Dibromofluoromethane	%		Org-023	111	1	113	93	19	122	[NT]
Surrogate toluene-d8	%		Org-023	112	1	114	94	19	119	[NT]
Surrogate 4-BFB	%		Org-023	103	1	100	104	4	100	[NT]

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Water						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W3	[NT]
Date extracted	-			22/03/2022	1	22/03/2022	24/03/2022		22/03/2022	[NT]
Date analysed	-			23/03/2022	1	23/03/2022	25/03/2022		23/03/2022	[NT]
TRH C_6 - C_9	µg/L	10	Org-023	<10	1	<10	<10	0	101	[NT]
TRH C_6 - C_{10}	µg/L	10	Org-023	<10	1	<10	<10	0	101	[NT]
Benzene	µg/L	1	Org-023	<1	1	<1	<1	0	92	[NT]
Toluene	µg/L	1	Org-023	<1	1	<1	<1	0	115	[NT]
Ethylbenzene	µg/L	1	Org-023	<1	1	<1	<1	0	99	[NT]
m+p-xylene	µg/L	2	Org-023	<2	1	<2	<2	0	100	[NT]
o-xylene	µg/L	1	Org-023	<1	1	<1	<1	0	99	[NT]
Naphthalene	µg/L	1	Org-023	<1	1	<1	<1	0	[NT]	[NT]
Surrogate Dibromofluoromethane	%		Org-023	111	1	113	93	19	122	[NT]
Surrogate toluene-d8	%		Org-023	112	1	114	94	19	119	[NT]
Surrogate 4-BFB	%		Org-023	103	1	100	104	4	100	[NT]

QUALITY CONTROL: svTRH (C10-C40) in Water					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	[NT]
Date extracted	-			25/03/2022	[NT]	[NT]	[NT]	[NT]	25/03/2022	[NT]
Date analysed	-			26/03/2022	[NT]	[NT]	[NT]	[NT]	26/03/2022	[NT]
TRH C_{10} - C_{14}	µg/L	50	Org-020	<50	[NT]	[NT]	[NT]	[NT]	85	[NT]
TRH C_{15} - C_{28}	µg/L	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	81	[NT]
TRH C_{29} - C_{36}	µg/L	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	78	[NT]
TRH >C_{10} - C_{16}	µg/L	50	Org-020	<50	[NT]	[NT]	[NT]	[NT]	85	[NT]
TRH >C_{16} - C_{34}	µg/L	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	81	[NT]
TRH >C_{34} - C_{40}	µg/L	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	78	[NT]
Surrogate o-Terphenyl	%		Org-020	110	[NT]	[NT]	[NT]	[NT]	107	[NT]

QUALITY CONTROL: PAHs in Water - Low Level						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W3	[NT]
Date extracted	-			25/03/2022	[NT]	[NT]	[NT]	[NT]	25/03/2022	[NT]
Date analysed	-			25/03/2022	[NT]	[NT]	[NT]	[NT]	25/03/2022	[NT]
Naphthalene	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	120	[NT]
Acenaphthylene	µg/L	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Acenaphthene	µg/L	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	121	[NT]
Fluorene	µg/L	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	116	[NT]
Phenanthrene	µg/L	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	133	[NT]
Anthracene	µg/L	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Fluoranthene	µg/L	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	121	[NT]
Pyrene	µg/L	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	123	[NT]
Benzo(a)anthracene	µg/L	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chrysene	µg/L	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	81	[NT]
Benzo(b,j+k)fluoranthene	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzo(a)pyrene	µg/L	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	108	[NT]
Indeno(1,2,3-c,d)pyrene	µg/L	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dibenzo(a,h)anthracene	µg/L	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzo(g,h,i)perylene	µg/L	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	123	[NT]	[NT]	[NT]	[NT]	112	[NT]

QUALITY CONTROL: HM in water - dissolved						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	291471-2
Date prepared	-			23/03/2022	1	23/03/2022	23/03/2022		23/03/2022	23/03/2022
Date analysed	-			23/03/2022	1	23/03/2022	23/03/2022		23/03/2022	23/03/2022
Arsenic-Dissolved	µg/L	1	Metals-022	<1	1	<1	<1	0	96	[NT]
Cadmium-Dissolved	µg/L	0.1	Metals-022	<0.1	1	<0.1	<0.1	0	99	[NT]
Chromium-Dissolved	µg/L	1	Metals-022	<1	1	<1	<1	0	95	[NT]
Copper-Dissolved	µg/L	1	Metals-022	<1	1	<1	<1	0	95	[NT]
Lead-Dissolved	µg/L	1	Metals-022	<1	1	<1	<1	0	100	[NT]
Mercury-Dissolved	µg/L	0.05	Metals-021	<0.05	1	<0.05	<0.05	0	103	99
Nickel-Dissolved	µg/L	1	Metals-022	<1	1	1	1	0	95	[NT]
Zinc-Dissolved	µg/L	1	Metals-022	<1	1	4	3	29	95	[NT]

QUALITY CONTROL: PFAS in Waters Trace Extended						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	291471-2
Date prepared	-			23/03/2022	1	23/03/2022	23/03/2022		23/03/2022	23/03/2022
Date analysed	-			23/03/2022	1	23/03/2022	23/03/2022		23/03/2022	23/03/2022
Perfluorobutanesulfonic acid	µg/L	0.0004	Org-029	<0.0004	1	0.002	0.002	0	99	109
Perfluoropentanesulfonic acid	µg/L	0.001	Org-029	<0.001	1	0.001	0.001	0	112	111
Perfluorohexanesulfonic acid - PFHxS	µg/L	0.0002	Org-029	<0.0002	1	0.0092	0.0082	11	108	96
Perfluoroheptanesulfonic acid	µg/L	0.001	Org-029	<0.001	1	<0.001	<0.001	0	84	81
Perfluorooctanesulfonic acid PFOS	µg/L	0.0002	Org-029	<0.0002	1	0.0068	0.0067	1	102	97
Perfluorodecanesulfonic acid	µg/L	0.002	Org-029	<0.002	1	<0.002	<0.002	0	74	77
Perfluorobutanoic acid	µg/L	0.002	Org-029	<0.002	1	<0.02	<0.02	0	107	106
Perfluoropentanoic acid	µg/L	0.002	Org-029	<0.002	1	<0.002	<0.002	0	98	87
Perfluorohexanoic acid	µg/L	0.0004	Org-029	<0.0004	1	0.002	0.002	0	108	102
Perfluoroheptanoic acid	µg/L	0.0004	Org-029	<0.0004	1	<0.0004	0.0005	22	97	94
Perfluorooctanoic acid PFOA	µg/L	0.0002	Org-029	<0.0002	1	0.001	0.001	0	100	97
Perfluorononanoic acid	µg/L	0.001	Org-029	<0.001	1	<0.001	<0.001	0	98	106
Perfluorodecanoic acid	µg/L	0.002	Org-029	<0.002	1	<0.002	<0.002	0	88	84
Perfluoroundecanoic acid	µg/L	0.002	Org-029	<0.002	1	<0.002	<0.002	0	102	90
Perfluorododecanoic acid	µg/L	0.005	Org-029	<0.005	1	<0.005	<0.005	0	92	101
Perfluorotridecanoic acid	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	92	131
Perfluorotetradecanoic acid	µg/L	0.05	Org-029	<0.05	1	<0.05	<0.05	0	111	98
4:2 FTS	µg/L	0.001	Org-029	<0.001	1	<0.001	<0.001	0	91	84
6:2 FTS	µg/L	0.0004	Org-029	<0.0004	1	<0.0004	<0.0004	0	113	123
8:2 FTS	µg/L	0.0004	Org-029	<0.0004	1	<0.0004	<0.0004	0	108	111
10:2 FTS	µg/L	0.002	Org-029	<0.002	1	<0.002	<0.002	0	87	97
Perfluorooctane sulfonamide	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	107	102
N-Methyl perfluorooctane sulfonamide	µg/L	0.005	Org-029	<0.005	1	<0.005	<0.005	0	109	100
N-Ethyl perfluorooctanesulfon amide	µg/L	0.01	Org-029	<0.01	1	<0.01	<0.01	0	91	81
N-Me perfluorooctanesulfonamid oethanol	µg/L	0.005	Org-029	<0.005	1	<0.005	<0.005	0	119	125
N-Et perfluorooctanesulfonamid oethanol	µg/L	0.05	Org-029	<0.05	1	<0.05	<0.05	0	119	129
MePerfluorooctanesulf- amid oacetic acid	µg/L	0.002	Org-029	<0.002	1	<0.002	<0.002	0	75	69
EtPerfluorooctanesulf- amid oacetic acid	µg/L	0.002	Org-029	<0.002	1	<0.002	<0.002	0	98	108
Surrogate $^{13}C_8$ *PFOS*	%		Org-029	96	1	97	97	0	98	94
Surrogate $^{13}C_2$ *PFOA*	%		Org-029	92	1	90	92	2	90	99

QUALITY CONTROL: PFAS in Waters Trace Extended						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	291471-2
Extracted ISTD $^{13}C_3$ PFBS	%		Org-029	64	1	53	56	6	68	57
Extracted ISTD $^{18}O_2$ PFHxS	%		Org-029	90	1	88	100	13	90	99
Extracted ISTD $^{13}C_4$ PFOS	%		Org-029	76	1	73	74	1	77	76
Extracted ISTD $^{13}C_4$ PFBA	%		Org-029	93	1	#	#		96	#
Extracted ISTD $^{13}C_3$ PFPeA	%		Org-029	90	1	21	23	9	92	25
Extracted ISTD $^{13}C_2$ PFHxA	%		Org-029	102	1	42	44	5	98	45
Extracted ISTD $^{13}C_4$ PFHpA	%		Org-029	89	1	58	66	13	93	69
Extracted ISTD $^{13}C_4$ PFOA	%		Org-029	93	1	68	72	6	92	68
Extracted ISTD $^{13}C_5$ PFNA	%		Org-029	93	1	79	84	6	97	80
Extracted ISTD $^{13}C_2$ PFDA	%		Org-029	89	1	80	93	15	91	85
Extracted ISTD $^{13}C_2$ PFUnDA	%		Org-029	81	1	85	100	16	86	98
Extracted ISTD $^{13}C_2$ PFDoDA	%		Org-029	74	1	76	89	16	79	79
Extracted ISTD $^{13}C_2$ PFTeDA	%		Org-029	77	1	85	110	26	76	106
Extracted ISTD $^{13}C_2$ 4:2FTS	%		Org-029	143	1	74	82	10	142	85
Extracted ISTD$^{13}C_2$ 6:2FTS	%		Org-029	117	1	95	102	7	109	102
Extracted ISTD $^{13}C_2$ 8:2FTS	%		Org-029	109	1	113	124	9	116	131
Extracted ISTD $^{13}C_8$ FOSA	%		Org-029	67	1	55	60	9	64	56
Extracted ISTD d_3 N MeFOSA	%		Org-029	32	1	51	58	13	32	52
Extracted ISTD d_5 N EtFOSA	%		Org-029	32	1	48	54	12	29	48
Extracted ISTD d_7 N MeFOSE	%		Org-029	56	1	60	67	11	56	67

QUALITY CONTROL: PFAS in Waters Trace Extended						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	291471-2
Extracted ISTD d_9 *N EtFOSE*	%		Org-029	56	1	62	66	6	53	64
Extracted ISTD d_3 *N MeFOSAA*	%		Org-029	91	1	71	75	5	87	75
Extracted ISTD d_5 *N EtFOSAA*	%		Org-029	91	1	88	97	10	88	96

QUALITY CONTROL: Miscellaneous Inorganics						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date prepared	-			22/03/2022	1	22/03/2022	22/03/2022		22/03/2022	[NT]
Date analysed	-			22/03/2022	1	22/03/2022	22/03/2022		22/03/2022	[NT]
pH	pH Units		Inorg-001	[NT]	1	7.6	7.5	1	100	[NT]
Electrical Conductivity	µS/cm	1	Inorg-002	<1	1	190	180	5	104	[NT]

Result Definitions

NT	Not tested
NA	Test not required
INS	Insufficient sample for this test
PQL	Practical Quantitation Limit
<	Less than
>	Greater than
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
NS	Not specified
NEPM	National Environmental Protection Measure
NR	Not Reported

Quality Control Definitions

Blank	This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate	This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike	A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample)	This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike	Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011.

The recommended maximums for analytes in urine are taken from “2018 TLVs and BEIs”, as published by ACGIH (where available). Limit provided for Nickel is a precautionary guideline as per Position Paper prepared by AIOH Exposure Standards Committee, 2016.

Guideline limits for Rinse Water Quality reported as per analytical requirements and specifications of AS 4187, Amdt 2 2019, Table 7.2

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: >10xPQL - RPD acceptance criteria will vary depending on the analytes and the analytical techniques but is typically in the range 20%-50% – see ELN-P05 QA/QC tables for details; <10xPQL - RPD are higher as the results approach PQL and the estimated measurement uncertainty will statistically increase.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals (not SPOCAS); 60-140% for organics/SPOCAS (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

Measurement Uncertainty estimates are available for most tests upon request.

Analysis of aqueous samples typically involves the extraction/digestion and/or analysis of the liquid phase only (i.e. NOT any settled sediment phase but inclusive of suspended particles if present), unless stipulated on the Envirolab COC and/or by correspondence. Notable exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, total recoverable metals and PFAS where solids are included by default.

Samples for Microbiological analysis (not Amoeba forms) received outside of the 2-8°C temperature range do not meet the ideal cooling conditions as stated in AS2031-2012.

Report Comments

For PFAS Extracted Internal Standards denoted with # or outside the 50-150% acceptance range, the respective target analyte results may be unaffected, in other circumstances the PQL has been raised to accommodate the outlier(s).

MeFOSA and EtFOSA Extracted Internal Standard is outside of global acceptance criteria (50-150%) for (LCS and/or MB) but within analyte specific acceptance criteria.

Envirolab Services Pty Ltd
ABN 37 112 535 645
12 Ashley St Chatswood NSW 2067
ph 02 9910 6200 fax 02 9910 6201
customerservice@envirolab.com.au
www.envirolab.com.au

SAMPLE RECEIPT ADVICE

Client Details

Client	JK Environments
Attention	C Ridley

Sample Login Details

Your reference	E33051BR, Mittagong
Envirolab Reference	291471
Date Sample Received	22/03/2022
Date Instructions Received	21/03/2022
Date Results Expected to be Reported	28/03/2022

Sample Condition

Samples received in appropriate condition for analysis	Yes
No. of Samples Provided	8 Water
Turnaround Time Requested	Standard
Temperature on Receipt (°C)	2
Cooling Method	Ice Pack
Sampling Date Provided	YES

Comments

PFAs bottle for send out labelled "WDUP2", assumed labelling error.

Please direct any queries to:

Aileen Hie	Jacinta Hurst
Phone: 02 9910 6200	**Phone: 02 9910 6200**
Fax: 02 9910 6201	**Fax: 02 9910 6201**
Email: ahie@envirolab.com.au	**Email: jhurst@envirolab.com.au**

Analysis Underway, details on the following page:

Envirolab Services Pty Ltd
ABN 37 112 535 645
12 Ashley St Chatswood NSW 2067
ph 02 9910 6200 fax 02 9910 6201
customerservice@envirolab.com.au
www.envirolab.com.au

Sample ID	VOCs in water	vTRH(C6-C10)/BTEXN in Water	svTRH (C10-C40) in Water	PAHs in Water - Low Level	HM in water - dissolved	PFAS in Waters Trace Extended	pH	Electrical Conductivity
SW1	✓	✓	✓	✓	✓	✓	✓	✓
SW2	✓	✓	✓	✓	✓	✓	✓	✓
SW3	✓	✓	✓	✓	✓	✓	✓	✓
MW46	✓	✓	✓	✓	✓	✓	✓	✓
WDUP3	✓	✓	✓	✓	✓			
TS-W2		✓						
TB-W2		✓						
PFASTB-W2						✓		

The '✓' indicates the testing you have requested. **THIS IS NOT A REPORT OF THE RESULTS.**

Additional Info

Sample storage - Waters are routinely disposed of approximately 1 month and soils approximately 2 months from receipt.
Requests for longer term sample storage must be received in writing.
Please contact the laboratory immediately if observed settled sediment present in water samples is to be included in the extraction and/or analysis (exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, Total Recoverable metals and PFAS analysis where solids are included by default.
TAT for Micro is dependent on incubation. This varies from 3 to 6 days.

SAMPLE AND CHAIN OF CUSTODY FORM

TO:		FROM:
ENVIROLAB SERVICES PTY LTD 12 ASHLEY STREET CHATSWOOD NSW 2067 P: (02) 99106200 F: (02) 99106201 Attention: Aileen	JKE Job Number: E33051BR Date Results Required: STANDARD Page: 1 of 1	JKEnvironments REAR OF 115 WICKS ROAD MACQUARIE PARK, NSW 2113 P: 02-9888 5000 F: 02-9888 5001 Attention: Craig Ridley cridley@jkenvironments.com.au

Location:	Mittagong	Sample Preserved in Esky on Ice
Sampler:	HW	Tests Required

Date Sampled	Lab Ref:	Sample Number	Sample Containers	PID	Sample Description	Combo 3L	VOCs	pH / EC	PFAS - trace extended	BTEX							
18/03/2022	1	SW1	2xG1, 4xV, H, PVC1, PVC2	NA	Water	X	X	X	X								
18/03/2022	2	SW2	2xG1, 4xV, H, PVC1, PVC2	NA	Water	X	X	X	X								
18/03/2022	3	SW3	2xG1, 4xV, H, PVC1, PVC2	NA	Water	X	X	X	X								
18/03/2022	4	MW46	2xG1, 4xV, H, PVC1, PVC2	0.1	Water	X	X	X	X								
18/03/2022	5	WDUP3	2xG1, 4xV, H, PVC2	NA	Water duplicate	X	X										
18/03/2022	-	WDUP4	2xG1, 4xV, H, PVC2	NA	Water duplicate	X	X	Send to VIC									
18/03/2022	6	TS-W2	V	NA	Water spike					X							
18/03/2022	7	TB-W2	V	NA	Water blank					X							
18/03/2022	8	PFASTB-W2	PVC2	NA	PFAS water blank				X								

ENVIROLAB
Envirolab Services
12 Ashley St
Chatswood NSW 2067
Ph: (02) 9910 6200

Job No: 299471
Date Received: 21/3/22
Time Received: 1340
Received By: MM
Temp: Cool/Ambient
Cooling: Ice/Icepack
Security: Intact/Broken/None

Remarks (comments/detection limits required):	Sample Containers:
All analysis PQLs to ANZECC (2000) Detection Limits Please Send WDUP4 to Vic as inter-lab duplicate sample	G1 - 100mL Amber Glass Bottle PVC2 - PFAS HDPE Bottle V - BTEX Vial H - HNO3 Wash PVC PVC1 - HDPE Bottles

Relinquished By: HW	Date: 21/03/22	Time: 1:25pm 1340.	Received By:	Date: 21/3/22

Appendix F: Report Explanatory Notes

QA/QC Definitions

The QA/QC terms used in this report are defined below. The definitions are in accordance with US EPA publication SW-846, entitled *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods* (1994)[25] methods and those described in *Environmental Sampling and Analysis, A Practical Guide,* (1991)[26]. The NEPM (2013) is consistent with these documents.

A. Practical Quantitation Limit (PQL), Limit of Reporting (LOR) & Estimated Quantitation Limit (EQL)

These terms all refer to the concentration above which results can be expressed with a minimum 95% confidence level. The laboratory reporting limits are generally set at ten times the standard deviation for the Method Detection Limit for each specific analyte. For the purposes of this report the LOR, PQL, and EQL are considered to be equivalent.

When assessing laboratory data it should be borne in mind that values at or near the PQL have two important limitations: *"The uncertainty of the measurement value can approach, and even equal, the reported value. Secondly, confirmation of the analytes reported is virtually impossible unless identification uses highly selective methods. These issues diminish when reliably measurable amounts of analytes are present. Accordingly, legal and regulatory actions should be limited to data at or above the reliable detection limit*" (Keith, 1991).

B. Precision

The degree to which data generated from repeated measurements differ from one another due to random errors. Precision is measured using the standard deviation or Relative Percent Difference (RPD).

C. Accuracy

Accuracy is a measure of the agreement between an experimental result and the true value of the parameter being measured (i.e. the proximity of an averaged result to the true value, where all random errors have been statistically removed). The assessment of accuracy for an analysis can be achieved through the analysis of known reference materials or assessed by the analysis of surrogates, field blanks, trip spikes and matrix spikes. Accuracy is typically reported as percent recovery.

D. Representativeness

Representativeness expresses the degree to which sample data accurately and precisely represents a characteristic of a population, parameter variations at a sampling point, or an environmental condition. Representativeness is primarily dependent upon the design and implementation of the sampling program. Representativeness of the data is partially ensured by the avoidance of contamination, adherence to sample handling and analysis protocols and use of proper chain-of-custody and documentation procedures.

E. Completeness

Completeness is a measure of the number of valid measurements in a data set compared to the total number of measurements made and overall performance against DQIs. The following information is assessed for completeness:

- Chain-of-custody forms;
- Sample receipt form;
- All sample results reported;
- All blank data reported;

[25] US EPA, (1994). *SW-846: Test Methods for Evaluating Solid Waste, Physical/Chemical Methods.* (US EPA SW-846)

[26] Keith., H, (1991). *Environmental Sampling and Analysis, A Practical Guide*

- All laboratory duplicate and RPDs calculated;
- All surrogate spike data reported;
- All matrix spike and lab control spike (LCS) data reported and RPDs calculated;
- Spike recovery acceptable limits reported; and
- NATA stamp on reports.

F. Comparability

Comparability is the evaluation of the similarity of conditions (e.g. sample depth, sample homogeneity) under which separate sets of data are produced. Data comparability checks include a bias assessment that may arise from the following sources:

- Collection and analysis of samples by different personnel; Use of different techniques;
- Collection and analysis by the same personnel using the same methods but at different times; and
- Spatial and temporal changes (due to environmental dynamics).

G. Blanks

The purpose of laboratory and field blanks is to check for artefacts and interferences that may arise during sampling, transport and analysis.

H. Matrix Spikes

Samples are spiked with laboratory grade standards to detect interactive effects between the sample matrix and the analytes being measured. Matrix Spikes are reported as a percent recovery and are prepared for 1 in every 20 samples. Sample batches that contain less than 20 samples may be reported with a Matrix Spike from another batch. The percent recovery is calculated using the formula below. Acceptable recovery limits are 70% to 130%.

$$\frac{\text{(Spike Sample Result – Sample Result) x 100}}{\text{Concentration of Spike Added}}$$

I. Surrogate Spikes

Samples are spiked with a known concentration of compounds that are chemically related to the analyte being investigated but unlikely to be detected in the environment. The purpose of the Surrogate Spikes is to check the accuracy of the analytical technique. Surrogate Spikes are reported as percent recovery.

J. Duplicates

Laboratory duplicates measure precision, expressed as Relative Percent Difference. Duplicates are prepared from a single field sample and analysed as two separate extraction procedures in the laboratory. The RPD is calculated using the formula where D1 is the sample concentration and D2 is the duplicate sample concentration:

$$\frac{(D1 - D2) \times 100}{\{(D1 + D2)/2\}}$$

Appendix G: Data (QA/QC) Evaluation

Data (QA/QC) Evaluation

A. INTRODUCTION

This Data (QA/QC) Evaluation forms part of the validation process for the DQOs documented in Section 6.1 of this report. Checks were made to assess the data in terms of precision, accuracy, representativeness, comparability and completeness. These 'PARCC' parameters are referred to collectively as DQIs and are defined in the Report Explanatory Notes attached in the report appendices.

1. Field and Laboratory Considerations

The quality of the analytical data produced for this project has been considered in relation to the following:

- Sample collection, storage, transport and analysis;
- Laboratory PQLs;
- Field QA/QC results; and
- Laboratory QA/QC results.

2. Field QA/QC Samples and Analysis

A summary of the field QA/QC samples collected and analysed for this investigation is provided in the following table:

Sample Type	Sample Identification	Frequency (of Sample Type)	Analysis Performed
Intra-laboratory duplicate (soil)	SDUP1 (primary sample TP31 0-0.1m)	Approximately 7% of primary samples	Heavy metals, TRH/BTEX, PAHs and asbestos.
Intra-laboratory duplicate (soil)	SDUP2 (primary sample TP26 0-0.1m)	As above.	As above
Intra-laboratory duplicate (soil)	SDUP5 (primary sample TP7 0-0.1m)	As above.	Heavy metals, TRH/BTEX, OCP, OPP, PCBs, phenols, PFAS and asbestos.
Intra-laboratory duplicate (soil)	SDUP6 (primary sample TP3 0-0.1m)	As above.	Heavy metals, TRH/BTEX, PAHs and asbestos.
Intra-laboratory duplicate (soil)	SDUP8 (primary sample TP36 0-0.1m)	As above.	As above.
Intra-laboratory duplicate (soil)	SDUP10 (primary sample TP40 0-0.1m)	As above.	Heavy metals, TRH/BTEX, OCP, OPP, PCBs, phenols, PFAS and asbestos.
Intra-laboratory duplicate (soil)	SDUP15 (primary sample TP61 0-0.1m)	As above.	Heavy metals, TRH/BTEX, PAHs and asbestos.
Intra-laboratory duplicate (soil)	SDUP17 (primary sample BH46 0-0.1m)	As above.	Heavy metals, TRH/BTEX, OCP, OPP, PCBs, PFAS and asbestos.

Sample Type	Sample Identification	Frequency (of Sample Type)	Analysis Performed
Intra-laboratory duplicate (soil)	SDUP20 (primary sample BH6 0-0.1m)	As above.	Heavy metals, TRH/BTEX, OCP, OPP, PCBs, phenols, PFAS and asbestos.
Intra-laboratory duplicate (soil)	SDUP21 (primary sample BH28 0-0.1m)	As above.	Heavy metals, TRH/BTEX and PAHs.
Intra-laboratory duplicate (soil)	SDUP22 (primary sample SP8-1 0.3-0.5m)	As above.	As above.
Inter-laboratory duplicate (soil)	SDUP3 (primary sample TP43 0-0.1m)	Approximately 6% of primary samples	Heavy metals, TRH/BTEX, PAHs, and asbestos.
Intra-laboratory duplicate (soil)	SDUP4 (primary sample TP20 0-0.1m)	As above.	Heavy metals, TRH/BTEX, OCP, OPP, PCBs, phenols, PFAS and asbestos.
Inter-laboratory duplicate (soil)	SDUP11 (primary sample TP50 0-0.1m)	As above.	Heavy metals, TRH/BTEX, PAHs, OCPs, OPPs, PCBs and asbestos.
Inter-laboratory duplicate (soil)	SDUP12 (primary sample TP47 0-0.1m)	As above.	Heavy metals, TRH/BTEX and PAHs.
Inter-laboratory duplicate (soil)	SDUP14 (primary sample TP76 0-0.1m)	As above.	As above.
Inter-laboratory duplicate (soil)	SDUP16 (primary sample TP24 0-0.1m)	As above.	Heavy Metals, TRH/BTEX and PAHs.
Inter-laboratory duplicate (soil)	SDUP18 (primary sample BH82 0-0.1m)	As above.	Heavy metals, TRH/BTEX, PAHs, OCPs, PCBs, phenols, PFAS and asbestos
Inter-laboratory duplicate (soil)	SDUP23 (primary sample SP8-3 0.3-0.5m)	As above.	Heavy metals, TRH/BTEX and PAHs.
Intra-laboratory duplicate (water)	WDUP1 (primary sample MW82)	Approximately 18% of primary samples.	Heavy metals, TRH/BTEX, low level PAHs, PFAS and VOCs
Intra-laboratory duplicate (water)	WDUP3 (primary sample SW3)	As above	Heavy metals, TRH/BTEX, low level PAHs and VOCs
Inter-laboratory duplicate (water)	WDUP2 (primary sample MW28)	Approximately 18% of primary samples.	Heavy metals, TRH/BTEX, low level PAHs, PFAS and VOCs
Inter-laboratory duplicate (water)	WDUP4 (primary sample SW1)	As above	Heavy metals, TRH/BTEX, low level PAHs and VOCs
Trip spike (soil)	TS-S1 (18/2/2022) TS-S2 (23/2/2022) TS-S3 (25/2/2022) TS-S4 (25/2/2022)	One per analytical batch to demonstrate adequacy of preservation, storage and transport methods.	BTEX

Sample Type	Sample Identification	Frequency (of Sample Type)	Analysis Performed
Trip spike (water)	TS-W1 (7/3/2022) TS-W2 (18/3/2022)	One per analytical batch to demonstrate adequacy of preservation, storage and transport methods.	BTEX
Trip blank (soil)	TB-S1 (18/2/2022) TB-S2 (23/2/2022) TB-S3 (25/2/2022)	Three for the investigation to demonstrate adequacy of storage and transport methods.	BTEX and PFAS
Trip blank (water)	TB-W1 (7/3/2022) TBPFAS-W1 (7/3/2022) TP-W2 (18/03/2022) PFASTB-W2 (18/03/2022)	One per analytical batch to demonstrate adequacy of storage and transport methods.	BTEX, PFAS
Rinsate (soil SPT)	FR1-SPT (25/2/2022)	One for the investigation to demonstrate adequacy of decontamination methods.	Heavy metals, BTEX/TRH, PAHs and PFAS

The results for the field QA/QC samples are detailed in the laboratory summary tables attached to the investigation report and are discussed in the subsequent sections of this Data (QA/QC) Evaluation report.

3. Data Assessment Criteria

JKE adopted the following criteria for assessing the field and laboratory QA/QC analytical results:

Field Duplicates

Acceptable targets for precision of field duplicates in this report will be 30% or less, consistent with NEPM (2013). RPD failures will be considered qualitatively on a case-by-case basis taking into account factors such as the concentrations used to calculate the RPD (i.e. RPD exceedance where concentrations are close to the PQL are typically not as significant as those where concentrations are reported at least five or 10 times the PQL), sample type, collection methods and the specific analyte where the RPD exceedance was reported.

Field/Trip Blanks and Rinsates

Acceptable targets for field blank and rinsate samples in this report will be less than the PQL for organic analytes.

Trip Spikes

Acceptable targets for trip spike samples in this report will be 70% to 130%.

Laboratory QA/QC

The suitability of the laboratory data is assessed against the laboratory QA/QC criteria which is outlined in the laboratory reports. These criteria were developed and implemented in accordance with the laboratory's NATA accreditation and align with the acceptable limits for QA/QC samples as outlined in NEPM (2013) and other relevant guidelines.

A summary of the acceptable limits adopted by the primary laboratory (Envirolab) is provided below:

RPDs

- Results that are <5 times the PQL, any RPD is acceptable; and
- Results >5 times the PQL, RPDs between 0-50% are acceptable.

Laboratory Control Samples (LCS) and Matrix Spikes

- 70-130% recovery acceptable for metals and inorganics;
- 60-140% recovery acceptable for organics; and
- 10-140% recovery acceptable for VOCs.

Surrogate Spikes

- 60-140% recovery acceptable for general organics; and
- 10-140% recovery acceptable for VOCs.

Method Blanks

- All results less than PQL.

B. DATA EVALUATION

1. Sample Collection, Storage, Transport and Analysis

Samples were collected by trained field staff in accordance with JKE SAQP. Field sampling procedures were designed to be consistent with relevant guidelines, including NEPM (2013) and other guidelines made under the CLM Act 1997.

Appropriate sample preservation, handling and storage procedures were adopted. Laboratory analysis was undertaken within specified holding times generally in accordance with Schedule B(3) of NEPM (2013) and the laboratory NATA accredited methodologies. Envirolab noted that the asbestos results were reported to be consistent with the recommendations in NEPM (2013), however this level of reporting is outside the scope of their NATA accreditation. In the absence of other available analytical methods for asbestos, this was found to be acceptable for the purpose of this investigation.

JKE note that the temperature on receipt of soil samples at the primary laboratory was reported to be up to 15°C. The samples were transported in an ice-chilled container and that the samples were delivered to the laboratory on the completion of the day's field work program. On this basis, JKE consider the samples were in the initial cool-down process and therefore the data is representative. This is further supported by the trip spike recovery results (discussed further below) which reported adequate recovery in the range of 98% to 106%. JKE note that the temperature on receipt of the inter-laboratory soil samples was up to 27°C.

JKE note that the temperature on receipt of the inter-laboratory water sample was up to 16.5°C, however the temperature on receipt of the groundwater samples at the primary laboratory were reported to be up to 7°C and were appropriately chilled and preserved.

The holding times for the analysis of pH in soil samples (report 289658-A) were beyond the recommended holding times by approximately one week, and the holding times for the analysis of pH in soil samples (report 290249-A) were beyond the recommended holding times by approximately two weeks. The holding times for the analysis of pH in groundwater samples (report 290597) were beyond the recommended holding time by up one to two days. JKE consider it is unlikely that significant physiochemical changes would have occurred during this period, and the samples were stored chilled. On this basis, JKE consider the exceedances would not materially impact upon the representativeness of the samples. The data was considered useable in the context of this investigation.

Review of the project data also indicated that:

- COC documentation was adequately maintained;
- Sample receipt advice documentation was provided for all sample batches;
- All analytical results were reported; and
- Consistent units were used to report the analysis results.

2. Laboratory PQLs

Appropriate PQLs were adopted for the analysis and all PQLs were below the SAC, with the exception of anthracene, hexachlorobutadiene and vinyl chloride PQLs for groundwater analysis. The anthracene PQL was 10 times greater than the ecological SAC. The hexachlorobutadiene PQL was 1.4 times greater than the human health SAC. The vinyl chloride PQL was approximately three times greater than the recreational SAC and 33 times greater than the human health SAC.

In light of the PAH concentrations reported for soil and groundwater and VOC concentrations reported for groundwater, JKE are of the opinion that this is not significant, and it does not affect the quality of the dataset as a whole or the outcome of the investigation.

3. Field QA/QC Sample Results

Field Duplicates

The results indicated that field precision was acceptable. RPD non-conformances were reported for some analytes as discussed below:

- Elevated RPDs were reported for phenanthrene (a PAH compound) and Zinc in SDUP1/TP31 (0-0.1m);
- Elevated RPDs were reported for TRH F3 and lead in SDUP2/TP26 (0-0.1m);
- Elevated RPDs were reported for arsenic, copper and mercury in SDUP3/TP43 (0-0.1m);
- Elevated RPDs were reported for phenanthrene (a PAH compound), chromium, lead, zinc, PFHxS and PFOS in SDUP4/TP20 (0-0.1m);
- Elevated RPDs were reported for PCBs and mercury in SDUP5/TP7 (0-0.1m);
- Elevated RPDs were reported for several PAH compounds in SDUP6/TP3 (0-0.1m);
- Elevated RPDs were reported for several PAH compounds, copper, nickel and zinc in SDUP8/TP36 (0-0.1m);
- Elevated RPDs were reported for chromium and copper in SDUP10/TP40 (0-0.1m);
- Elevated RPDs were reported for several PAH compounds and several metals in SDUP11/TP50 (0-0.1m);
- Elevated RPDs were reported for arsenic and chromium in SDUP12/TP47 (0-0.1m);
- Elevated RPDs were reported for TRH F3, arsenic, lead and zinc in SDUP14/TP76 (0-0.1m);

- Elevated RPDs were reported for lead, nickel and zinc in SDUP15/TP61 (0-0.1m);
- Elevated RPDs were reported for several metals in SDUP16/TP24 (0-0.1m);
- Elevated RPDs were reported for copper, lead and zinc in SDUP17/BH46 (0-0.1m);
- Elevated RPDs were reported for arsenic and nickel in SDUP18/BH82 (0-0.1m);
- Elevated RPDs were reported for PCBs, chromium, nickel and zinc in SDUP20/BH6 (0-0.1m);
- Elevated RPDs were reported for TRH F3, TRH F4, several PAH compounds and several metals in SDUP21/SP4-3 (0.3-0.5m);
- Elevated RPDs were reported for TRH F3, TRH F4, several PAH compounds and several metals in SDUP22/SP8-1 (0.3-0.5m);
- Elevated RPDs were reported for TRHs, several PAH compounds and several metals in SDUP23/SP8-3 (0.3-0.5m);
- Elevated RPDs were reported for cadmium, mercury, nickel, zinc and PFAS in WDUP2/MW28; and
- Elevated RPDs were reported for several metals in WDUP4/SW1.

Values outside the acceptable limits for TRHs, PAHs and PFAS for in-situ soil samples and metal concentrations in groundwater samples have generally been attributed to low analyte concentrations near the PQL exacerbating the variation. The values outside the acceptable limits for other exceedances for in-situ soil samples, and all RPD exceedances for stockpile soil samples have been attributed to sample heterogeneity and the difficulties associated with obtaining homogenous duplicate samples of heterogeneous matrices. As both the primary and duplicate sample results were screened in comparison to the SAC, the exceedances are not considered to have had an adverse impact on the data set as a whole.

Trip Blanks

During the investigation, four soil trip blanks and one water trip blank were placed in the eskies during sampling and transported back to the laboratory. All of the trip blank results were all less than the PQLs with the exception of trace PFAS concentrations in one soil blank. JKE note that the trace PFAS concentrations detected were well below the human health and ecological SAC, and no exceedances of the human health and ecological SAC were recorded for the soil samples. On this basis, the trace PFAS concentrations detected within the soil blank are not considered to have an adverse impact on the validity of the data set as a whole and could be associated with background concentrations in the environment.

Rinsates

With the exception of TRH, all results were below the PQL. The laboratory confirmed the positive TRH result was a single peak with no hydrocarbon profile, and that this was consistent with the use of plastic containers. On this basis, JKE are of the opinion that the data indicated that cross-contamination artefacts associated with sampling equipment were not present and the potential for cross-contamination to have occurred was low.

Trip Spikes

The results for the soil trip spikes ranged from 98% to 106% and the results for the water trip spikes ranged from 83% to 105%. The results indicated that field preservation methods were appropriate.

4. Laboratory QA/QC

The analytical methods implemented by the laboratory were performed in accordance with their NATA accreditation and were consistent with Schedule B(3) of NEPM (2013). The frequency of data reported for the laboratory QA/QC (i.e. duplicates, spikes, blanks, LCS) was considered to be acceptable for the purpose of this investigation. A review of the laboratory QA/QC data identified the following minor non-conformances:

- Report 289269 – The laboratory RPD acceptance criteria was exceeded for zinc in one soil sample. The laboratory issued a triplicate result;
- Report 289269 – Matrix spike recoveries were not possible for lead and zinc in one soil sample due to the high analyte concentrations. However, acceptable recoveries were achieved for the LCS;
- Report 289658 – The laboratory RPD acceptance criteria were exceeded for copper in one soil sample and copper, lead and zinc in a second soil sample. The laboratory issued triplicate results for both samples;
- Report 289658-A – Matrix spike recoveries were not possible for hexavalent chromium in one soil sample, and TCLP lead in a second soil sample due to matrix interference. The poor recoveries were confirmed by the laboratory through reanalysis and/or re-spiking. Acceptable recoveries were achieved for the LCS;
- Report 290249 – The laboratory noted that the extracted internal standard for MeFOSA and EtFOSA in water is outside the global acceptance criteria for LCS and/or method blanks, though within the analyte specific criteria;
- Report 290249 – The matrix spike recovery for PFDS in one soil sample was outside the acceptance criteria, however an acceptable recovery was achieved for the LCS;
- Report 290249 – The laboratory RPD acceptance criteria was exceeded for copper and lead in one soil sample. The laboratory issued a triplicate result;
- Report 290249 – Matrix spike recoveries were not possible for copper, lead and zinc in one soil sample, and zinc in a second soil sample due to high analyte concentrations. However, acceptable recoveries were achieved for the LCS;
- Report 290249 – The matrix spike recovery was not possible for chromium in one soil sample due to the inhomogeneous nature of the sample. An acceptable recovery was obtained for the LCS;
- Report 290249 – The positive TRH result in the rinsate sample was due to a single peak with no hydrocarbon profile that is consistent with the use of plastic containers;
- Report 290257 – Surrogate recoveries for TRH were not possible for three soil samples due to high analyte concentrations causing interference;
- Report 290257 – The matrix spike recoveries for TRH and PAH were not possible in one soil sample due to interference from high analyte concentrations;
- Report 290257 - The PQL for perfluorononanoic acid (PFNA) and perfluoroundecanoic acid (PFUnDA) were raised for one soil sample due to interference;
- Report 290257 – The laboratory RPD acceptance criteria were exceeded for copper in one sample, copper and nickel in a second soil sample and PAHs in another soil sample. The laboratory issued triplicate results for these samples;
- Report 290257 – Elevated RPDs were recovered for PAH in one sample though were considered acceptable due to the heterogeneous nature of the sample;

- Report 290257 – Matrix spike recoveries were not possible for lead and zinc in one soil sample, due to high analytes concentrations (lead) and the inhomogeneous nature of the sample (zinc). However, acceptable recoveries were obtained for the LCS;
- Report 290597 – The laboratory noted that the extracted internal standard for MeFOSA and EtFOSA in water is outside the global acceptance criteria for LCS and/or method blanks, though within the analyte specific criteria; and
- Report 291471 - The laboratory noted that the extracted internal standard for MeFOSA and EtFOSA in water is outside the global acceptance criteria for LCS and/or method blanks, though within the analyte specific criteria.

C. DATA QUALITY SUMMARY

JKE are of the opinion that the data are adequately precise, accurate, representative, comparable and complete to serve as a basis for interpretation to achieve the investigation objectives.

Non-conformances were reported for some field QA/QC samples and laboratory QA/QC analysis. These non-conformances were considered to be sporadic and minor, and were not considered to be indicative of systematic sampling or analytical errors. On this basis, these non-conformances are not considered to materially impact the report findings.

There was only one round of groundwater monitoring event undertaken for the investigation. On this basis there is some uncertainty around the representativeness of the groundwater data, particularly during different climatic conditions and after wet/dry periods. JKE note that the groundwater sampling was undertaken during a period of heavy rainfall. This has been identified as a data gap in Section 10.3.

Appendix H: Field Work Documents

Groundwater and Surface Water Sampling Field Records

JKEnvironments

Client:	Halcyon Hotels Pty Ltd	**Job No.:**	E33051BR
Project:	Proposed Commercial Development	**Well No.:**	MW6
Location:	The Maltings, 2 Colo Street, MITTAGONG, NSW	**Depth (m):**	2.90

WELL FINISH

	Gatic Cover		Standpipe 50mm		Other (describe)
		✓			

WELL PURGE DETAILS:

Method:	Low flow peristaltic pump	**SWL – Before:**	1.42
Date:	8/3/22	**Time – Before:**	10:07am
Undertaken By:	HW	**Total Vol Removed:**	~1.8L
Pump Program No:	—	**PID (ppm):**	0.6

PURGING / SAMPLING MEASUREMENTS

Time (min)	SWL (m)	Vol (L)	Notes	Temp (°C)	DO (mg/L)	EC (µS/cm)	pH	Eh (mV)
5	1.50	0.5	clear	18.9	1.2	378.8	6.44	3.6
10	1.58	0.7	"	18.9	0.9	383.5	6.36	2.1
15	1.62	0.9	"	18.8	0.9	384.6	6.34	1.3
20	1.64	1.1	"	18.8	0.9	381.3	6.30	0.4
25	1.65	1.4	"	18.7	0.9	378.8	6.28	0.2
30	1.65	1.6	"	18.8	1.3	370.5	6.21	1.3
35	1.65	1.8	"	18.8	1.4	366.8	6.20	0.5
			Start Sampling					

Comments: Odours (YES / (NO)), NAPL/PSH (YES / (NO)), Sheen (YES / (NO)), Steady State Achieved ((YES) / NO)

Sampling Containers Used: 2 x glass amber, 4 x BTEX vials, / x HNO3 plastic, — x H2SO4 plastic, / x unpreserved plastic

YSI used: 5

1 x PFAS

Tested By: Harley Wang	**Remarks:**
Date Tested: 8/3/22	- Steady state conditions
Checked By: CR	- difference in the pH less than 0.2 units, difference in conductivity less than 10% 10% and SWL stable/not in drawdown
Date: 16/3/22	

2

JKEnvironments

Client:	Halcyon Hotels Pty Ltd	Job No.:	E33051BR
Project:	Proposed Commercial Development	Well No.:	MW10
Location:	The Maltings, 2 Colo Street, MITTAGONG, NSW	Depth (m):	2.30

WELL FINISH

✓	Gatic Cover		Standpipe		Other (describe)

WELL PURGE DETAILS:

Method:	Low flow Peristaltic pump	SWL – Before:	0.024
Date:	8/3/22	Time – Before:	11:40am
Undertaken By:	HW	Total Vol Removed:	~2.50L
Pump Program No:	-	PID (ppm):	0

PURGING / SAMPLING MEASUREMENTS

Time (min)	SWL (m)	Vol (L)	Notes	Temp (°C)	DO (mg/L)	EC (µS/cm)	pH	Eh (mV)
5	0.032	0.5	slightly silty	18.7	5.1	170.1	6.91	-1.3
10	0.035	0.6	clear	18.8	3.3	170.1	7.07	-3.6
15	0.035	0.8	"	18.7	2.8	168.3	7.00	-3.7
20	0.035	1.1	"	18.5	2.3	166.0	6.68	-4.3
25	0.035	1.5	"	18.4	2.0	167.2	6.50	-4.5
30	0.035	1.8	"	18.3	1.9	167.8	6.39	-4.4
35	0.035	2.2	"	18.3	1.8	168.1	6.33	-4.4
40	0.035	2.5	"	18.3	1.7	168.1	6.26	-4.6
			Start sampling					

Comments: Odours (YES / (NO)), NAPL/PSH (YES / (NO)), Sheen (YES / (NO)), Steady State Achieved ((YES) / NO)

Sampling Containers Used: 2x glass amber, 4 x BTEX vials, /x HNO3 plastic, -x H2SO4 plastic, /x unpreserved plastic

YSI used: 5

1x PFAS

Tested By: Harley Wang	**Remarks:**
Date Tested: 8/3/22	- Steady state conditions
Checked By: CR	- difference in the pH less than 0.2 units, difference in conductivity less than 10% 10% and SWL stable/not in drawdown
Date: 16/3/22	

JKEnvironments

Client:	Halcyon Hotels Pty Ltd	**Job No.:**	E33051BR
Project:	Proposed Commercial Development	**Well No.:**	MW28
Location:	The Maltings, 2 Colo Street, MITTAGONG, NSW	**Depth (m):**	3.60

WELL FINISH

	Gatic Cover	✓	**Standpipe** 575mm		**Other (describe)**

WELL PURGE DETAILS:

Method:	Low flow Peristaltic pump	**SWL – Before:**	0.74
Date:	8/3/22	**Time – Before:**	2:35pm
Undertaken By:	HW	**Total Vol Removed:**	~1.0L
Pump Program No:	—	**PID (ppm):**	0.1

PURGING / SAMPLING MEASUREMENTS

Time (min)	SWL (m)	Vol (L)	Notes	Temp (°C)	DO (mg/L)	EC (µS/cm)	pH	Eh (mV)
5	0.85	0.5	clear	19.0	5.5	75.7	5.53	-3.0
10	0.85	0.6	"	19.0	4.2	76.3	5.48	-3.1
15	0.85	0.7	"	18.9	3.4	76.0	5.37	-3.1
20	0.85	0.8	"	18.8	3.3	75.1	5.33	-3.2
25	0.85	0.9	"	18.8	3.1	73.0	5.23	-3.6
30	0.85	1.0	"	18.6	2.8	72.1	5.15	-4.0
			Start Sampling					

Comments: Odours (YES / NO), NAPL/PSH (YES / NO), Sheen (YES / NO), Steady State Achieved (YES / NO)

Sampling Containers Used: 4x glass amber, 8x BTEX vials, 2x HNO3 plastic, —x H2SO4 plastic, 1x unpreserved plastic

YSI used: 5 Field QA: WDUP2 2x PFAS

Tested By: Harley Wang	**Remarks:**
Date Tested: 8/3/22	- Steady state conditions
Checked By: CR	- difference in the pH less than 0.2 units, difference in conductivity less than 10% 10% and SWL stable/not in drawdown
Date: 16/3/22	

JKEnvironments

Client:	Halcyon Hotels Pty Ltd	**Job No.:**	E33051BR
Project:	Proposed Commercial Development	**Well No.:**	MW37
Location:	The Maltings, 2 Colo Street, MITTAGONG, NSW	**Depth (m):**	3.70

WELL FINISH

✓	**Gatic Cover**		**Standpipe**		**Other (describe)**

WELL PURGE DETAILS:

Method:	low flow peristaltic pump	**SWL – Before:**	0.89
Date:	8/3/22	**Time – Before:**	9:05am
Undertaken By:	HW	**Total Vol Removed:**	~1.80L
Pump Program No:	–	**PID (ppm):**	0.5

PURGING / SAMPLING MEASUREMENTS

Time (min)	SWL (m)	Vol (L)	Notes	Temp (°C)	DO (mg/L)	EC (µS/cm)	pH	Eh (mV)
5	0.97	0.5	slightly silty	18.9	2.8	298.5	6.20	14.5
10	0.99	0.7	" "	19.0	2.1	323.8	6.15	13.5
15	0.99	1.0	clear	19.0	1.6	342.8	6.19	11.9
20	0.99	1.2	"	19.1	1.3	364.1	6.25	10.1
25	0.99	1.5	"	19.2	1.0	371.4	6.29	8.7
30	0.99	1.8	"	19.2	0.9	379.8	6.32	7.7
			Start sampling					

Comments: Odours (YES / NO), NAPL/PSH (YES / NO), Sheen (YES / NO), Steady State Achieved (YES / NO)

Sampling Containers Used: 2x glass amber, 4x BTEX vials, 1x HNO3 plastic, –x H2SO4 plastic, 1x unpreserved plastic

YSI used: 5 1xPFAS

Tested By: Harley Wang	**Remarks:**
Date Tested: 8/3/22	- Steady state conditions - difference in the pH less than 0.2 units, difference in conductivity less than 10% 10% and SWL stable/not in drawdown
Checked By: CA	
Date: 16/3/22	

JKEnvironments

Client:	Halcyon Hotels Pty Ltd	**Job No.:**	E33051BR
Project:	Proposed Commercial Development	**Well No.:**	MW41
Location:	The Maltings, 2 Colo Street, MITTAGONG, NSW	**Depth (m):**	3.0

WELL FINISH

	Gatic Cover	✓	**Standpipe** 610mm		**Other (describe)**

WELL PURGE DETAILS:

Method:	Low flow peristaltic pump	**SWL – Before:**	1.48
Date:	8/3/22	**Time – Before:**	1:15 pm
Undertaken By:	HW	**Total Vol Removed:**	~1.8L
Pump Program No:	–	**PID (ppm):**	0.1

PURGING / SAMPLING MEASUREMENTS

Time (min)	SWL (m)	Vol (L)	Notes	Temp (°C)	DO (mg/L)	EC (µS/cm)	pH	Eh (mV)
5	1.59	0.5	clear	19.1	4.2	368.3	5.84	-3.2
10	1.64	0.6	"	19.1	2.0	369.7	5.84	-5.7
15	1.67	0.7	"	19.2	1.7	378.6	5.83	-6.4
20	1.72	0.8	"	19.3	1.6	388.4	5.82	-7.2
25	1.77	1.0	"	19.3	1.6	389.4	5.82	-7.6
30	1.80	1.2	"	19.3	1.5	387.7	5.81	-8.1
			start sampling					

0.74

Comments: Odours (YES / NO), NAPL/PSH (YES / NO), Sheen (YES / NO), Steady State Achieved (YES / NO)

Sampling Containers Used: 2x glass amber, 4x BTEX vials, 1x HNO3 plastic, –x H2SO4 plastic, 1x unpreserved plastic

YSI used: 5

1xPFAS

Tested By: Harley Wang	**Remarks:**
Date Tested: 8/3/22	- Steady state conditions
Checked By: CR	- difference in the pH less than 0.2 units, difference in conductivity less than 10% 10% and SWL stable/not in drawdown
Date: 16/3/22	

JKEnvironments

Client:	Halcyon Hotels Pty Ltd	Job No.:	E33051BR
Project:	Proposed Commercial Development	Well No.:	MW46
Location:	The Maltings, 2 Colo Street, MITTAGONG, NSW	Depth (m):	6.0

WELL FINISH

✓	Gatic Cover		Standpipe		Other (describe)

WELL PURGE DETAILS:

Method:	Low flow peristaltic pump	SWL – Before:	2.82
Date:	18/3/22	Time – Before:	1:30pm
Undertaken By:	HW	Total Vol Removed:	~3.2 L
Pump Program No:	NA	PID (ppm):	0.1

PURGING / SAMPLING MEASUREMENTS

Time (min)	SWL (m)	Vol (L)	Notes	Temp (°C)	DO (mg/L)	EC (µS/cm)	pH	Eh (mV)
6	2.82	0.5	SWL risen.	19.5	4.2	1297	6.56	-10.6
10	2.63	0.8	clear	19.1	3.1	1457	6.51	-8.2
15	2.61	1.1	"	19.0	3.1	1455	6.51	-8.1
18	2.58	1.5	"	18.8	3.0	1458	6.50	-8.0
22	2.56	2.0	"	19.5	2.7	1512	6.52	-7.9
25	2.56	2.4	"	20.0	2.4	1545	6.54	-8.5
29	2.56	2.8	"	19.4	2.2	1534	6.54	-9.1
33	2.56	3.2	"	19.3	2.1	1534	6.55	-8.7
			Start sampling.					

Comments: Odours (YES / (NO)), NAPL/PSH (YES / (NO)), Sheen (YES / (NO)), Steady State Achieved (YES) / NO)

Sampling Containers Used: 2 x glass amber, 4 x BTEX vials, / x HNO3 plastic, - x H2SO4 plastic, / x unpreserved plastic

YSI used: 5 1 x TDS.

Tested By: Harley Wang	**Remarks:**
Date Tested: 18/3/22	- Steady state conditions
Checked By: CR	- difference in the pH less than 0.2 units, difference in conductivity less than 10%
Date: 7/4/22	10% and SWL stable/not in drawdown

JKEnvironments

Client:	Halcyon Hotels Pty Ltd	Job No.:	E33051BR
Project:	Proposed Commercial Development	Well No.:	MW59
Location:	The Maltings, 2 Colo Street, MITTAGONG, NSW	Depth (m):	5.0

WELL FINISH

	Gatic Cover		Standpipe 6/5mm		Other (describe)
		✓			

WELL PURGE DETAILS:

Method:	low flow peristaltic pump	SWL – Before:	2.89
Date:	7/3/22	Time – Before:	3:35pm
Undertaken By:	HW	Total Vol Removed:	~1.20L
Pump Program No:	–	PID (ppm):	0.7

PURGING / SAMPLING MEASUREMENTS

Time (min)	SWL (m)	Vol (L)	Notes	Temp (°C)	DO (mg/L)	EC (µS/cm)	pH	Eh (mV)
5	3.02	0.5	clear	18.2	8.1	680	5.76	16.3
10	3.08	0.6	"	18.2	5.5	667	5.81	13.1
15	3.08	0.7	"	18.2	5.2	668	5.81	12.7
20	3.11	0.8	"	18.2	4.7	661	5.83	11.8
25	3.15	0.9	"	18.2	5.1	650	5.84	10.8
30	3.18	1.0	"	18.2	4.8	645	5.85	10.3
35	3.23	1.1	"	18.2	4.8	625	5.86	9.7
40	3.27	1.2	"	18.2	4.9	594	5.86	9.2
			Start Sampling					

Comments: Odours (YES / (NO)), NAPL/PSH (YES / (NO)), Sheen (YES / (NO)) Steady State Achieved (YES (NO))

Sampling Containers Used: 2x glass amber, 4x BTEX vials, 1 x HNO3 plastic, – x H2SO4 plastic, 1 x unpreserved plastic

YSI used: 5

1x PFAS

Tested By: Harley Wang	**Remarks:**
Date Tested: 7/3/22	- Steady state conditions - difference in the pH less than 0.2 units, difference in conductivity less than 10% 10% and SWL stable/not in drawdown
Checked By: CM	
Date: 16/3/22	

JKEnvironments

Client:	Halcyon Hotels Pty Ltd	Job No.:	E33051BR
Project:	Proposed Commercial Development	Well No.:	MW82
Location:	The Maltings, 2 Colo Street, MITTAGONG, NSW	Depth (m):	6.0

WELL FINISH

	Gatic Cover	√	Standpipe 70mm		Other (describe)

WELL PURGE DETAILS:

Method:	Low flow Peristaltic pump	SWL – Before:	3.35
Date:	7/3/22	Time – Before:	10:40am
Undertaken By:	HW	Total Vol Removed:	~1.3L
Pump Program No:	–	PID (ppm):	0.5

PURGING / SAMPLING MEASUREMENTS

Time (min)	SWL (m)	Vol (L)	Notes	Temp (°C)	DO (mg/L)	EC (µS/cm)	pH	Eh (mV)
5	3.47	0.5	clear	18.1	6.2	5834	4.92	53.5
10	3.52	0.6	"	18.3	5.0	6881	4.50	43.7
15	3.53	0.7	"	18.3	4.9	6913	4.49	42.3
20	3.56	0.8	"	18.4	5.0	6986	4.47	39.2
25	3.59	0.9	"	18.5	5.0	6741	4.49	36.7
30	3.63	1.0	"	18.4	5.0	6702	4.50	34.0
35	3.68	1.1	"	18.4	5.5	6971	4.47	33.4
40	3.72	1.2	"	18.5	5.0	6985	4.51	31.3
45	3.74	1.3	"	18.5	5.0	6893	4.53	30.1
			start sampling					

Comments: Odours (YES / NO), NAPL/PSH (YES / NO), Sheen (YES / NO), Steady State Achieved (YES / NO)

Sampling Containers Used: 4 x glass amber, 8 x BTEX vials, 2 x HNO3 plastic, – x H2SO4 plastic, 1 x unpreserved plastic

YSI used: 5 Field QA: WDUP1 2x PFAS

Tested By: Harley Wang

Date Tested: 7/3/22

Checked By: CA

Date: 16/3/22

Remarks:

- Steady state conditions
- difference in the pH less than 0.2 units, difference in conductivity less than 10% 10% and SWL stable/not in drawdown

JKEnvironments

Client:	Halcyon Hotels Pty Ltd	Job No.:	E33051BR
Project:	Proposed Commercial Development	Well No.:	SW1
Location:	The Maltings, 2 Colo Street, MITTAGONG, NSW	Depth (m):	Surface

WELL FINISH Surface water

Gatic Cover		Standpipe	✓	Other (describe)

WELL PURGE DETAILS:

Method:	Bailer	SWL – Before:	Surface
Date:	18/3/22	Time – Before:	12:03pm
Undertaken By:	HW	Total Vol Removed:	0.5L
Pump Program No:	NA	PID (ppm):	NA

PURGING / SAMPLING MEASUREMENTS

Time (min)	SWL (m)	Vol (L)	Notes	Temp (°C)	DO (mg/L)	EC (µS/cm)	pH	Eh (mV)
12:04pm	surface	0.5	clear start sampling	19.4	6.8	161.8	6.85	-0.8

Comments: Odours (YES / NO), NAPL/PSH (YES / NO), Sheen (YES / NO), Steady State Achieved ~~(YES / NO)~~

clear water observed in bailer. Low sediments. Grab sample obtained upgradient of well

Sampling Containers Used: 4x glass amber, 8 x BTEX vials, 2x HNO3 plastic, ~~x H2SO4 plastic~~, 1 x unpreserved plastic

YSI used: 5 Field QA: WDUP4 2x PFAS

Tested By: Harley Wang	**Remarks:**
Date Tested: 18/3/22	- Steady state conditions
Checked By: CL	- difference in the pH less than 0.2 units, difference in conductivity less than 10% 10% and SWL stable/not in drawdown
Date: 7/4/22	

JKEnvironments

Client:	Halcyon Hotels Pty Ltd	**Job No.:**	E33051BR
Project:	Proposed Commercial Development	**Well No.:**	SW2
Location:	The Maltings, 2 Colo Street, MITTAGONG, NSW	**Depth (m):**	surface

WELL FINISH — Surface water

	Gatic Cover		Standpipe	✓	Other (describe)

WELL PURGE DETAILS:

Method:	Bailer	**SWL – Before:**	surface
Date:	18/3/22	**Time – Before:**	11:15am
Undertaken By:	HW	**Total Vol Removed:**	0.5L
Pump Program No:	NA	**PID (ppm):**	NA

PURGING / SAMPLING MEASUREMENTS

Time (min)	SWL (m)	Vol (L)	Notes	Temp (°C)	DO (mg/L)	EC (µS/cm)	pH	Eh (mV)
11:16am	surface	0.5	clear	20.2	8.0	162.9	7.03	-5.7
			start sampling.					

Comments: Odours (YES / (NO)), NAPL/PSH (YES / (NO)), Sheen (YES / (NO)), Steady State Achieved ~~(YES / NO)~~

clear water observed in bailer. low sediments. Grab sample obtained from bridge

Sampling Containers Used: 2x glass amber, 4x BTEX vials, 1x HNO3 plastic, –x H2SO4 plastic, 1x unpreserved plastic

YSI used: 5 — 1xPFAS

Tested By: Harley Wang	**Remarks:**
Date Tested: 18/3/22	- Steady state conditions
Checked By: CR	- difference in the pH less than 0.2 units, difference in conductivity less than 10%
Date: 7/4/22	10% and SWL stable/not in drawdown

JKEnvironments

Client:	Halcyon Hotels Pty Ltd	**Job No.:**	E33051BR
Project:	Proposed Commercial Development	**Well No.:**	SW3
Location:	The Maltings, 2 Colo Street, MITTAGONG, NSW	**Depth (m):**	Surface

WELL FINISH Surface water

Gatic Cover		Standpipe	✓	Other (describe)

WELL PURGE DETAILS:

Method:	Bailer	**SWL – Before:**	Surface
Date:	18/3/22	**Time – Before:**	9:50am
Undertaken By:	HW	**Total Vol Removed:**	0.5L
Pump Program No:	NA	**PID (ppm):**	NA

PURGING / SAMPLING MEASUREMENTS

Time (min)	SWL (m)	Vol (L)	Notes	Temp (°C)	DO (mg/L)	EC (µS/cm)	pH	Eh (mV)
9:55am	Surface	0.5	clear	18.5	7.3	154.7	7.21	4.4
			Start sampling					

Comments: Odours (YES / (NO)), NAPL/PSH (YES / (NO)), Sheen (YES / (NO)), Steady State Achieved ~~(YES / NO)~~

Clear water observed in bailer. Slight organic matter. Grab sample taken

Sampling Containers Used: 4x glass amber, 8x BTEX vials, 2x HNO3 plastic, – x H2SO4 plastic, / x unpreserved plastic

YSI used: 5 Field QA: WDUP3 2xPFAS

Tested By: Harley Wang	**Remarks:**
Date Tested: 18/3/22	- Steady state conditions
Checked By: CM	- difference in the pH less than 0.2 units, difference in conductivity less than 10% 10% and SWL stable/not in drawdown
Date: 7/4/22	

Groundwater Monitoring Well Development Field Records

JKEnvironments

Client:	Halcyon Hotels Pty Ltd	**Job No.:**	E33051BR
Project:	Proposed Commercial Development	**Well No.:**	MW6
Location:	The Maltings, 2 Colo Street, MITTAGONG, NSW	**Depth (m):**	2.90

WELL FINISH DETAILS

	Gatic Cover ☐	Standpipe ☑ Stickup: 607mm	Other (describe) ☐

WELL DEVELOPMENT DETAILS

Method:	Development pump	**SWL – Before (m):**	1.47
Date:	28/2/22	**Time – Before:**	1:10pm
Undertaken By:	HW	**SWL – After (m):**	Dry
Total Vol. Removed:	~4.0L	**Time – After:**	1:30pm
PID Reading (ppm):	0.1		

Comments:

DEVELOPMENT MEASUREMENTS

Volume Removed (L)	Temp (°C)	DO (mg/L)	EC (µS/cm)	pH	Eh (mV)
2	17.9	3.4	383.2	6.36	3.2
4	18.1	5.6	366.7	6.46	2.3
well dry					

Comments: Odours (YES / (NO)), NAPL/PSH (YES / (NO)), Sheen (YES / (NO)), Steady State Achieved (YES / (NO))

YSI Used: 5 Well pumped until effectively dry.
Silty yellow brown water. No LNAPL observed in bailer prior to sampling.

Tested By:	HW	**Remarks:**
Date Tested:	28/2/22	- Steady state conditions - Difference in the pH less than 0.2 units, difference in the conductiveity less than 10% and SWL stable/not in drawdown - Minimum 3 monitoring well volumes purged, unless well purged until it is effectively dry
Checked By:	CM	
Date:	16/3/22	

JKEnvironments

Client:	Halcyon Hotels Pty Ltd	**Job No.:**	E33051BR
Project:	Proposed Commercial Development	**Well No.:**	MW10
Location:	The Maltings, 2 Colo Street, MITTAGONG, NSW	**Depth (m):**	2.30

WELL FINISH DETAILS

	Gatic Cover ☑	Standpipe ☐	Other (describe) ☐

WELL DEVELOPMENT DETAILS

Method:	Development pump	**SWL – Before (m):**	0.73
Date:	1/3/22	**Time – Before:**	8:13am
Undertaken By:	HW	**SWL – After (m):**	DRY
Total Vol. Removed:	~3.0L	**Time – After:**	8:27am
PID Reading (ppm):	0.7		

Comments:

DEVELOPMENT MEASUREMENTS

Volume Removed (L)	Temp (°C)	DO (mg/L)	EC (µS/cm)	pH	Eh (mV)
2	16.6	6.9	506	6.40	24.2
3	16.8	4.6	344.9	5.06	17.5
well dry					

Comments: Odours (YES / (NO)), NAPL/PSH (YES / (NO)), Sheen (YES / (NO)), Steady State Achieved (YES / (NO))

YSI Used: 5 well pumped until effectively dry. Recharge observed. Silty yellow brown water. NO LNAPL observed in bailer prior to purging.

Tested By:	HW
Date Tested:	1/3/22
Checked By:	CR
Date:	16/3/22

Remarks:
- Steady state conditions
- Difference in the pH less than 0.2 units, difference in the conductiveity less than 10% and SWL stable/not in drawdown
- Minimum 3 monitoring well volumes purged, unless well purged until it is effectively dry

JKEnvironments

Client:	Halcyon Hotels Pty Ltd	Job No.:	E33051BR
Project:	Proposed Commercial Development	Well No.:	MW28
Location:	The Maltings, 2 Colo Street, MITTAGONG, NSW	Depth (m):	3.60

WELL FINISH DETAILS

	Gatic Cover ☐	Standpipe ☑ Stick up: 525mm	Other (describe) ☐

WELL DEVELOPMENT DETAILS

Method:	Peristaltic pump	SWL – Before (m):	1.71
Date:	1/3/22	Time – Before:	9:58am
Undertaken By:	HW	SWL – After (m):	DRY
Total Vol. Removed:	~5.0L	Time – After:	10:11am
PID Reading (ppm):	0.3		

Comments:

DEVELOPMENT MEASUREMENTS

Volume Removed (L)	Temp (°C)	DO (mg/L)	EC (µS/cm)	pH	Eh (mV)
2	16.9	6.3	110.0	5.98	13.5
4	17.4	3.2	129.8	5.88	9.0
5	17.5	3.7	98.3	5.34	5.9
Well dry					

Comments: Odours (YES / (NO)), NAPL/PSH (YES / (NO)), Sheen (YES / (NO)), Steady State Achieved (YES / (NO))

YSI Used: 5 Well pumped until effectively dry.

Silty, yellow brown water. No LNAPL observed in bailer prior to purging.

Tested By:	HW
Date Tested:	1/3/22
Checked By:	CM
Date:	16/3/22

Remarks:

- Steady state conditions
- Difference in the pH less than 0.2 units, difference in the conductiveity less than 10% and SWL stable/not in drawdown
- Minimum 3 monitoring well volumes purged, unless well purged until it is effectively dry

JKEnvironments

Client:	Halcyon Hotels Pty Ltd	Job No.:	E33051BR
Project:	Proposed Commercial Development	Well No.:	MW37
Location:	The Maltings, 2 Colo Street, MITTAGONG, NSW	Depth (m):	3.70

WELL FINISH DETAILS

	Gatic Cover ☑	Standpipe ☐	Other (describe) ☐

WELL DEVELOPMENT DETAILS

Method:	Development pump	SWL – Before (m):	1.84
Date:	28/2/22	Time – Before:	11:35am
Undertaken By:	HW	SWL – After (m):	Dry
Total Vol. Removed:	~5.0L	Time – After:	11:50am
PID Reading (ppm):	0.4		

Comments:

DEVELOPMENT MEASUREMENTS

Volume Removed (L)	Temp (°C)	DO (mg/L)	EC (µS/cm)	pH	Eh (mV)
2	17.5	6.2	451.9	6.35	8.7
4	18.0	3.2	455.5	6.15	8.4
5	17.9	5.5	433.7	6.02	7.2
well dry					

Comments: Odours (YES / NO), NAPL/PSH (YES / NO), Sheen (YES / NO), Steady State Achieved (YES / NO)

YSI Used: 5 well pumped until effectively dry.
silty brown water, No LNAPL observed in bailer probe to sampling.

Tested By:	HW
Date Tested:	28/2/22
Checked By:	CM
Date:	16/3/22

Remarks:
- Steady state conditions
- Difference in the pH less than 0.2 units, difference in the conductiveity less than 10% and SWL stable/not in drawdown
- Minimum 3 monitoring well volumes purged, unless well purged until it is effectively dry

JKEnvironments

Client:	Halcyon Hotels Pty Ltd	Job No.:	E33051BR
Project:	Proposed Commercial Development	Well No.:	MW 41
Location:	The Maltings, 2 Colo Street, MITTAGONG, NSW	Depth (m):	3.0

1.82

WELL FINISH DETAILS

	Gatic Cover ☐	Standpipe ☑ stickup: 610mm	Other (describe) ☐

WELL DEVELOPMENT DETAILS

Method:	Development pump	SWL – Before (m):	1.82
Date:	1/3/22	Time – Before:	9:13am
Undertaken By:	HW	SWL – After (m):	DRY
Total Vol. Removed:	~4.0L	Time – After:	9:13am
PID Reading (ppm):	0.6		

Comments:

DEVELOPMENT MEASUREMENTS

Volume Removed (L)	Temp (°C)	DO (mg/L)	EC (µS/cm)	pH	Eh (mV)
2	17.6	10.7	444.1	5.66	13.0
3	17.8	3.5	431.7	5.69	10.9
4	17.3	3.2	419.7	5.77	7.5
well dry					

Comments: Odours (YES / (NO)), NAPL/PSH (YES / (NO)), Sheen (YES / (NO)), Steady State Achieved (YES / (NO))

YSI Used: 5 well pumped until effectively dry. Slightly silty water. No LNAPL observed in bailer prior to purging.

Tested By:	HW
Date Tested:	1/3/22
Checked By:	CA
Date:	16/3/22

Remarks:
- Steady state conditions
- Difference in the pH less than 0.2 units, difference in the conductiveity less than 10% and SWL stable/not in drawdown
- Minimum 3 monitoring well volumes purged, unless well purged until it is effectively dry

JKEnvironments

Client:	Halcyon Hotels Pty Ltd	Job No.:	E33051BR
Project:	Proposed Commercial Development	Well No.:	MW46
Location:	The Maltings, 2 Colo Street, MITTAGONG, NSW	Depth (m):	6.0

WELL FINISH DETAILS

	Gatic Cover ☑	Standpipe ☐	Other (describe) ☐

WELL DEVELOPMENT DETAILS

Method:	Development pump	SWL – Before (m):	0.89
Date:	28/2/22	Time – Before:	9:42am
Undertaken By:	HW	SWL – After (m):	Dry
Total Vol. Removed:	~14.0L	Time – After:	9:54am
PID Reading (ppm):	0.3		

Comments:

DEVELOPMENT MEASUREMENTS

Volume Removed (L)	Temp (°C)	DO (mg/L)	EC (µS/cm)	pH	Eh (mV)
2	15.1	4.8	1669	5.91	28.4
5	15.8	3.5	1448	6.05	28.3
7	16.9	3.2	1354	6.14	28.5
10	17.0	2.9	1222	6.14	28.7
12	16.1	2.7	1641	6.09	28.9
14	15.4	10.5	456.2	6.56	22.0
well dry					

Comments: Odours (YES / NO), NAPL/PSH (YES / NO), Sheen (YES / NO), Steady State Achieved (YES / NO)

YSI Used: 5

Silty brown water. No LNAPL observed in bailer. Well pumped until effectively dry.

Tested By:	HW
Date Tested:	28/2/22
Checked By:	CR
Date:	16/3/22

Remarks:

- Steady state conditions
- Difference in the pH less than 0.2 units, difference in the conductiveity less than 10% and SWL stable/not in drawdown
- Minimum 3 monitoring well volumes purged, unless well purged until it is effectively dry

JKEnvironments

Client:	Halcyon Hotels Pty Ltd	Job No.:	E33051BR
Project:	Proposed Commercial Development	Well No.:	MW146
Location:	The Maltings, 2 Colo Street, MITTAGONG, NSW	Depth (m):	6.0

WELL FINISH DETAILS

	Gatic Cover ☑	Standpipe ☐	Other (describe) ☐

WELL DEVELOPMENT DETAILS

Method:	Development pump	SWL – Before (m):	0.014
Date:	18/3/22	Time – Before:	9:03am
Undertaken By:	HW	SWL – After (m):	DRY
Total Vol. Removed:	~14L	Time – After:	9:15am
PID Reading (ppm):	0.1		

Comments:

DEVELOPMENT MEASUREMENTS

Volume Removed (L)	Temp (°C)	DO (mg/L)	EC (µS/cm)	pH	Eh (mV)
2	15.8	8.8	421.6	7.09	50.2
4	15.7	5.0	382.7	6.84	47.4
6	16.4	2.5	291.8	6.67	44.1
8	16.1	4.4	526	6.05	46.0
10	15.8	3.3	542	6.09	45.8
12	16.0	3.7	550	6.09	45.7
14	16.2	4.8	618	6.06	45.5
Well dry					

Comments: Odours (YES / (NO)), NAPL/PSH (YES / (NO)), Sheen (YES / (NO)), Steady State Achieved (YES / (NO))

YSI Used: 5

Slightly silty water, brown, moderate recharge observed.

Tested By:	HW
Date Tested:	18/3/22
Checked By:	CR
Date:	1/4/22

Remarks:

- Steady state conditions
- Difference in the pH less than 0.2 units, difference in the conductiveity less than 10% and SWL stable/not in drawdown
- Minimum 3 monitoring well volumes purged, unless well purged until it is effectively dry

JKEnvironments

Client:	Halcyon Hotels Pty Ltd	Job No.:	E33051BR
Project:	Proposed Commercial Development	Well No.:	MW59
Location:	The Maltings, 2 Colo Street, MITTAGONG, NSW	Depth (m):	5.0

WELL FINISH DETAILS

	Gatic Cover ☐	Standpipe ☑ Stick up: 615mm	Other (describe) ☐

WELL DEVELOPMENT DETAILS

Method:	Development pump	SWL – Before (m):	2.67
Date:	28/2/22	Time – Before:	10:40am
Undertaken By:	HW	SWL – After (m):	Dry
Total Vol. Removed:	~6.0L	Time – After:	11:00am
PID Reading (ppm):	0.9		

Comments:

DEVELOPMENT MEASUREMENTS

Volume Removed (L)	Temp (°C)	DO (mg/L)	EC (µS/cm)	pH	Eh (mV)
2	16.5	7.1	835	6.67	17.9
4	17.4	5.6	776	6.51	16.7
5	16.8	4.0	931	6.44	13.7
6	16.6	6.1	839	6.42	12.9
Well dry					

Comments: Odours (YES / (NO)), NAPL/PSH (YES / (NO)), Sheen (YES / (NO)), Steady State Achieved (YES / (NO))

YSI Used: 5

Well pumped until effectively dry. Clear water. No LNAPL observed in bailer prior to sampling.

Tested By:	HW
Date Tested:	28/2/22
Checked By:	CR
Date:	16/3/22

Remarks:

- Steady state conditions
- Difference in the pH less than 0.2 units, difference in the conductiveity less than 10% and SWL stable/not in drawdown
- Minimum 3 monitoring well volumes purged, unless well purged until it is effectively dry

JKEnvironments

Client:	Halcyon Hotels Pty Ltd	Job No.:	E33051BR
Project:	Proposed Commercial Development	Well No.:	MW82
Location:	The Maltings, 2 Colo Street, MITTAGONG, NSW	Depth (m):	6.0

WELL FINISH DETAILS

	Gatic Cover ☐	Standpipe ☑ Stickup: 710mm	Other (describe) ☐

WELL DEVELOPMENT DETAILS

Method:	Development pump	SWL – Before (m):	3.74
Date:	28/2/22	Time – Before:	9:05am
Undertaken By:	HW	SWL – After (m):	Dry
Total Vol. Removed:	~8.0L	Time – After:	9:17am
PID Reading (ppm):	0.9		

Comments:

DEVELOPMENT MEASUREMENTS

Volume Removed (L)	Temp (°C)	DO (mg/L)	EC (µS/cm)	pH	Eh (mV)
2	16.4	8.6	6626	6.07	109.7
4	16.4	8.4	6650	5.59	95.6
6	16.4	8.2	7015	5.30	86.6
8	16.5	7.7	6867	4.88	63.9
well dry					

Comments: Odours (YES / (NO)) NAPL/PSH (YES / (NO)) Sheen (YES / (NO)) Steady State Achieved (YES / (NO))

YSI Used: 5 well pumped until effectively dry.
Clear water, No LNAPL observed in bailer prior to purging.

Tested By:	HW
Date Tested:	28/2/22
Checked By:	CM
Date:	16/3/22

Remarks:
- Steady state conditions
- Difference in the pH less than 0.2 units, difference in the conductiveity less than 10% and SWL stable/not in drawdown
- Minimum 3 monitoring well volumes purged, unless well purged until it is effectively dry

Field Calibration Records

JKEnvironments

PID FIELD CALIBRATION FORM

Client:	Halcyon Hotels Pty Ltd
Project:	Proposed Commercial Development
Location:	The Maltings, 2 Colo Street, MITTAGONG, NSW
Job Number:	E33051B

PID

Make: MiniRae 2000	Model:	Unit: Yellow	Date of last factory calibration: 10.09.21
Date of calibration: 16.02.22		Name of Calibrator: NM	
Calibration gas: Iso-butylene		Calibration Gas Concentration:	100.0 ppm
Measured reading: 99.8 ppm		Error in measured reading: ±	ppm
Measured reading Acceptable (Yes/No):			

PID

Make: MiniRae 2000	Model:	Unit: Yellow	Date of last factory calibration: 10.09.21
Date of calibration: 23.02.22		Name of Calibrator: NM	
Calibration gas: Iso-butylene		Calibration Gas Concentration:	100.0 ppm
Measured reading: 99.8 ppm		Error in measured reading: ±	ppm
Measured reading Acceptable (Yes/No):			

PID

Make:	Model:	Unit:	Date of last factory calibration:
Date of calibration:		Name of Calibrator:	
Calibration gas: Iso-butylene		Calibration Gas Concentration:	100.0 ppm
Measured reading: ppm		Error in measured reading: ±	ppm
Measured reading Acceptable (Yes/No):			

PID

Make:	Model:	Unit:	Date of last factory calibration:
Date of calibration:		Name of Calibrator:	
Calibration gas: Iso-butylene		Calibration Gas Concentration:	100.0 ppm
Measured reading: ppm		Error in measured reading: ±	ppm
Measured reading Acceptable (Yes/No):			

PID

Make:	Model:	Unit:	Date of last factory calibration:
Date of calibration:		Name of Calibrator:	
Calibration gas: Iso-butylene		Calibration Gas Concentration:	100.0 ppm
Measured reading: ppm		Error in measured reading: ±	ppm
Measured reading Acceptable (Yes/No):			

JKEnvironments

WATER QUALITY METER CALIBRATION FORM

Client:	Halcyon Hotels Pty Ltd		
Project:	Proposed Commercial Development		
Location:	The Maltings, 2 Colo Street, MITTAGONG, NSW		
Job Number:	E33051BR		
DISSOLVED OXYGEN			
Make: YSI	Model: Professional plus		
Date of calibration: 28/2/22	Name of Calibrator: HW		
Span value: 70% to 130%			
Measured value: 99%			
Measured reading Acceptable (Yes)/No):			
pH			
Make: YSI	Model: Professional plus		
Date of calibration: 28/2/22	Name of Calibrator: HW		
Buffer 1: Theoretical pH = 7.01± 0.01	Expiry date: 11/22	Lot No: 372831	
Buffer 2: Theoretical pH = 4.01± 0.01	Expiry date: 10/22	Lot No: 371300	
Measured reading of Buffer 1: 6.57			
Measured reading of Buffer 2: 3.95			
Slope: –	Measured reading Acceptable (Yes)/No):		
EC			
Make: YSI	Model: Professional plus		
Date: 28/2/22	Name of Calibrator: HW	Temperature: 20.8 °C	
Calibration solution: Conductivity Standard	Expiry date: 11/22	Lot No: 373623	
Theoretical conductivity at temperature (see solution container): 1305 µS/cm			
Measured conductivity: 1294 µS/cm	Measured reading Acceptable (Yes)/No):		
REDOX			
Make: YSI	Model: Professional plus		
Date of calibration: 28/2/22	Name of Calibrator: HW		
Calibration solution: ORP Test Solution	Expiry date: 07/26	Lot No: 6658	
Theoretical redox value: 240mV			
Measured redox reading: 243.5 mV	Measured reading Acceptable (Yes)/No):		

JKEnvironments

WATER QUALITY METER CALIBRATION FORM

Client:	Halcyon Hotels Pty Ltd		
Project:	Proposed Commercial Development		
Location:	The Maltings, 2 Colo Street, MITTAGONG, NSW		
Job Number:	E33051BR		
DISSOLVED OXYGEN			
Make: YSI	Model: Professional plus		
Date of calibration: 1/3/22	Name of Calibrator: HW		
Span value: 70% to 130%			
Measured value: 92%			
Measured reading Acceptable (Yes/No):			
pH			
Make: YSI	Model: Professional Plus		
Date of calibration: 1/3/22	Name of Calibrator: HW		
Buffer 1: Theoretical pH = 7.01± 0.01	Expiry date: 11/22	Lot No: 272831	
Buffer 2: Theoretical pH = 4.01± 0.01	Expiry date: 10/22	Lot No: 271300	
Measured reading of Buffer 1: 6.61			
Measured reading of Buffer 2: 4.20			
Slope: –	Measured reading Acceptable (Yes/No):		
EC			
Make: YSI	Model: Professional Plus		
Date: 1/3/22	Name of Calibrator: HW	Temperature: 17 °C	
Calibration solution: Conductivity Standard	Expiry date: 11/22	Lot No: 373623	
Theoretical conductivity at temperature (see solution container): 1197 µS/cm			
Measured conductivity: 1306 µS/cm	Measured reading Acceptable (Yes/No):		
REDOX			
Make: YSI	Model: Professional Plus		
Date of calibration: 1/3/22	Name of Calibrator: HW		
Calibration solution: ORP Test Solution	Expiry date: 07/26	Lot No: 6658	
Theoretical redox value: 240mV			
Measured redox reading: 241.5 mV	Measured reading Acceptable (Yes/No):		

JKEnvironments

WATER QUALITY METER CALIBRATION FORM

Client:	Halcyon Hotels Pty Ltd		
Project:	Proposed Commercial Development		
Location:	The Maltings, 2 Colo Street, MITTAGONG, NSW		
Job Number:	E33051BR		
DISSOLVED OXYGEN			
Make: YSI	Model: Professional plus		
Date of calibration: 7/3/22	Name of Calibrator: HW		
Span value: 70% to 130%			
Measured value: 98%			
Measured reading Acceptable (Yes/No):			
pH			
Make: YSI	Model: Professional plus		
Date of calibration: 7/3/22	Name of Calibrator: HW		
Buffer 1: Theoretical pH = 7.01± 0.01	Expiry date: 11/22	Lot No: 372831	
Buffer 2: Theoretical pH = 4.01± 0.01	Expiry date: 10/22	Lot No: 371300	
Measured reading of Buffer 1: 6.65			
Measured reading of Buffer 2: 4.06			
Slope: -	Measured reading Acceptable (Yes/No):		
EC			
Make: YSI	Model: professional plus		
Date: 7/3/22	Name of Calibrator: HW	Temperature: 20.6 °C	
Calibration solution: Conductivity Standard	Expiry date: 11/22	Lot No: 373623	
Theoretical conductivity at temperature (see solution container): 1278 µS/cm			
Measured conductivity: 1210 µS/cm	Measured reading Acceptable (Yes/No):		
REDOX			
Make: YSI	Model: Professional plus		
Date of calibration: 7/3/22	Name of Calibrator: HW		
Calibration solution: ORP Test Solution	Expiry date: 07/26	Lot No: 6658	
Theoretical redox value: 240mV			
Measured redox reading: 233.2 mV	Measured reading Acceptable (Yes/No):		

JKEnvironments

WATER QUALITY METER CALIBRATION FORM

Client:	Halcyon Hotels Pty Ltd		
Project:	Proposed Commercial Development		
Location:	The Maltings, 2 Colo Street, MITTAGONG, NSW		
Job Number:	E33051BR		
DISSOLVED OXYGEN			
Make: YSI	Model: professional plus		
Date of calibration: 8/3/22	Name of Calibrator: HW		
Span value: 70% to 130%			
Measured value: 104%			
Measured reading Acceptable (Yes/No):			
pH			
Make: YSI	Model: Professional plus		
Date of calibration: 8/3/22	Name of Calibrator: HW		
Buffer 1: Theoretical pH = 7.01± 0.01	Expiry date: 11/22	Lot No: 372831	
Buffer 2: Theoretical pH = 4.01± 0.01	Expiry date: 10/22	Lot No: 371300	
Measured reading of Buffer 1: 6.52			
Measured reading of Buffer 2: 4.17			
Slope: -	Measured reading Acceptable (Yes/No):		
EC			
Make: YSI	Model: Professional plus		
Date: 8/3/22	Name of Calibrator: HW	Temperature: 17.7 °C	
Calibration solution: conductivity standard	Expiry date: 11/22	Lot No: 373623	
Theoretical conductivity at temperature (see solution container): 1224 µS/cm			
Measured conductivity: 1163 µS/cm	Measured reading Acceptable (Yes/No):		
REDOX			
Make: YSI	Model: Professional plus		
Date of calibration: 8/3/22	Name of Calibrator: HW		
Calibration solution: ORP Test Solution	Expiry date: 07/26	Lot No: 6658	
Theoretical redox value: 240mV			
Measured redox reading: 247.1 mV	Measured reading Acceptable (Yes/No):		

JKEnvironments

WATER QUALITY METER CALIBRATION FORM

Client:	Halcyon Hotels Pty Ltd		
Project:	Proposed Commercial Development		
Location:	The Maltings, 2 Colo Street, MITTAGONG, NSW		
Job Number:	E33051BR		
DISSOLVED OXYGEN			
Make: YSI	Model: Professional plus		
Date of calibration: 18/3/22	Name of Calibrator: HW		
Span value: 70% to 130%			
Measured value: 98%			
Measured reading Acceptable (Yes/No):			
pH			
Make: YSI	Model: Professional plus		
Date of calibration: 18/3/22	Name of Calibrator: HW		
Buffer 1: Theoretical pH = 7.01± 0.01	Expiry date: 12/22	Lot No: 372881	
Buffer 2: Theoretical pH = 4.01± 0.01	Expiry date: 10/22	Lot No: 371300	
Measured reading of Buffer 1: 6.85			
Measured reading of Buffer 2: 4.03			
Slope: —	Measured reading Acceptable (Yes/No):		
EC			
Make: YSI	Model: Professional plus		
Date: 18/3/22	Name of Calibrator: HW	Temperature: 21.9 °C	
Calibration solution: Conductivity Standard	Expiry date: 11/22	Lot No: 373623	
Theoretical conductivity at temperature (see solution container): 1332 µS/cm			
Measured conductivity: 1191 µS/cm	Measured reading Acceptable (Yes/No):		
REDOX			
Make: YSI	Model: Professional plus		
Date of calibration: 18/3/22	Name of Calibrator: HW		
Calibration solution: ORP Test Solution	Expiry date: 04/26	Lot No: 2026	
Theoretical redox value: 240mV			
Measured redox reading: 231.6 mV	Measured reading Acceptable (Yes/No):		

JKEnvironments

PID FIELD CALIBRATION FORM

Client:	Halcyon Hotels Pty Ltd
Project:	Proposed Commercial Development
Location:	The Maltings, 2 Colo Street, MITTAGONG, NSW
Job Number:	E33051BR

PID

Make: RAE	Model: MiniRAE Lite	Unit: Green	Date of last factory calibration: 8/11/22
Date of calibration: 25/2/22		Name of Calibrator: HW	
Calibration gas: Iso-butylene		Calibration Gas Concentration:	100.0 ppm
Measured reading: 100.6 ppm		Error in measured reading: ±	0.6 ppm
Measured reading Acceptable (Yes/No):			

PID

Make: RAE	Model: MiniRAE Lite	Unit: Green	Date of last factory calibration: 8/11/22
Date of calibration: 4/3/22		Name of Calibrator: HW	
Calibration gas: Iso-butylene		Calibration Gas Concentration:	100.0 ppm
Measured reading: 100.1 ppm		Error in measured reading: ±	0.1 ppm
Measured reading Acceptable (Yes/No):			

PID

Make: RAE	Model: MiniRAE Lite	Unit: Green	Date of last factory calibration: 8/11/22
Date of calibration: 17/3/22		Name of Calibrator: HW	
Calibration gas: Iso-butylene		Calibration Gas Concentration:	100.0 ppm
Measured reading: 100.2 ppm		Error in measured reading: ±	0.2 ppm
Measured reading Acceptable (Yes/No):			

PID

Make:	Model:	Unit:	Date of last factory calibration:
Date of calibration:		Name of Calibrator:	
Calibration gas: Iso-butylene		Calibration Gas Concentration:	100.0 ppm
Measured reading: ppm		Error in measured reading: ±	ppm
Measured reading Acceptable (Yes/No):			

PID

Make:	Model:	Unit:	Date of last factory calibration:
Date of calibration:		Name of Calibrator:	
Calibration gas: Iso-butylene		Calibration Gas Concentration:	100.0 ppm
Measured reading: ppm		Error in measured reading: ±	ppm
Measured reading Acceptable (Yes/No):			

Appendix I: Equipment Calibration Records

AES
sensing safety

Calibration and Service Report – PID

Company:	JK Environments Pty Ltd	**Manufacturer:**	RAE	**Serial #:**	110-006735
Contact:	Alistair Mitchell	**Instrument:**	MINIRAE 2000 SN: 110-006735	**Asset #:**	
Address:	JK Group PO Box 976 NORTH RYDE	**Model:**	MiniRAE 2000	**Part #:**	
		Configuration:	VOC 10.6EV	**Sold:**	09.03.2006
		Wireless:	-	**Last Cal:**	02.03.2021
Phone:	02 9888 5000	**Network ID:**	-	**Job #:**	130723
Fax:		**Unit ID:**	-	**Cal Spec:**	
Email:	amitchell@jkenvironments.com.	**Details:**		**Order #:**	JKE PID 1

Calibration Certificate

Sensor	Type	Serial No.	Span Gas	Concentration	Traceability Lot #	CF	Reading	
							Zero	Span
Oxygen								
LEL								
PID	050-0000-004, 10.6EV 1/2 INCH LAMP	1062R114600/012818	Isobutylene	100ppm	4835-1-1		0	100
Battery	012-3051-000E, NIMH BATTERY PACK 7800	170N2W0093(11/2012)						
Toxic 1								
Toxic 2								
Toxic 3								
Toxic 4								
Toxic 5								
Toxic 6		021689						

Calibrated/Repaired by: JERRY JI Date: 10.09.2021 Next Due: 10.03.2022

AES
sensing safety

Calibration and Service Report – PID

Company:	JK Environments Pty Ltd	**Manufacturer:**	RAE	**Serial #:**	110-006735
Contact:	Alistair Mitchell	**Instrument:**	MINIRAE 2000 SN: 110-006735	**Asset #:**	
Address:	JK Group PO Box 976 NORTH RYDE	**Model:**	MiniRAE 2000	**Part #:**	
		Configuration:	VOC 10.6EV	**Sold:**	09.03.2006
		Wireless:	-	**Last Cal:**	02.03.2021
Phone:	02 9888 5000	**Network ID:**	-	**Job #:**	130723
Fax:		**Unit ID:**	-	**Cal Spec:**	
Email:	amitchell@jkenvironments.com.	**Details:**		**Order #:**	JKE PID 1

Item	Test	Pass/Fail	Comments	Serial Number
Battery	NiCd, NiMH, Dry cell, LiIon	P		
Charger	Power Supply	-		
	Cradle, Travel Charger	-		
Pump	Flow	P	>300ml/min	
Filter	Filter, fitting, etc	x	Dirty, replaced	
Alarms	Audible, visual, vibration	P		
Display	Operation	P		
Switches	Operation	P		
PCB	Operation	P		
Connectors	Condition	P		
Firmware	Version	P	V2.00	
Datalogger	Operation	P		
Monitor Housing	Condition	P		
Case	Condition / Type	-		
Sensors				
PID	Lamp	P	Cleaned	
PID	Sensor	P	Cleaned	
THP	Sensor	P		

Engineer's Report

Cleaned lamp, lamp housing and sensor electrode
Checked flowrate and stall values
Checked unit settings and PC configuration
Unit serviced and calibrated.

Calibration and Service Report – PID

Company:	JK Environments Pty Ltd	**Manufacturer:**	RAE	**Serial #:**	595-001254
Contact:	Alistair Mitchell	**Instrument:**	MINIRAE LITE SN: 595-001254	**Asset #:**	
Address:	JK Group PO Box 976 NORTH RYDE	**Model:**	MiniRAE Lite	**Part #:**	059-A126-000
		Configuration:	VOC 10.6EV	**Sold:**	30.11.2015
		Wireless:	-	**Last Cal:**	03.05.2021
Phone:	02 9888 5000	**Network ID:**	-	**Job #:**	131926
Fax:		**Unit ID:**	-	**Cal Spec:**	
Email:	amitchell@jkenvironments.com.	**Details:**		**Order #:**	JKE GREEN

Item	Test	Pass/Fail	Comments	Serial Number
Battery	NiCd, NiMH, Dry cell, LiIon	P		
Charger	Power Supply	-		
	Cradle, Travel Charger	-		
Pump	Flow	P	>450ml/min	
Filter	Filter, fitting, etc	x	Dirty, replaced	
Alarms	Audible, visual, vibration	P		
Display	Operation	P		
Switches	Operation	P		
PCB	Operation	P		
Connectors	Condition	P		
Firmware	Version	P	V2.22A	
Datalogger	Operation	P		
Monitor Housing	Condition	P		
Case	Condition / Type	-		
Sensors				
PID	Lamp	P	Cleaned	
PID	Sensor	P	Cleaned (slight corrosion shown)	
THP	Sensor	P		

Engineer's Report

Cleaned lamp, lamp housing and sensor electrode
Checked flowrate and stall values
Checked moisture sensitivity - okay
Checked unit settings and PC configuration
Unit serviced and calibrated.

AES
sensing safety

Calibration and Service Report – PID

Company:	JK Environments Pty Ltd	**Manufacturer:**	RAE	**Serial #:**	595-001254
Contact:	Alistair Mitchell	**Instrument:**	MINIRAE LITE SN: 595-001254	**Asset #:**	
Address:	JK Group	**Model:**	MiniRAE Lite	**Part #:**	059-A126-000
	PO Box 976	**Configuration:**	VOC 10.6EV	**Sold:**	30.11.2015
	NORTH RYDE	**Wireless:**	-	**Last Cal:**	03.05.2021
Phone:	02 9888 5000	**Network ID:**	-	**Job #:**	131926
Fax:		**Unit ID:**	-	**Cal Spec:**	
Email:	amitchell@jkenvironments.com.	**Details:**		**Order #:**	JKE GREEN

Calibration Certificate

Sensor	Type	Serial No.	Span Gas	Concentration	Traceability Lot #	CF	Reading	
							Zero	Span
Oxygen	-	-						
LEL	-	-						
PID	050-0000-004. 10.6EV 1/2 INCH LAMP	23060001SA/1062R003920	Isobutylene	100ppm	4835-1-1		0	100.0
Battery	059-3051-000. MINIRAE 3000 LI-ION BATTERY	159A2W0132						
Toxic 1	-	-						
Toxic 2	-	-						
Toxic 3	-							
Toxic 4								
Toxic 5	-	-						
Toxic 6		GHTS9W0131(THP)						

Calibrated/Repaired by: JERRY JI Date: 08.11.2021 Next Due: 08.05.2022

Appendix J: Guidelines and Reference Documents

Australian and New Zealand Environment Conservation Council (ANZECC), (2000). Australian and New Zealand Guidelines for Fresh and Marine Water Quality

Canadian Council of Ministers of the Environment, (1999). Canadian soil quality guidelines for the protection of environmental and human health: Benzo(a)Pyrene (1997)

CRC Care, (2011). Technical Report No. 10 – Health screening levels for hydrocarbons in soil and groundwater Part 1: Technical development document

Contaminated Land Management Act 1997 (NSW)

Heads of EPAs Australia and New Zealand (HEPA), (2020). PFAS National Environmental Management Plan Version 2.0

Managing Land Contamination, Planning Guidelines SEPP55 – Remediation of Land (1998)

National Health and Medical Research Council (NHMRC), (2018). National Water Quality Management Strategy, Australian Drinking Water Guidelines 2011

NSW Department of Environment and Conservation, (2007). Guidelines for the Assessment and Management of Groundwater Contamination

NSW EPA, (1995). Contaminated Sites Sampling Design Guidelines

NSW EPA, (1997). Polychlorinated Biphenyl Waste (PCB) Chemical Control Order 1997

NSW EPA, (2015). Guidelines on the Duty to Report Contamination under Section 60 of the CLM Act 1997

NSW EPA, (2017). Guidelines for the NSW Site Auditor Scheme, 3rd Edition

NSW EPA, (2020). Consultants Reporting on Contaminated Land, Contaminated Land Guidelines

National Environment Protection Council (NEPC), (2013). National Environmental Protection (Assessment of Site Contamination) Measure 1999 as amended (2013)

Olszowy, H., Torr, P., and Imray, P., (1995). Trace Element Concentrations in Soils from Rural and Urban Areas of Australia. Contaminated Sites Monograph Series No. 4. Department of Human Services and Health, Environment Protection Agency, and South Australian Health Commission

Protection of the Environment Operations Act 1997 (NSW)

State Environmental Planning Policy (Resilience and Hazards) 2021 (NSW)

World Health Organisation (WHO), (2008). Petroleum Products in Drinking-water, Background document for the development of WHO Guidelines for Drinking Water Quality

Western Australia Department of Health, (2009). Guidelines for the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia