



Acid Sulfate Soil Management Plan

28-32 Bourke Road, Alexandria, NSW, 2015

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

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Acid Sulfate Soil Management Plan

28-32 Bourke Road, Alexandria, NSW, 2015

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

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4 July 2022

LIMITATIONS

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Table of Contents

1	Introduction	1
1.1	Background	Error! Bookmark not defined.
1.2	Objective	1
1.3	Site Identification	2
1.4	Development Description	2
1.5	Scope of Work	3
2	Legal and Other Requirements	4
3	Site Condition and Surrounding Environment	5
3.1	Topography and Drainage	5
3.2	Geology	5
3.3	Hydrogeology	5
3.4	Soil Landscapes	6
3.5	Salinity	6
3.6	Acid Sulfate Soils	6
4	Proposed Disturbance Activity	7
5	Sampling and Analysis Methodology	8
5.1	Soil Sampling Methodology	8
5.2	Analytical Testing	8
6	Acid Sulfate Soil Indicators and Assessment Criteria	9
6.1	Field Screening	9
6.2	Soil Analytical Testing	9
7	Results	11
7.1	Field Observations	11
7.2	Soil Lithology	11
7.3	Soil Analytical Results	11
8	Acid Sulfate Soil Management Plan	14
8.1	Assigning Roles and Responsibilities	14
8.2	Application of the ASSMP	14
8.3	Environmental Impacts	14
8.4	Minimisation of Disturbance	15
8.5	Neutralisation and Treatment	15
8.5.1	Construction of the Soil Treatment Area	15
8.5.2	Stockpiling Soils	16
8.5.3	Monitoring	18
8.5.4	Soil Treatment	18
8.5.5	Water Treatment	18
8.6	Sampling and Testing	19
8.7	Off-site Disposal	19
8.8	Performance Criteria	20
8.9	Reporting	20
9	Contingency Plan	21
10	Conclusion	22

List of Tables in Body of Report

Table 1 – Site Identification	2
Table 2 – Analytical Testing	8
Table 3 – Soil Assessment Criteria	10
Table 4 – ASS Field test results	12
Table 5 – Roles and Responsibilities	14
Table 6 – Indicative Residence Time for Soil in Soil Treatment Area	16
Table 7 – Monitoring Program Action Criteria	18
Table 8 – Contingency Plan	21

List of Attached Figures

- Figure 1 Site Location
Figure 2 Insert figure title and Sampling Locations

List of Attached Tables

- Table A1 Analytical Summary – Acid Sulfate Soils – Reducible Chromium Sulfur Suite

List of Appendices

- Appendix A Bore Logs
Appendix B NATA Accredited Laboratory Certificates

1 Introduction

Alexandria Property Development Pty Ltd c/- Johnstaff Projects (NSW) Pty Ltd (Alexandria Property Development c/- Johnstaff) engaged EP Risk Management Pty Ltd (EP Risk) to prepare an Acid Sulfate Soil Management Plan (ASSMP) for a proposed development of a hospital located at 28-32 Bourke Road, Alexandria, NSW, 2015 (the Site). A figure showing the Site location is presented as **Figure 1**. For the purposes of this report, the Site is classified as an Industrial/Commercial development site.

It is understood that Johnstaff are planning to redevelop the Site from its current industrial land use to a commercial building, which may involve the excavation of the soil within the Site to approximately 1.0 meters below ground level (mBGL) for the purposes of the construction of a semi-underground car park. The final development design solution, including basement depth and configuration is subject to a design excellence competition and separate State Significant Development Application (SSDA). Once final design is completed, this ASSMP will be reviewed and updated if required.

EP Risk was requested by the client to prepare an ASSMP for the Site in accordance with the requirements of Section 12 of the Planning Secretary's Environmental Assessment Requirements (SEARs).

1.1 Background

It is understood that Alexandria Property Development Pty Ltd are planning to redevelop the Site from its current industrial land use for the construction of a hospital. The Proposed Development involves the construction of a semi-underground car park, with excavation depths currently proposed at 1.0 – 1.5 metres below ground level (mBGL). Final building design and basement excavation depths will be subject to a design excellence competition and detailed State Significant Development Approval (SSDA) submission.

1.2 Previous Investigations

At the request of Alexandria Property Development c/- Johnstaff, four environmental investigations were previously undertaken at the Site by EP Risk in 2021 and 2022. These consisted of:

- A Non-Destructive Hazardous Materials (HAZMAT) Assessment (EP Risk 2021¹);
- A Soil Contamination Assessment (SCA) (EP Risk 2021a²);
- A Detailed Site Investigation (DSI) (EP Risk 2022³); and
- A Framework Remediation Action Plan (Framework RAP) (EP Risk 2022a⁴)

1.3 Objective

The objective of the ASSMP is to assess the nature and extent of acid sulfate soil (ASS) at the Site and to ensure that water quality, soil runoff, site wastewater, potential water contamination associated with ASS are considered and effectively managed during the Proposed Development.

¹ EP Risk, *Non-Destructive Hazardous Materials (HAZMAT) Assessment, 28-32 Bourke Road, Alexandria, NSW, 2015*, report ref: EP2460.001, 22 December 2021 (EP Risk 2021).

² EP Risk, *Soil Contamination Assessment, 28-32 Bourke Road, Alexandria, NSW 2305*, report ref: EP2460.002, 23 December 2021 (EP Risk 2021a).

³ EP Risk, *Detailed Site Investigation, 28-32 Bourke Road, Alexandria, NSW, 2015*, report ref: EP2515.001, 10 March 2022 (EP Risk 2022).

⁴ EP Risk, *Framework Remediation Action Plan, 28-32 Bourke Road, Alexandria, NSW, 2015*, report ref: EP2515.002, 27 May 2022 (EP Risk 2022a).

1.4 Site Identification

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

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

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

1.5 Development Description

Development consent is sought for a concept proposal for the ‘Alexandria Health Centre’ comprising medical centre uses and anchored by a mental health hospital. Specifically, the application seeks concept approval for:

- In principle arrangements for the demolition of existing structures on the site and excavation to accommodate a single level of basement car parking (partially below ground level).
- A building envelope to a maximum height of 45 m (Reduced Level (RL) height 53.41) (including architectural roof features and building plant). The podium will have a maximum height of RL 28.41.
- A maximum gross floor area of 11,442.20 m², which equates to a maximum Floor Space Ratio (FSR) of 3.85:1. The total FSR will comprise a base FSR of 2:1, a community infrastructure bonus FSR of 1.5:1 and a 10% design excellence bonus FSR (subject to a competitive design alternatives process).
- Indicative use of the building as follows:
 - Mental health hospital at levels 5-7.
 - Medical centre uses at levels 1-4; and
 - Ground level reception/lobby and pharmacy.
- Principles for future vehicular ingress and egress from Bourke Road along the site’s western frontage.
- Subject to agreement on a public benefit offer submitted with this application, the proposal includes the indicative dedication of the following land to Council as envisaged by the Draft Sydney Development Control Plan 2012 – Southern Enterprise Area Amendment (Draft DCP):
 - A 2.4m wide strip of land along the site’s frontage to Bourke Road for the purpose of footpath widening

- A 3m wide lane along the site's western boundary contributing towards a 6m wide lane (it is noted that the concept proposal will allocate an additional 3 m strip of land within the site along the western boundary to enable two-way vehicle movement into and out of the site).
- A 3m wide lane along the site's southern boundary, contributing towards a 9m wide lane.

EP Risk understands that the planned Site development extent includes the excavation of a basement to a depth of 1 mBGL, however at present the development is still in the planning stage and the final building design will be decided following a design excellence competition and detailed State Significant Development Approval (SSDA) submission. The winning design may affect the planned depth of excavation, and as such an update to the ASSMP may be required upon submission of the SSDA.

1.6 Scope of Work

The scope of work to satisfy the objective comprise:

1. A review of the existing Site documentation pertaining to the Site, including but not limited to:
 - EP Risk investigations;
 - External investigations supplied to EP Risk;
 - Existing development plans and proposals;
 - Observations from previous Site inspections;
 - National Association of Testing Authorities (NATA) Accredited laboratory analyses from previous investigations;
 - Field pH_F and pH_{FOX} analyses undertaken during previous Site investigations;
2. Address the requirements of the relevant environmental legislation and statutory requirements as it applies to the Proposed Development.
3. Summarise potential impacts on the environment from the works for the Proposed Development.
4. Document environmental procedures that must be followed to control potential environmental impacts.
5. Confirmation of the effectiveness of the adopted control measures by validation testing and documentation.

2 Legal and Other Requirements

The following statutory provisions and guidelines are applicable to the Proposed Works, with regards to the ASSMP:

1. Sydney Local Environment Plan (LEP) 2012 (accessed 30 May 2022), Part 7.14 Acid Sulfate Soils.
2. Planning Secretary's Environmental Assessment Requirements (SEARS) Project Specific – Hospitals, medical centres and health research facilities (SSD-38600121).
3. Stone, Y, Ahern C R, and Blunden N (1998). Acid Sulfate Soil Manual 1998. Acid Sulfate Soil Management Advisory Committee, Wollongbar, NSW, Australia (NSW ASS Manual 1998).
4. Dear, S-E, Ahern, C R, O'Brien, L E, Dobos, S K, McElnea, A E, Moore, N G and Watling, K M (2014) Queensland Acid Sulfate Soil Technical Manual: Soil Management Guidelines (QLD ASS Technical Manual 2014).
5. *Contaminated Land Management Act 1997* (CLM Act).
6. *Protection of the Environment Operations Act 1997* (POEO Act).
7. National Acid Sulfate Soils Guidance (2018) *National Acid Sulfate Soils Sampling and Identification Methods Manual* (National ASS Guidance 2018).
8. National Acid Sulfate Soils Guidance (2018): *National Acid Sulfate Soils Sampling and Identification and Laboratory Methods Manual* (National ASS Laboratory Guidance 2018).
9. NSW Environment Protection Authority (EPA) (2014) *Waste Classification Guidelines: Part 4; Acid Sulfate Soils* (NSW EPA 2014).

3 Site Condition and Surrounding Environment

The Site is located at 28-32 Bourke Road, Alexandria, NSW, 2015 and currently consists of three adjoining warehouses with a small outdoor area. The Site is approximately 3,000 m² and is covered entirely by a concrete slab. The Site is flat and level throughout.

The NSW Department of Primary Industries – Water NSW lists 405 registered boreholes within 2,000m of the Site. These are predominantly utilised for monitoring and industrial purposes, with some domestic boreholes.

3.1 Topography and Drainage

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

3.2 Geology

According to the NSW Department of Industry, Resources & Energy, 1:100,000 scale map, the Site is underlain by Quaternary medium to fine-grained marine sand with podosols.

3.3 Hydrogeology

According to the Geoscience Australia Hydrogeology Map of Australia, Aquifers on-site are anticipated to be porous, extensive with high productivity.

Several groundwater wells were identified within 2 km of the Site, with the closest located approximately 94 m to the northeast of the Site. Within the 2 km boundary of the Site, standing water levels (SWL) ranged from 0.79 m below ground level (mBGL) (409 m west) to 90.0 mBGL (960 m, south). The borehole closest to the Site with available SWL data (227 m southeast) recorded a standing water level of 5.10 mBGL.

The Site is located within the unconfined Botany Sands aquifer. The Botany Sand Beds dominate the sedimentary column of the geological Botany Basin and comprise up to 30 m of uniformly graded, well-sorted, clean and poorly cemented fine- to medium-grained quartz sands, with an average of 15 m saturated sand (Hatley, 2004). These sand beds are underlain by clay and clay-rich quartz sand lenses and a basal unit consisting of fluvial and aeolian medium-grained sands with gravel lenses, together having a maximum thickness of around 45 m (Hatley, 2004⁵). This sequence of unconsolidated sands of the geological Botany Basin generally makes for a productive aquifer.

Groundwater recharge to the Botany Sands is primarily from rainfall and averages approximately 22 and 44 ML/day for dry and wet periods, respectively (Badenhop and Timms, 2009⁶).

Groundwater flow in the Botany Sands follows the topographic gradient and is mainly inward towards Botany Bay. Water levels vary between 0 and 25 m depth below the surface, with the majority of the geological Botany Basin showing a mean depth of around 9 m. The groundwater flow direction is from the recharge areas in the north-east towards Botany Bay at a rate of about 150 m/year (Badenhop and Timms, 2009).

The Botany Sands has a mean thickness of about 20 m, with up to 53 m depth in paleochannels incised in the basement rocks. Hydraulic gradients range from 0.003 to 0.01; hydraulic conductivities range between 1.4 and

⁵ Hatley RK (2004) Hydrogeology of the Botany Basin. Australian Geomechanics 39(3), 73–90.

⁶ Badenhop AM and Timms WA (2009) Managed aquifer recharge in Sydney coastal sand aquifers. In: Milne-Home WA (ed.) Groundwater in the Sydney Basin Symposium. International Association of Hydrogeologists NSW, 13–25.

85 m/day; porosities range between 0.33 and 0.40; transmissivities vary between 230 and 630 m²/day; and the storage coefficient varies between 0.17 and 0.26 (Hatley, 2004).

3.4 Soil Landscapes

According to the NSW Department of Planning, Industry & Environment Soil Landscapes of the Penrith 1:100,000 Sheet 7, the Site is dominated by medium to very coarse-grained quartz sandstone, minor laminated mudstone and siltstone lenses of alluvial floodplain origin.

3.5 Salinity

According to the National Land and Water Resources Audit, no salinity data is available for the Site.

3.6 Acid Sulfate Soils

The Commonwealth Scientific and Industrial Research Organisation (CSIRO) Atlas of Australian Acid Sulfate Soils (2013) indicates the Site is located in an area of Acid Sulfate Soil Class 3. Under a Class 3, works more than 1 m below the natural ground surface and works that may lower the water table by 1 m below natural ground surface presents an environmental risk.

According to the CSIRO Atlas of Acid Sulfate Soils, there is a low (6%-70%) probability that the Site is affected by Acid Sulfate Soils (ASS).⁰

⁷ NSW Department of Planning, Industry & Environment, Soil Landscapes of the Penrith 1:100,000 Sheet map 9030, Department of Environment, Climate Change and Water, accessed on 13 December 2021.

4 Potential Disturbance Activity

The Proposed Development consists of the demolition of the existing warehouses, on-site remediation of the soil within the Site for off-site disposal and construction ten (10) storey commercial / industrial building, that may include a partially-underground basement level to a depth of 1-1.5 mBGL. The final design solution and basement configuration is subject to a design excellence competition and separate SSDA application.

The proposed development construction is likely to include but not be limited to, the following:

- Removal of Hazardous Materials from the existing Site buildings and subsequent demolition of the buildings.
- Removal of the existing concrete slab.
- Excavation of the soil as required for the basement to be detailed as part of a separate SSDA application following a design excellence competition.
- Further localised excavation or piling for the installation of the development footings and below-ground infrastructure.
- Construction of a 10-storey building including semi-underground basement/car park.

This ASSMP relates to the excavation required for the Proposed Development relating to the basement construction. At the time of writing this ASSMP, the anticipated volume of disturbed soil was understood to be approximately 3,000 – 4,500 m³, however the extent of the excavation is likely to change as a result of the design excellence competition. Once final design is achieved, this ASSMP will be reviewed and updated where required.

5 Sampling and Analysis Methodology

5.1 Soil Sampling Methodology

A total of five (5) sampling locations within the Proposed Development were chosen to assess the presence of ASS in natural soils at the Site, in accordance with the minimum recommended sampling density in the National ASS Guidance 2018, which requires four sampling locations for site less than 1 Ha in size. The sample locations are provided in **Figure 2**.

Soil sampling was conducted as follows:

1. Soil samples were collected from five (5) borehole locations across the Site (BH01 – BH05) advanced to a maximum depth of 8.5 mBGL.
2. Soil samples were collected at a range of depths in both fill material and natural soil.
3. Soil was logged in accordance with the Unified Soil Classification System (USCS): Field Method as presented in the bore logs attached as **Appendix A**.
4. Soil samples were collected using dedicated, disposable nitrile gloves and assessed for visual and olfactory signs of ASS (incl. grey staining, iron oxide and hydrogen sulphide odour).
5. Samples were collected into sealable bags, double bagged with the sample details and an individual identification added to the label. The samples were then frozen at the laboratory in accordance with lab protocol.
6. The sample containers were preserved on ice immediately after sampling and during shipment to a NATA accredited laboratory under appropriate chain-of-custody documentation.

5.2 Analytical Testing

EP Risk used ALS Global as the project laboratory, which is NATA accredited for the required analysis. The laboratory analysis was undertaken in accordance with **Table 2**.

Table 2 – Analytical Testing	
Sample Location	Analytical Testing
BH01 – BH05	<ul style="list-style-type: none"> pH_F/pH_{FOX} – 9 Suspension Peroxide Oxidation Combined Acidity and Sulphur (SPOCAS) suite – 5

Additionally, field pH_F/pH_{FOX} sampling was undertaken as a screening tool for the NATA accredited laboratory sampling. A total of 18 field screenings were undertaken across the five (5) boreholes.

6 Acid Sulfate Soil Indicators and Assessment Criteria

The following ASS indicators and assessment criteria are based on the National ASS Guidance 2018.

6.1 Field Screening

Acid sulfate soils generally consist of clays and sands containing pyritic material and are usually found in estuarine areas. The field indicators of Actual Acid Sulfate Soils (AASS) include:

- pH readings measured in the field of less than 4;
- Iron staining on any drain surfaces;
- Unusually clear or milky green water discharge;
- Iron mottling of soil in the subsurface; and
- Corrosion of concrete or steel structures.

Undisturbed soil which contains iron sulfides or sulfidic material, which have not been exposed to air and oxidised, generally waterlogged, and have a pH of 4 or more and may be neutral or slightly alkaline are known as Potential Acid Sulfate Soils (PASS). The following may also be indicators of PASS:

- Presence of any sulfurous odours;
- pH following oxidation with 30% hydrogen peroxide (H_2O_2) is less than 3;
- Effervescence following oxidation with 30% H_2O_2 ;
- Release of sulfurous gasses following oxidation with 30% H_2O_2 ;
- Strength of the oxidation reaction; and
- Lowering of the pH by at least 1 unit.

6.2 Soil Analytical Testing

The above field screening observations are used to guide selection of samples for laboratory analysis. Soil samples submitted for laboratory analysis are tested for the SPOCAS suite of analytes as well as pH_F and pH_{FOX} and the results assessed against the criteria shown in **Table 3** for the disturbance of <1,000 or >1,000 tonnes (National ASS Guidance 2018).

Table 3 – Soil Assessment Criteria					
Texture Range	Approximate Clay Content (%)	1-1,000 tonne Material Disturbed		>1,000 tonne Material Disturbed	
		Net Acidity		Net Acidity	
		% S oxidisable ⁸ (oven-dry basis)	mol H ⁺ /tonne ⁹ (oven-dry basis)	% S oxidisable (oven-dry basis)	mol H ⁺ /tonne (oven-dry basis)
Coarse and Peats Sands to loamy sands	< 5	≥ 0.03	≥ 18	≥ 0.03	≥ 18
Medium Clayey sand to light clays	5-40	≥ 0.06	≥ 36		
Fine Light medium to heavy clays	> 40	≥ 0.1	≥ 62		

⁸ % S – measure of reduced inorganic sulfur (using the S_{CR} or peroxide oxidisable sulfur (S_{POS}) methods) expressed as a percentage of the weight of dry soil analysed. Can also be used as an 'equivalent sulfur unit' when comparing the results of tests expressed in other units e.g. peroxide oxidisable sulfur (S_{POS}) or total oxidisable sulfur (S_{TOS}).

⁹ mol H⁺/tonne – measure of acidity, expressed as the number of moles of hydrogen cations per tonne of oven-dry soil material. A mole is 6.022x10²³ atoms of a given substance.

7 Results

To assess site conditions and whether ASS exist on the Site, soil analytical results were compared to published investigation and screening criteria. The adopted framework against which the soil analytical results are compared, is detailed in **Table 3**.

7.1 Field Observations

A Sulfurous odour and greyish soil was observed in borehole location BH05, and a sample was collected at this location at 4.0 mBGL. A sulfurous odour was detected in one other borehole location on-site as part of the DSI (EP Risk 2022), however ASS samples were not taken from this borehole.

As the Site has no soil surfaces, there was no pooled liquid or stressed vegetation within the Site. No evidence of corrosion of the concrete or steel structures was observed, and no other visual or olfactory evidence of PASS was detected at the Site or surrounding area.

7.2 Soil Lithology

The soil lithology in the majority of the Site generally comprised:

- A concrete slab covering the entire Site.
- FILL: Gravelly sand or gravelly silty sand, medium to coarse grained, angular to subangular gravels, black to brown with some grey mottling, moist.
- Silty SAND: fine grained, beige / pale brown, very moist.
- Sandy CLAY: fine grained, light brown / pale white with red mottling, moist, firm.

7.3 Soil Analytical Results

The soil investigation has been conducted to assess the presence of AASS and PASS in natural soils at the Site. Soil results are summarised below and in the attached **Analytical Tables**. The NATA certified laboratory reports are included as **Appendix B**.

Field ASS Indicators – pH_F/pH_{FOX}

All samples from test pits (BH01 – BH05) were analysed for the ASS indicator parameters pH_F and pH_{FOX}. The results of the sampling are shown in **Table 4**.

One (1) field screening sample (BH03_6.0) reported a pH_{FOX} value of <3.0 with a qualitative reactivity rating of 3-4. It was also noted that the temperature of the mixture significantly increased upon reaction. These are indicators of the potential presence of ASS. It is noted the pH_F values of the natural soil samples were all >4.

Additionally, seven (7) of the eighteen (18) field screening samples showed a drop in pH of greater than 1 between the pH_F and pH_{FOX} samples, which is an indicator of PASS.

Five (5) selected soil samples (BH01_4.0, BH02_4.0, BH03_3.0, BH04_5.0 and BH05_4.0) were additionally analysed for the SPOCAS suite of analytes in order to assess if ASS were present.

Additionally, the release of sulfurous gasses and effervescence during reaction with H₂O₂ is an indicator of PASS. This was observed within samples taken from two (2) of the five (5) boreholes.

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

Laboratory Analysis – pH_F/pH_{FOX}

The laboratory analysis for ASS involved a SPOCAS suite of analytes, which was undertaken on five (5) samples, and analysis for laboratory pH_F and pH_{FOX} was undertaken on a total of nine (9) samples.

The most significant result showed a pH_F value of 7.3 along with a pH_{FOX} value of 3.2. All five (5) boreholes showed at least one sample where pH_{FOX} was greater than 1 pH unit below the pH_F reading.

The National ASS Guidance 2018 states that PASS is considered when the pH_F value is greater than 4 while the pH_{FOX} value is less than 3 (for a Site where >1000 tonnes of material is to be disturbed), or when the pH_{FOX} is greater than 1 pH unit below the pH_F.

Laboratory Analysis –SPOCAS Suite

One (1) sample (BH03_3.0) reported a concentration of 0.03, which is equal to the adopted criteria from the National ASS Guidance 2018, Table 5.4; Course and Peats sands to loamy sands.

Based on the National ASS Guidance 2018 if the results are equal to or greater than the adopted criteria then an ASSMP is required, outlining suitable methods for liming application and construction methods for future development for ASS within the natural sandy soil.

Results Summary

The results of the field screening tests and the NATA accredited laboratory analytical results show the presence of PASS within the soil at a minimum depth of 2.0 mBGL (in BH05). It is noted that in most boreholes the indicators of ASS are present within deeper samples. It can be determined that while ASS is present on the Site, there is no indication of PASS within the first 1.0 mBGL, in which depth the majority of the planned excavation works is to occur.

8 Acid Sulfate Soil Management Plan

8.1 Assigning Roles and Responsibilities

The key stakeholders responsible for the implementation of the control measures outlined in the ASSMP are presented in **Table 5**.

Table 5 – Roles and Responsibilities		
Role	Party	Responsibilities
Principal	Alexandria Property Development c/- Johnstaff	To engage the consultants and contractors and undertake all stakeholder management.
Environmental Consultant	EP Risk	To validate all stockpiles and managed soils by sampling and analytical testing to prepare a validation report.
Contractor	TBA	To carry out the civil works associated with the Proposed Works and ensure compliance with the ASSMP any work health and safety controls and construction environment management plan (CEMP). The Contractor must maintain written records of activities undertaken each day and manage any unexpected finds.
Sub-contractors	TBA	Toolbox meetings will be conducted with all subcontractors which will include an ASS component outlining the adopted management measures to address ASS.

8.2 Application of the ASSMP

The results of the field screening and the NATA accredited laboratory results show that ASS is not present until a minimum of 2.0 mBGL. It is the understanding of EP Risk that the majority of the excavation for the construction of the semi-underground basement will be to a maximum depth of 1.0 mBGL (subject to the final design resolution). For any excavations which exceed this depth the requirements of the ASSMP must be followed. This includes, but is not limited to, piling installation and trenching for service installation.

For any such excavations, the requirements of the ASSMP (as per Sections 8.4 to 8.7) must be followed.

8.3 Environmental Impacts

The potential impacts of ASS from the proposed commercial / industrial development include:

- Exposing ASS to air in the vicinity of surface drains, basins or sensitive receptors causing oxidation and a release of acid into the environment.
- Leaching of acid into the environment at treatment sites.
- Excavations and bulk earthworks to design subgrade level.
- Installation of piles for the developments foundations through the ASS impacted soil layers.
- Any activities that have potential to lower the water table may enhance the oxidation of sediments. Where excavation is below the water table and into ASS material, drawdown of the water table may expose ASS material. This can result in the oxidation of ASS and acid generation.

Elements of the Proposed Development will be designed to minimise excavations where practicable, however, excavations will be required and do have potential to intercept PASS.

8.4 Minimisation of Disturbance

Where disturbance of ASS cannot be avoided, there are a number of strategies that can be implemented to minimise disturbance to ASS. These strategies include:

- Designing earthworks to consider areas containing low or negligible levels of existing and potential acidity.
- Keeping earthworks shallow (viable when PASS is located within deeper soil profiles).
- Minimising groundwater fluctuations by avoiding the following:
 - Deep drains/canals/artificial water bodies that may change the water table;
 - Installation of groundwater extraction bores or continuing the use of existing groundwater bores;
 - Dewatering for installation of infrastructure such as road, water and sewerage mains and underground cabling; and
 - Filling (under the supervision of a geotechnical consultant) to compress and dewater saturated ASS material before construction but keeping the soil in anoxic conditions.
- When practicable, excavation works in ASS areas and soil treatment should be conducted during dry periods to minimise risk of overflow from heavy or sudden rain events.

8.5 Neutralisation and Treatment

Neutralisation involves the application and mixing of a sufficient amount of alkaline materials into the soil to neutralise all existing acidity that may be present, and all potential acidity that could be generated from complete oxidation. Usually, neutralisation involves the excavation of ASS which must be stored and treated in a contained area. There can be significant risks to the environment if neutralisation is poorly managed.

There are a several different methods for carrying out neutralisation of ASS, including:

- Batch processing where the excavated ASS is spread out in a thin layer and the neutralising material is spread on top. The two materials are then mechanically mixed together.
- Continuous processing where a mixing machine (such as a pug mill) is used, and the soil and neutralising agent is fed into the machine.

The preferred neutralising agent is fine agricultural lime (aglime) with not less than 95% fine grained calcium carbonate (CaCO_3). Other common neutralising agents include hydrated lime, quick lime and sodium bicarbonate. Sandy soil can be mixed with neutralising agents with ease, but high plasticity clay soil requires significant areas to allow adequate mixing and reaction.

8.5.1 Construction of the Soil Treatment Area

Prior to commencing the neutralisation works, a soil treatment area will be constructed in the vicinity of the earthworks. The soil treatment area should be:

- Constructed as far as practicable from any drainage channels.
- Designed and sized to accommodate the anticipated volumes of spoil produced from the excavation works.

- Barricaded and appropriate signage erected.
- Bunded to a height of approximately 0.3 m and appropriate sediment controls installed to prevent runoff and sediment migration.
- Designed such that overland flow is diverted.
- Constructed with a guard layer comprising of a neutralising agent as described in the QLD ASS Technical Manual (2014).

The minimum guard layer rate will be 5 kg aglime/m² per vertical meter of fill material. If the highest detected sum of existing and potential acidity is greater than 1% S-equivalent, the guard layer rate will be a minimum of 10 kg aglime/m² per vertical metre of fill.

8.5.2 Stockpiling Soils

It is recommended on-site monitoring is carried out during any deeper excavation earthworks (such as piling works) carried out on Site so that disturbance of ASS can be identified, and ASS soils can be segregated, stockpiled and treated. The management of stockpiled soils within the soil treatment area will be required as follows:

- All excavated soils containing ASS should be segregated from the spoil and stockpiled separately.
- Stockpiles should be limited to a maximum volume of 40 m³.
- The recommended maximum time for short-term stockpiling of soils within the soil treatment area should not exceed recommended periods detailed in the QLD ASS Technical Manual (2014) as presented in **Table 6**.
- If ASS is required to be stockpiled for longer time frames, then those presented in **Table 6**, then it must be fully treated.

Table 6 – Indicative Residence Time for Soil in Soil Treatment Area		
Texture	Approximate Clay Content (%)	Duration of Stockpiling (hours)
Coarse and Peats Sands to loamy sands	<5	18
Medium Clayey sand to light clays	5-40	42
Fine Light medium to heavy clays	>40	66

Additional measures to minimise short term effects of oxidation of stockpiles during the Proposed Development works include:

- Spreading aglime over the surface of the stockpile to limit the generation of acidity from the surface of the stockpile where it is considered likely the stockpile will contain ASS. The results of previous validation testing can be used as a guide to the likely presence of existing or potential ASS within the stockpile.
- Soils within the soil treatment area should be kept moist, but not saturated to minimise oxidation prior to treatment.
- All soils should be covered with tarpaulins or geomembrane to mitigate generation of leachate within the soil treatment area.

The volume of aglime is shown in the NATA Accredited Laboratory Certificates (**Appendix B**) and summarised in the **Table A1** within the **Tables** section of this report. This describes the volume of CaCO_3 to be added to the soils for neutralisation. The concentration of CaCO_3 within the aglime should be accounted for. The liming rate for all five (5) samples is either 1 or <1 kg CaCO_3 /tonne of soil. 1 kg/tonne should therefore be considered the appropriate concentration for neutralisation of the extracted natural soil.

8.5.3 Monitoring

If disturbance of ASS is suspected to have occurred, parameters may need to be monitored daily. More frequent monitoring may also be required to assess the impact of events such as heavy rainfall. The monitoring program should be developed by the Environmental Consultant in conjunction with the Project Contractor. Measurement and testing equipment should be operated by personnel experienced in water and soil sampling using appropriately maintained and calibrated test equipment. The action criteria for treatment are summarised in **Table 7**.

Media	Indicator	Action
Water	6.5 < pH > 8.5 or +/-0.2 units of adjacent surface water bodies	pH outside this range is not suitable for discharge to the surrounding environment and requires treatment prior to discharge.
Soil	pH < 4	Indicates the excavated material is oxidising and would require treatment with lime to neutralise the acidity.

8.5.4 Soil Treatment

The treatment option for soil is neutralisation as follows:

- Stockpile the excavated spoil on the central portion of the guard layer.
- Mechanically break up any clods, add aglime and mix. The aglime should be thoroughly mixed with the soil using an appropriate mechanical device such as an excavator (or other alternatives as appropriate).
- Dosing rates of aglime to be in accordance with the results of chromium reducible sulfur testing. Based on the laboratory calculations, dosing rates generally ranged from 0 kg CaCO₃/t¹⁰ to 1 kg CaCO₃/t, with an adopted dosing rate of **1 kg CaCO₃/t**.
- It is recommended progressive neutralisation of stockpiled soil is undertaken to minimise the size of the soil treatment area.
- Additional liming may be required should the results indicate the neutralisation has not been achieved.

8.5.5 Water Treatment

Surface water (i.e. water pooled within bunded/treatment areas) with the potential to become acidic as a result of interaction with the treatment area or excavations will be treated and monitored as follows:

- Surface water accumulated in excavations or treatment area will be tested for pH. If the pH is outside the range of 6.5 – 8.5 then the water will be neutralised with the addition of agricultural lime or hydrated lime.
- Records of water discharged from Site shall be maintained.
- Backfilling excavations, completion of footings as soon as possible to minimise the oxidation of in-situ soils exposed within the excavations.
- Minimise the drainage of soils by limiting any groundwater drawdown within excavations to the absolute minimum required to complete the excavation safely. Seepage entering the excavation should

¹⁰ The maximum liming rate was adopted as a conservative measure, despite the calculated rate likely to be representative of naturally occurring acidity of the soils. This calculation assumes that an aglime with a neutralising value (NV) of 98% will be used and a safety factor of 1.5 has been applied. Should an aglime with an alternative NV be adopted then the dosing rate will need to be recalculated.

be minimised through the use of physical barriers. Treatment of water from dewatering activities may be required subject to further testing.

- Where material is to be transported to the treatment area via public roads, wheel cleaning facilities will be established at site exits to prevent offsite contamination during transport.
- Material will be transported within trucks with secure tailgates.
- Records of transport including individual truck details and quantity transport will be retained at the Project Office.
- At the end of each transport shift an inspection of the transport route will be undertaken by the Supervisor to determine if material has been spilt. Where material has been spilt on public roads it will be removed immediately.

When run-off accumulates, water quality will be monitored regularly during the construction period, particularly following substantial rainfall events. Retained water will be sampled, tested and treated prior to discharge.

8.6 Sampling and Testing

It is recommended the following inspections and testing should be undertaken:

- Inspections and testing of stockpile spoil within the treatment area at least every 1-2 days (depending upon the soil type and with reference to **Table 6** to determine whether the addition of aglime is required.
- If it is determined aglime application is required, it is to be done so as per the dosing rates determined from proposed testing. Mixing the treated soil is to be undertaken in accordance with the timelines provided in **Table 6**.
- Inspections of stockpiles for visual signs of seepage impacted by ASS including milky waters, iron staining and sulfur odour should be undertaken daily.
- Collection of verification soil samples per the following sampling density in accordance with the National ASS Guidance 2018:
 - volume of stockpile < 250 m³ – 2 samples;
 - volume of stockpile 251 - 500 m³ – 3 samples;
 - volume of stockpile 1000 m³ – 4 samples; and
 - volume of stockpile > 1000 m³ – 4 samples plus one per additional 500 m³.
- Verification testing for the success of the soil neutralisation is to be carried out in accordance with the National ASS Guidance 2018, including testing of each sample for the chromium reducible sulfur suite by a NATA accredited laboratory.

8.7 Off-site Disposal

After on-site treatment, the treated ASS should be removed to a facility licensed to accept treated ASS in accordance with the NSW EPA Waste Classification Guidelines – Part 4: Acid Sulfate Soils (2014). It should also be noted that other classifications are present on the soil within the Site which may include Restricted Solid Waste, Hazardous Waste and Special Waste (asbestos). These classifications should also be applied to the soil and removal of these materials should be undertaken as per the Framework RAP (EP Risk 2022a).

8.8 Performance Criteria

The performance criteria outlined in **Table 3** was adopted for assessment of the neutralisation of treated soil. Soil that has been treated by neutralisation techniques and has not met these criteria must be re-treated and re-tested until the above performance criteria are met. These performance criteria equate to there being no positive calculated net acidity in the soil above the adopted criteria following treatment.

The neutralisation management strategy is most effective when soil and neutralising agents are completely homogenised, which may not be fully achievable for large volumes of soil, especially when moist and/or clayey.

8.9 Reporting

The following details should be recorded during the soil treatment process and reported in a final Validation Report:

- Total final volumes and dimensions of disturbed ASS.
- Where dewatering was involved, final location, extent and duration of dewatering and details of testing and groundwater management strategies applied.
- Details of soil management strategies undertaken at the site (including evidence of specific management measures such as waste tracking, photographic evidence of neutralisation and of bunded treatment pads).
- Details of surface water management strategies undertaken at the Site.
- Location of any offsite disposal of ASS and evidence of treatment onsite prior to disposal.
- Summary of verification testing results for material treated.
- Location and maps of areas used for strategic burial of treated ASS, with depth below finished surface and details of safety margin below the permanent water table.
- Summary of monitoring results for surface water and groundwater (with an emphasis on trends in water quality).
- In appendices, full results of monitoring and verification testing regimes.
- A discussion of the effectiveness of management strategies employed at the Site.
- Details of any incidence of nonconformity with the Environment Management plan and corrective actions taken.
- A discussion of any potential risks to the environment or human health.
- Proposed future monitoring and/or reporting programs.
- Proposed remediation measures if needed.

A record of these observations, calculations and soil monitoring results should be provided to the client for each day an inspection is undertaken. At the completion of works a final closure report will be prepared detailing the above information.

9 Contingency Plan

A number of contingency measures for the soil treatment works have been provided in **Table 8**.

Table 8 – Contingency Plan		
Scenario	Consequence	Contingency Measures
Under liming of ASS	Potential for acid generation and impact to sensitive receptors	Addition of more aglime with additional chromium reducible sulfur testing to determine additional liming rate (if required)
Over liming of ASS	High pH may cause environmental impact	Mix over limed soil with ASS to reduce pH levels to within adopted criteria
Volume of ASS exceeds treatment area	Delays to earthwork	Increase size of soil treatment area
Observations of ASS leachate production in soil treatment area	Loss of containment of leachate	Conduct aglime treatment and apply leachate back to stockpile
Heavy rain causing ponding of water within treatment area	Damage to bunding and sediment controls	Testing of water for adopted action criteria and treatment if exceedance of relevant criteria. Irrigation of validated water to adjacent areas
pH values increase in surrounding water bodies	Potential for acid generation and impact to sensitive receptors	Increase monitoring frequency and submit samples to laboratory for analysis. If continues, notify relevant statutory authority

10 Conclusion

Based on the results of this assessment, ASS was identified at the Site which require the implementation of this ASSMP. The ASSMP outlines suitable methods for treatment and construction management controls of the natural sand ASS during construction of the Proposed Works.

Based on the collected data, ASS management is required for the piling soils only and not for the shallow excavation to 1.5 mBGL.

The laboratory recommended liming rates ranged between 0 kg CaCO₃/t and 1 kg CaCO₃/t, with an adopted liming rate of 1 CaCO₃/t. Monitoring and verification should be conducted as per the ASSMP and liming adjusted as required based on screening and testing results.

Figures

28-32 Bourke Road, Alexandria

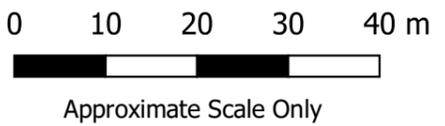
Legend
[Red outline] Site boundary



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Acid Sulfate Soils Management Plan 28-32 Bourke Road, Alexandria, NSW, 2015

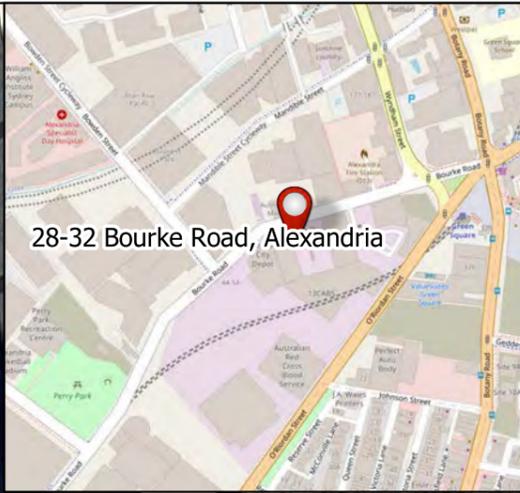
Job No: EP2515
Date: 01/06/2022
Drawing Ref: EP2515.003 Fig. 1
Version No: v1



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



Figure 1 - Site Location



28-32 Bourke Road, Alexandria

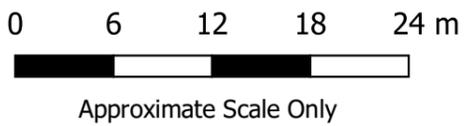


Legend

- Site boundary
- DSI Sample Locations
- ⊕ ASS Samples

Acid Sulfate Soils Management Plan
28-32 Bourke Road, Alexandria, NSW, 2015

Job No: EP2515
 Date: 01/06/2022
 Drawing Ref: EP2515.003 Fig. 1
 Version No: v1



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

Figure 2 - Acid Sulfate Soils Sampling Locations



Tables

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

Statistics

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

* A Non Detect Multiplier of 0.5 has been applied.

Environmental Standards

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

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

Statistics

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

* A Non Detect Multiplier of 0.5 has been applied.

Environmental Standards

National Acid Sulfate Soils Guidance, Table 5.1 Potential ASS

National Acid Sulfate Soils Guidance, Table 5.1 Actual ASS

National Acid Sulfate Soils Guidance, Table 5.4

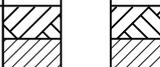
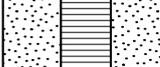
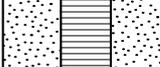
Appendix A

BORE LOGS

Borehole Log

PROJECT NUMBER EP2515	DRILLING DATE 08.02.2022	DRILLING METHOD Solid Flight Auger
PROJECT NAME Johnstaff Bourke Road DSI	TOTAL DEPTH 8.5 mBGL	
ADDRESS 28 Bourke Road, Alexandria	BOREHOLE BH01/MW01	

COMMENTS	LOGGED BY TD
	CHECKED BY HB

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

Borehole Log

PROJECT NUMBER EP2515	DRILLING DATE 09.02.2022	DRILLING METHOD Solid Flight Auger
PROJECT NAME Johnstaff Bourke Road DSI	TOTAL DEPTH 8.2 mBGL	
ADDRESS 28 Bourke Road, Alexandria	BOREHOLE BH02/MW02	

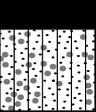
COMMENTS	LOGGED BY TD
	CHECKED BY HB

PID	Samples	Depth (m)	Graphic Log	Material Description	Well Diagram	Additional Observations
414.7 ppm	0.1 mBGL	0.1		Concrete		
		0.5		FILL: gravelly sandy silt, sub-angular gravels, black/brown, moist.		
230.0 ppm	1.0 mBGL	1.0		Silty SAND, fine grained, dark brown/black, moist.		Colour becomes lighter and is saturated at 2.0 mBGL.
		1.5				Water strike at 2.4 mBGL.
393.2 ppm	2.0 mBGL	2.0		Silty SAND, fine grained, pale brown, very moist.		
		2.5				
	2.7 mBGL	2.7				
		3.0				
		3.5				
		4.0		Sandy CLAY, medium plasticity, medium grained, light brown/pale with red mottling, dense.		
		4.5				
5.9 ppm	5.5 mBGL	5.5		Clayey SAND, low plasticity, medium grained, light brown/pale, moist.		
		6.0				
		6.5				
0.3 ppm	7.2 mBGL	7.2		Sandy CLAY, high plasticity, fine grained, grey with red mottling, dense.		
		7.5				
		8.0				
		8.5		End of Hole at 8.2 mBGL due to Bedrock Reached.		

Borehole Log

PROJECT NUMBER EP2515	DRILLING DATE 09.02.2022	DRILLING METHOD Solid Flight Auger
PROJECT NAME Johnstaff Bourke Road DSI	TOTAL DEPTH 6.0 mBGL	
ADDRESS 28 Bourke Road, Alexandria	BOREHOLE BH03	

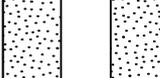
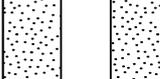
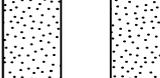
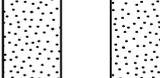
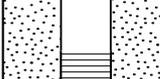
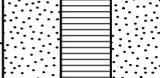
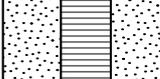
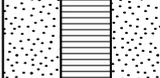
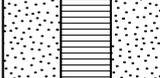
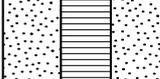
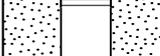
COMMENTS Groundwater samples for MW03 are taken from location BH05	LOGGED BY TD
	CHECKED BY HB

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

Borehole Log

PROJECT NUMBER EP2515	DRILLING DATE 10.02.2022	DRILLING METHOD Solid Flight Auger
PROJECT NAME Johnstaff Bourke Road DSI	TOTAL DEPTH 7.6 m	
ADDRESS 28 Bourke Road, Alexandria	BOREHOLE BH04/MW04	

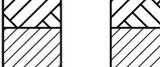
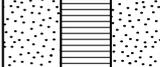
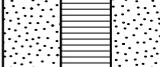
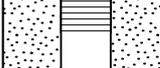
COMMENTS	LOGGED BY TD
	CHECKED BY HB

PID	Samples	Depth (m)	Graphic Log	Material Description	Well Diagram	Additional Observations
4.2 ppm	0.2 mBGL	0.2		Concrete.		
		0.5		FILL: silty sand, medium to coarse grained, dark brown, slightly moist, loose.		Bits of ceramic and gravels present.
3.0 ppm	1.0 mBGL	1.0		Concrete.		Becoming darker at 3.0 mBGL.
		1.5		SAND, medium to coarse grained, dark brown, slightly moist, loose.		
3.4 ppm	2.0 mBGL	2.0				
		2.5				
		3.0				
		3.5				
		4.0				
	4.5 mBGL	4.5				
		5.0		SAND, medium to coarse grained, grey to light grey, saturated, loose.		Grey at 5.0 mBGL
		5.5				Light grey at 7.0 mBGL
		6.0				
		6.5				
2.6 ppm	7.5 mBGL	7.5		Sandy CLAY, medium plasticity, medium grained, greyish brown, saturated, soft.		
		8.0		End of Hole at 7.6 mBGL due to Refusal.		
		8.5				

Borehole Log

PROJECT NUMBER EP2515	DRILLING DATE 10.02.2022	DRILLING METHOD Solid Flight Auger
PROJECT NAME Johnstaff Bourke Road DSI	TOTAL DEPTH 7.0 m	
ADDRESS 28 Bourke Road, Alexandria	BOREHOLE BH05/MW03	

COMMENTS	LOGGED BY TD
	CHECKED BY HB

PID	Samples	Depth (m)	Graphic Log	Material Description	Well Diagram	Additional Observations
26.7 ppm	0.2 mBGL	0.2		Concrete.		
		0.5		FILL: gravelly sand, coarse grained, angular to subangular gravels, black with grey mottling, dry, loose.		Mild fuel odour. Dup01 and Trp01 @ 0.2 mBGL.
7.0 ppm	1.5 mBGL	1.5		FILL: silty sand, coarse grained, black, dry, loose.		
5.2 ppm	2.0 mBGL	2.0		SAND, fine grained, dark grey, moist, loose.		Potential water strike at 1.8 mBGL.
4.4 ppm	3.0 mBGL	3.0				
3.6 ppm	4.0 mBGL	4.0				
4.2 ppm	5.0 mBGL	5.0				
8.7 ppm	6.0 mBGL	6.0		SAND, fine grained, light grey, moist, loose.		
	7.0 mBGL	7.0		Sandy CLAY, low plasticity, fine grained, grey with brown mottling, saturated, soft clay, loose.		
		7.5		End of Hole at 7.0 mBGL due to Refusal.		
		8.0				
		8.5				

Appendix B

NATA ACCREDITED LABORATORY CERTIFICATES

CERTIFICATE OF ANALYSIS

Work Order : ES2204270 Client : EP RISK MANAGEMENT Contact : HARRISON BLAKE Address : Level 4 73 Walker St North Sydney 2060 Telephone : ---- Project : EP2515 Order number : ---- C-O-C number : ---- Sampler : HARRISON BLAKE Site : ---- Quote number : SY/497/20 Primary analysis only No. of samples received : 8 No. of samples analysed : 5	Page : 1 of 17 Laboratory : Environmental Division Sydney Contact : Tyler Anderson Address : 277-289 Woodpark Road Smithfield NSW Australia 2164 Telephone : +61 2 8784 8555 Date Samples Received : 08-Feb-2022 18:00 Date Analysis Commenced : 09-Feb-2022 Issue Date : 16-Feb-2022 21:58
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This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Descriptive Results
- Surrogate Control Limits

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

Signatories

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

<i>Signatories</i>	<i>Position</i>	<i>Accreditation Category</i>
Ben Felgendrejeris	Senior Acid Sulfate Soil Chemist	Brisbane Acid Sulphate Soils, Stafford, QLD
Brendan Schrader	Laboratory Technician	Newcastle - Asbestos, Mayfield West, NSW
Edwandy Fadjjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Franco Lentini	LCMS Coordinator	Sydney Inorganics, Smithfield, NSW
Franco Lentini	LCMS Coordinator	Sydney Organics, Smithfield, NSW
Ivan Taylor	Analyst	Sydney Inorganics, Smithfield, NSW



General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a,h)anthracene (1.0), Benzo(g,h,i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero, for 'TEQ 1/2LOR' are treated as half the reported LOR, and for 'TEQ LOR' are treated as being equal to the reported LOR. Note: TEQ 1/2LOR and TEQ LOR will calculate as 0.6mg/Kg and 1.2mg/Kg respectively for samples with non-detects for all of the eight TEQ PAHs.
- EP080: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EP068: Where reported, Total Chlordane (sum) is the sum of the reported concentrations of cis-Chlordane and trans-Chlordane at or above the LOR.
- EP068: Where reported, Total OCP is the sum of the reported concentrations of all Organochlorine Pesticides at or above LOR.
- EP074: Where reported, Total Trihalomethanes is the sum of the reported concentrations of all Trihalomethanes at or above the LOR.
- EP074: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EP074: Where reported, Sum of chlorinated hydrocarbons includes carbon tetrachloride, chlorobenzene, chloroform, 1,2-dichlorobenzene, 1,4-dichlorobenzene, 1,2-dichloroethane, 1,1-dichloroethene, cis-1,2-dichloroethene, trans-1,2-dichloroethene, 1,1,1,2-tetrachloroethane, 1,1,2,2-tetrachloroethane, 1,2,4-trichlorobenzene, 1,1,1-trichloroethane, 1,1,2-trichloroethane, trichloroethene, vinyl chloride, hexachlorobutadiene and methylene chloride.
- EP074: Where reported, Total Trimethylbenzenes is the sum of the reported concentrations of 1.2.3-Trimethylbenzene, 1.2.4-Trimethylbenzene and 1.3.5-Trimethylbenzene at or above the LOR.
- EP075(SIM): Where reported, Total Cresol is the sum of the reported concentrations of 2-Methylphenol and 3- & 4-Methylphenol at or above the LOR.
- ASS: EA029 (SPOCAS): Retained Acidity not required because pH KCl greater than or equal to 4.5
- EP075(SIM): Poor duplicate precision due to sample heterogeneity.
- ASS: EA029 (SPOCAS): Excess ANC not required because pH OX less than 6.5.
- EP075: Where reported, 'Sum of PAH' is the sum of the USEPA 16 priority PAHs
- ASS: EA029 (SPOCAS): Liming rate is calculated and reported on a dry weight basis assuming use of fine agricultural lime (CaCO₃) and using a safety factor of 1.5 to allow for non-homogeneous mixing and poor reactivity of lime. For conversion of Liming Rate from kg/t dry weight to kg/m³ in-situ soil, multiply reported results x wet bulk density of soil in t/m³.
- ASS: EA003 (NATA Field and F(ox) screening): pH F(ox) Reaction Rate: 1 - Slight; 2 - Moderate; 3 - Strong; 4 - Extreme
- EA200 'Am' Amosite (brown asbestos)
- EA200 'Cr' Crocidolite (blue asbestos)
- EA200 'Trace' - Asbestos fibres ("Free Fibres") detected by trace analysis per AS4964. The result can be interpreted that the sample contains detectable 'respirable' asbestos fibres
- EA200: Asbestos Identification Samples were analysed by Polarised Light Microscopy including dispersion staining.
- EA200 Legend



- EA200 'Ch' Chrysotile (white asbestos)
- EA200: 'UMF' Unknown Mineral Fibres. "-" indicates fibres detected may or may not be asbestos fibres. Confirmation by alternative techniques is recommended.
- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a,h)anthracene (1.0), Benzo(g,h,i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero, for 'TEQ 1/2LOR' are treated as half the reported LOR, and for 'TEQ LOR' are treated as being equal to the reported LOR. Note: TEQ 1/2LOR and TEQ LOR will calculate as 0.6mg/Kg and 1.2mg/Kg respectively for samples with non-detects for all of the eight TEQ PAHs.
- EA200: For samples larger than 30g, the <2mm fraction may be sub-sampled prior to trace analysis as outlined in ISO23909:2008(E) Sect 6.3.2-2
- EA200: 'Yes' - Asbestos detected by polarised light microscopy including dispersion staining.
- EA200: 'No*' - No asbestos found, at the reporting limit of 0.1g/kg, by polarised light microscopy including dispersion staining. Asbestos material was detected and positively identified at concentrations estimated to be below 0.1g/kg.
- EA200: 'No' - No asbestos found at the reporting limit 0.1g/kg, by polarised light microscopy including dispersion staining.
- EP231: Stable isotope enriched internal standards are added to samples prior to extraction. Target compounds have a direct analogous internal standard with the exception of PFPeS, PFHpA, PFDS, PFTrDA and 10:2 FTS. These compounds use an internal standard that is chemically related and has a retention time close to that of the target compound. The DQO for internal standard response is 50-150% of that established at initial calibration. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS (Australian HEPA) and also conform to QSM 5.3 (US DoD) requirements.



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	BH01_0.2	BH01_1.0	BH01_2.0	BH01_4.0	BH01_5.5
Sampling date / time				08-Feb-2022 00:00					
Compound	CAS Number	LOR	Unit	ES2204270-001	ES2204270-003	ES2204270-004	ES2204270-006	ES2204270-007	
				Result	Result	Result	Result	Result	
EA003 :pH (field/fox)									
pH (F)	----	0.1	pH Unit	----	----	----	7.2	7.6	
pH (Fox)	----	0.1	pH Unit	----	----	----	4.2	4.6	
Reaction Rate	----	1	Reaction Unit	----	----	----	2	2	
EA029-A: pH Measurements									
pH KCl (23A)	----	0.1	pH Unit	----	----	----	6.5	----	
pH OX (23B)	----	0.1	pH Unit	----	----	----	5.6	----	
EA029-B: Acidity Trail									
Titrateable Actual Acidity (23F)	----	2	mole H+ / t	----	----	----	<2	----	
Titrateable Peroxide Acidity (23G)	----	2	mole H+ / t	----	----	----	5	----	
Titrateable Sulfidic Acidity (23H)	----	2	mole H+ / t	----	----	----	5	----	
sulfidic - Titrateable Actual Acidity (s-23F)	----	0.020	% pyrite S	----	----	----	<0.020	----	
sulfidic - Titrateable Peroxide Acidity (s-23G)	----	0.020	% pyrite S	----	----	----	<0.020	----	
sulfidic - Titrateable Sulfidic Acidity (s-23H)	----	0.020	% pyrite S	----	----	----	<0.020	----	
EA029-C: Sulfur Trail									
KCl Extractable Sulfur (23Ce)	----	0.020	% S	----	----	----	<0.020	----	
Peroxide Sulfur (23De)	----	0.020	% S	----	----	----	<0.020	----	
Peroxide Oxidisable Sulfur (23E)	----	0.020	% S	----	----	----	<0.020	----	
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	----	----	----	<10	----	
EA029-D: Calcium Values									
KCl Extractable Calcium (23Vh)	----	0.020	% Ca	----	----	----	<0.020	----	
Peroxide Calcium (23Wh)	----	0.020	% Ca	----	----	----	<0.020	----	
Acid Reacted Calcium (23X)	----	0.020	% Ca	----	----	----	<0.020	----	
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	----	----	----	<10	----	
sulfidic - Acid Reacted Calcium (s-23X)	----	0.020	% S	----	----	----	<0.020	----	
EA029-E: Magnesium Values									
KCl Extractable Magnesium (23Sm)	----	0.020	% Mg	----	----	----	<0.020	----	
Peroxide Magnesium (23Tm)	----	0.020	% Mg	----	----	----	<0.020	----	
Acid Reacted Magnesium (23U)	----	0.020	% Mg	----	----	----	<0.020	----	
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	----	----	----	<10	----	
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.020	% S	----	----	----	<0.020	----	
EA029-H: Acid Base Accounting									



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	BH01_0.2	BH01_1.0	BH01_2.0	BH01_4.0	BH01_5.5
Sampling date / time				08-Feb-2022 00:00					
Compound	CAS Number	LOR	Unit	ES2204270-001	ES2204270-003	ES2204270-004	ES2204270-006	ES2204270-007	
				Result	Result	Result	Result	Result	
EA029-H: Acid Base Accounting - Continued									
ANC Fineness Factor	----	0.5	-	----	----	----	1.5	----	
Net Acidity (sulfur units)	----	0.02	% S	----	----	----	<0.02	----	
Net Acidity (acidity units)	----	10	mole H+ / t	----	----	----	<10	----	
Liming Rate	----	1	kg CaCO3/t	----	----	----	<1	----	
Net Acidity excluding ANC (sulfur units)	----	0.02	% S	----	----	----	<0.02	----	
Net Acidity excluding ANC (acidity units)	----	10	mole H+ / t	----	----	----	<10	----	
Liming Rate excluding ANC	----	1	kg CaCO3/t	----	----	----	<1	----	
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	0.1	%	----	----	16.9	----	----	
Moisture Content	----	1.0	%	11.6	6.0	----	----	17.9	
EA200: AS 4964 - 2004 Identification of Asbestos in Soils									
Asbestos Detected	1332-21-4	0.1	g/kg	No	----	----	----	----	
Asbestos (Trace)	1332-21-4	5	Fibres	No	----	----	----	----	
Asbestos Type	1332-21-4	-	--	-	----	----	----	----	
Synthetic Mineral Fibre	----	0.1	g/kg	No	----	----	----	----	
Organic Fibre	----	0.1	g/kg	No	----	----	----	----	
Sample weight (dry)	----	0.01	g	168	----	----	----	----	
APPROVED IDENTIFIER:	----	-	--	B.SCHRADER	----	----	----	----	
EG005(ED093)T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg	17	<5	----	----	<5	
Cadmium	7440-43-9	1	mg/kg	<1	<1	----	----	<1	
Chromium	7440-47-3	2	mg/kg	15	3	----	----	14	
Copper	7440-50-8	5	mg/kg	293	18	----	----	12	
Lead	7439-92-1	5	mg/kg	772	36	----	----	5	
Nickel	7440-02-0	2	mg/kg	37	3	----	----	8	
Zinc	7440-66-6	5	mg/kg	242	46	----	----	34	
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg	0.3	<0.1	----	----	<0.1	
EP066: Polychlorinated Biphenyls (PCB)									
Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	----	----	<0.1	
EP068A: Organochlorine Pesticides (OC)									
alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	----	----	<0.05	
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	----	----	<0.05	
beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	----	----	<0.05	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	BH01_0.2	BH01_1.0	BH01_2.0	BH01_4.0	BH01_5.5
Sampling date / time				08-Feb-2022 00:00					
Compound	CAS Number	LOR	Unit	ES2204270-001	ES2204270-003	ES2204270-004	ES2204270-006	ES2204270-007	
				Result	Result	Result	Result	Result	
EP068A: Organochlorine Pesticides (OC) - Continued									
gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	----	----	<0.05	
delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	----	----	<0.05	
Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	----	----	<0.05	
Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	----	----	<0.05	
Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	----	----	<0.05	
^ Total Chlordane (sum)	----	0.05	mg/kg	<0.05	<0.05	----	----	<0.05	
trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	----	----	<0.05	
alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	----	----	<0.05	
cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	----	----	<0.05	
Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	----	----	<0.05	
4,4'-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	----	----	<0.05	
Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	----	----	<0.05	
beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	----	----	<0.05	
^ Endosulfan (sum)	115-29-7	0.05	mg/kg	<0.05	<0.05	----	----	<0.05	
4,4'-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	----	----	<0.05	
Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	----	----	<0.05	
Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	----	----	<0.05	
4,4'-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	----	----	<0.2	
Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	----	----	<0.05	
Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	----	----	<0.2	
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	<0.05	<0.05	----	----	<0.05	
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-29-3	0.05	mg/kg	<0.05	<0.05	----	----	<0.05	
EP068B: Organophosphorus Pesticides (OP)									
Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	----	----	<0.05	
Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	----	----	<0.05	
Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	----	----	<0.2	
Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	----	----	<0.05	
Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	----	----	<0.05	
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	----	----	<0.05	
Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	----	----	<0.2	
Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	----	----	<0.05	
Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	----	----	<0.05	
Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	----	----	<0.05	
Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	----	----	<0.2	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	BH01_0.2	BH01_1.0	BH01_2.0	BH01_4.0	BH01_5.5
Sampling date / time				08-Feb-2022 00:00					
Compound	CAS Number	LOR	Unit	ES2204270-001	ES2204270-003	ES2204270-004	ES2204270-006	ES2204270-007	
				Result	Result	Result	Result	Result	
EP068B: Organophosphorus Pesticides (OP) - Continued									
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	----	----	<0.05	
Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	----	----	<0.05	
Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	----	----	<0.05	
Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	----	----	<0.05	
Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	----	----	<0.05	
Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	----	----	<0.05	
Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	----	----	<0.05	
Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	----	----	<0.05	
EP074A: Monocyclic Aromatic Hydrocarbons									
Styrene	100-42-5	0.5	mg/kg	<0.5	<0.5	----	----	----	
Isopropylbenzene	98-82-8	0.5	mg/kg	<0.5	<0.5	----	----	----	
n-Propylbenzene	103-65-1	0.5	mg/kg	<0.5	<0.5	----	----	----	
1,3,5-Trimethylbenzene	108-67-8	0.5	mg/kg	<0.5	<0.5	----	----	----	
sec-Butylbenzene	135-98-8	0.5	mg/kg	<0.5	<0.5	----	----	----	
1,2,4-Trimethylbenzene	95-63-6	0.5	mg/kg	<0.5	<0.5	----	----	----	
tert-Butylbenzene	98-06-6	0.5	mg/kg	<0.5	<0.5	----	----	----	
p-Isopropyltoluene	99-87-6	0.5	mg/kg	<0.5	<0.5	----	----	----	
n-Butylbenzene	104-51-8	0.5	mg/kg	<0.5	<0.5	----	----	----	
EP074B: Oxygenated Compounds									
Vinyl Acetate	108-05-4	5	mg/kg	<5	<5	----	----	----	
2-Butanone (MEK)	78-93-3	5	mg/kg	<5	<5	----	----	----	
4-Methyl-2-pentanone (MIBK)	108-10-1	5	mg/kg	<5	<5	----	----	----	
2-Hexanone (MBK)	591-78-6	5	mg/kg	<5	<5	----	----	----	
EP074C: Sulfonated Compounds									
Carbon disulfide	75-15-0	0.5	mg/kg	<0.5	<0.5	----	----	----	
EP074D: Fumigants									
2,2-Dichloropropane	594-20-7	0.5	mg/kg	<0.5	<0.5	----	----	----	
1,2-Dichloropropane	78-87-5	0.5	mg/kg	<0.5	<0.5	----	----	----	
cis-1,3-Dichloropropylene	10061-01-5	0.5	mg/kg	<0.5	<0.5	----	----	----	
trans-1,3-Dichloropropylene	10061-02-6	0.5	mg/kg	<0.5	<0.5	----	----	----	
1,2-Dibromoethane (EDB)	106-93-4	0.5	mg/kg	<0.5	<0.5	----	----	----	
EP074E: Halogenated Aliphatic Compounds									
Dichlorodifluoromethane	75-71-8	5	mg/kg	<5	<5	----	----	----	
Chloromethane	74-87-3	5	mg/kg	<5	<5	----	----	----	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	BH01_0.2	BH01_1.0	BH01_2.0	BH01_4.0	BH01_5.5
Sampling date / time				08-Feb-2022 00:00					
Compound	CAS Number	LOR	Unit	ES2204270-001	ES2204270-003	ES2204270-004	ES2204270-006	ES2204270-007	
				Result	Result	Result	Result	Result	
EP074E: Halogenated Aliphatic Compounds - Continued									
Vinyl chloride	75-01-4	5	mg/kg	<5	<5	----	----	----	
Bromomethane	74-83-9	5	mg/kg	<5	<5	----	----	----	
Chloroethane	75-00-3	5	mg/kg	<5	<5	----	----	----	
Trichlorofluoromethane	75-69-4	5	mg/kg	<5	<5	----	----	----	
1.1-Dichloroethene	75-35-4	0.5	mg/kg	<0.5	<0.5	----	----	----	
Iodomethane	74-88-4	0.5	mg/kg	<0.5	<0.5	----	----	----	
trans-1.2-Dichloroethene	156-60-5	0.5	mg/kg	<0.5	<0.5	----	----	----	
1.1-Dichloroethane	75-34-3	0.5	mg/kg	<0.5	<0.5	----	----	----	
cis-1.2-Dichloroethene	156-59-2	0.5	mg/kg	<0.5	<0.5	----	----	----	
1.1.1-Trichloroethane	71-55-6	0.5	mg/kg	<0.5	<0.5	----	----	----	
1.1-Dichloropropylene	563-58-6	0.5	mg/kg	<0.5	<0.5	----	----	----	
Carbon Tetrachloride	56-23-5	0.5	mg/kg	<0.5	<0.5	----	----	----	
1.2-Dichloroethane	107-06-2	0.5	mg/kg	<0.5	<0.5	----	----	----	
Trichloroethene	79-01-6	0.5	mg/kg	<0.5	<0.5	----	----	----	
Dibromomethane	74-95-3	0.5	mg/kg	<0.5	<0.5	----	----	----	
1.1.2-Trichloroethane	79-00-5	0.5	mg/kg	<0.5	<0.5	----	----	----	
1.3-Dichloropropane	142-28-9	0.5	mg/kg	<0.5	<0.5	----	----	----	
Tetrachloroethene	127-18-4	0.5	mg/kg	<0.5	<0.5	----	----	----	
1.1.1.2-Tetrachloroethane	630-20-6	0.5	mg/kg	<0.5	<0.5	----	----	----	
trans-1.4-Dichloro-2-butene	110-57-6	0.5	mg/kg	<0.5	<0.5	----	----	----	
cis-1.4-Dichloro-2-butene	1476-11-5	0.5	mg/kg	<0.5	<0.5	----	----	----	
1.1.2.2-Tetrachloroethane	79-34-5	0.5	mg/kg	<0.5	<0.5	----	----	----	
1.2.3-Trichloropropane	96-18-4	0.5	mg/kg	<0.5	<0.5	----	----	----	
Pentachloroethane	76-01-7	0.5	mg/kg	<0.5	<0.5	----	----	----	
1.2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg	<0.5	<0.5	----	----	----	
EP074F: Halogenated Aromatic Compounds									
Chlorobenzene	108-90-7	0.5	mg/kg	<0.5	<0.5	----	----	----	
Bromobenzene	108-86-1	0.5	mg/kg	<0.5	<0.5	----	----	----	
2-Chlorotoluene	95-49-8	0.5	mg/kg	<0.5	<0.5	----	----	----	
4-Chlorotoluene	106-43-4	0.5	mg/kg	<0.5	<0.5	----	----	----	
1.2.3-Trichlorobenzene	87-61-6	0.5	mg/kg	<0.5	<0.5	----	----	----	
EP074G: Trihalomethanes									
Chloroform	67-66-3	0.5	mg/kg	<0.5	<0.5	----	----	----	
Bromodichloromethane	75-27-4	0.5	mg/kg	<0.5	<0.5	----	----	----	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	BH01_0.2	BH01_1.0	BH01_2.0	BH01_4.0	BH01_5.5
Sampling date / time				08-Feb-2022 00:00					
Compound	CAS Number	LOR	Unit	ES2204270-001	ES2204270-003	ES2204270-004	ES2204270-006	ES2204270-007	
				Result	Result	Result	Result	Result	
EP074G: Trihalomethanes - Continued									
Dibromochloromethane	124-48-1	0.5	mg/kg	<0.5	<0.5	----	----	----	
Bromoform	75-25-2	0.5	mg/kg	<0.5	<0.5	----	----	----	
EP075(SIM)A: Phenolic Compounds									
Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	----	----	<0.5	
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	----	----	<0.5	
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	----	----	<0.5	
3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	----	----	<1	
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	----	----	<0.5	
2,4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	----	----	<0.5	
2,4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	----	----	<0.5	
2,6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	----	----	<0.5	
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	----	----	<0.5	
2,4,6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	----	----	<0.5	
2,4,5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	----	----	<0.5	
Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	----	----	<2	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	----	----	<0.5	
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	----	----	<0.5	
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	----	----	<0.5	
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	----	----	<0.5	
Phenanthrene	85-01-8	0.5	mg/kg	0.9	<0.5	----	----	<0.5	
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	----	----	<0.5	
Fluoranthene	206-44-0	0.5	mg/kg	1.9	0.6	----	----	<0.5	
Pyrene	129-00-0	0.5	mg/kg	2.0	0.5	----	----	<0.5	
Benz(a)anthracene	56-55-3	0.5	mg/kg	1.4	<0.5	----	----	<0.5	
Chrysene	218-01-9	0.5	mg/kg	1.2	<0.5	----	----	<0.5	
Benzo(b+j)fluoranthene	205-99-2	205-82-3	0.5	mg/kg	2.0	<0.5	----	<0.5	
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	0.8	<0.5	----	----	<0.5	
Benzo(a)pyrene	50-32-8	0.5	mg/kg	1.5	<0.5	----	----	<0.5	
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	1.0	<0.5	----	----	<0.5	
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	----	----	<0.5	
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	0.9	<0.5	----	----	<0.5	
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	13.6	1.1	----	----	<0.5	
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	2.0	<0.5	----	----	<0.5	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	BH01_0.2	BH01_1.0	BH01_2.0	BH01_4.0	BH01_5.5
Sampling date / time				08-Feb-2022 00:00					
Compound	CAS Number	LOR	Unit	ES2204270-001	ES2204270-003	ES2204270-004	ES2204270-006	ES2204270-007	
				Result	Result	Result	Result	Result	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	2.3	0.6	----	----	0.6	
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	2.5	1.2	----	----	1.2	
EP075B: Polynuclear Aromatic Hydrocarbons									
2-Methylnaphthalene	91-57-6	0.5	mg/kg	<0.5	<0.5	----	----	----	
2-Chloronaphthalene	91-58-7	0.5	mg/kg	<0.5	<0.5	----	----	----	
N-2-Fluorenyl Acetamide	53-96-3	0.5	mg/kg	<0.5	<0.5	----	----	----	
7.12-Dimethylbenz(a)anthracene	57-97-6	0.5	mg/kg	<0.5	<0.5	----	----	----	
3-Methylcholanthrene	56-49-5	0.5	mg/kg	<0.5	<0.5	----	----	----	
EP075C: Phthalate Esters									
Dimethyl phthalate	131-11-3	0.5	mg/kg	<0.5	<0.5	----	----	----	
Diethyl phthalate	84-66-2	0.5	mg/kg	<0.5	<0.5	----	----	----	
Di-n-butyl phthalate	84-74-2	0.5	mg/kg	1.0	<0.5	----	----	----	
Butyl benzyl phthalate	85-68-7	0.5	mg/kg	<0.5	<0.5	----	----	----	
bis(2-ethylhexyl) phthalate	117-81-7	5.0	mg/kg	<5.0	<5.0	----	----	----	
Di-n-octylphthalate	117-84-0	0.5	mg/kg	<0.5	<0.5	----	----	----	
EP075D: Nitrosamines									
N-Nitrosomethylethylamine	10595-95-6	0.5	mg/kg	<0.5	<0.5	----	----	----	
N-Nitrosodiethylamine	55-18-5	0.5	mg/kg	<0.5	<0.5	----	----	----	
N-Nitrosopyrrolidine	930-55-2	1.0	mg/kg	<1.0	<1.0	----	----	----	
N-Nitrosomorpholine	59-89-2	0.5	mg/kg	<0.5	<0.5	----	----	----	
N-Nitrosodi-n-propylamine	621-64-7	0.5	mg/kg	<0.5	<0.5	----	----	----	
N-Nitrosopiperidine	100-75-4	0.5	mg/kg	<0.5	<0.5	----	----	----	
N-Nitrosodibutylamine	924-16-3	0.5	mg/kg	<0.5	<0.5	----	----	----	
N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	1.0	mg/kg	<1.0	<1.0	----	----	----	
Methapyrilene	91-80-5	0.5	mg/kg	<0.5	<0.5	----	----	----	
EP075E: Nitroaromatics and Ketones									
2-Picoline	109-06-8	0.5	mg/kg	<0.5	<0.5	----	----	----	
Acetophenone	98-86-2	0.5	mg/kg	<0.5	<0.5	----	----	----	
Nitrobenzene	98-95-3	0.5	mg/kg	<0.5	<0.5	----	----	----	
Isophorone	78-59-1	0.5	mg/kg	<0.5	<0.5	----	----	----	
2,6-Dinitrotoluene	606-20-2	1.0	mg/kg	<1.0	<1.0	----	----	----	
2,4-Dinitrotoluene	121-14-2	1.0	mg/kg	<1.0	<1.0	----	----	----	
1-Naphthylamine	134-32-7	0.5	mg/kg	<0.5	<0.5	----	----	----	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	BH01_0.2	BH01_1.0	BH01_2.0	BH01_4.0	BH01_5.5
Sampling date / time				08-Feb-2022 00:00					
Compound	CAS Number	LOR	Unit	ES2204270-001	ES2204270-003	ES2204270-004	ES2204270-006	ES2204270-007	
				Result	Result	Result	Result	Result	
EP075E: Nitroaromatics and Ketones - Continued									
4-Nitroquinoline-N-oxide	56-57-5	0.5	mg/kg	<0.5	<0.5	----	----	----	
5-Nitro-o-toluidine	99-55-8	0.5	mg/kg	<0.5	<0.5	----	----	----	
Azobenzene	103-33-3	1	mg/kg	<1	<1	----	----	----	
1,3,5-Trinitrobenzene	99-35-4	0.5	mg/kg	<0.5	<0.5	----	----	----	
Phenacetin	62-44-2	0.5	mg/kg	<0.5	<0.5	----	----	----	
4-Aminobiphenyl	92-67-1	0.5	mg/kg	<0.5	<0.5	----	----	----	
Pentachloronitrobenzene	82-68-8	0.5	mg/kg	<0.5	<0.5	----	----	----	
Pronamide	23950-58-5	0.5	mg/kg	<0.5	<0.5	----	----	----	
Dimethylaminoazobenzene	60-11-7	0.5	mg/kg	<0.5	<0.5	----	----	----	
Chlorobenzilate	510-15-6	0.5	mg/kg	<0.5	<0.5	----	----	----	
EP075F: Haloethers									
Bis(2-chloroethyl) ether	111-44-4	0.5	mg/kg	<0.5	<0.5	----	----	----	
Bis(2-chloroethoxy) methane	111-91-1	0.5	mg/kg	<0.5	<0.5	----	----	----	
4-Chlorophenyl phenyl ether	7005-72-3	0.5	mg/kg	<0.5	<0.5	----	----	----	
4-Bromophenyl phenyl ether	101-55-3	0.5	mg/kg	<0.5	<0.5	----	----	----	
EP075G: Chlorinated Hydrocarbons									
1,3-Dichlorobenzene	541-73-1	0.5	mg/kg	<0.5	<0.5	----	----	----	
1,4-Dichlorobenzene	106-46-7	0.5	mg/kg	<0.5	<0.5	----	----	----	
1,2-Dichlorobenzene	95-50-1	0.5	mg/kg	<0.5	<0.5	----	----	----	
Hexachloroethane	67-72-1	0.5	mg/kg	<0.5	<0.5	----	----	----	
1,2,4-Trichlorobenzene	120-82-1	0.5	mg/kg	<0.5	<0.5	----	----	----	
Hexachloropropylene	1888-71-7	0.5	mg/kg	<0.5	<0.5	----	----	----	
Hexachlorobutadiene	87-68-3	0.5	mg/kg	<0.5	<0.5	----	----	----	
Hexachlorocyclopentadiene	77-47-4	2.5	mg/kg	<2.5	<2.5	----	----	----	
Pentachlorobenzene	608-93-5	0.5	mg/kg	<0.5	<0.5	----	----	----	
Hexachlorobenzene (HCB)	118-74-1	1.0	mg/kg	<1.0	<1.0	----	----	----	
EP075H: Anilines and Benzidines									
Aniline	62-53-3	0.5	mg/kg	<0.5	<0.5	----	----	----	
4-Chloroaniline	106-47-8	0.5	mg/kg	<0.5	<0.5	----	----	----	
2-Nitroaniline	88-74-4	1.0	mg/kg	<1.0	<1.0	----	----	----	
3-Nitroaniline	99-09-2	1.0	mg/kg	<1.0	<1.0	----	----	----	
Dibenzofuran	132-64-9	0.5	mg/kg	<0.5	<0.5	----	----	----	
4-Nitroaniline	100-01-6	0.5	mg/kg	<0.5	<0.5	----	----	----	
Carbazole	86-74-8	0.5	mg/kg	<0.5	<0.5	----	----	----	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	BH01_0.2	BH01_1.0	BH01_2.0	BH01_4.0	BH01_5.5
Sampling date / time				08-Feb-2022 00:00					
Compound	CAS Number	LOR	Unit	ES2204270-001	ES2204270-003	ES2204270-004	ES2204270-006	ES2204270-007	
				Result	Result	Result	Result	Result	
EP075H: Anilines and Benzidines - Continued									
3,3'-Dichlorobenzidine	91-94-1	0.5	mg/kg	<0.5	<0.5	----	----	----	
EP075I: Organochlorine Pesticides									
alpha-BHC	319-84-6	0.5	mg/kg	<0.5	<0.5	----	----	----	
beta-BHC	319-85-7	0.5	mg/kg	<0.5	<0.5	----	----	----	
gamma-BHC	58-89-9	0.5	mg/kg	<0.5	<0.5	----	----	----	
delta-BHC	319-86-8	0.5	mg/kg	<0.5	<0.5	----	----	----	
Heptachlor	76-44-8	0.5	mg/kg	<0.5	<0.5	----	----	----	
Aldrin	309-00-2	0.5	mg/kg	<0.5	<0.5	----	----	----	
Heptachlor epoxide	1024-57-3	0.5	mg/kg	<0.5	<0.5	----	----	----	
alpha-Endosulfan	959-98-8	0.5	mg/kg	<0.5	<0.5	----	----	----	
4,4'-DDE	72-55-9	0.5	mg/kg	<0.5	<0.5	----	----	----	
Dieldrin	60-57-1	0.5	mg/kg	<0.5	<0.5	----	----	----	
Endrin	72-20-8	0.5	mg/kg	<0.5	<0.5	----	----	----	
beta-Endosulfan	33213-65-9	0.5	mg/kg	<0.5	<0.5	----	----	----	
4,4'-DDD	72-54-8	0.5	mg/kg	<0.5	<0.5	----	----	----	
Endosulfan sulfate	1031-07-8	0.5	mg/kg	<0.5	<0.5	----	----	----	
4,4'-DDT	50-29-3	1.0	mg/kg	<1.0	<1.0	----	----	----	
EP075J: Organophosphorus Pesticides									
Dichlorvos	62-73-7	0.5	mg/kg	<0.5	<0.5	----	----	----	
Dimethoate	60-51-5	0.5	mg/kg	<0.5	<0.5	----	----	----	
Diazinon	333-41-5	0.5	mg/kg	<0.5	<0.5	----	----	----	
Chlorpyrifos-methyl	5598-13-0	0.5	mg/kg	<0.5	<0.5	----	----	----	
Malathion	121-75-5	0.5	mg/kg	<0.5	<0.5	----	----	----	
Fenthion	55-38-9	0.5	mg/kg	<0.5	<0.5	----	----	----	
Chlorpyrifos	2921-88-2	0.5	mg/kg	<0.5	<0.5	----	----	----	
Pirimphos-ethyl	23505-41-1	0.5	mg/kg	<0.5	<0.5	----	----	----	
Chlorfenvinphos	470-90-6	0.5	mg/kg	<0.5	<0.5	----	----	----	
Prothiofos	34643-46-4	0.5	mg/kg	<0.5	<0.5	----	----	----	
Ethion	563-12-2	0.5	mg/kg	<0.5	<0.5	----	----	----	
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg	<10	<10	----	----	<10	
C10 - C14 Fraction	----	50	mg/kg	<50	<50	----	----	<50	
C15 - C28 Fraction	----	100	mg/kg	<100	<100	----	----	<100	
C29 - C36 Fraction	----	100	mg/kg	<100	<100	----	----	<100	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	BH01_0.2	BH01_1.0	BH01_2.0	BH01_4.0	BH01_5.5		
Sampling date / time				08-Feb-2022 00:00							
Compound	CAS Number	LOR	Unit	ES2204270-001	ES2204270-003	ES2204270-004	ES2204270-006	ES2204270-007			
				Result	Result	Result	Result	Result			
EP080/071: Total Petroleum Hydrocarbons - Continued											
^ C10 - C36 Fraction (sum)				----	50	mg/kg	<50	<50	----	----	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions											
C6 - C10 Fraction				C6_C10	10	mg/kg	<10	<10	----	----	<10
^ C6 - C10 Fraction minus BTEX (F1)				C6_C10-BTEX	10	mg/kg	<10	<10	----	----	<10
>C10 - C16 Fraction				----	50	mg/kg	<50	<50	----	----	<50
>C16 - C34 Fraction				----	100	mg/kg	<100	<100	----	----	<100
>C34 - C40 Fraction				----	100	mg/kg	<100	<100	----	----	<100
^ >C10 - C40 Fraction (sum)				----	50	mg/kg	<50	<50	----	----	<50
^ >C10 - C16 Fraction minus Naphthalene (F2)				----	50	mg/kg	<50	<50	----	----	<50
EP080: BTEXN											
Benzene				71-43-2	0.2	mg/kg	<0.2	<0.2	----	----	<0.2
Toluene				108-88-3	0.5	mg/kg	<0.5	<0.5	----	----	<0.5
Ethylbenzene				100-41-4	0.5	mg/kg	<0.5	<0.5	----	----	<0.5
meta- & para-Xylene				108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	----	----	<0.5
ortho-Xylene				95-47-6	0.5	mg/kg	<0.5	<0.5	----	----	<0.5
^ Sum of BTEX				----	0.2	mg/kg	<0.2	<0.2	----	----	<0.2
^ Total Xylenes				----	0.5	mg/kg	<0.5	<0.5	----	----	<0.5
Naphthalene				91-20-3	1	mg/kg	<1	<1	----	----	<1
EP231A: Perfluoroalkyl Sulfonic Acids											
Perfluorobutane sulfonic acid (PFBS)				375-73-5	0.0002	mg/kg	<0.0002	----	<0.0002	----	<0.0002
Perfluorohexane sulfonic acid (PFHxS)				355-46-4	0.0002	mg/kg	<0.0002	----	<0.0002	----	<0.0002
Perfluorooctane sulfonic acid (PFOS)				1763-23-1	0.0002	mg/kg	<0.0002	----	<0.0002	----	<0.0002
EP231B: Perfluoroalkyl Carboxylic Acids											
Perfluorobutanoic acid (PFBA)				375-22-4	0.001	mg/kg	<0.001	----	<0.001	----	<0.001
Perfluoropentanoic acid (PFPeA)				2706-90-3	0.0002	mg/kg	<0.0002	----	<0.0002	----	<0.0002
Perfluorohexanoic acid (PFHxA)				307-24-4	0.0002	mg/kg	<0.0002	----	<0.0002	----	<0.0002
Perfluoroheptanoic acid (PFHpA)				375-85-9	0.0002	mg/kg	<0.0002	----	<0.0002	----	<0.0002
Perfluorooctanoic acid (PFOA)				335-67-1	0.0002	mg/kg	<0.0002	----	<0.0002	----	<0.0002
EP231D: (n:2) Fluorotelomer Sulfonic Acids											



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	BH01_0.2	BH01_1.0	BH01_2.0	BH01_4.0	BH01_5.5
Sampling date / time				08-Feb-2022 00:00					
Compound	CAS Number	LOR	Unit	ES2204270-001	ES2204270-003	ES2204270-004	ES2204270-006	ES2204270-007	
				Result	Result	Result	Result	Result	
EP231D: (n:2) Fluorotelomer Sulfonic Acids - Continued									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	----	<0.0005	----	<0.0005	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	----	<0.0005	----	<0.0005	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	----	<0.0005	----	<0.0005	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	----	<0.0005	----	<0.0005	
EP231P: PFAS Sums									
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg	<0.0002	----	<0.0002	----	<0.0002	
Sum of PFAS (WA DER List)	----	0.0002	mg/kg	<0.0002	----	<0.0002	----	<0.0002	
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%	110	98.1	----	----	98.0	
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%	104	87.0	----	----	93.1	
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%	121	95.8	----	----	95.2	
EP074S: VOC Surrogates									
1,2-Dichloroethane-D4	17060-07-0	0.5	%	108	108	----	----	----	
Toluene-D8	2037-26-5	0.5	%	108	112	----	----	----	
4-Bromofluorobenzene	460-00-4	0.5	%	110	117	----	----	----	
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%	90.6	93.2	----	----	80.2	
2-Chlorophenol-D4	93951-73-6	0.5	%	105	91.3	----	----	89.2	
2,4,6-Tribromophenol	118-79-6	0.5	%	82.1	79.6	----	----	61.9	
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%	112	109	----	----	97.0	
Anthracene-d10	1719-06-8	0.5	%	102	101	----	----	99.5	
4-Terphenyl-d14	1718-51-0	0.5	%	103	93.7	----	----	79.1	
EP075S: Acid Extractable Surrogates									
2-Fluorophenol	367-12-4	0.5	%	116	74.8	----	----	----	
Phenol-d6	13127-88-3	0.5	%	122	82.3	----	----	----	
2-Chlorophenol-D4	93951-73-6	0.5	%	126	86.1	----	----	----	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	BH01_0.2	BH01_1.0	BH01_2.0	BH01_4.0	BH01_5.5
Sampling date / time				08-Feb-2022 00:00					
Compound	CAS Number	LOR	Unit	ES2204270-001	ES2204270-003	ES2204270-004	ES2204270-006	ES2204270-007	
				Result	Result	Result	Result	Result	
EP075S: Acid Extractable Surrogates - Continued									
2,4,6-Tribromophenol	118-79-6	0.5	%	113	91.9	----	----	----	
EP075T: Base/Neutral Extractable Surrogates									
Nitrobenzene-D5	4165-60-0	0.5	%	110	80.9	----	----	----	
1,2-Dichlorobenzene-D4	2199-69-1	0.5	%	105	74.8	----	----	----	
2-Fluorobiphenyl	321-60-8	0.5	%	116	71.9	----	----	----	
Anthracene-d10	1719-06-8	0.5	%	126	107	----	----	----	
4-Terphenyl-d14	1718-51-0	0.5	%	111	85.9	----	----	----	
EP080S: TPH(V)/BTEX Surrogates									
1,2-Dichloroethane-D4	17060-07-0	0.2	%	79.4	79.4	----	----	93.1	
Toluene-D8	2037-26-5	0.2	%	86.4	89.5	----	----	94.6	
4-Bromofluorobenzene	460-00-4	0.2	%	81.5	86.9	----	----	96.2	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.0002	%	114	----	96.5	----	99.0	
13C8-PFOA	----	0.0002	%	93.5	----	89.0	----	95.0	

Analytical Results

Descriptive Results

Sub-Matrix: SOIL

Method: Compound	Sample ID - Sampling date / time	Analytical Results
EA200: AS 4964 - 2004 Identification of Asbestos in Soils		
EA200: Description	BH01_0.2 - 08-Feb-2022 00:00	A soil sample.



Surrogate Control Limits

Sub-Matrix: SOIL		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP066S: PCB Surrogate			
Decachlorobiphenyl	2051-24-3	39	149
EP068S: Organochlorine Pesticide Surrogate			
Dibromo-DDE	21655-73-2	49	147
EP068T: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	35	143
EP074S: VOC Surrogates			
1,2-Dichloroethane-D4	17060-07-0	64	130
Toluene-D8	2037-26-5	66	136
4-Bromofluorobenzene	460-00-4	60	122
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	63	123
2-Chlorophenol-D4	93951-73-6	66	122
2,4,6-Tribromophenol	118-79-6	40	138
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	70	122
Anthracene-d10	1719-06-8	66	128
4-Terphenyl-d14	1718-51-0	65	129
EP075S: Acid Extractable Surrogates			
2-Fluorophenol	367-12-4	29	149
Phenol-d6	13127-88-3	32	128
2-Chlorophenol-D4	93951-73-6	32	128
2,4,6-Tribromophenol	118-79-6	13	121
EP075T: Base/Neutral Extractable Surrogates			
Nitrobenzene-D5	4165-60-0	33	125
1,2-Dichlorobenzene-D4	2199-69-1	34	108
2-Fluorobiphenyl	321-60-8	35	121
Anthracene-d10	1719-06-8	35	123
4-Terphenyl-d14	1718-51-0	33	125
EP080S: TPH(V)/BTEX Surrogates			
1,2-Dichloroethane-D4	17060-07-0	73	133
Toluene-D8	2037-26-5	74	132
4-Bromofluorobenzene	460-00-4	72	130
EP231S: PFAS Surrogate			
13C4-PFOS	----	60	120
13C8-PFOA	----	60	120



Inter-Laboratory Testing

Analysis conducted by ALS Brisbane, NATA accreditation no. 825, site no. 818 (Chemistry) 18958 (Biology).

(SOIL) EA003 :pH (field/fox)

(SOIL) EA029-D: Calcium Values

(SOIL) EA029-E: Magnesium Values

(SOIL) EA029-F: Excess Acid Neutralising Capacity

(SOIL) EA029-H: Acid Base Accounting

(SOIL) EA029-G: Retained Acidity

(SOIL) EA029-A: pH Measurements

(SOIL) EA029-C: Sulfur Trail

(SOIL) EA029-B: Acidity Trail

Analysis conducted by ALS Newcastle, NATA accreditation no. 825, site no. 1656 (Chemistry) 9854 (Biology).

(SOIL) EA200: AS 4964 - 2004 Identification of Asbestos in Soils

CERTIFICATE OF ANALYSIS

<p>Work Order : ES2204627</p> <p>Client : EP RISK MANAGEMENT</p> <p>Contact : HARRISON BLAKE</p> <p>Address : Level 4 73 Walker St North Sydney 2060</p> <p>Telephone : ----</p> <p>Project : EP2515</p> <p>Order number : ----</p> <p>C-O-C number : ----</p> <p>Sampler : HARRISON BLAKE</p> <p>Site : ----</p> <p>Quote number : SYBQ/401/21</p> <p>No. of samples received : 8</p> <p>No. of samples analysed : 5</p>	<p>Page : 1 of 18</p> <p>Laboratory : Environmental Division Sydney</p> <p>Contact : Tyler Anderson</p> <p>Address : 277-289 Woodpark Road Smithfield NSW Australia 2164</p> <p>Telephone : +61 2 8784 8555</p> <p>Date Samples Received : 10-Feb-2022 10:30</p> <p>Date Analysis Commenced : 14-Feb-2022</p> <p>Issue Date : 22-Feb-2022 17:02</p>
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This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Descriptive Results
- Surrogate Control Limits

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

Signatories

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

<i>Signatories</i>	<i>Position</i>	<i>Accreditation Category</i>
Alana Smylie	Team Leader - Asbestos	Newcastle - Asbestos, Mayfield West, NSW
Ben Felgendrejeris	Senior Acid Sulfate Soil Chemist	Brisbane Acid Sulphate Soils, Stafford, QLD
Edwandy Fadjjar	Organic Coordinator	Sydney Inorganics, Smithfield, NSW
Edwandy Fadjjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Franco Lentini	LCMS Coordinator	Sydney Inorganics, Smithfield, NSW
Franco Lentini	LCMS Coordinator	Sydney Organics, Smithfield, NSW
Ivan Taylor	Analyst	Sydney Inorganics, Smithfield, NSW



General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a,h)anthracene (1.0), Benzo(g,h,i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero, for 'TEQ 1/2LOR' are treated as half the reported LOR, and for 'TEQ LOR' are treated as being equal to the reported LOR. Note: TEQ 1/2LOR and TEQ LOR will calculate as 0.6mg/Kg and 1.2mg/Kg respectively for samples with non-detects for all of the eight TEQ PAHs.
- EP080: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EP068: Where reported, Total Chlordane (sum) is the sum of the reported concentrations of cis-Chlordane and trans-Chlordane at or above the LOR.
- EP068: Where reported, Total OCP is the sum of the reported concentrations of all Organochlorine Pesticides at or above LOR.
- EP074: Where reported, Total Trihalomethanes is the sum of the reported concentrations of all Trihalomethanes at or above the LOR.
- EP074: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EP074: Where reported, Sum of chlorinated hydrocarbons includes carbon tetrachloride, chlorobenzene, chloroform, 1,2-dichlorobenzene, 1,4-dichlorobenzene, 1,2-dichloroethane, 1,1-dichloroethene, cis-1,2-dichloroethene, trans-1,2-dichloroethene, 1,1,1,2-tetrachloroethane, 1,1,2,2-tetrachloroethane, 1,2,4-trichlorobenzene, 1,1,1-trichloroethane, 1,1,2-trichloroethane, trichloroethene, vinyl chloride, hexachlorobutadiene and methylene chloride.
- EP074: Where reported, Total Trimethylbenzenes is the sum of the reported concentrations of 1.2.3-Trimethylbenzene, 1.2.4-Trimethylbenzene and 1.3.5-Trimethylbenzene at or above the LOR.
- EP075(SIM): Where reported, Total Cresol is the sum of the reported concentrations of 2-Methylphenol and 3- & 4-Methylphenol at or above the LOR.
- ASS: EA029 (SPOCAS): Retained Acidity not required because pH KCl greater than or equal to 4.5
- ASS: EA029 (SPOCAS): Excess ANC not required because pH OX less than 6.5.
- EP075: Where reported, 'Sum of PAH' is the sum of the USEPA 16 priority PAHs
- ASS: EA029 (SPOCAS): Liming rate is calculated and reported on a dry weight basis assuming use of fine agricultural lime (CaCO₃) and using a safety factor of 1.5 to allow for non-homogeneous mixing and poor reactivity of lime. For conversion of Liming Rate from kg/t dry weight to kg/m³ in-situ soil, multiply reported results x wet bulk density of soil in t/m³.
- ASS: EA003 (NATA Field and F(ox) screening): pH F(ox) Reaction Rate: 1 - Slight; 2 - Moderate; 3 - Strong; 4 - Extreme
- EA200 'Am' Amosite (brown asbestos)
- EA200 'Cr' Crocidolite (blue asbestos)
- EA200 'Trace' - Asbestos fibres ("Free Fibres") detected by trace analysis per AS4964. The result can be interpreted that the sample contains detectable 'respirable' asbestos fibres
- EA200: Asbestos Identification Samples were analysed by Polarised Light Microscopy including dispersion staining.
- EA200 Legend
- EA200 'Ch' Chrysotile (white asbestos)



- EA200: 'UMF' Unknown Mineral Fibres. "-" indicates fibres detected may or may not be asbestos fibres. Confirmation by alternative techniques is recommended.
- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a,h)anthracene (1.0), Benzo(g,h,i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero, for 'TEQ 1/2LOR' are treated as half the reported LOR, and for 'TEQ LOR' are treated as being equal to the reported LOR.
Note: TEQ 1/2LOR and TEQ LOR will calculate as 0.6mg/Kg and 1.2mg/Kg respectively for samples with non-detects for all of the eight TEQ PAHs.
- EA200: For samples larger than 30g, the <2mm fraction may be sub-sampled prior to trace analysis as outlined in ISO23909:2008(E) Sect 6.3.2-2
- EA200: 'Yes' - Asbestos detected by polarised light microscopy including dispersion staining.
- EA200: 'No*' - No asbestos found, at the reporting limit of 0.1g/kg, by polarised light microscopy including dispersion staining. Asbestos material was detected and positively identified at concentrations estimated to be below 0.1g/kg.
- EA200: 'No' - No asbestos found at the reporting limit 0.1g/kg, by polarised light microscopy including dispersion staining.
- EP231: Stable isotope enriched internal standards are added to samples prior to extraction. Target compounds have a direct analogous internal standard with the exception of PFPeS, PFHpA, PFDS, PFTrDA and 10:2 FTS. These compounds use an internal standard that is chemically related and has a retention time close to that of the target compound. The DQO for internal standard response is 50-150% of that established at initial calibration. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS (Australian HEPA) and also conform to QSM 5.3 (US DoD) requirements.



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	BH02_0.1	BH02_1.0	BH02_2.0	BH02_4.0	BH02_5.5
Sampling date / time				09-Feb-2022 00:00					
Compound	CAS Number	LOR	Unit	ES2204627-001	ES2204627-002	ES2204627-003	ES2204627-005	ES2204627-006	
				Result	Result	Result	Result	Result	
EA003 :pH (field/fox)									
pH (F)	----	0.1	pH Unit	----	----	7.0	6.4	----	
pH (Fox)	----	0.1	pH Unit	----	----	4.4	4.6	----	
Reaction Rate	----	1	Reaction Unit	----	----	2	2	----	
EA029-A: pH Measurements									
pH KCl (23A)	----	0.1	pH Unit	----	----	----	4.9	----	
pH OX (23B)	----	0.1	pH Unit	----	----	----	5.1	----	
EA029-B: Acidity Trail									
Titrateable Actual Acidity (23F)	----	2	mole H+ / t	----	----	----	12	----	
Titrateable Peroxide Acidity (23G)	----	2	mole H+ / t	----	----	----	<2	----	
Titrateable Sulfidic Acidity (23H)	----	2	mole H+ / t	----	----	----	<2	----	
sulfidic - Titrateable Actual Acidity (s-23F)	----	0.020	% pyrite S	----	----	----	0.020	----	
sulfidic - Titrateable Peroxide Acidity (s-23G)	----	0.020	% pyrite S	----	----	----	<0.020	----	
sulfidic - Titrateable Sulfidic Acidity (s-23H)	----	0.020	% pyrite S	----	----	----	<0.020	----	
EA029-C: Sulfur Trail									
KCl Extractable Sulfur (23Ce)	----	0.020	% S	----	----	----	<0.020	----	
Peroxide Sulfur (23De)	----	0.020	% S	----	----	----	<0.020	----	
Peroxide Oxidisable Sulfur (23E)	----	0.020	% S	----	----	----	<0.020	----	
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	----	----	----	<10	----	
EA029-D: Calcium Values									
KCl Extractable Calcium (23Vh)	----	0.020	% Ca	----	----	----	<0.020	----	
Peroxide Calcium (23Wh)	----	0.020	% Ca	----	----	----	<0.020	----	
Acid Reacted Calcium (23X)	----	0.020	% Ca	----	----	----	<0.020	----	
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	----	----	----	<10	----	
sulfidic - Acid Reacted Calcium (s-23X)	----	0.020	% S	----	----	----	<0.020	----	
EA029-E: Magnesium Values									
KCl Extractable Magnesium (23Sm)	----	0.020	% Mg	----	----	----	<0.020	----	
Peroxide Magnesium (23Tm)	----	0.020	% Mg	----	----	----	<0.020	----	
Acid Reacted Magnesium (23U)	----	0.020	% Mg	----	----	----	<0.020	----	
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	----	----	----	<10	----	
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.020	% S	----	----	----	<0.020	----	
EA029-H: Acid Base Accounting									



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	BH02_0.1	BH02_1.0	BH02_2.0	BH02_4.0	BH02_5.5
Sampling date / time				09-Feb-2022 00:00					
Compound	CAS Number	LOR	Unit	ES2204627-001	ES2204627-002	ES2204627-003	ES2204627-005	ES2204627-006	
				Result	Result	Result	Result	Result	
EA029-H: Acid Base Accounting - Continued									
ANC Fineness Factor	----	0.5	-	----	----	----	1.5	----	
Net Acidity (sulfur units)	----	0.02	% S	----	----	----	0.02	----	
Net Acidity (acidity units)	----	10	mole H+ / t	----	----	----	12	----	
Liming Rate	----	1	kg CaCO3/t	----	----	----	<1	----	
Net Acidity excluding ANC (sulfur units)	----	0.02	% S	----	----	----	0.02	----	
Net Acidity excluding ANC (acidity units)	----	10	mole H+ / t	----	----	----	12	----	
Liming Rate excluding ANC	----	1	kg CaCO3/t	----	----	----	<1	----	
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	0.1	%	----	----	----	----	18.5	
Moisture Content	----	1.0	%	28.0	7.3	20.6	----	----	
EA200: AS 4964 - 2004 Identification of Asbestos in Soils									
Asbestos Detected	1332-21-4	0.1	g/kg	No	----	----	----	----	
Asbestos (Trace)	1332-21-4	5	Fibres	No	----	----	----	----	
Asbestos Type	1332-21-4	-	--	-	----	----	----	----	
Synthetic Mineral Fibre	----	0.1	g/kg	No	----	----	----	----	
Organic Fibre	----	0.1	g/kg	No	----	----	----	----	
Sample weight (dry)	----	0.01	g	49.5	----	----	----	----	
APPROVED IDENTIFIER:	----	-	--	A. SMYLIE	----	----	----	----	
EG005(ED093)T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg	7	9	<5	----	----	
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	----	----	
Chromium	7440-47-3	2	mg/kg	15	7	3	----	----	
Copper	7440-50-8	5	mg/kg	717	106	18	----	----	
Lead	7439-92-1	5	mg/kg	819	245	27	----	----	
Nickel	7440-02-0	2	mg/kg	85	19	3	----	----	
Zinc	7440-66-6	5	mg/kg	1330	320	84	----	----	
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg	0.2	0.2	<0.1	----	----	
EP066: Polychlorinated Biphenyls (PCB)									
Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	<0.1	----	----	
EP068A: Organochlorine Pesticides (OC)									
alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	<0.05	----	----	
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	<0.05	----	----	
beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	<0.05	----	----	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	BH02_0.1	BH02_1.0	BH02_2.0	BH02_4.0	BH02_5.5
Sampling date / time				09-Feb-2022 00:00					
Compound	CAS Number	LOR	Unit	ES2204627-001	ES2204627-002	ES2204627-003	ES2204627-005	ES2204627-006	
				Result	Result	Result	Result	Result	
EP068A: Organochlorine Pesticides (OC) - Continued									
gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	<0.05	----	----	
delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	----	----	
Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	<0.05	----	----	
Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	<0.05	----	----	
Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	<0.05	----	----	
^ Total Chlordane (sum)	----	0.05	mg/kg	<0.05	<0.05	<0.05	----	----	
trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	<0.05	----	----	
alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	<0.05	----	----	
cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	<0.05	----	----	
Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	<0.05	----	----	
4,4'-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	<0.05	----	----	
Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	<0.05	----	----	
beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	<0.05	----	----	
^ Endosulfan (sum)	115-29-7	0.05	mg/kg	<0.05	<0.05	<0.05	----	----	
4,4'-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	<0.05	----	----	
Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	<0.05	----	----	
Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	<0.05	----	----	
4,4'-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	<0.2	----	----	
Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	<0.05	----	----	
Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	<0.2	----	----	
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	<0.05	<0.05	<0.05	----	----	
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-29-3	0.05	mg/kg	<0.05	<0.05	<0.05	----	----	
EP068B: Organophosphorus Pesticides (OP)									
Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	<0.05	----	----	
Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	----	----	
Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	<0.2	----	----	
Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	<0.05	----	----	
Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	<0.05	----	----	
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	<0.05	----	----	
Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	<0.2	----	----	
Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	<0.05	----	----	
Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	<0.05	----	----	
Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	<0.05	----	----	
Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	<0.2	----	----	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	BH02_0.1	BH02_1.0	BH02_2.0	BH02_4.0	BH02_5.5
Sampling date / time				09-Feb-2022 00:00					
Compound	CAS Number	LOR	Unit	ES2204627-001	ES2204627-002	ES2204627-003	ES2204627-005	ES2204627-006	
				Result	Result	Result	Result	Result	
EP068B: Organophosphorus Pesticides (OP) - Continued									
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	<0.05	----	----	
Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	<0.05	----	----	
Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	<0.05	----	----	
Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	<0.05	----	----	
Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	<0.05	----	----	
Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	<0.05	----	----	
Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	<0.05	----	----	
Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	<0.05	----	----	
EP074A: Monocyclic Aromatic Hydrocarbons									
Styrene	100-42-5	0.5	mg/kg	<0.5	<0.5	----	----	----	
Isopropylbenzene	98-82-8	0.5	mg/kg	<0.5	<0.5	----	----	----	
n-Propylbenzene	103-65-1	0.5	mg/kg	<0.5	<0.5	----	----	----	
1,3,5-Trimethylbenzene	108-67-8	0.5	mg/kg	<0.5	<0.5	----	----	----	
sec-Butylbenzene	135-98-8	0.5	mg/kg	<0.5	<0.5	----	----	----	
1,2,4-Trimethylbenzene	95-63-6	0.5	mg/kg	<0.5	<0.5	----	----	----	
tert-Butylbenzene	98-06-6	0.5	mg/kg	<0.5	<0.5	----	----	----	
p-Isopropyltoluene	99-87-6	0.5	mg/kg	<0.5	<0.5	----	----	----	
n-Butylbenzene	104-51-8	0.5	mg/kg	<0.5	<0.5	----	----	----	
EP074B: Oxygenated Compounds									
Vinyl Acetate	108-05-4	5	mg/kg	<5	<5	----	----	----	
2-Butanone (MEK)	78-93-3	5	mg/kg	<5	<5	----	----	----	
4-Methyl-2-pentanone (MIBK)	108-10-1	5	mg/kg	<5	<5	----	----	----	
2-Hexanone (MBK)	591-78-6	5	mg/kg	<5	<5	----	----	----	
EP074C: Sulfonated Compounds									
Carbon disulfide	75-15-0	0.5	mg/kg	<0.5	<0.5	----	----	----	
EP074D: Fumigants									
2,2-Dichloropropane	594-20-7	0.5	mg/kg	<0.5	<0.5	----	----	----	
1,2-Dichloropropane	78-87-5	0.5	mg/kg	<0.5	<0.5	----	----	----	
cis-1,3-Dichloropropylene	10061-01-5	0.5	mg/kg	<0.5	<0.5	----	----	----	
trans-1,3-Dichloropropylene	10061-02-6	0.5	mg/kg	<0.5	<0.5	----	----	----	
1,2-Dibromoethane (EDB)	106-93-4	0.5	mg/kg	<0.5	<0.5	----	----	----	
EP074E: Halogenated Aliphatic Compounds									
Dichlorodifluoromethane	75-71-8	5	mg/kg	<5	<5	----	----	----	
Chloromethane	74-87-3	5	mg/kg	<5	<5	----	----	----	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	BH02_0.1	BH02_1.0	BH02_2.0	BH02_4.0	BH02_5.5
Sampling date / time				09-Feb-2022 00:00					
Compound	CAS Number	LOR	Unit	ES2204627-001	ES2204627-002	ES2204627-003	ES2204627-005	ES2204627-006	
				Result	Result	Result	Result	Result	
EP074E: Halogenated Aliphatic Compounds - Continued									
Vinyl chloride	75-01-4	5	mg/kg	<5	<5	----	----	----	
Bromomethane	74-83-9	5	mg/kg	<5	<5	----	----	----	
Chloroethane	75-00-3	5	mg/kg	<5	<5	----	----	----	
Trichlorofluoromethane	75-69-4	5	mg/kg	<5	<5	----	----	----	
1.1-Dichloroethene	75-35-4	0.5	mg/kg	<0.5	<0.5	----	----	----	
Iodomethane	74-88-4	0.5	mg/kg	<0.5	<0.5	----	----	----	
trans-1.2-Dichloroethene	156-60-5	0.5	mg/kg	<0.5	<0.5	----	----	----	
1.1-Dichloroethane	75-34-3	0.5	mg/kg	<0.5	<0.5	----	----	----	
cis-1.2-Dichloroethene	156-59-2	0.5	mg/kg	<0.5	<0.5	----	----	----	
1.1.1-Trichloroethane	71-55-6	0.5	mg/kg	<0.5	<0.5	----	----	----	
1.1-Dichloropropylene	563-58-6	0.5	mg/kg	<0.5	<0.5	----	----	----	
Carbon Tetrachloride	56-23-5	0.5	mg/kg	<0.5	<0.5	----	----	----	
1.2-Dichloroethane	107-06-2	0.5	mg/kg	<0.5	<0.5	----	----	----	
Trichloroethene	79-01-6	0.5	mg/kg	<0.5	<0.5	----	----	----	
Dibromomethane	74-95-3	0.5	mg/kg	<0.5	<0.5	----	----	----	
1.1.2-Trichloroethane	79-00-5	0.5	mg/kg	<0.5	<0.5	----	----	----	
1.3-Dichloropropane	142-28-9	0.5	mg/kg	<0.5	<0.5	----	----	----	
Tetrachloroethene	127-18-4	0.5	mg/kg	<0.5	<0.5	----	----	----	
1.1.1.2-Tetrachloroethane	630-20-6	0.5	mg/kg	<0.5	<0.5	----	----	----	
trans-1.4-Dichloro-2-butene	110-57-6	0.5	mg/kg	<0.5	<0.5	----	----	----	
cis-1.4-Dichloro-2-butene	1476-11-5	0.5	mg/kg	<0.5	<0.5	----	----	----	
1.1.2.2-Tetrachloroethane	79-34-5	0.5	mg/kg	<0.5	<0.5	----	----	----	
1.2.3-Trichloropropane	96-18-4	0.5	mg/kg	<0.5	<0.5	----	----	----	
Pentachloroethane	76-01-7	0.5	mg/kg	<0.5	<0.5	----	----	----	
1.2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg	<0.5	<0.5	----	----	----	
EP074F: Halogenated Aromatic Compounds									
Chlorobenzene	108-90-7	0.5	mg/kg	<0.5	<0.5	----	----	----	
Bromobenzene	108-86-1	0.5	mg/kg	<0.5	<0.5	----	----	----	
2-Chlorotoluene	95-49-8	0.5	mg/kg	<0.5	<0.5	----	----	----	
4-Chlorotoluene	106-43-4	0.5	mg/kg	<0.5	<0.5	----	----	----	
1.2.3-Trichlorobenzene	87-61-6	0.5	mg/kg	<0.5	<0.5	----	----	----	
EP074G: Trihalomethanes									
Chloroform	67-66-3	0.5	mg/kg	<0.5	<0.5	----	----	----	
Bromodichloromethane	75-27-4	0.5	mg/kg	<0.5	<0.5	----	----	----	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	BH02_0.1	BH02_1.0	BH02_2.0	BH02_4.0	BH02_5.5
Sampling date / time				09-Feb-2022 00:00					
Compound	CAS Number	LOR	Unit	ES2204627-001	ES2204627-002	ES2204627-003	ES2204627-005	ES2204627-006	
				Result	Result	Result	Result	Result	
EP074G: Trihalomethanes - Continued									
Dibromochloromethane	124-48-1	0.5	mg/kg	<0.5	<0.5	----	----	----	
Bromoform	75-25-2	0.5	mg/kg	<0.5	<0.5	----	----	----	
EP075(SIM)A: Phenolic Compounds									
Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	<0.5	----	----	
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	<0.5	----	----	
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	<0.5	----	----	
3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	<1	----	----	
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	<0.5	----	----	
2,4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	<0.5	----	----	
2,4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	<0.5	----	----	
2,6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	<0.5	----	----	
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	<0.5	----	----	
2,4,6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	<0.5	----	----	
2,4,5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	<0.5	----	----	
Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	<2	----	----	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	----	----	
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	<0.5	----	----	
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	----	----	
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	----	----	
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	<0.5	----	----	
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	<0.5	----	----	
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	1.3	<0.5	----	----	
Pyrene	129-00-0	0.5	mg/kg	<0.5	1.3	<0.5	----	----	
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	0.6	<0.5	----	----	
Chrysene	218-01-9	0.5	mg/kg	<0.5	0.6	<0.5	----	----	
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	0.9	<0.5	----	----	
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	<0.5	----	----	
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	0.7	<0.5	----	----	
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	<0.5	----	----	
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	<0.5	----	----	
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	<0.5	----	----	
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	5.4	<0.5	----	----	
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	0.8	<0.5	----	----	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	BH02_0.1	BH02_1.0	BH02_2.0	BH02_4.0	BH02_5.5
Sampling date / time				09-Feb-2022 00:00					
Compound	CAS Number	LOR	Unit	ES2204627-001	ES2204627-002	ES2204627-003	ES2204627-005	ES2204627-006	
				Result	Result	Result	Result	Result	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	0.6	1.2	0.6	----	----	
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	1.2	1.5	1.2	----	----	
EP075A: Phenolic Compounds									
Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	----	----	----	
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	----	----	----	
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	----	----	----	
3- & 4-Methylphenol	1319-77-3	0.5	mg/kg	<0.5	<0.5	----	----	----	
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	----	----	----	
2,4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	----	----	----	
2,4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	----	----	----	
2,6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	----	----	----	
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	----	----	----	
2,4,6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	----	----	----	
2,4,5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	----	----	----	
Pentachlorophenol	87-86-5	1	mg/kg	<1	<1	----	----	----	
EP075B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	----	----	----	
2-Methylnaphthalene	91-57-6	0.5	mg/kg	<0.5	<0.5	----	----	----	
2-Chloronaphthalene	91-58-7	0.5	mg/kg	<0.5	<0.5	----	----	----	
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	----	----	----	
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	----	----	----	
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	----	----	----	
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	----	----	----	
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	----	----	----	
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	1.2	----	----	----	
Pyrene	129-00-0	0.5	mg/kg	<0.5	1.2	----	----	----	
N-2-Fluorenyl Acetamide	53-96-3	0.5	mg/kg	<0.5	<0.5	----	----	----	
Benzo(a)anthracene	56-55-3	0.5	mg/kg	<0.5	0.7	----	----	----	
Chrysene	218-01-9	0.5	mg/kg	<0.5	0.6	----	----	----	
Benzo(b+j) & Benzo(k)fluoranthene	205-99-2 207-08-9	1	mg/kg	<1	1	----	----	----	
7,12-Dimethylbenzo(a)anthracene	57-97-6	0.5	mg/kg	<0.5	<0.5	----	----	----	
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	0.7	----	----	----	
3-Methylcholanthrene	56-49-5	0.5	mg/kg	<0.5	<0.5	----	----	----	
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	----	----	----	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	BH02_0.1	BH02_1.0	BH02_2.0	BH02_4.0	BH02_5.5
Sampling date / time				09-Feb-2022 00:00					
Compound	CAS Number	LOR	Unit	ES2204627-001	ES2204627-002	ES2204627-003	ES2204627-005	ES2204627-006	
				Result	Result	Result	Result	Result	
EP075B: Polynuclear Aromatic Hydrocarbons - Continued									
Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	----	----	----	
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	----	----	----	
^ Sum of PAHs	----	0.5	mg/kg	<0.5	5.4	----	----	----	
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	0.9	----	----	----	
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	0.6	1.2	----	----	----	
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	1.2	1.4	----	----	----	
EP075C: Phthalate Esters									
Dimethyl phthalate	131-11-3	0.5	mg/kg	<0.5	<0.5	----	----	----	
Diethyl phthalate	84-66-2	0.5	mg/kg	<0.5	<0.5	----	----	----	
Di-n-butyl phthalate	84-74-2	0.5	mg/kg	<0.5	<0.5	----	----	----	
Butyl benzyl phthalate	85-68-7	0.5	mg/kg	<0.5	<0.5	----	----	----	
bis(2-ethylhexyl) phthalate	117-81-7	5.0	mg/kg	<5.0	<5.0	----	----	----	
Di-n-octylphthalate	117-84-0	0.5	mg/kg	<0.5	<0.5	----	----	----	
EP075D: Nitrosamines									
N-Nitrosomethylethylamine	10595-95-6	0.5	mg/kg	<0.5	<0.5	----	----	----	
N-Nitrosodiethylamine	55-18-5	0.5	mg/kg	<0.5	<0.5	----	----	----	
N-Nitrosopyrrolidine	930-55-2	1.0	mg/kg	<1.0	<1.0	----	----	----	
N-Nitrosomorpholine	59-89-2	0.5	mg/kg	<0.5	<0.5	----	----	----	
N-Nitrosodi-n-propylamine	621-64-7	0.5	mg/kg	<0.5	<0.5	----	----	----	
N-Nitrosopiperidine	100-75-4	0.5	mg/kg	<0.5	<0.5	----	----	----	
N-Nitrosodibutylamine	924-16-3	0.5	mg/kg	<0.5	<0.5	----	----	----	
N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	1.0	mg/kg	<1.0	<1.0	----	----	----	
Methapyrilene	91-80-5	0.5	mg/kg	<0.5	<0.5	----	----	----	
EP075E: Nitroaromatics and Ketones									
2-Picoline	109-06-8	0.5	mg/kg	<0.5	<0.5	----	----	----	
Acetophenone	98-86-2	0.5	mg/kg	<0.5	<0.5	----	----	----	
Nitrobenzene	98-95-3	0.5	mg/kg	<0.5	<0.5	----	----	----	
Isophorone	78-59-1	0.5	mg/kg	<0.5	<0.5	----	----	----	
2,6-Dinitrotoluene	606-20-2	1.0	mg/kg	<1.0	<1.0	----	----	----	
2,4-Dinitrotoluene	121-14-2	1.0	mg/kg	<1.0	<1.0	----	----	----	
1-Naphthylamine	134-32-7	0.5	mg/kg	<0.5	<0.5	----	----	----	
4-Nitroquinoline-N-oxide	56-57-5	0.5	mg/kg	<0.5	<0.5	----	----	----	
5-Nitro-o-toluidine	99-55-8	0.5	mg/kg	<0.5	<0.5	----	----	----	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	BH02_0.1	BH02_1.0	BH02_2.0	BH02_4.0	BH02_5.5
Sampling date / time				09-Feb-2022 00:00					
Compound	CAS Number	LOR	Unit	ES2204627-001	ES2204627-002	ES2204627-003	ES2204627-005	ES2204627-006	
				Result	Result	Result	Result	Result	
EP075E: Nitroaromatics and Ketones - Continued									
Azobenzene	103-33-3	1	mg/kg	<1	<1	----	----	----	
1,3,5-Trinitrobenzene	99-35-4	0.5	mg/kg	<0.5	<0.5	----	----	----	
Phenacetin	62-44-2	0.5	mg/kg	<0.5	<0.5	----	----	----	
4-Aminobiphenyl	92-67-1	0.5	mg/kg	<0.5	<0.5	----	----	----	
Pentachloronitrobenzene	82-68-8	0.5	mg/kg	<0.5	<0.5	----	----	----	
Pronamide	23950-58-5	0.5	mg/kg	<0.5	<0.5	----	----	----	
Dimethylaminoazobenzene	60-11-7	0.5	mg/kg	<0.5	<0.5	----	----	----	
Chlorobenzilate	510-15-6	0.5	mg/kg	<0.5	<0.5	----	----	----	
EP075F: Haloethers									
Bis(2-chloroethyl) ether	111-44-4	0.5	mg/kg	<0.5	<0.5	----	----	----	
Bis(2-chloroethoxy) methane	111-91-1	0.5	mg/kg	<0.5	<0.5	----	----	----	
4-Chlorophenyl phenyl ether	7005-72-3	0.5	mg/kg	<0.5	<0.5	----	----	----	
4-Bromophenyl phenyl ether	101-55-3	0.5	mg/kg	<0.5	<0.5	----	----	----	
EP075G: Chlorinated Hydrocarbons									
1,3-Dichlorobenzene	541-73-1	0.5	mg/kg	<0.5	<0.5	----	----	----	
1,4-Dichlorobenzene	106-46-7	0.5	mg/kg	<0.5	<0.5	----	----	----	
1,2-Dichlorobenzene	95-50-1	0.5	mg/kg	<0.5	<0.5	----	----	----	
Hexachloroethane	67-72-1	0.5	mg/kg	<0.5	<0.5	----	----	----	
1,2,4-Trichlorobenzene	120-82-1	0.5	mg/kg	<0.5	<0.5	----	----	----	
Hexachloropropylene	1888-71-7	0.5	mg/kg	<0.5	<0.5	----	----	----	
Hexachlorobutadiene	87-68-3	0.5	mg/kg	<0.5	<0.5	----	----	----	
Hexachlorocyclopentadiene	77-47-4	2.5	mg/kg	<2.5	<2.5	----	----	----	
Pentachlorobenzene	608-93-5	0.5	mg/kg	<0.5	<0.5	----	----	----	
Hexachlorobenzene (HCB)	118-74-1	1.0	mg/kg	<1.0	<1.0	----	----	----	
EP075H: Anilines and Benzidines									
Aniline	62-53-3	0.5	mg/kg	<0.5	<0.5	----	----	----	
4-Chloroaniline	106-47-8	0.5	mg/kg	<0.5	<0.5	----	----	----	
2-Nitroaniline	88-74-4	1.0	mg/kg	<1.0	<1.0	----	----	----	
3-Nitroaniline	99-09-2	1.0	mg/kg	<1.0	<1.0	----	----	----	
Dibenzofuran	132-64-9	0.5	mg/kg	<0.5	<0.5	----	----	----	
4-Nitroaniline	100-01-6	0.5	mg/kg	<0.5	<0.5	----	----	----	
Carbazole	86-74-8	0.5	mg/kg	<0.5	<0.5	----	----	----	
3,3'-Dichlorobenzidine	91-94-1	0.5	mg/kg	<0.5	<0.5	----	----	----	
EP075I: Organochlorine Pesticides									



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	BH02_0.1	BH02_1.0	BH02_2.0	BH02_4.0	BH02_5.5
Sampling date / time				09-Feb-2022 00:00					
Compound	CAS Number	LOR	Unit	ES2204627-001	ES2204627-002	ES2204627-003	ES2204627-005	ES2204627-006	
				Result	Result	Result	Result	Result	
EP075I: Organochlorine Pesticides - Continued									
alpha-BHC	319-84-6	0.5	mg/kg	<0.5	<0.5	----	----	----	
beta-BHC	319-85-7	0.5	mg/kg	<0.5	<0.5	----	----	----	
gamma-BHC	58-89-9	0.5	mg/kg	<0.5	<0.5	----	----	----	
delta-BHC	319-86-8	0.5	mg/kg	<0.5	<0.5	----	----	----	
Heptachlor	76-44-8	0.5	mg/kg	<0.5	<0.5	----	----	----	
Aldrin	309-00-2	0.5	mg/kg	<0.5	<0.5	----	----	----	
Heptachlor epoxide	1024-57-3	0.5	mg/kg	<0.5	<0.5	----	----	----	
alpha-Endosulfan	959-98-8	0.5	mg/kg	<0.5	<0.5	----	----	----	
4,4'-DDE	72-55-9	0.5	mg/kg	<0.5	<0.5	----	----	----	
Dieldrin	60-57-1	0.5	mg/kg	<0.5	<0.5	----	----	----	
Endrin	72-20-8	0.5	mg/kg	<0.5	<0.5	----	----	----	
beta-Endosulfan	33213-65-9	0.5	mg/kg	<0.5	<0.5	----	----	----	
4,4'-DDD	72-54-8	0.5	mg/kg	<0.5	<0.5	----	----	----	
Endosulfan sulfate	1031-07-8	0.5	mg/kg	<0.5	<0.5	----	----	----	
4,4'-DDT	50-29-3	1.0	mg/kg	<1.0	<1.0	----	----	----	
EP075J: Organophosphorus Pesticides									
Dichlorvos	62-73-7	0.5	mg/kg	<0.5	<0.5	----	----	----	
Dimethoate	60-51-5	0.5	mg/kg	<0.5	<0.5	----	----	----	
Diazinon	333-41-5	0.5	mg/kg	<0.5	<0.5	----	----	----	
Chlorpyrifos-methyl	5598-13-0	0.5	mg/kg	<0.5	<0.5	----	----	----	
Malathion	121-75-5	0.5	mg/kg	<0.5	<0.5	----	----	----	
Fenthion	55-38-9	0.5	mg/kg	<0.5	<0.5	----	----	----	
Chlorpyrifos	2921-88-2	0.5	mg/kg	<0.5	<0.5	----	----	----	
Pirimphos-ethyl	23505-41-1	0.5	mg/kg	<0.5	<0.5	----	----	----	
Chlorfenvinphos	470-90-6	0.5	mg/kg	<0.5	<0.5	----	----	----	
Prothiofos	34643-46-4	0.5	mg/kg	<0.5	<0.5	----	----	----	
Ethion	563-12-2	0.5	mg/kg	<0.5	<0.5	----	----	----	
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	----	----	
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	----	----	
C15 - C28 Fraction	----	100	mg/kg	130	<100	<100	----	----	
C29 - C36 Fraction	----	100	mg/kg	<100	<100	<100	----	----	
^ C10 - C36 Fraction (sum)	----	50	mg/kg	130	<50	<50	----	----	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	BH02_0.1	BH02_1.0	BH02_2.0	BH02_4.0	BH02_5.5
Sampling date / time				09-Feb-2022 00:00					
Compound	CAS Number	LOR	Unit	ES2204627-001	ES2204627-002	ES2204627-003	ES2204627-005	ES2204627-006	
				Result	Result	Result	Result	Result	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued									
C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	<10	----	----	
[^] C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	<10	<10	<10	----	----	
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	<50	----	----	
>C16 - C34 Fraction	----	100	mg/kg	180	140	<100	----	----	
>C34 - C40 Fraction	----	100	mg/kg	<100	<100	<100	----	----	
[^] >C10 - C40 Fraction (sum)	----	50	mg/kg	180	140	<50	----	----	
[^] >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	<50	<50	<50	----	----	
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	----	----	
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	----	----	
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	----	----	
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	----	----	
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	----	----	
[^] Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	----	----	
[^] Total Xylenes	----	0.5	mg/kg	<0.5	<0.5	<0.5	----	----	
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	----	----	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	----	----	----	<0.0002	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	----	----	----	<0.0002	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	<0.0002	----	----	----	<0.0002	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	----	----	----	<0.001	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	----	----	----	<0.0002	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	----	----	----	<0.0002	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	----	----	----	<0.0002	
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	----	----	----	<0.0002	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	----	----	----	<0.0005	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	BH02_0.1	BH02_1.0	BH02_2.0	BH02_4.0	BH02_5.5
Sampling date / time				09-Feb-2022 00:00					
Compound	CAS Number	LOR	Unit	ES2204627-001	ES2204627-002	ES2204627-003	ES2204627-005	ES2204627-006	
				Result	Result	Result	Result	Result	
EP231D: (n:2) Fluorotelomer Sulfonic Acids - Continued									
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	----	----	----	<0.0005	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	----	----	----	<0.0005	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	----	----	----	<0.0005	
EP231P: PFAS Sums									
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg	<0.0002	----	----	----	<0.0002	
Sum of PFAS (WA DER List)	----	0.0002	mg/kg	<0.0002	----	----	----	<0.0002	
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%	105	103	101	----	----	
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%	86.5	82.3	77.2	----	----	
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%	79.4	72.8	77.3	----	----	
EP074S: VOC Surrogates									
1,2-Dichloroethane-D4	17060-07-0	0.5	%	95.0	84.8	----	----	----	
Toluene-D8	2037-26-5	0.5	%	96.8	87.2	----	----	----	
4-Bromofluorobenzene	460-00-4	0.5	%	93.8	86.4	----	----	----	
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%	89.6	84.9	86.8	----	----	
2-Chlorophenol-D4	93951-73-6	0.5	%	88.7	85.4	87.9	----	----	
2,4,6-Tribromophenol	118-79-6	0.5	%	49.6	66.2	69.4	----	----	
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%	102	88.4	89.6	----	----	
Anthracene-d10	1719-06-8	0.5	%	102	90.7	92.3	----	----	
4-Terphenyl-d14	1718-51-0	0.5	%	99.0	87.0	88.1	----	----	
EP075S: Acid Extractable Surrogates									
2-Fluorophenol	367-12-4	0.5	%	102	107	----	----	----	
Phenol-d6	13127-88-3	0.5	%	96.4	101	----	----	----	
2-Chlorophenol-D4	93951-73-6	0.5	%	88.8	89.4	----	----	----	
2,4,6-Tribromophenol	118-79-6	0.5	%	52.8	83.1	----	----	----	
EP075T: Base/Neutral Extractable Surrogates									



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	BH02_0.1	BH02_1.0	BH02_2.0	BH02_4.0	BH02_5.5
Sampling date / time				09-Feb-2022 00:00					
Compound	CAS Number	LOR	Unit	ES2204627-001	ES2204627-002	ES2204627-003	ES2204627-005	ES2204627-006	
				Result	Result	Result	Result	Result	
EP075T: Base/Neutral Extractable Surrogates - Continued									
Nitrobenzene-D5	4165-60-0	0.5	%	94.5	95.8	----	----	----	
1,2-Dichlorobenzene-D4	2199-69-1	0.5	%	87.3	90.0	----	----	----	
2-Fluorobiphenyl	321-60-8	0.5	%	83.0	93.0	----	----	----	
Anthracene-d10	1719-06-8	0.5	%	102	106	----	----	----	
4-Terphenyl-d14	1718-51-0	0.5	%	84.1	87.4	----	----	----	
EP080S: TPH(V)/BTEX Surrogates									
1,2-Dichloroethane-D4	17060-07-0	0.2	%	90.3	80.3	91.4	----	----	
Toluene-D8	2037-26-5	0.2	%	94.5	85.6	90.4	----	----	
4-Bromofluorobenzene	460-00-4	0.2	%	90.4	84.5	89.4	----	----	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.0002	%	104	----	----	----	88.5	
13C8-PFOA	----	0.0002	%	107	----	----	----	105	

Analytical Results

Descriptive Results

Sub-Matrix: SOIL

Method: Compound	Sample ID - Sampling date / time	Analytical Results
EA200: AS 4964 - 2004 Identification of Asbestos in Soils		
EA200: Description	BH02_0.1 - 09-Feb-2022 00:00	Soil sample.



Surrogate Control Limits

Sub-Matrix: SOIL		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP066S: PCB Surrogate			
Decachlorobiphenyl	2051-24-3	39	149
EP068S: Organochlorine Pesticide Surrogate			
Dibromo-DDE	21655-73-2	49	147
EP068T: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	35	143
EP074S: VOC Surrogates			
1,2-Dichloroethane-D4	17060-07-0	64	130
Toluene-D8	2037-26-5	66	136
4-Bromofluorobenzene	460-00-4	60	122
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	63	123
2-Chlorophenol-D4	93951-73-6	66	122
2,4,6-Tribromophenol	118-79-6	40	138
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	70	122
Anthracene-d10	1719-06-8	66	128
4-Terphenyl-d14	1718-51-0	65	129
EP075S: Acid Extractable Surrogates			
2-Fluorophenol	367-12-4	29	149
Phenol-d6	13127-88-3	32	128
2-Chlorophenol-D4	93951-73-6	32	128
2,4,6-Tribromophenol	118-79-6	13	121
EP075T: Base/Neutral Extractable Surrogates			
Nitrobenzene-D5	4165-60-0	33	125
1,2-Dichlorobenzene-D4	2199-69-1	34	108
2-Fluorobiphenyl	321-60-8	35	121
Anthracene-d10	1719-06-8	35	123
4-Terphenyl-d14	1718-51-0	33	125
EP080S: TPH(V)/BTEX Surrogates			
1,2-Dichloroethane-D4	17060-07-0	73	133
Toluene-D8	2037-26-5	74	132
4-Bromofluorobenzene	460-00-4	72	130
EP231S: PFAS Surrogate			
13C4-PFOS	----	60	120
13C8-PFOA	----	60	120



Inter-Laboratory Testing

Analysis conducted by ALS Brisbane, NATA accreditation no. 825, site no. 818 (Chemistry) 18958 (Biology).

(SOIL) EA003 :pH (field/fox)

(SOIL) EA029-D: Calcium Values

(SOIL) EA029-E: Magnesium Values

(SOIL) EA029-F: Excess Acid Neutralising Capacity

(SOIL) EA029-H: Acid Base Accounting

(SOIL) EA029-G: Retained Acidity

(SOIL) EA029-A: pH Measurements

(SOIL) EA029-C: Sulfur Trail

(SOIL) EA029-B: Acidity Trail

Analysis conducted by ALS Newcastle, NATA accreditation no. 825, site no. 1656 (Chemistry) 9854 (Biology).

(SOIL) EA200: AS 4964 - 2004 Identification of Asbestos in Soils

CERTIFICATE OF ANALYSIS

Work Order : ES2204462 Client : EP RISK MANAGEMENT Contact : HARRISON BLAKE Address : Level 4 73 Walker St North Sydney 2060 Telephone : ---- Project : EP2515 Order number : ---- C-O-C number : ---- Sampler : HARRISON BLAKE Site : ---- Quote number : SYBQ/401/21 No. of samples received : 12 No. of samples analysed : 6	Page : 1 of 21 Laboratory : Environmental Division Sydney Contact : Tyler Anderson Address : 277-289 Woodpark Road Smithfield NSW Australia 2164 Telephone : +61 2 8784 8555 Date Samples Received : 09-Feb-2022 18:00 Date Analysis Commenced : 14-Feb-2022 Issue Date : 23-Feb-2022 10:51
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This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Descriptive Results
- Surrogate Control Limits

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

Signatories

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

<i>Signatories</i>	<i>Position</i>	<i>Accreditation Category</i>
Alana Smylie	Team Leader - Asbestos	Newcastle - Asbestos, Mayfield West, NSW
Ben Felgendrejeris	Senior Acid Sulfate Soil Chemist	Brisbane Acid Sulphate Soils, Stafford, QLD
Edwandy Fadjjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Franco Lentini	LCMS Coordinator	Sydney Inorganics, Smithfield, NSW
Franco Lentini	LCMS Coordinator	Sydney Organics, Smithfield, NSW
Ivan Taylor	Analyst	Sydney Inorganics, Smithfield, NSW
Sanjeshni Jyoti	Senior Chemist Volatiles	Sydney Organics, Smithfield, NSW



General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a,h)anthracene (1.0), Benzo(g,h,i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero, for 'TEQ 1/2LOR' are treated as half the reported LOR, and for 'TEQ LOR' are treated as being equal to the reported LOR. Note: TEQ 1/2LOR and TEQ LOR will calculate as 0.6mg/Kg and 1.2mg/Kg respectively for samples with non-detects for all of the eight TEQ PAHs.
- EP080: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EP068: Where reported, Total Chlordane (sum) is the sum of the reported concentrations of cis-Chlordane and trans-Chlordane at or above the LOR.
- EP068: Where reported, Total OCP is the sum of the reported concentrations of all Organochlorine Pesticides at or above LOR.
- EP074: Where reported, Total Trihalomethanes is the sum of the reported concentrations of all Trihalomethanes at or above the LOR.
- EP074: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EP074: Where reported, Sum of chlorinated hydrocarbons includes carbon tetrachloride, chlorobenzene, chloroform, 1,2-dichlorobenzene, 1,4-dichlorobenzene, 1,2-dichloroethane, 1,1-dichloroethene, cis-1,2-dichloroethene, trans-1,2-dichloroethene, 1,1,1,2-tetrachloroethane, 1,1,2,2-tetrachloroethane, 1,2,4-trichlorobenzene, 1,1,1-trichloroethane, 1,1,2-trichloroethane, trichloroethene, vinyl chloride, hexachlorobutadiene and methylene chloride.
- EP074: Where reported, Total Trimethylbenzenes is the sum of the reported concentrations of 1.2.3-Trimethylbenzene, 1.2.4-Trimethylbenzene and 1.3.5-Trimethylbenzene at or above the LOR.
- EP075(SIM): Where reported, Total Cresol is the sum of the reported concentrations of 2-Methylphenol and 3- & 4-Methylphenol at or above the LOR.
- EP231X: Sample ES2204462_001 required dilution due to sample matrix interferences. LOR values have been adjusted accordingly.
- EP075(SIM): Results of BH03_0.2 & BH03_0.2 Dup have been confirmed by re-extraction & re-analysis.
- ASS: EA029 (SPOCAS): Retained Acidity not required because pH KCl greater than or equal to 4.5
- ASS: EA029 (SPOCAS): Excess ANC not required because pH OX less than 6.5.
- EP075: Where reported, 'Sum of PAH' is the sum of the USEPA 16 priority PAHs
- ASS: EA029 (SPOCAS): Liming rate is calculated and reported on a dry weight basis assuming use of fine agricultural lime (CaCO₃) and using a safety factor of 1.5 to allow for non-homogeneous mixing and poor reactivity of lime. For conversion of Liming Rate from kg/t dry weight to kg/m³ in-situ soil, multiply reported results x wet bulk density of soil in t/m³.
- ASS: EA003 (NATA Field and F(ox) screening): pH F(ox) Reaction Rate: 1 - Slight; 2 - Moderate; 3 - Strong; 4 - Extreme
- EA200 'Am' Amosite (brown asbestos)
- EA200 'Cr' Crocidolite (blue asbestos)
- EA200 'Trace' - Asbestos fibres ("Free Fibres") detected by trace analysis per AS4964. The result can be interpreted that the sample contains detectable 'respirable' asbestos fibres
- EA200: Asbestos Identification Samples were analysed by Polarised Light Microscopy including dispersion staining.



- EA200 Legend
- EA200 'Ch' Chrysotile (white asbestos)
- EA200: 'UMF' Unknown Mineral Fibres. "-" indicates fibres detected may or may not be asbestos fibres. Confirmation by alternative techniques is recommended.
- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a,h)anthracene (1.0), Benzo(g,h,i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero, for 'TEQ 1/2LOR' are treated as half the reported LOR, and for 'TEQ LOR' are treated as being equal to the reported LOR.
Note: TEQ 1/2LOR and TEQ LOR will calculate as 0.6mg/Kg and 1.2mg/Kg respectively for samples with non-detects for all of the eight TEQ PAHs.
- EA200: For samples larger than 30g, the <2mm fraction may be sub-sampled prior to trace analysis as outlined in ISO23909:2008(E) Sect 6.3.2-2
- EA200: 'Yes' - Asbestos detected by polarised light microscopy including dispersion staining.
- EA200: 'No*' - No asbestos found, at the reporting limit of 0.1g/kg, by polarised light microscopy including dispersion staining. Asbestos material was detected and positively identified at concentrations estimated to be below 0.1g/kg.
- EA200: 'No' - No asbestos found at the reporting limit 0.1g/kg, by polarised light microscopy including dispersion staining.
- EP231: Stable isotope enriched internal standards are added to samples prior to extraction. Target compounds have a direct analogous internal standard with the exception of PFPeS, PFHpA, PFDS, PFTrDA and 10:2 FTS. These compounds use an internal standard that is chemically related and has a retention time close to that of the target compound. The DQO for internal standard response is 50-150% of that established at initial calibration. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS (Australian HEPA) and also conform to QSM 5.3 (US DoD) requirements.



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	BH03_0.2	BH03_0.5	BH03_1.5	BH03_3.0	BH03_0.2 Dup
Sampling date / time				09-Feb-2022 00:00					
Compound	CAS Number	LOR	Unit	ES2204462-001	ES2204462-003	ES2204462-006	ES2204462-007	ES2204462-010	
				Result	Result	Result	Result	Result	
EA003 :pH (field/fox)									
pH (F)	----	0.1	pH Unit	----	----	----	7.6	----	
pH (Fox)	----	0.1	pH Unit	----	----	----	4.2	----	
Reaction Rate	----	1	Reaction Unit	----	----	----	2	----	
EA029-A: pH Measurements									
pH KCl (23A)	----	0.1	pH Unit	----	----	----	7.6	----	
pH OX (23B)	----	0.1	pH Unit	----	----	----	4.9	----	
EA029-B: Acidity Trail									
Titrateable Actual Acidity (23F)	----	2	mole H+ / t	----	----	----	<2	----	
Titrateable Peroxide Acidity (23G)	----	2	mole H+ / t	----	----	----	19	----	
Titrateable Sulfidic Acidity (23H)	----	2	mole H+ / t	----	----	----	19	----	
sulfidic - Titrateable Actual Acidity (s-23F)	----	0.020	% pyrite S	----	----	----	<0.020	----	
sulfidic - Titrateable Peroxide Acidity (s-23G)	----	0.020	% pyrite S	----	----	----	0.031	----	
sulfidic - Titrateable Sulfidic Acidity (s-23H)	----	0.020	% pyrite S	----	----	----	0.031	----	
EA029-C: Sulfur Trail									
KCl Extractable Sulfur (23Ce)	----	0.020	% S	----	----	----	<0.020	----	
Peroxide Sulfur (23De)	----	0.020	% S	----	----	----	0.024	----	
Peroxide Oxidisable Sulfur (23E)	----	0.020	% S	----	----	----	0.024	----	
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	----	----	----	15	----	
EA029-D: Calcium Values									
KCl Extractable Calcium (23Vh)	----	0.020	% Ca	----	----	----	0.053	----	
Peroxide Calcium (23Wh)	----	0.020	% Ca	----	----	----	0.055	----	
Acid Reacted Calcium (23X)	----	0.020	% Ca	----	----	----	<0.020	----	
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	----	----	----	<10	----	
sulfidic - Acid Reacted Calcium (s-23X)	----	0.020	% S	----	----	----	<0.020	----	
EA029-E: Magnesium Values									
KCl Extractable Magnesium (23Sm)	----	0.020	% Mg	----	----	----	<0.020	----	
Peroxide Magnesium (23Tm)	----	0.020	% Mg	----	----	----	<0.020	----	
Acid Reacted Magnesium (23U)	----	0.020	% Mg	----	----	----	<0.020	----	
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	----	----	----	<10	----	
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.020	% S	----	----	----	<0.020	----	
EA029-H: Acid Base Accounting									



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	BH03_0.2	BH03_0.5	BH03_1.5	BH03_3.0	BH03_0.2 Dup
Sampling date / time				09-Feb-2022 00:00					
Compound	CAS Number	LOR	Unit	ES2204462-001	ES2204462-003	ES2204462-006	ES2204462-007	ES2204462-010	
				Result	Result	Result	Result	Result	
EA029-H: Acid Base Accounting - Continued									
ANC Fineness Factor	----	0.5	-	----	----	----	1.5	----	
Net Acidity (sulfur units)	----	0.02	% S	----	----	----	0.03	----	
Net Acidity (acidity units)	----	10	mole H+ / t	----	----	----	18	----	
Liming Rate	----	1	kg CaCO3/t	----	----	----	1	----	
Net Acidity excluding ANC (sulfur units)	----	0.02	% S	----	----	----	0.02	----	
Net Acidity excluding ANC (acidity units)	----	10	mole H+ / t	----	----	----	15	----	
Liming Rate excluding ANC	----	1	kg CaCO3/t	----	----	----	1	----	
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%	13.0	9.6	23.0	19.9	12.7	
EA200: AS 4964 - 2004 Identification of Asbestos in Soils									
Asbestos Detected	1332-21-4	0.1	g/kg	No	No	No	----	----	
Asbestos (Trace)	1332-21-4	5	Fibres	No	No	No	----	----	
Asbestos Type	1332-21-4	-	--	-	-	-	----	----	
Synthetic Mineral Fibre	----	0.1	g/kg	No	No	No	----	----	
Organic Fibre	----	0.1	g/kg	No	No	No	----	----	
Sample weight (dry)	----	0.01	g	65.2	171	68.6	----	----	
APPROVED IDENTIFIER:	----	-	--	A. SMYLIE	A. SMYLIE	A. SMYLIE	----	----	
EG005(ED093)T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg	85	29	41	<5	32	
Cadmium	7440-43-9	1	mg/kg	28	9	12	<1	9	
Chromium	7440-47-3	2	mg/kg	79	48	37	<2	41	
Copper	7440-50-8	5	mg/kg	3510	493	382	<5	374	
Lead	7439-92-1	5	mg/kg	196000	125000	6590	39	170000	
Nickel	7440-02-0	2	mg/kg	139	58	71	<2	48	
Zinc	7440-66-6	5	mg/kg	13900	6280	1640	11	7130	
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.2	<0.1	<0.1	
EP066: Polychlorinated Biphenyls (PCB)									
Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	
EP068A: Organochlorine Pesticides (OC)									
alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	BH03_0.2	BH03_0.5	BH03_1.5	BH03_3.0	BH03_0.2 Dup
Sampling date / time				09-Feb-2022 00:00					
Compound	CAS Number	LOR	Unit	ES2204462-001	ES2204462-003	ES2204462-006	ES2204462-007	ES2204462-010	
				Result	Result	Result	Result	Result	
EP068A: Organochlorine Pesticides (OC) - Continued									
delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
^ Total Chlordane (sum)	----	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
4.4'-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
^ Endosulfan (sum)	115-29-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
4.4'-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
4.4'-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2	
Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2	
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-29-3	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
EP068B: Organophosphorus Pesticides (OP)									
Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2	
Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2	
Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2	
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	BH03_0.2	BH03_0.5	BH03_1.5	BH03_3.0	BH03_0.2 Dup
Sampling date / time				09-Feb-2022 00:00					
Compound	CAS Number	LOR	Unit	ES2204462-001	ES2204462-003	ES2204462-006	ES2204462-007	ES2204462-010	
				Result	Result	Result	Result	Result	
EP068B: Organophosphorus Pesticides (OP) - Continued									
Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	
EP074A: Monocyclic Aromatic Hydrocarbons									
Styrene	100-42-5	0.5	mg/kg	<0.5	----	----	<0.5	----	
Isopropylbenzene	98-82-8	0.5	mg/kg	<0.5	----	----	<0.5	----	
n-Propylbenzene	103-65-1	0.5	mg/kg	<0.5	----	----	<0.5	----	
1,3,5-Trimethylbenzene	108-67-8	0.5	mg/kg	<0.5	----	----	<0.5	----	
sec-Butylbenzene	135-98-8	0.5	mg/kg	<0.5	----	----	<0.5	----	
1,2,4-Trimethylbenzene	95-63-6	0.5	mg/kg	<0.5	----	----	<0.5	----	
tert-Butylbenzene	98-06-6	0.5	mg/kg	<0.5	----	----	<0.5	----	
p-Isopropyltoluene	99-87-6	0.5	mg/kg	<0.5	----	----	<0.5	----	
n-Butylbenzene	104-51-8	0.5	mg/kg	<0.5	----	----	<0.5	----	
EP074B: Oxygenated Compounds									
Vinyl Acetate	108-05-4	5	mg/kg	<5	----	----	<5	----	
2-Butanone (MEK)	78-93-3	5	mg/kg	<5	----	----	<5	----	
4-Methyl-2-pentanone (MIBK)	108-10-1	5	mg/kg	<5	----	----	<5	----	
2-Hexanone (MBK)	591-78-6	5	mg/kg	<5	----	----	<5	----	
EP074C: Sulfonated Compounds									
Carbon disulfide	75-15-0	0.5	mg/kg	<0.5	----	----	<0.5	----	
EP074D: Fumigants									
2,2-Dichloropropane	594-20-7	0.5	mg/kg	<0.5	----	----	<0.5	----	
1,2-Dichloropropane	78-87-5	0.5	mg/kg	<0.5	----	----	<0.5	----	
cis-1,3-Dichloropropylene	10061-01-5	0.5	mg/kg	<0.5	----	----	<0.5	----	
trans-1,3-Dichloropropylene	10061-02-6	0.5	mg/kg	<0.5	----	----	<0.5	----	
1,2-Dibromoethane (EDB)	106-93-4	0.5	mg/kg	<0.5	----	----	<0.5	----	
EP074E: Halogenated Aliphatic Compounds									
Dichlorodifluoromethane	75-71-8	5	mg/kg	<5	----	----	<5	----	
Chloromethane	74-87-3	5	mg/kg	<5	----	----	<5	----	
Vinyl chloride	75-01-4	5	mg/kg	<5	----	----	<5	----	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	BH03_0.2	BH03_0.5	BH03_1.5	BH03_3.0	BH03_0.2 Dup
Sampling date / time				09-Feb-2022 00:00					
Compound	CAS Number	LOR	Unit	ES2204462-001	ES2204462-003	ES2204462-006	ES2204462-007	ES2204462-010	
				Result	Result	Result	Result	Result	
EP074E: Halogenated Aliphatic Compounds - Continued									
Bromomethane	74-83-9	5	mg/kg	<5	----	----	<5	----	
Chloroethane	75-00-3	5	mg/kg	<5	----	----	<5	----	
Trichlorofluoromethane	75-69-4	5	mg/kg	<5	----	----	<5	----	
1,1-Dichloroethene	75-35-4	0.5	mg/kg	<0.5	----	----	<0.5	----	
Iodomethane	74-88-4	0.5	mg/kg	<0.5	----	----	<0.5	----	
trans-1,2-Dichloroethene	156-60-5	0.5	mg/kg	<0.5	----	----	<0.5	----	
1,1-Dichloroethane	75-34-3	0.5	mg/kg	<0.5	----	----	<0.5	----	
cis-1,2-Dichloroethene	156-59-2	0.5	mg/kg	<0.5	----	----	<0.5	----	
1,1,1-Trichloroethane	71-55-6	0.5	mg/kg	<0.5	----	----	<0.5	----	
1,1-Dichloropropylene	563-58-6	0.5	mg/kg	<0.5	----	----	<0.5	----	
Carbon Tetrachloride	56-23-5	0.5	mg/kg	<0.5	----	----	<0.5	----	
1,2-Dichloroethane	107-06-2	0.5	mg/kg	<0.5	----	----	<0.5	----	
Trichloroethene	79-01-6	0.5	mg/kg	<0.5	----	----	<0.5	----	
Dibromomethane	74-95-3	0.5	mg/kg	<0.5	----	----	<0.5	----	
1,1,2-Trichloroethane	79-00-5	0.5	mg/kg	<0.5	----	----	<0.5	----	
1,3-Dichloropropane	142-28-9	0.5	mg/kg	<0.5	----	----	<0.5	----	
Tetrachloroethene	127-18-4	0.5	mg/kg	<0.5	----	----	<0.5	----	
1,1,1,2-Tetrachloroethane	630-20-6	0.5	mg/kg	<0.5	----	----	<0.5	----	
trans-1,4-Dichloro-2-butene	110-57-6	0.5	mg/kg	<0.5	----	----	<0.5	----	
cis-1,4-Dichloro-2-butene	1476-11-5	0.5	mg/kg	<0.5	----	----	<0.5	----	
1,1,1,2,2-Tetrachloroethane	79-34-5	0.5	mg/kg	<0.5	----	----	<0.5	----	
1,2,3-Trichloropropane	96-18-4	0.5	mg/kg	<0.5	----	----	<0.5	----	
Pentachloroethane	76-01-7	0.5	mg/kg	<0.5	----	----	<0.5	----	
1,2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg	<0.5	----	----	<0.5	----	
EP074F: Halogenated Aromatic Compounds									
Chlorobenzene	108-90-7	0.5	mg/kg	<0.5	----	----	<0.5	----	
Bromobenzene	108-86-1	0.5	mg/kg	<0.5	----	----	<0.5	----	
2-Chlorotoluene	95-49-8	0.5	mg/kg	<0.5	----	----	<0.5	----	
4-Chlorotoluene	106-43-4	0.5	mg/kg	<0.5	----	----	<0.5	----	
1,2,3-Trichlorobenzene	87-61-6	0.5	mg/kg	<0.5	----	----	<0.5	----	
EP074G: Trihalomethanes									
Chloroform	67-66-3	0.5	mg/kg	<0.5	----	----	<0.5	----	
Bromodichloromethane	75-27-4	0.5	mg/kg	<0.5	----	----	<0.5	----	
Dibromochloromethane	124-48-1	0.5	mg/kg	<0.5	----	----	<0.5	----	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	BH03_0.2	BH03_0.5	BH03_1.5	BH03_3.0	BH03_0.2 Dup
Sampling date / time				09-Feb-2022 00:00					
Compound	CAS Number	LOR	Unit	ES2204462-001	ES2204462-003	ES2204462-006	ES2204462-007	ES2204462-010	
				Result	Result	Result	Result	Result	
EP074G: Trihalomethanes - Continued									
Bromoform	75-25-2	0.5	mg/kg	<0.5	----	----	<0.5	----	
EP075(SIM)A: Phenolic Compounds									
Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	<1	<1	<1	
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
2,4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
2,4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
2,6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
2,4,6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
2,4,5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	<2	<2	<2	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
Phenanthrene	85-01-8	0.5	mg/kg	1.4	1.4	1.0	<0.5	<0.5	
Anthracene	120-12-7	0.5	mg/kg	0.5	0.5	<0.5	<0.5	<0.5	
Fluoranthene	206-44-0	0.5	mg/kg	2.2	2.0	1.9	<0.5	0.6	
Pyrene	129-00-0	0.5	mg/kg	2.2	2.0	1.9	<0.5	0.6	
Benz(a)anthracene	56-55-3	0.5	mg/kg	1.1	1.0	1.1	<0.5	<0.5	
Chrysene	218-01-9	0.5	mg/kg	1.0	0.9	1.0	<0.5	<0.5	
Benzo(b+)fluoranthene	205-99-2	205-82-3	0.5	1.4	1.2	1.5	<0.5	<0.5	
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.6	<0.5	<0.5	
Benzo(a)pyrene	50-32-8	0.5	mg/kg	1.2	1.0	1.3	<0.5	<0.5	
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	0.7	0.6	0.7	<0.5	<0.5	
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	0.8	0.8	0.9	<0.5	<0.5	
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	12.5	11.4	11.9	<0.5	1.2	
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	1.5	1.3	1.7	<0.5	<0.5	
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	1.8	1.6	2.0	0.6	0.6	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	BH03_0.2	BH03_0.5	BH03_1.5	BH03_3.0	BH03_0.2 Dup
Sampling date / time				09-Feb-2022 00:00					
Compound	CAS Number	LOR	Unit	ES2204462-001	ES2204462-003	ES2204462-006	ES2204462-007	ES2204462-010	
				Result	Result	Result	Result	Result	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	2.1	1.8	2.2	1.2	1.2	
EP075A: Phenolic Compounds									
Phenol	108-95-2	0.5	mg/kg	<0.5	----	----	<0.5	----	
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	----	----	<0.5	----	
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	----	----	<0.5	----	
3- & 4-Methylphenol	1319-77-3	0.5	mg/kg	<0.5	----	----	<0.5	----	
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	----	----	<0.5	----	
2,4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	----	----	<0.5	----	
2,4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	----	----	<0.5	----	
2,6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	----	----	<0.5	----	
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	----	----	<0.5	----	
2,4,6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	----	----	<0.5	----	
2,4,5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	----	----	<0.5	----	
Pentachlorophenol	87-86-5	1	mg/kg	<1	----	----	<1	----	
EP075B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg	<0.5	----	----	<0.5	----	
2-Methylnaphthalene	91-57-6	0.5	mg/kg	<0.5	----	----	<0.5	----	
2-Chloronaphthalene	91-58-7	0.5	mg/kg	<0.5	----	----	<0.5	----	
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	----	----	<0.5	----	
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	----	----	<0.5	----	
Fluorene	86-73-7	0.5	mg/kg	<0.5	----	----	<0.5	----	
Phenanthrene	85-01-8	0.5	mg/kg	2.1	----	----	<0.5	----	
Anthracene	120-12-7	0.5	mg/kg	0.7	----	----	<0.5	----	
Fluoranthene	206-44-0	0.5	mg/kg	3.2	----	----	<0.5	----	
Pyrene	129-00-0	0.5	mg/kg	3.2	----	----	<0.5	----	
N-2-Fluorenyl Acetamide	53-96-3	0.5	mg/kg	<0.5	----	----	<0.5	----	
Benzo(a)anthracene	56-55-3	0.5	mg/kg	1.6	----	----	<0.5	----	
Chrysene	218-01-9	0.5	mg/kg	1.4	----	----	<0.5	----	
Benzo(b+j) & Benzo(k)fluoranthene	205-99-2 207-08-9	1	mg/kg	3	----	----	<1	----	
7,12-Dimethylbenzo(a)anthracene	57-97-6	0.5	mg/kg	<0.5	----	----	<0.5	----	
Benzo(a)pyrene	50-32-8	0.5	mg/kg	1.9	----	----	<0.5	----	
3-Methylcholanthrene	56-49-5	0.5	mg/kg	<0.5	----	----	<0.5	----	
Indeno(1,2,3.cd)pyrene	193-39-5	0.5	mg/kg	1.1	----	----	<0.5	----	
Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	----	----	<0.5	----	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	BH03_0.2	BH03_0.5	BH03_1.5	BH03_3.0	BH03_0.2 Dup
Sampling date / time				09-Feb-2022 00:00					
Compound	CAS Number	LOR	Unit	ES2204462-001	ES2204462-003	ES2204462-006	ES2204462-007	ES2204462-010	
				Result	Result	Result	Result	Result	
EP075B: Polynuclear Aromatic Hydrocarbons - Continued									
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	1.3	----	----	<0.5	----	
^ Sum of PAHs	----	0.5	mg/kg	19.5	----	----	<0.5	----	
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	2.5	----	----	<0.5	----	
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	2.7	----	----	0.6	----	
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	3.0	----	----	1.2	----	
EP075C: Phthalate Esters									
Dimethyl phthalate	131-11-3	0.5	mg/kg	<0.5	----	----	<0.5	----	
Diethyl phthalate	84-66-2	0.5	mg/kg	<0.5	----	----	<0.5	----	
Di-n-butyl phthalate	84-74-2	0.5	mg/kg	<0.5	----	----	<0.5	----	
Butyl benzyl phthalate	85-68-7	0.5	mg/kg	<0.5	----	----	<0.5	----	
bis(2-ethylhexyl) phthalate	117-81-7	5.0	mg/kg	<5.0	----	----	<5.0	----	
Di-n-octylphthalate	117-84-0	0.5	mg/kg	<0.5	----	----	<0.5	----	
EP075D: Nitrosamines									
N-Nitrosomethylethylamine	10595-95-6	0.5	mg/kg	<0.5	----	----	<0.5	----	
N-Nitrosodiethylamine	55-18-5	0.5	mg/kg	<0.5	----	----	<0.5	----	
N-Nitrosopyrrolidine	930-55-2	1.0	mg/kg	<1.0	----	----	<1.0	----	
N-Nitrosomorpholine	59-89-2	0.5	mg/kg	<0.5	----	----	<0.5	----	
N-Nitrosodi-n-propylamine	621-64-7	0.5	mg/kg	<0.5	----	----	<0.5	----	
N-Nitrosopiperidine	100-75-4	0.5	mg/kg	<0.5	----	----	<0.5	----	
N-Nitrosodibutylamine	924-16-3	0.5	mg/kg	<0.5	----	----	<0.5	----	
N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	1.0	mg/kg	<1.0	----	----	<1.0	----	
Methapyrilene	91-80-5	0.5	mg/kg	<0.5	----	----	<0.5	----	
EP075E: Nitroaromatics and Ketones									
2-Picoline	109-06-8	0.5	mg/kg	<0.5	----	----	<0.5	----	
Acetophenone	98-86-2	0.5	mg/kg	<0.5	----	----	<0.5	----	
Nitrobenzene	98-95-3	0.5	mg/kg	<0.5	----	----	<0.5	----	
Isophorone	78-59-1	0.5	mg/kg	<0.5	----	----	<0.5	----	
2,6-Dinitrotoluene	606-20-2	1.0	mg/kg	<1.0	----	----	<1.0	----	
2,4-Dinitrotoluene	121-14-2	1.0	mg/kg	<1.0	----	----	<1.0	----	
1-Naphthylamine	134-32-7	0.5	mg/kg	<0.5	----	----	<0.5	----	
4-Nitroquinoline-N-oxide	56-57-5	0.5	mg/kg	<0.5	----	----	<0.5	----	
5-Nitro-o-toluidine	99-55-8	0.5	mg/kg	<0.5	----	----	<0.5	----	
Azobenzene	103-33-3	1	mg/kg	<1	----	----	<1	----	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	BH03_0.2	BH03_0.5	BH03_1.5	BH03_3.0	BH03_0.2 Dup
Sampling date / time				09-Feb-2022 00:00					
Compound	CAS Number	LOR	Unit	ES2204462-001	ES2204462-003	ES2204462-006	ES2204462-007	ES2204462-010	
				Result	Result	Result	Result	Result	
EP075E: Nitroaromatics and Ketones - Continued									
1,3,5-Trinitrobenzene	99-35-4	0.5	mg/kg	<0.5	----	----	<0.5	----	
Phenacetin	62-44-2	0.5	mg/kg	<0.5	----	----	<0.5	----	
4-Aminobiphenyl	92-67-1	0.5	mg/kg	<0.5	----	----	<0.5	----	
Pentachloronitrobenzene	82-68-8	0.5	mg/kg	<0.5	----	----	<0.5	----	
Pronamide	23950-58-5	0.5	mg/kg	<0.5	----	----	<0.5	----	
Dimethylaminoazobenzene	60-11-7	0.5	mg/kg	<0.5	----	----	<0.5	----	
Chlorobenzilate	510-15-6	0.5	mg/kg	<0.5	----	----	<0.5	----	
EP075F: Haloethers									
Bis(2-chloroethyl) ether	111-44-4	0.5	mg/kg	<0.5	----	----	<0.5	----	
Bis(2-chloroethoxy) methane	111-91-1	0.5	mg/kg	<0.5	----	----	<0.5	----	
4-Chlorophenyl phenyl ether	7005-72-3	0.5	mg/kg	<0.5	----	----	<0.5	----	
4-Bromophenyl phenyl ether	101-55-3	0.5	mg/kg	<0.5	----	----	<0.5	----	
EP075G: Chlorinated Hydrocarbons									
1,3-Dichlorobenzene	541-73-1	0.5	mg/kg	<0.5	----	----	<0.5	----	
1,4-Dichlorobenzene	106-46-7	0.5	mg/kg	<0.5	----	----	<0.5	----	
1,2-Dichlorobenzene	95-50-1	0.5	mg/kg	<0.5	----	----	<0.5	----	
Hexachloroethane	67-72-1	0.5	mg/kg	<0.5	----	----	<0.5	----	
1,2,4-Trichlorobenzene	120-82-1	0.5	mg/kg	<0.5	----	----	<0.5	----	
Hexachloropropylene	1888-71-7	0.5	mg/kg	<0.5	----	----	<0.5	----	
Hexachlorobutadiene	87-68-3	0.5	mg/kg	<0.5	----	----	<0.5	----	
Hexachlorocyclopentadiene	77-47-4	2.5	mg/kg	<2.5	----	----	<2.5	----	
Pentachlorobenzene	608-93-5	0.5	mg/kg	<0.5	----	----	<0.5	----	
Hexachlorobenzene (HCB)	118-74-1	1.0	mg/kg	<1.0	----	----	<1.0	----	
EP075H: Anilines and Benzidines									
Aniline	62-53-3	0.5	mg/kg	<0.5	----	----	<0.5	----	
4-Chloroaniline	106-47-8	0.5	mg/kg	<0.5	----	----	<0.5	----	
2-Nitroaniline	88-74-4	1.0	mg/kg	<1.0	----	----	<1.0	----	
3-Nitroaniline	99-09-2	1.0	mg/kg	<1.0	----	----	<1.0	----	
Dibenzofuran	132-64-9	0.5	mg/kg	<0.5	----	----	<0.5	----	
4-Nitroaniline	100-01-6	0.5	mg/kg	<0.5	----	----	<0.5	----	
Carbazole	86-74-8	0.5	mg/kg	<0.5	----	----	<0.5	----	
3,3'-Dichlorobenzidine	91-94-1	0.5	mg/kg	<0.5	----	----	<0.5	----	
EP075I: Organochlorine Pesticides									
alpha-BHC	319-84-6	0.5	mg/kg	<0.5	----	----	<0.5	----	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	BH03_0.2	BH03_0.5	BH03_1.5	BH03_3.0	BH03_0.2 Dup
Sampling date / time				09-Feb-2022 00:00					
Compound	CAS Number	LOR	Unit	ES2204462-001	ES2204462-003	ES2204462-006	ES2204462-007	ES2204462-010	
				Result	Result	Result	Result	Result	
EP075I: Organochlorine Pesticides - Continued									
beta-BHC	319-85-7	0.5	mg/kg	<0.5	----	----	<0.5	----	
gamma-BHC	58-89-9	0.5	mg/kg	<0.5	----	----	<0.5	----	
delta-BHC	319-86-8	0.5	mg/kg	<0.5	----	----	<0.5	----	
Heptachlor	76-44-8	0.5	mg/kg	<0.5	----	----	<0.5	----	
Aldrin	309-00-2	0.5	mg/kg	<0.5	----	----	<0.5	----	
Heptachlor epoxide	1024-57-3	0.5	mg/kg	<0.5	----	----	<0.5	----	
alpha-Endosulfan	959-98-8	0.5	mg/kg	<0.5	----	----	<0.5	----	
4,4'-DDE	72-55-9	0.5	mg/kg	<0.5	----	----	<0.5	----	
Dieldrin	60-57-1	0.5	mg/kg	<0.5	----	----	<0.5	----	
Endrin	72-20-8	0.5	mg/kg	<0.5	----	----	<0.5	----	
beta-Endosulfan	33213-65-9	0.5	mg/kg	<0.5	----	----	<0.5	----	
4,4'-DDD	72-54-8	0.5	mg/kg	<0.5	----	----	<0.5	----	
Endosulfan sulfate	1031-07-8	0.5	mg/kg	<0.5	----	----	<0.5	----	
4,4'-DDT	50-29-3	1.0	mg/kg	<1.0	----	----	<1.0	----	
EP075J: Organophosphorus Pesticides									
Dichlorvos	62-73-7	0.5	mg/kg	<0.5	----	----	<0.5	----	
Dimethoate	60-51-5	0.5	mg/kg	<0.5	----	----	<0.5	----	
Diazinon	333-41-5	0.5	mg/kg	<0.5	----	----	<0.5	----	
Chlorpyrifos-methyl	5598-13-0	0.5	mg/kg	<0.5	----	----	<0.5	----	
Malathion	121-75-5	0.5	mg/kg	<0.5	----	----	<0.5	----	
Fenthion	55-38-9	0.5	mg/kg	<0.5	----	----	<0.5	----	
Chlorpyrifos	2921-88-2	0.5	mg/kg	<0.5	----	----	<0.5	----	
Pirimphos-ethyl	23505-41-1	0.5	mg/kg	<0.5	----	----	<0.5	----	
Chlorfenvinphos	470-90-6	0.5	mg/kg	<0.5	----	----	<0.5	----	
Prothiofos	34643-46-4	0.5	mg/kg	<0.5	----	----	<0.5	----	
Ethion	563-12-2	0.5	mg/kg	<0.5	----	----	<0.5	----	
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10	
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50	
C15 - C28 Fraction	----	100	mg/kg	<100	160	120	<100	<100	
C29 - C36 Fraction	----	100	mg/kg	<100	130	110	<100	<100	
[^] C10 - C36 Fraction (sum)	----	50	mg/kg	<50	290	230	<50	<50	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	<10	<10	<10	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	BH03_0.2	BH03_0.5	BH03_1.5	BH03_3.0	BH03_0.2 Dup
Sampling date / time				09-Feb-2022 00:00					
Compound	CAS Number	LOR	Unit	ES2204462-001	ES2204462-003	ES2204462-006	ES2204462-007	ES2204462-010	
				Result	Result	Result	Result	Result	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued									
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	<10	<10	<10	<10	<10	
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50	
>C16 - C34 Fraction	----	100	mg/kg	<100	250	190	<100	<100	
>C34 - C40 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100	
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	250	190	<50	<50	
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	<50	<50	<50	<50	<50	
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2	
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2	
^ Total Xylenes	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0005	<0.0002	----	----	----	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0005	<0.0002	----	----	----	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	<0.0005	<0.0002	----	----	----	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.002	<0.001	----	----	----	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0005	<0.0002	----	----	----	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0005	<0.0002	----	----	----	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0005	<0.0002	----	----	----	
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0005	<0.0002	----	----	----	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	----	----	----	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	----	----	----	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	BH03_0.2	BH03_0.5	BH03_1.5	BH03_3.0	BH03_0.2 Dup
Sampling date / time				09-Feb-2022 00:00					
Compound	CAS Number	LOR	Unit	ES2204462-001	ES2204462-003	ES2204462-006	ES2204462-007	ES2204462-010	
				Result	Result	Result	Result	Result	
EP231D: (n:2) Fluorotelomer Sulfonic Acids - Continued									
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0005	----	----	----	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	----	----	----	
EP231P: PFAS Sums									
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg	<0.0005	<0.0002	----	----	----	
Sum of PFAS (WA DER List)	----	0.0002	mg/kg	<0.0005	<0.0002	----	----	----	
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%	98.0	102	109	93.5	99.0	
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%	88.6	101	91.8	76.6	87.0	
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%	75.0	100	83.6	71.4	73.7	
EP074S: VOC Surrogates									
1,2-Dichloroethane-D4	17060-07-0	0.5	%	93.9	----	----	91.1	----	
Toluene-D8	2037-26-5	0.5	%	91.3	----	----	91.6	----	
4-Bromofluorobenzene	460-00-4	0.5	%	80.9	----	----	82.6	----	
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%	85.9	91.6	88.0	82.1	102	
2-Chlorophenol-D4	93951-73-6	0.5	%	92.1	94.2	94.0	88.8	104	
2,4,6-Tribromophenol	118-79-6	0.5	%	73.8	78.7	84.1	73.3	95.7	
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%	95.5	103	96.2	90.3	118	
Anthracene-d10	1719-06-8	0.5	%	95.3	102	99.0	93.8	115	
4-Terphenyl-d14	1718-51-0	0.5	%	90.5	101	94.1	88.2	119	
EP075S: Acid Extractable Surrogates									
2-Fluorophenol	367-12-4	0.5	%	119	----	----	91.4	----	
Phenol-d6	13127-88-3	0.5	%	112	----	----	86.6	----	
2-Chlorophenol-D4	93951-73-6	0.5	%	109	----	----	85.4	----	
2,4,6-Tribromophenol	118-79-6	0.5	%	95.3	----	----	73.3	----	
EP075T: Base/Neutral Extractable Surrogates									
Nitrobenzene-D5	4165-60-0	0.5	%	106	----	----	78.7	----	
1,2-Dichlorobenzene-D4	2199-69-1	0.5	%	101	----	----	81.8	----	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	BH03_0.2	BH03_0.5	BH03_1.5	BH03_3.0	BH03_0.2 Dup
Sampling date / time				09-Feb-2022 00:00					
Compound	CAS Number	LOR	Unit	ES2204462-001	ES2204462-003	ES2204462-006	ES2204462-007	ES2204462-010	
				Result	Result	Result	Result	Result	
EP075T: Base/Neutral Extractable Surrogates - Continued									
2-Fluorobiphenyl	321-60-8	0.5	%	105	----	----	97.9	----	
Anthracene-d10	1719-06-8	0.5	%	99.4	----	----	95.1	----	
4-Terphenyl-d14	1718-51-0	0.5	%	113	----	----	76.8	----	
EP080S: TPH(V)/BTEX Surrogates									
1,2-Dichloroethane-D4	17060-07-0	0.2	%	104	79.9	96.3	100	90.6	
Toluene-D8	2037-26-5	0.2	%	88.0	79.4	99.6	88.5	93.1	
4-Bromofluorobenzene	460-00-4	0.2	%	86.3	81.3	97.3	90.2	91.4	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.0002	%	95.0	103	----	----	----	
13C8-PFOA	----	0.0002	%	100	100	----	----	----	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH03_0.5 Dup	----	----	----	----
Sampling date / time			09-Feb-2022 00:00	----	----	----	----	----
Compound	CAS Number	LOR	Unit	ES2204462-011	-----	-----	-----	-----
				Result	----	----	----	----
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	0.1	%	8.6	----	----	----	----
EP231A: Perfluoroalkyl Sulfonic Acids								
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	----	----	----	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	----	----	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	----	----	----	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	----	----	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	<0.0002	----	----	----	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	----	----	----	----
EP231B: Perfluoroalkyl Carboxylic Acids								
Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	----	----	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	----	----	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	----	----	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	----	----	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	----	----	----	----
Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	----	----	----	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	----	----	----	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	----	----	----	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	----	----	----	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	----	----	----	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides								
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	----	----	----	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	----	----	----	----



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	BH03_0.5 Dup	----	----	----	----
Sampling date / time				09-Feb-2022 00:00	----	----	----	----	----
Compound	CAS Number	LOR	Unit	ES2204462-011	-----	-----	-----	-----	-----
				Result	----	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	----	----	----	----	----
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	----	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	----	----	----	----	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	----	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	----	----	----	----	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	----	----	----	----	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	----	----	----	----	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	----	----	----	----	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	----	----	----	----	----
EP231P: PFAS Sums									
Sum of PFAS	----	0.0002	mg/kg	<0.0002	----	----	----	----	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg	<0.0002	----	----	----	----	----
Sum of PFAS (WA DER List)	----	0.0002	mg/kg	<0.0002	----	----	----	----	----
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.0002	%	91.0	----	----	----	----	----
13C8-PFOA	----	0.0002	%	98.5	----	----	----	----	----



Analytical Results

Descriptive Results

Sub-Matrix: **SOIL**

<i>Method: Compound</i>	<i>Sample ID - Sampling date / time</i>	<i>Analytical Results</i>
EA200: AS 4964 - 2004 Identification of Asbestos in Soils		
EA200: Description	BH03_0.2 - 09-Feb-2022 00:00	Soil sample.
EA200: Description	BH03_0.5 - 09-Feb-2022 00:00	Soil sample.
EA200: Description	BH03_1.5 - 09-Feb-2022 00:00	Soil sample.



Surrogate Control Limits

Sub-Matrix: SOIL		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP066S: PCB Surrogate			
Decachlorobiphenyl	2051-24-3	39	149
EP068S: Organochlorine Pesticide Surrogate			
Dibromo-DDE	21655-73-2	49	147
EP068T: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	35	143
EP074S: VOC Surrogates			
1,2-Dichloroethane-D4	17060-07-0	64	130
Toluene-D8	2037-26-5	66	136
4-Bromofluorobenzene	460-00-4	60	122
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	63	123
2-Chlorophenol-D4	93951-73-6	66	122
2,4,6-Tribromophenol	118-79-6	40	138
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	70	122
Anthracene-d10	1719-06-8	66	128
4-Terphenyl-d14	1718-51-0	65	129
EP075S: Acid Extractable Surrogates			
2-Fluorophenol	367-12-4	29	149
Phenol-d6	13127-88-3	32	128
2-Chlorophenol-D4	93951-73-6	32	128
2,4,6-Tribromophenol	118-79-6	13	121
EP075T: Base/Neutral Extractable Surrogates			
Nitrobenzene-D5	4165-60-0	33	125
1,2-Dichlorobenzene-D4	2199-69-1	34	108
2-Fluorobiphenyl	321-60-8	35	121
Anthracene-d10	1719-06-8	35	123
4-Terphenyl-d14	1718-51-0	33	125
EP080S: TPH(V)/BTEX Surrogates			
1,2-Dichloroethane-D4	17060-07-0	73	133
Toluene-D8	2037-26-5	74	132
4-Bromofluorobenzene	460-00-4	72	130
EP231S: PFAS Surrogate			
13C4-PFOS	----	60	120
13C8-PFOA	----	60	120



Inter-Laboratory Testing

Analysis conducted by ALS Brisbane, NATA accreditation no. 825, site no. 818 (Chemistry) 18958 (Biology).

(SOIL) EA003 :pH (field/fox)

(SOIL) EA029-D: Calcium Values

(SOIL) EA029-E: Magnesium Values

(SOIL) EA029-F: Excess Acid Neutralising Capacity

(SOIL) EA029-H: Acid Base Accounting

(SOIL) EA029-G: Retained Acidity

(SOIL) EA029-A: pH Measurements

(SOIL) EA029-C: Sulfur Trail

(SOIL) EA029-B: Acidity Trail

Analysis conducted by ALS Newcastle, NATA accreditation no. 825, site no. 1656 (Chemistry) 9854 (Biology).

(SOIL) EA200: AS 4964 - 2004 Identification of Asbestos in Soils

CERTIFICATE OF ANALYSIS

Work Order	: ES2204644	Page	: 1 of 16
Client	: EP RISK MANAGEMENT	Laboratory	: Environmental Division Sydney
Contact	: HARRISON BLAKE	Contact	: Tyler Anderson
Address	: Level 4 73 Walker St North Sydney 2060	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: +61 2 8784 8555
Project	: EP2515	Date Samples Received	: 10-Feb-2022 16:50
Order number	: ----	Date Analysis Commenced	: 14-Feb-2022
C-O-C number	: ----	Issue Date	: 22-Feb-2022 17:06
Sampler	: HARRISON BLAKE		
Site	: ----		
Quote number	: SY/497/20 Primary analysis only		
No. of samples received	: 7		
No. of samples analysed	: 5		



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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Descriptive Results
- Surrogate Control Limits

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

Signatories

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

<i>Signatories</i>	<i>Position</i>	<i>Accreditation Category</i>
Alana Smylie	Team Leader - Asbestos	Newcastle - Asbestos, Mayfield West, NSW
Ben Felgendrejeris	Senior Acid Sulfate Soil Chemist	Brisbane Acid Sulphate Soils, Stafford, QLD
Edwandy Fadjjar	Organic Coordinator	Sydney Inorganics, Smithfield, NSW
Edwandy Fadjjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Franco Lentini	LCMS Coordinator	Sydney Organics, Smithfield, NSW
Ivan Taylor	Analyst	Sydney Inorganics, Smithfield, NSW



General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a,h)anthracene (1.0), Benzo(g,h,i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero, for 'TEQ 1/2LOR' are treated as half the reported LOR, and for 'TEQ LOR' are treated as being equal to the reported LOR. Note: TEQ 1/2LOR and TEQ LOR will calculate as 0.6mg/Kg and 1.2mg/Kg respectively for samples with non-detects for all of the eight TEQ PAHs.
- EP080: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EP068: Where reported, Total Chlordane (sum) is the sum of the reported concentrations of cis-Chlordane and trans-Chlordane at or above the LOR.
- EP068: Where reported, Total OCP is the sum of the reported concentrations of all Organochlorine Pesticides at or above LOR.
- EP074: Where reported, Total Trihalomethanes is the sum of the reported concentrations of all Trihalomethanes at or above the LOR.
- EP074: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EP074: Where reported, Sum of chlorinated hydrocarbons includes carbon tetrachloride, chlorobenzene, chloroform, 1,2-dichlorobenzene, 1,4-dichlorobenzene, 1,2-dichloroethane, 1,1-dichloroethene, cis-1,2-dichloroethene, trans-1,2-dichloroethene, 1,1,1,2-tetrachloroethane, 1,1,2,2-tetrachloroethane, 1,2,4-trichlorobenzene, 1,1,1-trichloroethane, 1,1,2-trichloroethane, trichloroethene, vinyl chloride, hexachlorobutadiene and methylene chloride.
- EP074: Where reported, Total Trimethylbenzenes is the sum of the reported concentrations of 1.2.3-Trimethylbenzene, 1.2.4-Trimethylbenzene and 1.3.5-Trimethylbenzene at or above the LOR.
- EP075(SIM): Where reported, Total Cresol is the sum of the reported concentrations of 2-Methylphenol and 3- & 4-Methylphenol at or above the LOR.
- ASS: EA029 (SPOCAS): Retained Acidity not required because pH KCl greater than or equal to 4.5
- ASS: EA029 (SPOCAS): Excess ANC not required because pH OX less than 6.5.
- EP075: Where reported, 'Sum of PAH' is the sum of the USEPA 16 priority PAHs
- ASS: EA029 (SPOCAS): Liming rate is calculated and reported on a dry weight basis assuming use of fine agricultural lime (CaCO₃) and using a safety factor of 1.5 to allow for non-homogeneous mixing and poor reactivity of lime. For conversion of Liming Rate from kg/t dry weight to kg/m³ in-situ soil, multiply reported results x wet bulk density of soil in t/m³.
- ASS: EA003 (NATA Field and F(ox) screening): pH F(ox) Reaction Rate: 1 - Slight; 2 - Moderate; 3 - Strong; 4 - Extreme
- EA200 'Am' Amosite (brown asbestos)
- EA200 'Cr' Crocidolite (blue asbestos)
- EA200 'Trace' - Asbestos fibres ("Free Fibres") detected by trace analysis per AS4964. The result can be interpreted that the sample contains detectable 'respirable' asbestos fibres
- EA200: Asbestos Identification Samples were analysed by Polarised Light Microscopy including dispersion staining.
- EA200 Legend
- EA200 'Ch' Chrysotile (white asbestos)



- EA200: 'UMF' Unknown Mineral Fibres. "-" indicates fibres detected may or may not be asbestos fibres. Confirmation by alternative techniques is recommended.
- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a,h)anthracene (1.0), Benzo(g,h,i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero, for 'TEQ 1/2LOR' are treated as half the reported LOR, and for 'TEQ LOR' are treated as being equal to the reported LOR.
Note: TEQ 1/2LOR and TEQ LOR will calculate as 0.6mg/Kg and 1.2mg/Kg respectively for samples with non-detects for all of the eight TEQ PAHs.
- EA200: For samples larger than 30g, the <2mm fraction may be sub-sampled prior to trace analysis as outlined in ISO23909:2008(E) Sect 6.3.2-2
- EA200: 'Yes' - Asbestos detected by polarised light microscopy including dispersion staining.
- EA200: 'No*' - No asbestos found, at the reporting limit of 0.1g/kg, by polarised light microscopy including dispersion staining. Asbestos material was detected and positively identified at concentrations estimated to be below 0.1g/kg.
- EA200: 'No' - No asbestos found at the reporting limit 0.1g/kg, by polarised light microscopy including dispersion staining.
- EP231: Stable isotope enriched internal standards are added to samples prior to extraction. Target compounds have a direct analogous internal standard with the exception of PFPeS, PFHpA, PFDS, PFTrDA and 10:2 FTS. These compounds use an internal standard that is chemically related and has a retention time close to that of the target compound. The DQO for internal standard response is 50-150% of that established at initial calibration. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS (Australian HEPA) and also conform to QSM 5.3 (US DoD) requirements.



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	BH04_0.2	BH04_1.0	BH04_2.0	BH04_5.0	BH04_7.5
Sampling date / time				10-Feb-2022 00:00					
Compound	CAS Number	LOR	Unit	ES2204644-001	ES2204644-002	ES2204644-003	ES2204644-005	ES2204644-006	
				Result	Result	Result	Result	Result	
EA003 :pH (field/fox)									
pH (F)	----	0.1	pH Unit	----	----	----	7.5	7.6	
pH (Fox)	----	0.1	pH Unit	----	----	----	4.7	4.7	
Reaction Rate	----	1	Reaction Unit	----	----	----	2	2	
EA029-A: pH Measurements									
pH KCl (23A)	----	0.1	pH Unit	----	----	----	7.1	----	
pH OX (23B)	----	0.1	pH Unit	----	----	----	5.8	----	
EA029-B: Acidity Trail									
Titrateable Actual Acidity (23F)	----	2	mole H+ / t	----	----	----	<2	----	
Titrateable Peroxide Acidity (23G)	----	2	mole H+ / t	----	----	----	2	----	
Titrateable Sulfidic Acidity (23H)	----	2	mole H+ / t	----	----	----	2	----	
sulfidic - Titrateable Actual Acidity (s-23F)	----	0.020	% pyrite S	----	----	----	<0.020	----	
sulfidic - Titrateable Peroxide Acidity (s-23G)	----	0.020	% pyrite S	----	----	----	<0.020	----	
sulfidic - Titrateable Sulfidic Acidity (s-23H)	----	0.020	% pyrite S	----	----	----	<0.020	----	
EA029-C: Sulfur Trail									
KCl Extractable Sulfur (23Ce)	----	0.020	% S	----	----	----	<0.020	----	
Peroxide Sulfur (23De)	----	0.020	% S	----	----	----	<0.020	----	
Peroxide Oxidisable Sulfur (23E)	----	0.020	% S	----	----	----	<0.020	----	
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	----	----	----	<10	----	
EA029-D: Calcium Values									
KCl Extractable Calcium (23Vh)	----	0.020	% Ca	----	----	----	<0.020	----	
Peroxide Calcium (23Wh)	----	0.020	% Ca	----	----	----	<0.020	----	
Acid Reacted Calcium (23X)	----	0.020	% Ca	----	----	----	<0.020	----	
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	----	----	----	<10	----	
sulfidic - Acid Reacted Calcium (s-23X)	----	0.020	% S	----	----	----	<0.020	----	
EA029-E: Magnesium Values									
KCl Extractable Magnesium (23Sm)	----	0.020	% Mg	----	----	----	<0.020	----	
Peroxide Magnesium (23Tm)	----	0.020	% Mg	----	----	----	<0.020	----	
Acid Reacted Magnesium (23U)	----	0.020	% Mg	----	----	----	<0.020	----	
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	----	----	----	<10	----	
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.020	% S	----	----	----	<0.020	----	
EA029-H: Acid Base Accounting									



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	BH04_0.2	BH04_1.0	BH04_2.0	BH04_5.0	BH04_7.5
Sampling date / time				10-Feb-2022 00:00					
Compound	CAS Number	LOR	Unit	ES2204644-001	ES2204644-002	ES2204644-003	ES2204644-005	ES2204644-006	
				Result	Result	Result	Result	Result	
EA029-H: Acid Base Accounting - Continued									
ANC Fineness Factor	----	0.5	-	----	----	----	1.5	----	
Net Acidity (sulfur units)	----	0.02	% S	----	----	----	<0.02	----	
Net Acidity (acidity units)	----	10	mole H+ / t	----	----	----	<10	----	
Liming Rate	----	1	kg CaCO3/t	----	----	----	<1	----	
Net Acidity excluding ANC (sulfur units)	----	0.02	% S	----	----	----	<0.02	----	
Net Acidity excluding ANC (acidity units)	----	10	mole H+ / t	----	----	----	<10	----	
Liming Rate excluding ANC	----	1	kg CaCO3/t	----	----	----	<1	----	
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%	5.8	5.6	13.8	----	----	
EA200: AS 4964 - 2004 Identification of Asbestos in Soils									
Asbestos Detected	1332-21-4	0.1	g/kg	No	No	----	----	----	
Asbestos (Trace)	1332-21-4	5	Fibres	No	No	----	----	----	
Asbestos Type	1332-21-4	-	--	-	-	----	----	----	
Sample weight (dry)	----	0.01	g	86.6	43.5	----	----	----	
APPROVED IDENTIFIER:	----	-	--	A. SMYLIE	A. SMYLIE	----	----	----	
Synthetic Mineral Fibre	----	0.1	g/kg	No	No	----	----	----	
Organic Fibre	----	0.1	g/kg	No	No	----	----	----	
EG005(ED093)T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg	<5	<5	<5	----	----	
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	----	----	
Chromium	7440-47-3	2	mg/kg	<2	<2	<2	----	----	
Copper	7440-50-8	5	mg/kg	19	6	<5	----	----	
Lead	7439-92-1	5	mg/kg	52	10	<5	----	----	
Nickel	7440-02-0	2	mg/kg	<2	<2	<2	----	----	
Zinc	7440-66-6	5	mg/kg	44	10	23	----	----	
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	----	----	
EP066: Polychlorinated Biphenyls (PCB)									
Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	<0.1	----	----	
EP068A: Organochlorine Pesticides (OC)									
alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	<0.05	----	----	
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	<0.05	----	----	
beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	<0.05	----	----	
gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	<0.05	----	----	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	BH04_0.2	BH04_1.0	BH04_2.0	BH04_5.0	BH04_7.5
Sampling date / time				10-Feb-2022 00:00					
Compound	CAS Number	LOR	Unit	ES2204644-001	ES2204644-002	ES2204644-003	ES2204644-005	ES2204644-006	
				Result	Result	Result	Result	Result	
EP068A: Organochlorine Pesticides (OC) - Continued									
delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	----	----	
Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	<0.05	----	----	
Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	<0.05	----	----	
Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	<0.05	----	----	
^ Total Chlordane (sum)	----	0.05	mg/kg	<0.05	<0.05	<0.05	----	----	
trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	<0.05	----	----	
alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	<0.05	----	----	
cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	<0.05	----	----	
Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	<0.05	----	----	
4.4'-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	<0.05	----	----	
Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	<0.05	----	----	
beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	<0.05	----	----	
^ Endosulfan (sum)	115-29-7	0.05	mg/kg	<0.05	<0.05	<0.05	----	----	
4.4'-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	<0.05	----	----	
Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	<0.05	----	----	
Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	<0.05	----	----	
4.4'-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	<0.2	----	----	
Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	<0.05	----	----	
Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	<0.2	----	----	
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	<0.05	<0.05	<0.05	----	----	
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-29-3	0.05	mg/kg	<0.05	<0.05	<0.05	----	----	
EP068B: Organophosphorus Pesticides (OP)									
Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	<0.05	----	----	
Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	----	----	
Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	<0.2	----	----	
Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	<0.05	----	----	
Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	<0.05	----	----	
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	<0.05	----	----	
Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	<0.2	----	----	
Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	<0.05	----	----	
Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	<0.05	----	----	
Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	<0.05	----	----	
Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	<0.2	----	----	
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	<0.05	----	----	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	BH04_0.2	BH04_1.0	BH04_2.0	BH04_5.0	BH04_7.5
Sampling date / time				10-Feb-2022 00:00					
Compound	CAS Number	LOR	Unit	ES2204644-001	ES2204644-002	ES2204644-003	ES2204644-005	ES2204644-006	
				Result	Result	Result	Result	Result	
EP068B: Organophosphorus Pesticides (OP) - Continued									
Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	<0.05	----	----	
Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	<0.05	----	----	
Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	<0.05	----	----	
Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	<0.05	----	----	
Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	<0.05	----	----	
Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	<0.05	----	----	
Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	<0.05	----	----	
EP074A: Monocyclic Aromatic Hydrocarbons									
Styrene	100-42-5	0.5	mg/kg	<0.5	----	<0.5	----	----	
Isopropylbenzene	98-82-8	0.5	mg/kg	<0.5	----	<0.5	----	----	
n-Propylbenzene	103-65-1	0.5	mg/kg	<0.5	----	<0.5	----	----	
1,3,5-Trimethylbenzene	108-67-8	0.5	mg/kg	<0.5	----	<0.5	----	----	
sec-Butylbenzene	135-98-8	0.5	mg/kg	<0.5	----	<0.5	----	----	
1,2,4-Trimethylbenzene	95-63-6	0.5	mg/kg	<0.5	----	<0.5	----	----	
tert-Butylbenzene	98-06-6	0.5	mg/kg	<0.5	----	<0.5	----	----	
p-Isopropyltoluene	99-87-6	0.5	mg/kg	<0.5	----	<0.5	----	----	
n-Butylbenzene	104-51-8	0.5	mg/kg	<0.5	----	<0.5	----	----	
EP074B: Oxygenated Compounds									
Vinyl Acetate	108-05-4	5	mg/kg	<5	----	<5	----	----	
2-Butanone (MEK)	78-93-3	5	mg/kg	<5	----	<5	----	----	
4-Methyl-2-pentanone (MIBK)	108-10-1	5	mg/kg	<5	----	<5	----	----	
2-Hexanone (MBK)	591-78-6	5	mg/kg	<5	----	<5	----	----	
EP074C: Sulfonated Compounds									
Carbon disulfide	75-15-0	0.5	mg/kg	<0.5	----	<0.5	----	----	
EP074D: Fumigants									
2,2-Dichloropropane	594-20-7	0.5	mg/kg	<0.5	----	<0.5	----	----	
1,2-Dichloropropane	78-87-5	0.5	mg/kg	<0.5	----	<0.5	----	----	
cis-1,3-Dichloropropylene	10061-01-5	0.5	mg/kg	<0.5	----	<0.5	----	----	
trans-1,3-Dichloropropylene	10061-02-6	0.5	mg/kg	<0.5	----	<0.5	----	----	
1,2-Dibromoethane (EDB)	106-93-4	0.5	mg/kg	<0.5	----	<0.5	----	----	
EP074E: Halogenated Aliphatic Compounds									
Dichlorodifluoromethane	75-71-8	5	mg/kg	<5	----	<5	----	----	
Chloromethane	74-87-3	5	mg/kg	<5	----	<5	----	----	
Vinyl chloride	75-01-4	5	mg/kg	<5	----	<5	----	----	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	BH04_0.2	BH04_1.0	BH04_2.0	BH04_5.0	BH04_7.5
Sampling date / time				10-Feb-2022 00:00					
Compound	CAS Number	LOR	Unit	ES2204644-001	ES2204644-002	ES2204644-003	ES2204644-005	ES2204644-006	
				Result	Result	Result	Result	Result	
EP074E: Halogenated Aliphatic Compounds - Continued									
Bromomethane	74-83-9	5	mg/kg	<5	----	<5	----	----	
Chloroethane	75-00-3	5	mg/kg	<5	----	<5	----	----	
Trichlorofluoromethane	75-69-4	5	mg/kg	<5	----	<5	----	----	
1.1-Dichloroethene	75-35-4	0.5	mg/kg	<0.5	----	<0.5	----	----	
Iodomethane	74-88-4	0.5	mg/kg	<0.5	----	<0.5	----	----	
trans-1.2-Dichloroethene	156-60-5	0.5	mg/kg	<0.5	----	<0.5	----	----	
1.1-Dichloroethane	75-34-3	0.5	mg/kg	<0.5	----	<0.5	----	----	
cis-1.2-Dichloroethene	156-59-2	0.5	mg/kg	<0.5	----	<0.5	----	----	
1.1.1-Trichloroethane	71-55-6	0.5	mg/kg	<0.5	----	<0.5	----	----	
1.1-Dichloropropylene	563-58-6	0.5	mg/kg	<0.5	----	<0.5	----	----	
Carbon Tetrachloride	56-23-5	0.5	mg/kg	<0.5	----	<0.5	----	----	
1.2-Dichloroethane	107-06-2	0.5	mg/kg	<0.5	----	<0.5	----	----	
Trichloroethene	79-01-6	0.5	mg/kg	<0.5	----	<0.5	----	----	
Dibromomethane	74-95-3	0.5	mg/kg	<0.5	----	<0.5	----	----	
1.1.2-Trichloroethane	79-00-5	0.5	mg/kg	<0.5	----	<0.5	----	----	
1.3-Dichloropropane	142-28-9	0.5	mg/kg	<0.5	----	<0.5	----	----	
Tetrachloroethene	127-18-4	0.5	mg/kg	<0.5	----	<0.5	----	----	
1.1.1.2-Tetrachloroethane	630-20-6	0.5	mg/kg	<0.5	----	<0.5	----	----	
trans-1.4-Dichloro-2-butene	110-57-6	0.5	mg/kg	<0.5	----	<0.5	----	----	
cis-1.4-Dichloro-2-butene	1476-11-5	0.5	mg/kg	<0.5	----	<0.5	----	----	
1.1.2.2-Tetrachloroethane	79-34-5	0.5	mg/kg	<0.5	----	<0.5	----	----	
1.2.3-Trichloropropane	96-18-4	0.5	mg/kg	<0.5	----	<0.5	----	----	
Pentachloroethane	76-01-7	0.5	mg/kg	<0.5	----	<0.5	----	----	
1.2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg	<0.5	----	<0.5	----	----	
EP074F: Halogenated Aromatic Compounds									
Chlorobenzene	108-90-7	0.5	mg/kg	<0.5	----	<0.5	----	----	
Bromobenzene	108-86-1	0.5	mg/kg	<0.5	----	<0.5	----	----	
2-Chlorotoluene	95-49-8	0.5	mg/kg	<0.5	----	<0.5	----	----	
4-Chlorotoluene	106-43-4	0.5	mg/kg	<0.5	----	<0.5	----	----	
1.2.3-Trichlorobenzene	87-61-6	0.5	mg/kg	<0.5	----	<0.5	----	----	
EP074G: Trihalomethanes									
Chloroform	67-66-3	0.5	mg/kg	<0.5	----	<0.5	----	----	
Bromodichloromethane	75-27-4	0.5	mg/kg	<0.5	----	<0.5	----	----	
Dibromochloromethane	124-48-1	0.5	mg/kg	<0.5	----	<0.5	----	----	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	BH04_0.2	BH04_1.0	BH04_2.0	BH04_5.0	BH04_7.5
Sampling date / time				10-Feb-2022 00:00					
Compound	CAS Number	LOR	Unit	ES2204644-001	ES2204644-002	ES2204644-003	ES2204644-005	ES2204644-006	
				Result	Result	Result	Result	Result	
EP074G: Trihalomethanes - Continued									
Bromoform	75-25-2	0.5	mg/kg	<0.5	----	<0.5	----	----	
EP075(SIM)A: Phenolic Compounds									
Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	<0.5	----	----	
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	<0.5	----	----	
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	<0.5	----	----	
3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	<1	----	----	
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	<0.5	----	----	
2,4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	<0.5	----	----	
2,4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	<0.5	----	----	
2,6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	<0.5	----	----	
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	<0.5	----	----	
2,4,6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	<0.5	----	----	
2,4,5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	<0.5	----	----	
Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	<2	----	----	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	----	----	
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	<0.5	----	----	
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	----	----	
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	----	----	
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	<0.5	----	----	
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	<0.5	----	----	
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	<0.5	----	----	
Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	<0.5	----	----	
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	<0.5	----	----	
Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	<0.5	----	----	
Benzo(b+j)fluoranthene	205-99-2	205-82-3	0.5	mg/kg	<0.5	<0.5	<0.5	----	
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	<0.5	----	----	
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	<0.5	----	----	
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	<0.5	----	----	
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	<0.5	----	----	
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	<0.5	----	----	
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	<0.5	----	----	
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	<0.5	----	----	
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	0.6	0.6	0.6	----	----	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	BH04_0.2	BH04_1.0	BH04_2.0	BH04_5.0	BH04_7.5
Sampling date / time				10-Feb-2022 00:00					
Compound	CAS Number	LOR	Unit	ES2204644-001	ES2204644-002	ES2204644-003	ES2204644-005	ES2204644-006	
				Result	Result	Result	Result	Result	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	1.2	1.2	1.2	----	----	
EP075B: Polynuclear Aromatic Hydrocarbons									
2-Methylnaphthalene	91-57-6	0.5	mg/kg	<0.5	----	<0.5	----	----	
2-Chloronaphthalene	91-58-7	0.5	mg/kg	<0.5	----	<0.5	----	----	
N-2-Fluorenyl Acetamide	53-96-3	0.5	mg/kg	<0.5	----	<0.5	----	----	
7.12-Dimethylbenz(a)anthracene	57-97-6	0.5	mg/kg	<0.5	----	<0.5	----	----	
3-Methylcholanthrene	56-49-5	0.5	mg/kg	<0.5	----	<0.5	----	----	
EP075C: Phthalate Esters									
Dimethyl phthalate	131-11-3	0.5	mg/kg	<0.5	----	<0.5	----	----	
Diethyl phthalate	84-66-2	0.5	mg/kg	<0.5	----	<0.5	----	----	
Di-n-butyl phthalate	84-74-2	0.5	mg/kg	<0.5	----	<0.5	----	----	
Butyl benzyl phthalate	85-68-7	0.5	mg/kg	<0.5	----	<0.5	----	----	
bis(2-ethylhexyl) phthalate	117-81-7	5.0	mg/kg	<5.0	----	<5.0	----	----	
Di-n-octylphthalate	117-84-0	0.5	mg/kg	<0.5	----	<0.5	----	----	
EP075D: Nitrosamines									
N-Nitrosomethylethylamine	10595-95-6	0.5	mg/kg	<0.5	----	<0.5	----	----	
N-Nitrosodiethylamine	55-18-5	0.5	mg/kg	<0.5	----	<0.5	----	----	
N-Nitrosopyrrolidine	930-55-2	1.0	mg/kg	<1.0	----	<1.0	----	----	
N-Nitrosomorpholine	59-89-2	0.5	mg/kg	<0.5	----	<0.5	----	----	
N-Nitrosodi-n-propylamine	621-64-7	0.5	mg/kg	<0.5	----	<0.5	----	----	
N-Nitrosopiperidine	100-75-4	0.5	mg/kg	<0.5	----	<0.5	----	----	
N-Nitrosodibutylamine	924-16-3	0.5	mg/kg	<0.5	----	<0.5	----	----	
N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	1.0	mg/kg	<1.0	----	<1.0	----	----	
Methapyrilene	91-80-5	0.5	mg/kg	<0.5	----	<0.5	----	----	
EP075E: Nitroaromatics and Ketones									
2-Picoline	109-06-8	0.5	mg/kg	<0.5	----	<0.5	----	----	
Acetophenone	98-86-2	0.5	mg/kg	<0.5	----	<0.5	----	----	
Nitrobenzene	98-95-3	0.5	mg/kg	<0.5	----	<0.5	----	----	
Isophorone	78-59-1	0.5	mg/kg	<0.5	----	<0.5	----	----	
2,6-Dinitrotoluene	606-20-2	1.0	mg/kg	<1.0	----	<1.0	----	----	
2,4-Dinitrotoluene	121-14-2	1.0	mg/kg	<1.0	----	<1.0	----	----	
1-Naphthylamine	134-32-7	0.5	mg/kg	<0.5	----	<0.5	----	----	
4-Nitroquinoline-N-oxide	56-57-5	0.5	mg/kg	<0.5	----	<0.5	----	----	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	BH04_0.2	BH04_1.0	BH04_2.0	BH04_5.0	BH04_7.5
Sampling date / time				10-Feb-2022 00:00					
Compound	CAS Number	LOR	Unit	ES2204644-001	ES2204644-002	ES2204644-003	ES2204644-005	ES2204644-006	
				Result	Result	Result	Result	Result	
EP075E: Nitroaromatics and Ketones - Continued									
5-Nitro-o-toluidine	99-55-8	0.5	mg/kg	<0.5	----	<0.5	----	----	
Azobenzene	103-33-3	1	mg/kg	<1	----	<1	----	----	
1,3,5-Trinitrobenzene	99-35-4	0.5	mg/kg	<0.5	----	<0.5	----	----	
Phenacetin	62-44-2	0.5	mg/kg	<0.5	----	<0.5	----	----	
4-Aminobiphenyl	92-67-1	0.5	mg/kg	<0.5	----	<0.5	----	----	
Pentachloronitrobenzene	82-68-8	0.5	mg/kg	<0.5	----	<0.5	----	----	
Pronamide	23950-58-5	0.5	mg/kg	<0.5	----	<0.5	----	----	
Dimethylaminoazobenzene	60-11-7	0.5	mg/kg	<0.5	----	<0.5	----	----	
Chlorobenzilate	510-15-6	0.5	mg/kg	<0.5	----	<0.5	----	----	
EP075F: Haloethers									
Bis(2-chloroethyl) ether	111-44-4	0.5	mg/kg	<0.5	----	<0.5	----	----	
Bis(2-chloroethoxy) methane	111-91-1	0.5	mg/kg	<0.5	----	<0.5	----	----	
4-Chlorophenyl phenyl ether	7005-72-3	0.5	mg/kg	<0.5	----	<0.5	----	----	
4-Bromophenyl phenyl ether	101-55-3	0.5	mg/kg	<0.5	----	<0.5	----	----	
EP075G: Chlorinated Hydrocarbons									
1,3-Dichlorobenzene	541-73-1	0.5	mg/kg	<0.5	----	<0.5	----	----	
1,4-Dichlorobenzene	106-46-7	0.5	mg/kg	<0.5	----	<0.5	----	----	
1,2-Dichlorobenzene	95-50-1	0.5	mg/kg	<0.5	----	<0.5	----	----	
Hexachloroethane	67-72-1	0.5	mg/kg	<0.5	----	<0.5	----	----	
1,2,4-Trichlorobenzene	120-82-1	0.5	mg/kg	<0.5	----	<0.5	----	----	
Hexachloropropylene	1888-71-7	0.5	mg/kg	<0.5	----	<0.5	----	----	
Hexachlorobutadiene	87-68-3	0.5	mg/kg	<0.5	----	<0.5	----	----	
Hexachlorocyclopentadiene	77-47-4	2.5	mg/kg	<2.5	----	<2.5	----	----	
Pentachlorobenzene	608-93-5	0.5	mg/kg	<0.5	----	<0.5	----	----	
Hexachlorobenzene (HCB)	118-74-1	1.0	mg/kg	<1.0	----	<1.0	----	----	
EP075H: Anilines and Benzidines									
Aniline	62-53-3	0.5	mg/kg	<0.5	----	<0.5	----	----	
4-Chloroaniline	106-47-8	0.5	mg/kg	<0.5	----	<0.5	----	----	
2-Nitroaniline	88-74-4	1.0	mg/kg	<1.0	----	<1.0	----	----	
3-Nitroaniline	99-09-2	1.0	mg/kg	<1.0	----	<1.0	----	----	
Dibenzofuran	132-64-9	0.5	mg/kg	<0.5	----	<0.5	----	----	
4-Nitroaniline	100-01-6	0.5	mg/kg	<0.5	----	<0.5	----	----	
Carbazole	86-74-8	0.5	mg/kg	<0.5	----	<0.5	----	----	
3,3'-Dichlorobenzidine	91-94-1	0.5	mg/kg	<0.5	----	<0.5	----	----	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	BH04_0.2	BH04_1.0	BH04_2.0	BH04_5.0	BH04_7.5
Sampling date / time				10-Feb-2022 00:00					
Compound	CAS Number	LOR	Unit	ES2204644-001	ES2204644-002	ES2204644-003	ES2204644-005	ES2204644-006	
				Result	Result	Result	Result	Result	
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	----	----	
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	----	----	
C15 - C28 Fraction	----	100	mg/kg	<100	<100	<100	----	----	
C29 - C36 Fraction	----	100	mg/kg	<100	<100	<100	----	----	
^ C10 - C36 Fraction (sum)	----	50	mg/kg	<50	<50	<50	----	----	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	<10	----	----	
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	<10	<10	<10	----	----	
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	<50	----	----	
>C16 - C34 Fraction	----	100	mg/kg	<100	<100	<100	----	----	
>C34 - C40 Fraction	----	100	mg/kg	<100	<100	<100	----	----	
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	<50	<50	----	----	
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	<50	<50	<50	----	----	
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	----	----	
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	----	----	
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	----	----	
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	----	----	
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	----	----	
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	----	----	
^ Total Xylenes	----	0.5	mg/kg	<0.5	<0.5	<0.5	----	----	
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	----	----	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	----	<0.0002	----	----	----	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	----	<0.0002	----	----	----	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	----	<0.0002	----	----	----	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	----	<0.001	----	----	----	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	----	<0.0002	----	----	----	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	----	<0.0002	----	----	----	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	BH04_0.2	BH04_1.0	BH04_2.0	BH04_5.0	BH04_7.5
Sampling date / time				10-Feb-2022 00:00					
Compound	CAS Number	LOR	Unit	ES2204644-001	ES2204644-002	ES2204644-003	ES2204644-005	ES2204644-006	
				Result	Result	Result	Result	Result	
EP231B: Perfluoroalkyl Carboxylic Acids - Continued									
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	----	<0.0002	----	----	----	
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	----	<0.0002	----	----	----	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	----	<0.0005	----	----	----	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	----	<0.0005	----	----	----	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	----	<0.0005	----	----	----	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	----	<0.0005	----	----	----	
EP231P: PFAS Sums									
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg	----	<0.0002	----	----	----	
Sum of PFAS (WA DER List)	----	0.0002	mg/kg	----	<0.0002	----	----	----	
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%	93.1	120	89.7	----	----	
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%	76.7	92.4	75.0	----	----	
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%	67.5	79.2	65.2	----	----	
EP074S: VOC Surrogates									
1,2-Dichloroethane-D4	17060-07-0	0.5	%	83.9	----	79.9	----	----	
Toluene-D8	2037-26-5	0.5	%	88.0	----	81.5	----	----	
4-Bromofluorobenzene	460-00-4	0.5	%	90.2	----	80.5	----	----	
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%	89.4	88.4	83.6	----	----	
2-Chlorophenol-D4	93951-73-6	0.5	%	91.2	91.4	84.1	----	----	
2,4,6-Tribromophenol	118-79-6	0.5	%	69.7	67.4	62.6	----	----	
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%	94.0	94.1	86.5	----	----	
Anthracene-d10	1719-06-8	0.5	%	95.2	95.3	88.5	----	----	
4-Terphenyl-d14	1718-51-0	0.5	%	91.8	93.8	85.3	----	----	
EP075S: Acid Extractable Surrogates									



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	BH04_0.2	BH04_1.0	BH04_2.0	BH04_5.0	BH04_7.5
Sampling date / time				10-Feb-2022 00:00					
Compound	CAS Number	LOR	Unit	ES2204644-001	ES2204644-002	ES2204644-003	ES2204644-005	ES2204644-006	
				Result	Result	Result	Result	Result	
EP075S: Acid Extractable Surrogates - Continued									
2-Fluorophenol	367-12-4	0.5	%	107	----	97.6	----	----	
Phenol-d6	13127-88-3	0.5	%	101	----	99.7	----	----	
2-Chlorophenol-D4	93951-73-6	0.5	%	98.9	----	90.5	----	----	
2,4,6-Tribromophenol	118-79-6	0.5	%	76.5	----	67.7	----	----	
EP075T: Base/Neutral Extractable Surrogates									
Nitrobenzene-D5	4165-60-0	0.5	%	104	----	82.8	----	----	
1,2-Dichlorobenzene-D4	2199-69-1	0.5	%	86.9	----	77.1	----	----	
2-Fluorobiphenyl	321-60-8	0.5	%	83.3	----	74.6	----	----	
Anthracene-d10	1719-06-8	0.5	%	113	----	104	----	----	
4-Terphenyl-d14	1718-51-0	0.5	%	92.1	----	84.5	----	----	
EP080S: TPH(V)/BTEX Surrogates									
1,2-Dichloroethane-D4	17060-07-0	0.2	%	78.9	96.5	75.4	----	----	
Toluene-D8	2037-26-5	0.2	%	86.3	91.8	80.1	----	----	
4-Bromofluorobenzene	460-00-4	0.2	%	89.0	95.1	79.9	----	----	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.0002	%	----	94.5	----	----	----	
13C8-PFOA	----	0.0002	%	----	102	----	----	----	

Analytical Results

Descriptive Results

Sub-Matrix: SOIL

Method: Compound	Sample ID - Sampling date / time	Analytical Results
EA200: AS 4964 - 2004 Identification of Asbestos in Soils		
EA200: Description	BH04_0.2 - 10-Feb-2022 00:00	Soil sample.
EA200: Description	BH04_1.0 - 10-Feb-2022 00:00	Soil sample.



Surrogate Control Limits

Sub-Matrix: SOIL		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP066S: PCB Surrogate			
Decachlorobiphenyl	2051-24-3	39	149
EP068S: Organochlorine Pesticide Surrogate			
Dibromo-DDE	21655-73-2	49	147
EP068T: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	35	143
EP074S: VOC Surrogates			
1,2-Dichloroethane-D4	17060-07-0	64	130
Toluene-D8	2037-26-5	66	136
4-Bromofluorobenzene	460-00-4	60	122
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	63	123
2-Chlorophenol-D4	93951-73-6	66	122
2,4,6-Tribromophenol	118-79-6	40	138
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	70	122
Anthracene-d10	1719-06-8	66	128
4-Terphenyl-d14	1718-51-0	65	129
EP075S: Acid Extractable Surrogates			
2-Fluorophenol	367-12-4	29	149
Phenol-d6	13127-88-3	32	128
2-Chlorophenol-D4	93951-73-6	32	128
2,4,6-Tribromophenol	118-79-6	13	121
EP075T: Base/Neutral Extractable Surrogates			
Nitrobenzene-D5	4165-60-0	33	125
1,2-Dichlorobenzene-D4	2199-69-1	34	108
2-Fluorobiphenyl	321-60-8	35	121
Anthracene-d10	1719-06-8	35	123
4-Terphenyl-d14	1718-51-0	33	125
EP080S: TPH(V)/BTEX Surrogates			
1,2-Dichloroethane-D4	17060-07-0	73	133
Toluene-D8	2037-26-5	74	132
4-Bromofluorobenzene	460-00-4	72	130
EP231S: PFAS Surrogate			
13C4-PFOS	----	60	120
13C8-PFOA	----	60	120



Inter-Laboratory Testing

Analysis conducted by ALS Brisbane, NATA accreditation no. 825, site no. 818 (Chemistry) 18958 (Biology).

(SOIL) EA003 :pH (field/fox)

(SOIL) EA029-D: Calcium Values

(SOIL) EA029-E: Magnesium Values

(SOIL) EA029-F: Excess Acid Neutralising Capacity

(SOIL) EA029-H: Acid Base Accounting

(SOIL) EA029-G: Retained Acidity

(SOIL) EA029-A: pH Measurements

(SOIL) EA029-C: Sulfur Trail

(SOIL) EA029-B: Acidity Trail

Analysis conducted by ALS Newcastle, NATA accreditation no. 825, site no. 1656 (Chemistry) 9854 (Biology).

(SOIL) EA200: AS 4964 - 2004 Identification of Asbestos in Soils

**CERTIFICATE OF ANALYSIS**

Work Order : **ES2204645**
Client : **EP RISK MANAGEMENT**
Contact : HARRISON BLAKE
Address : Level 4 73 Walker St
 North Sydney 2060

Telephone : ----
Project : EP2515
Order number : ----
C-O-C number : ----
Sampler : HARRISON BLAKE
Site : ----
Quote number : SY/497/20 Primary analysis only
No. of samples received : 6
No. of samples analysed : 4

Page : 1 of 16
Laboratory : Environmental Division Sydney
Contact : Tyler Anderson
Address : 277-289 Woodpark Road Smithfield NSW Australia 2164

Telephone : +61 2 8784 8555
Date Samples Received : 10-Feb-2022 16:50
Date Analysis Commenced : 14-Feb-2022
Issue Date : 22-Feb-2022 17:29



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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Descriptive Results
- Surrogate Control Limits

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

Signatories

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

<i>Signatories</i>	<i>Position</i>	<i>Accreditation Category</i>
Alana Smylie	Team Leader - Asbestos	Newcastle - Asbestos, Mayfield West, NSW
Ben Felgendrejeris	Senior Acid Sulfate Soil Chemist	Brisbane Acid Sulphate Soils, Stafford, QLD
Edwandy Fadjjar	Organic Coordinator	Sydney Inorganics, Smithfield, NSW
Edwandy Fadjjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Franco Lentini	LCMS Coordinator	Sydney Organics, Smithfield, NSW
Ivan Taylor	Analyst	Sydney Inorganics, Smithfield, NSW



General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a,h)anthracene (1.0), Benzo(g,h,i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero, for 'TEQ 1/2LOR' are treated as half the reported LOR, and for 'TEQ LOR' are treated as being equal to the reported LOR. Note: TEQ 1/2LOR and TEQ LOR will calculate as 0.6mg/Kg and 1.2mg/Kg respectively for samples with non-detects for all of the eight TEQ PAHs.
- EP080: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EP068: Where reported, Total Chlordane (sum) is the sum of the reported concentrations of cis-Chlordane and trans-Chlordane at or above the LOR.
- EP068: Where reported, Total OCP is the sum of the reported concentrations of all Organochlorine Pesticides at or above LOR.
- EP074: Where reported, Total Trihalomethanes is the sum of the reported concentrations of all Trihalomethanes at or above the LOR.
- EP074: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EP074: Where reported, Sum of chlorinated hydrocarbons includes carbon tetrachloride, chlorobenzene, chloroform, 1,2-dichlorobenzene, 1,4-dichlorobenzene, 1,2-dichloroethane, 1,1-dichloroethene, cis-1,2-dichloroethene, trans-1,2-dichloroethene, 1,1,1,2-tetrachloroethane, 1,1,2,2-tetrachloroethane, 1,2,4-trichlorobenzene, 1,1,1-trichloroethane, 1,1,2-trichloroethane, trichloroethene, vinyl chloride, hexachlorobutadiene and methylene chloride.
- EP074: Where reported, Total Trimethylbenzenes is the sum of the reported concentrations of 1.2.3-Trimethylbenzene, 1.2.4-Trimethylbenzene and 1.3.5-Trimethylbenzene at or above the LOR.
- EP075(SIM): Where reported, Total Cresol is the sum of the reported concentrations of 2-Methylphenol and 3- & 4-Methylphenol at or above the LOR.
- ASS: EA029 (SPOCAS): Retained Acidity not required because pH KCl greater than or equal to 4.5
- ASS: EA029 (SPOCAS): Excess ANC not required because pH OX less than 6.5.
- EP075: Where reported, 'Sum of PAH' is the sum of the USEPA 16 priority PAHs
- ASS: EA029 (SPOCAS): Liming rate is calculated and reported on a dry weight basis assuming use of fine agricultural lime (CaCO₃) and using a safety factor of 1.5 to allow for non-homogeneous mixing and poor reactivity of lime. For conversion of Liming Rate from kg/t dry weight to kg/m³ in-situ soil, multiply reported results x wet bulk density of soil in t/m³.
- ASS: EA003 (NATA Field and F(ox) screening): pH F(ox) Reaction Rate: 1 - Slight; 2 - Moderate; 3 - Strong; 4 - Extreme
- EA200 'Am' Amosite (brown asbestos)
- EA200 'Cr' Crocidolite (blue asbestos)
- EA200 'Trace' - Asbestos fibres ("Free Fibres") detected by trace analysis per AS4964. The result can be interpreted that the sample contains detectable 'respirable' asbestos fibres
- EA200: Asbestos Identification Samples were analysed by Polarised Light Microscopy including dispersion staining.
- EA200 Legend
- EA200 'Ch' Chrysotile (white asbestos)



- EA200: 'UMF' Unknown Mineral Fibres. "-" indicates fibres detected may or may not be asbestos fibres. Confirmation by alternative techniques is recommended.
- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a,h)anthracene (1.0), Benzo(g,h,i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero, for 'TEQ 1/2LOR' are treated as half the reported LOR, and for 'TEQ LOR' are treated as being equal to the reported LOR.
Note: TEQ 1/2LOR and TEQ LOR will calculate as 0.6mg/Kg and 1.2mg/Kg respectively for samples with non-detects for all of the eight TEQ PAHs.
- EA200: For samples larger than 30g, the <2mm fraction may be sub-sampled prior to trace analysis as outlined in ISO23909:2008(E) Sect 6.3.2-2
- EA200: 'Yes' - Asbestos detected by polarised light microscopy including dispersion staining.
- EA200: 'No*' - No asbestos found, at the reporting limit of 0.1g/kg, by polarised light microscopy including dispersion staining. Asbestos material was detected and positively identified at concentrations estimated to be below 0.1g/kg.
- EA200: 'No' - No asbestos found at the reporting limit 0.1g/kg, by polarised light microscopy including dispersion staining.
- EP231: Stable isotope enriched internal standards are added to samples prior to extraction. Target compounds have a direct analogous internal standard with the exception of PFPeS, PFHpA, PFDS, PFTrDA and 10:2 FTS. These compounds use an internal standard that is chemically related and has a retention time close to that of the target compound. The DQO for internal standard response is 50-150% of that established at initial calibration. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS (Australian HEPA) and also conform to QSM 5.3 (US DoD) requirements.



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	BH05_0.2	BH05_1.5	BH05_2.0	BH05_4.0	----
Sampling date / time				10-Feb-2022 00:00	10-Feb-2022 00:00	10-Feb-2022 00:00	10-Feb-2022 00:00	----	----
Compound	CAS Number	LOR	Unit	ES2204645-001	ES2204645-002	ES2204645-003	ES2204645-004	-----	-----
				Result	Result	Result	Result	----	----
EA003 :pH (field/fox)									
pH (F)	----	0.1	pH Unit	----	----	7.3	7.3	----	----
pH (Fox)	----	0.1	pH Unit	----	----	3.4	3.2	----	----
Reaction Rate	----	1	Reaction Unit	----	----	3	3	----	----
EA029-A: pH Measurements									
pH KCl (23A)	----	0.1	pH Unit	----	----	----	6.4	----	----
pH OX (23B)	----	0.1	pH Unit	----	----	----	4.9	----	----
EA029-B: Acidity Trail									
Titrateable Actual Acidity (23F)	----	2	mole H+ / t	----	----	----	<2	----	----
Titrateable Peroxide Acidity (23G)	----	2	mole H+ / t	----	----	----	<2	----	----
Titrateable Sulfidic Acidity (23H)	----	2	mole H+ / t	----	----	----	<2	----	----
sulfidic - Titrateable Actual Acidity (s-23F)	----	0.020	% pyrite S	----	----	----	<0.020	----	----
sulfidic - Titrateable Peroxide Acidity (s-23G)	----	0.020	% pyrite S	----	----	----	<0.020	----	----
sulfidic - Titrateable Sulfidic Acidity (s-23H)	----	0.020	% pyrite S	----	----	----	<0.020	----	----
EA029-C: Sulfur Trail									
KCl Extractable Sulfur (23Ce)	----	0.020	% S	----	----	----	<0.020	----	----
Peroxide Sulfur (23De)	----	0.020	% S	----	----	----	<0.020	----	----
Peroxide Oxidisable Sulfur (23E)	----	0.020	% S	----	----	----	<0.020	----	----
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	----	----	----	<10	----	----
EA029-D: Calcium Values									
KCl Extractable Calcium (23Vh)	----	0.020	% Ca	----	----	----	0.032	----	----
Peroxide Calcium (23Wh)	----	0.020	% Ca	----	----	----	0.033	----	----
Acid Reacted Calcium (23X)	----	0.020	% Ca	----	----	----	<0.020	----	----
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	----	----	----	<10	----	----
sulfidic - Acid Reacted Calcium (s-23X)	----	0.020	% S	----	----	----	<0.020	----	----
EA029-E: Magnesium Values									
KCl Extractable Magnesium (23Sm)	----	0.020	% Mg	----	----	----	<0.020	----	----
Peroxide Magnesium (23Tm)	----	0.020	% Mg	----	----	----	<0.020	----	----
Acid Reacted Magnesium (23U)	----	0.020	% Mg	----	----	----	<0.020	----	----
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	----	----	----	<10	----	----
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.020	% S	----	----	----	<0.020	----	----
EA029-H: Acid Base Accounting									



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	BH05_0.2	BH05_1.5	BH05_2.0	BH05_4.0	----
Sampling date / time				10-Feb-2022 00:00	10-Feb-2022 00:00	10-Feb-2022 00:00	10-Feb-2022 00:00	----	
Compound	CAS Number	LOR	Unit	ES2204645-001	ES2204645-002	ES2204645-003	ES2204645-004	-----	
				Result	Result	Result	Result	----	
EA029-H: Acid Base Accounting - Continued									
ANC Fineness Factor	----	0.5	-	----	----	----	1.5	----	
Net Acidity (sulfur units)	----	0.02	% S	----	----	----	<0.02	----	
Net Acidity (acidity units)	----	10	mole H+ / t	----	----	----	<10	----	
Liming Rate	----	1	kg CaCO3/t	----	----	----	<1	----	
Net Acidity excluding ANC (sulfur units)	----	0.02	% S	----	----	----	<0.02	----	
Net Acidity excluding ANC (acidity units)	----	10	mole H+ / t	----	----	----	<10	----	
Liming Rate excluding ANC	----	1	kg CaCO3/t	----	----	----	<1	----	
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%	9.8	23.2	17.7	----	----	
EA200: AS 4964 - 2004 Identification of Asbestos in Soils									
Asbestos Detected	1332-21-4	0.1	g/kg	No	No	----	----	----	
Asbestos (Trace)	1332-21-4	5	Fibres	No	No	----	----	----	
Asbestos Type	1332-21-4	-	--	-	-	----	----	----	
Sample weight (dry)	----	0.01	g	72.6	46.9	----	----	----	
APPROVED IDENTIFIER:	----	-	--	A. SMYLIE	A. SMYLIE	----	----	----	
Synthetic Mineral Fibre	----	0.1	g/kg	No	No	----	----	----	
Organic Fibre	----	0.1	g/kg	No	No	----	----	----	
EG005(ED093)T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg	18	<5	<5	----	----	
Cadmium	7440-43-9	1	mg/kg	1	<1	<1	----	----	
Chromium	7440-47-3	2	mg/kg	36	3	<2	----	----	
Copper	7440-50-8	5	mg/kg	120	12	<5	----	----	
Lead	7439-92-1	5	mg/kg	85	26	<5	----	----	
Nickel	7440-02-0	2	mg/kg	27	2	<2	----	----	
Zinc	7440-66-6	5	mg/kg	103	31	<5	----	----	
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg	0.2	<0.1	<0.1	----	----	
EP066: Polychlorinated Biphenyls (PCB)									
Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	<0.1	----	----	
EP068A: Organochlorine Pesticides (OC)									
alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	<0.05	----	----	
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	<0.05	----	----	
beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	<0.05	----	----	
gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	<0.05	----	----	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	BH05_0.2	BH05_1.5	BH05_2.0	BH05_4.0	----
Sampling date / time				10-Feb-2022 00:00	10-Feb-2022 00:00	10-Feb-2022 00:00	10-Feb-2022 00:00	----	
Compound	CAS Number	LOR	Unit	ES2204645-001	ES2204645-002	ES2204645-003	ES2204645-004	-----	
				Result	Result	Result	Result	----	
EP068A: Organochlorine Pesticides (OC) - Continued									
delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	----	----	
Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	<0.05	----	----	
Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	<0.05	----	----	
Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	<0.05	----	----	
^ Total Chlordane (sum)	----	0.05	mg/kg	<0.05	<0.05	<0.05	----	----	
trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	<0.05	----	----	
alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	<0.05	----	----	
cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	<0.05	----	----	
Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	<0.05	----	----	
4.4'-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	<0.05	----	----	
Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	<0.05	----	----	
beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	<0.05	----	----	
^ Endosulfan (sum)	115-29-7	0.05	mg/kg	<0.05	<0.05	<0.05	----	----	
4.4'-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	<0.05	----	----	
Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	<0.05	----	----	
Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	<0.05	----	----	
4.4'-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	<0.2	----	----	
Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	<0.05	----	----	
Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	<0.2	----	----	
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	<0.05	<0.05	<0.05	----	----	
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.05	mg/kg	<0.05	<0.05	<0.05	----	----	
EP068B: Organophosphorus Pesticides (OP)									
Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	<0.05	----	----	
Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	----	----	
Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	<0.2	----	----	
Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	<0.05	----	----	
Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	<0.05	----	----	
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	<0.05	----	----	
Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	<0.2	----	----	
Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	<0.05	----	----	
Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	<0.05	----	----	
Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	<0.05	----	----	
Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	<0.2	----	----	
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	<0.05	----	----	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	BH05_0.2	BH05_1.5	BH05_2.0	BH05_4.0	----
Sampling date / time				10-Feb-2022 00:00	10-Feb-2022 00:00	10-Feb-2022 00:00	10-Feb-2022 00:00	----	
Compound	CAS Number	LOR	Unit	ES2204645-001	ES2204645-002	ES2204645-003	ES2204645-004	-----	
				Result	Result	Result	Result	----	
EP068B: Organophosphorus Pesticides (OP) - Continued									
Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	<0.05	----	----	
Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	<0.05	----	----	
Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	<0.05	----	----	
Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	<0.05	----	----	
Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	<0.05	----	----	
Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	<0.05	----	----	
Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	<0.05	----	----	
EP074A: Monocyclic Aromatic Hydrocarbons									
Styrene	100-42-5	0.5	mg/kg	<0.5	----	----	----	----	
Isopropylbenzene	98-82-8	0.5	mg/kg	<0.5	----	----	----	----	
n-Propylbenzene	103-65-1	0.5	mg/kg	<0.5	----	----	----	----	
1,3,5-Trimethylbenzene	108-67-8	0.5	mg/kg	<0.5	----	----	----	----	
sec-Butylbenzene	135-98-8	0.5	mg/kg	<0.5	----	----	----	----	
1,2,4-Trimethylbenzene	95-63-6	0.5	mg/kg	<0.5	----	----	----	----	
tert-Butylbenzene	98-06-6	0.5	mg/kg	<0.5	----	----	----	----	
p-Isopropyltoluene	99-87-6	0.5	mg/kg	<0.5	----	----	----	----	
n-Butylbenzene	104-51-8	0.5	mg/kg	<0.5	----	----	----	----	
EP074B: Oxygenated Compounds									
Vinyl Acetate	108-05-4	5	mg/kg	<5	----	----	----	----	
2-Butanone (MEK)	78-93-3	5	mg/kg	<5	----	----	----	----	
4-Methyl-2-pentanone (MIBK)	108-10-1	5	mg/kg	<5	----	----	----	----	
2-Hexanone (MBK)	591-78-6	5	mg/kg	<5	----	----	----	----	
EP074C: Sulfonated Compounds									
Carbon disulfide	75-15-0	0.5	mg/kg	<0.5	----	----	----	----	
EP074D: Fumigants									
2,2-Dichloropropane	594-20-7	0.5	mg/kg	<0.5	----	----	----	----	
1,2-Dichloropropane	78-87-5	0.5	mg/kg	<0.5	----	----	----	----	
cis-1,3-Dichloropropylene	10061-01-5	0.5	mg/kg	<0.5	----	----	----	----	
trans-1,3-Dichloropropylene	10061-02-6	0.5	mg/kg	<0.5	----	----	----	----	
1,2-Dibromoethane (EDB)	106-93-4	0.5	mg/kg	<0.5	----	----	----	----	
EP074E: Halogenated Aliphatic Compounds									
Dichlorodifluoromethane	75-71-8	5	mg/kg	<5	----	----	----	----	
Chloromethane	74-87-3	5	mg/kg	<5	----	----	----	----	
Vinyl chloride	75-01-4	5	mg/kg	<5	----	----	----	----	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	BH05_0.2	BH05_1.5	BH05_2.0	BH05_4.0	----
Sampling date / time				10-Feb-2022 00:00	10-Feb-2022 00:00	10-Feb-2022 00:00	10-Feb-2022 00:00	----	
Compound	CAS Number	LOR	Unit	ES2204645-001	ES2204645-002	ES2204645-003	ES2204645-004	-----	
				Result	Result	Result	Result	----	
EP074E: Halogenated Aliphatic Compounds - Continued									
Bromomethane	74-83-9	5	mg/kg	<5	----	----	----	----	
Chloroethane	75-00-3	5	mg/kg	<5	----	----	----	----	
Trichlorofluoromethane	75-69-4	5	mg/kg	<5	----	----	----	----	
1,1-Dichloroethene	75-35-4	0.5	mg/kg	<0.5	----	----	----	----	
Iodomethane	74-88-4	0.5	mg/kg	<0.5	----	----	----	----	
trans-1,2-Dichloroethene	156-60-5	0.5	mg/kg	<0.5	----	----	----	----	
1,1-Dichloroethane	75-34-3	0.5	mg/kg	<0.5	----	----	----	----	
cis-1,2-Dichloroethene	156-59-2	0.5	mg/kg	<0.5	----	----	----	----	
1,1,1-Trichloroethane	71-55-6	0.5	mg/kg	<0.5	----	----	----	----	
1,1-Dichloropropylene	563-58-6	0.5	mg/kg	<0.5	----	----	----	----	
Carbon Tetrachloride	56-23-5	0.5	mg/kg	<0.5	----	----	----	----	
1,2-Dichloroethane	107-06-2	0.5	mg/kg	<0.5	----	----	----	----	
Trichloroethene	79-01-6	0.5	mg/kg	<0.5	----	----	----	----	
Dibromomethane	74-95-3	0.5	mg/kg	<0.5	----	----	----	----	
1,1,2-Trichloroethane	79-00-5	0.5	mg/kg	<0.5	----	----	----	----	
1,3-Dichloropropane	142-28-9	0.5	mg/kg	<0.5	----	----	----	----	
Tetrachloroethene	127-18-4	0.5	mg/kg	<0.5	----	----	----	----	
1,1,1,2-Tetrachloroethane	630-20-6	0.5	mg/kg	<0.5	----	----	----	----	
trans-1,4-Dichloro-2-butene	110-57-6	0.5	mg/kg	<0.5	----	----	----	----	
cis-1,4-Dichloro-2-butene	1476-11-5	0.5	mg/kg	<0.5	----	----	----	----	
1,1,2,2-Tetrachloroethane	79-34-5	0.5	mg/kg	<0.5	----	----	----	----	
1,2,3-Trichloropropane	96-18-4	0.5	mg/kg	<0.5	----	----	----	----	
Pentachloroethane	76-01-7	0.5	mg/kg	<0.5	----	----	----	----	
1,2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg	<0.5	----	----	----	----	
EP074F: Halogenated Aromatic Compounds									
Chlorobenzene	108-90-7	0.5	mg/kg	<0.5	----	----	----	----	
Bromobenzene	108-86-1	0.5	mg/kg	<0.5	----	----	----	----	
2-Chlorotoluene	95-49-8	0.5	mg/kg	<0.5	----	----	----	----	
4-Chlorotoluene	106-43-4	0.5	mg/kg	<0.5	----	----	----	----	
1,2,3-Trichlorobenzene	87-61-6	0.5	mg/kg	<0.5	----	----	----	----	
EP074G: Trihalomethanes									
Chloroform	67-66-3	0.5	mg/kg	<0.5	----	----	----	----	
Bromodichloromethane	75-27-4	0.5	mg/kg	<0.5	----	----	----	----	
Dibromochloromethane	124-48-1	0.5	mg/kg	<0.5	----	----	----	----	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	BH05_0.2	BH05_1.5	BH05_2.0	BH05_4.0	----
Sampling date / time				10-Feb-2022 00:00	10-Feb-2022 00:00	10-Feb-2022 00:00	10-Feb-2022 00:00	----	
Compound	CAS Number	LOR	Unit	ES2204645-001	ES2204645-002	ES2204645-003	ES2204645-004	-----	
				Result	Result	Result	Result	----	
EP074G: Trihalomethanes - Continued									
Bromoform	75-25-2	0.5	mg/kg	<0.5	----	----	----	----	
EP075(SIM)A: Phenolic Compounds									
Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	<0.5	----	----	
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	<0.5	----	----	
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	<0.5	----	----	
3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	<1	----	----	
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	<0.5	----	----	
2,4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	<0.5	----	----	
2,4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	<0.5	----	----	
2,6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	<0.5	----	----	
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	<0.5	----	----	
2,4,6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	<0.5	----	----	
2,4,5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	<0.5	----	----	
Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	<2	----	----	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	----	----	
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	<0.5	----	----	
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	----	----	
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	----	----	
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	<0.5	----	----	
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	<0.5	----	----	
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	<0.5	----	----	
Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	<0.5	----	----	
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	<0.5	----	----	
Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	<0.5	----	----	
Benzo(b+j)fluoranthene	205-99-2	205-82-3	0.5	mg/kg	<0.5	<0.5	<0.5	----	
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	<0.5	----	----	
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	<0.5	----	----	
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	<0.5	----	----	
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	<0.5	----	----	
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	<0.5	----	----	
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	<0.5	----	----	
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	<0.5	----	----	
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	0.6	0.6	0.6	----	----	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	BH05_0.2	BH05_1.5	BH05_2.0	BH05_4.0	----
Sampling date / time				10-Feb-2022 00:00	10-Feb-2022 00:00	10-Feb-2022 00:00	10-Feb-2022 00:00	----	----
Compound	CAS Number	LOR	Unit	ES2204645-001	ES2204645-002	ES2204645-003	ES2204645-004	-----	-----
				Result	Result	Result	Result	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	1.2	1.2	1.2	----	----	----
EP075B: Polynuclear Aromatic Hydrocarbons									
2-Methylnaphthalene	91-57-6	0.5	mg/kg	<0.5	----	----	----	----	----
2-Chloronaphthalene	91-58-7	0.5	mg/kg	<0.5	----	----	----	----	----
N-2-Fluorenyl Acetamide	53-96-3	0.5	mg/kg	<0.5	----	----	----	----	----
7.12-Dimethylbenz(a)anthracene	57-97-6	0.5	mg/kg	<0.5	----	----	----	----	----
3-Methylcholanthrene	56-49-5	0.5	mg/kg	<0.5	----	----	----	----	----
EP075C: Phthalate Esters									
Dimethyl phthalate	131-11-3	0.5	mg/kg	<0.5	----	----	----	----	----
Diethyl phthalate	84-66-2	0.5	mg/kg	<0.5	----	----	----	----	----
Di-n-butyl phthalate	84-74-2	0.5	mg/kg	<0.5	----	----	----	----	----
Butyl benzyl phthalate	85-68-7	0.5	mg/kg	<0.5	----	----	----	----	----
bis(2-ethylhexyl) phthalate	117-81-7	5.0	mg/kg	<5.0	----	----	----	----	----
Di-n-octylphthalate	117-84-0	0.5	mg/kg	<0.5	----	----	----	----	----
EP075D: Nitrosamines									
N-Nitrosomethylethylamine	10595-95-6	0.5	mg/kg	<0.5	----	----	----	----	----
N-Nitrosodiethylamine	55-18-5	0.5	mg/kg	<0.5	----	----	----	----	----
N-Nitrosopyrrolidine	930-55-2	1.0	mg/kg	<1.0	----	----	----	----	----
N-Nitrosomorpholine	59-89-2	0.5	mg/kg	<0.5	----	----	----	----	----
N-Nitrosodi-n-propylamine	621-64-7	0.5	mg/kg	<0.5	----	----	----	----	----
N-Nitrosopiperidine	100-75-4	0.5	mg/kg	<0.5	----	----	----	----	----
N-Nitrosodibutylamine	924-16-3	0.5	mg/kg	<0.5	----	----	----	----	----
N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	1.0	mg/kg	<1.0	----	----	----	----	----
Methapyrilene	91-80-5	0.5	mg/kg	<0.5	----	----	----	----	----
EP075E: Nitroaromatics and Ketones									
2-Picoline	109-06-8	0.5	mg/kg	<0.5	----	----	----	----	----
Acetophenone	98-86-2	0.5	mg/kg	<0.5	----	----	----	----	----
Nitrobenzene	98-95-3	0.5	mg/kg	<0.5	----	----	----	----	----
Isophorone	78-59-1	0.5	mg/kg	<0.5	----	----	----	----	----
2,6-Dinitrotoluene	606-20-2	1.0	mg/kg	<1.0	----	----	----	----	----
2,4-Dinitrotoluene	121-14-2	1.0	mg/kg	<1.0	----	----	----	----	----
1-Naphthylamine	134-32-7	0.5	mg/kg	<0.5	----	----	----	----	----
4-Nitroquinoline-N-oxide	56-57-5	0.5	mg/kg	<0.5	----	----	----	----	----



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	BH05_0.2	BH05_1.5	BH05_2.0	BH05_4.0	----
Sampling date / time				10-Feb-2022 00:00	10-Feb-2022 00:00	10-Feb-2022 00:00	10-Feb-2022 00:00	----	
Compound	CAS Number	LOR	Unit	ES2204645-001	ES2204645-002	ES2204645-003	ES2204645-004	-----	
				Result	Result	Result	Result	----	
EP075E: Nitroaromatics and Ketones - Continued									
5-Nitro-o-toluidine	99-55-8	0.5	mg/kg	<0.5	----	----	----	----	
Azobenzene	103-33-3	1	mg/kg	<1	----	----	----	----	
1.3.5-Trinitrobenzene	99-35-4	0.5	mg/kg	<0.5	----	----	----	----	
Phenacetin	62-44-2	0.5	mg/kg	<0.5	----	----	----	----	
4-Aminobiphenyl	92-67-1	0.5	mg/kg	<0.5	----	----	----	----	
Pentachloronitrobenzene	82-68-8	0.5	mg/kg	<0.5	----	----	----	----	
Pronamide	23950-58-5	0.5	mg/kg	<0.5	----	----	----	----	
Dimethylaminoazobenzene	60-11-7	0.5	mg/kg	<0.5	----	----	----	----	
Chlorobenzilate	510-15-6	0.5	mg/kg	<0.5	----	----	----	----	
EP075F: Haloethers									
Bis(2-chloroethyl) ether	111-44-4	0.5	mg/kg	<0.5	----	----	----	----	
Bis(2-chloroethoxy) methane	111-91-1	0.5	mg/kg	<0.5	----	----	----	----	
4-Chlorophenyl phenyl ether	7005-72-3	0.5	mg/kg	<0.5	----	----	----	----	
4-Bromophenyl phenyl ether	101-55-3	0.5	mg/kg	<0.5	----	----	----	----	
EP075G: Chlorinated Hydrocarbons									
1.3-Dichlorobenzene	541-73-1	0.5	mg/kg	<0.5	----	----	----	----	
1.4-Dichlorobenzene	106-46-7	0.5	mg/kg	<0.5	----	----	----	----	
1.2-Dichlorobenzene	95-50-1	0.5	mg/kg	<0.5	----	----	----	----	
Hexachloroethane	67-72-1	0.5	mg/kg	<0.5	----	----	----	----	
1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg	<0.5	----	----	----	----	
Hexachloropropylene	1888-71-7	0.5	mg/kg	<0.5	----	----	----	----	
Hexachlorobutadiene	87-68-3	0.5	mg/kg	<0.5	----	----	----	----	
Hexachlorocyclopentadiene	77-47-4	2.5	mg/kg	<2.5	----	----	----	----	
Pentachlorobenzene	608-93-5	0.5	mg/kg	<0.5	----	----	----	----	
Hexachlorobenzene (HCB)	118-74-1	1.0	mg/kg	<1.0	----	----	----	----	
EP075H: Anilines and Benzidines									
Aniline	62-53-3	0.5	mg/kg	<0.5	----	----	----	----	
4-Chloroaniline	106-47-8	0.5	mg/kg	<0.5	----	----	----	----	
2-Nitroaniline	88-74-4	1.0	mg/kg	<1.0	----	----	----	----	
3-Nitroaniline	99-09-2	1.0	mg/kg	<1.0	----	----	----	----	
Dibenzofuran	132-64-9	0.5	mg/kg	<0.5	----	----	----	----	
4-Nitroaniline	100-01-6	0.5	mg/kg	<0.5	----	----	----	----	
Carbazole	86-74-8	0.5	mg/kg	<0.5	----	----	----	----	
3,3'-Dichlorobenzidine	91-94-1	0.5	mg/kg	<0.5	----	----	----	----	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	BH05_0.2	BH05_1.5	BH05_2.0	BH05_4.0	----
Sampling date / time				10-Feb-2022 00:00	10-Feb-2022 00:00	10-Feb-2022 00:00	10-Feb-2022 00:00	----	----
Compound	CAS Number	LOR	Unit	ES2204645-001	ES2204645-002	ES2204645-003	ES2204645-004	-----	-----
				Result	Result	Result	Result	----	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	----	----	----
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	----	----	----
C15 - C28 Fraction	----	100	mg/kg	<100	<100	<100	----	----	----
C29 - C36 Fraction	----	100	mg/kg	<100	<100	<100	----	----	----
^ C10 - C36 Fraction (sum)	----	50	mg/kg	<50	<50	<50	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	<10	----	----	----
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	<10	<10	<10	----	----	----
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	<50	----	----	----
>C16 - C34 Fraction	----	100	mg/kg	<100	<100	<100	----	----	----
>C34 - C40 Fraction	----	100	mg/kg	<100	<100	<100	----	----	----
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	<50	<50	----	----	----
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	<50	<50	<50	----	----	----
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	----	----	----
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	----	----	----
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	----	----	----
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	----	----	----
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	----	----	----
^ Total Xylenes	----	0.5	mg/kg	<0.5	<0.5	<0.5	----	----	----
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	----	----	----
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	----	----	----	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	----	----	----	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	<0.0002	----	----	----	----	----
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	----	----	----	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	----	----	----	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	----	----	----	----	----



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	BH05_0.2	BH05_1.5	BH05_2.0	BH05_4.0	----
Sampling date / time				10-Feb-2022 00:00	10-Feb-2022 00:00	10-Feb-2022 00:00	10-Feb-2022 00:00	----	
Compound	CAS Number	LOR	Unit	ES2204645-001	ES2204645-002	ES2204645-003	ES2204645-004	-----	
				Result	Result	Result	Result	----	
EP231B: Perfluoroalkyl Carboxylic Acids - Continued									
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	----	----	----	----	
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	----	----	----	----	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	----	----	----	----	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	----	----	----	----	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	----	----	----	----	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	----	----	----	----	
EP231P: PFAS Sums									
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg	<0.0002	----	----	----	----	
Sum of PFAS (WA DER List)	----	0.0002	mg/kg	<0.0002	----	----	----	----	
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%	97.9	105	113	----	----	
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%	72.1	80.7	80.6	----	----	
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%	69.0	76.6	72.6	----	----	
EP074S: VOC Surrogates									
1,2-Dichloroethane-D4	17060-07-0	0.5	%	84.7	----	----	----	----	
Toluene-D8	2037-26-5	0.5	%	89.2	----	----	----	----	
4-Bromofluorobenzene	460-00-4	0.5	%	86.8	----	----	----	----	
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%	74.4	92.8	85.3	----	----	
2-Chlorophenol-D4	93951-73-6	0.5	%	75.8	93.3	86.6	----	----	
2,4,6-Tribromophenol	118-79-6	0.5	%	52.7	74.7	65.3	----	----	
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%	80.4	96.4	88.1	----	----	
Anthracene-d10	1719-06-8	0.5	%	72.0	96.5	89.4	----	----	
4-Terphenyl-d14	1718-51-0	0.5	%	71.6	93.9	86.5	----	----	
EP075S: Acid Extractable Surrogates									



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	BH05_0.2	BH05_1.5	BH05_2.0	BH05_4.0	----
Sampling date / time				10-Feb-2022 00:00	10-Feb-2022 00:00	10-Feb-2022 00:00	10-Feb-2022 00:00	----	----
Compound	CAS Number	LOR	Unit	ES2204645-001	ES2204645-002	ES2204645-003	ES2204645-004	-----	-----
				Result	Result	Result	Result	----	----
EP075S: Acid Extractable Surrogates - Continued									
2-Fluorophenol	367-12-4	0.5	%	67.1	----	----	----	----	----
Phenol-d6	13127-88-3	0.5	%	75.0	----	----	----	----	----
2-Chlorophenol-D4	93951-73-6	0.5	%	62.1	----	----	----	----	----
2,4,6-Tribromophenol	118-79-6	0.5	%	24.2	----	----	----	----	----
EP075T: Base/Neutral Extractable Surrogates									
Nitrobenzene-D5	4165-60-0	0.5	%	72.2	----	----	----	----	----
1,2-Dichlorobenzene-D4	2199-69-1	0.5	%	68.7	----	----	----	----	----
2-Fluorobiphenyl	321-60-8	0.5	%	96.4	----	----	----	----	----
Anthracene-d10	1719-06-8	0.5	%	86.6	----	----	----	----	----
4-Terphenyl-d14	1718-51-0	0.5	%	73.5	----	----	----	----	----
EP080S: TPH(V)/BTEX Surrogates									
1,2-Dichloroethane-D4	17060-07-0	0.2	%	79.6	80.7	93.1	----	----	----
Toluene-D8	2037-26-5	0.2	%	87.2	78.1	93.9	----	----	----
4-Bromofluorobenzene	460-00-4	0.2	%	84.7	79.8	93.9	----	----	----
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.0002	%	95.0	----	----	----	----	----
13C8-PFOA	----	0.0002	%	103	----	----	----	----	----

Analytical Results

Descriptive Results

Sub-Matrix: SOIL

Method: Compound	Sample ID - Sampling date / time	Analytical Results
EA200: AS 4964 - 2004 Identification of Asbestos in Soils		
EA200: Description	BH05_0.2 - 10-Feb-2022 00:00	Soil sample.
EA200: Description	BH05_1.5 - 10-Feb-2022 00:00	Soil sample.



Surrogate Control Limits

Sub-Matrix: SOIL		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP066S: PCB Surrogate			
Decachlorobiphenyl	2051-24-3	39	149
EP068S: Organochlorine Pesticide Surrogate			
Dibromo-DDE	21655-73-2	49	147
EP068T: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	35	143
EP074S: VOC Surrogates			
1,2-Dichloroethane-D4	17060-07-0	64	130
Toluene-D8	2037-26-5	66	136
4-Bromofluorobenzene	460-00-4	60	122
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	63	123
2-Chlorophenol-D4	93951-73-6	66	122
2,4,6-Tribromophenol	118-79-6	40	138
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	70	122
Anthracene-d10	1719-06-8	66	128
4-Terphenyl-d14	1718-51-0	65	129
EP075S: Acid Extractable Surrogates			
2-Fluorophenol	367-12-4	29	149
Phenol-d6	13127-88-3	32	128
2-Chlorophenol-D4	93951-73-6	32	128
2,4,6-Tribromophenol	118-79-6	13	121
EP075T: Base/Neutral Extractable Surrogates			
Nitrobenzene-D5	4165-60-0	33	125
1,2-Dichlorobenzene-D4	2199-69-1	34	108
2-Fluorobiphenyl	321-60-8	35	121
Anthracene-d10	1719-06-8	35	123
4-Terphenyl-d14	1718-51-0	33	125
EP080S: TPH(V)/BTEX Surrogates			
1,2-Dichloroethane-D4	17060-07-0	73	133
Toluene-D8	2037-26-5	74	132
4-Bromofluorobenzene	460-00-4	72	130
EP231S: PFAS Surrogate			
13C4-PFOS	----	60	120
13C8-PFOA	----	60	120



Inter-Laboratory Testing

Analysis conducted by ALS Brisbane, NATA accreditation no. 825, site no. 818 (Chemistry) 18958 (Biology).

(SOIL) EA003 :pH (field/fox)

(SOIL) EA029-D: Calcium Values

(SOIL) EA029-E: Magnesium Values

(SOIL) EA029-F: Excess Acid Neutralising Capacity

(SOIL) EA029-H: Acid Base Accounting

(SOIL) EA029-G: Retained Acidity

(SOIL) EA029-A: pH Measurements

(SOIL) EA029-C: Sulfur Trail

(SOIL) EA029-B: Acidity Trail

Analysis conducted by ALS Newcastle, NATA accreditation no. 825, site no. 1656 (Chemistry) 9854 (Biology).

(SOIL) EA200: AS 4964 - 2004 Identification of Asbestos in Soils

QUALITY CONTROL REPORT

Work Order	: ES2204270	Page	: 1 of 25
Client	: EP RISK MANAGEMENT	Laboratory	: Environmental Division Sydney
Contact	: HARRISON BLAKE	Contact	: Tyler Anderson
Address	: Level 4 73 Walker St North Sydney 2060	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: +61 2 8784 8555
Project	: EP2515	Date Samples Received	: 08-Feb-2022
Order number	: ----	Date Analysis Commenced	: 09-Feb-2022
C-O-C number	: ----	Issue Date	: 16-Feb-2022
Sampler	: HARRISON BLAKE		
Site	: ----		
Quote number	: SY/497/20 Primary analysis only		
No. of samples received	: 8		
No. of samples analysed	: 5		



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

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

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

<i>Signatories</i>	<i>Position</i>	<i>Accreditation Category</i>
Ben Felgendrejeris	Senior Acid Sulfate Soil Chemist	Brisbane Acid Sulphate Soils, Stafford, QLD
Brendan Schrader	Laboratory Technician	Newcastle - Asbestos, Mayfield West, NSW
Edwandy Fadjjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Franco Lentini	LCMS Coordinator	Sydney Inorganics, Smithfield, NSW
Franco Lentini	LCMS Coordinator	Sydney Organics, Smithfield, NSW
Ivan Taylor	Analyst	Sydney Inorganics, Smithfield, NSW



General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key :
 Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
 CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
 LOR = Limit of reporting
 RPD = Relative Percentage Difference
 # = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 4173043)									
ES2204270-001	BH01_0.2	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	15	11	25.2	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	37	38	0.0	0% - 50%
		EG005T: Arsenic	7440-38-2	5	mg/kg	17	21	21.5	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	293	356	19.5	0% - 20%
		EG005T: Lead	7439-92-1	5	mg/kg	772	648	17.5	0% - 20%
		EG005T: Zinc	7440-66-6	5	mg/kg	242	276	13.0	0% - 20%
ES2204729-008	Anonymous	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	10	12	17.7	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	2	2	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	5	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	8	7	0.0	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	64	73	13.2	0% - 50%
		EG005T: Zinc	7440-66-6	5	mg/kg	32	38	18.2	No Limit
EA003 :pH (field/fox) (QC Lot: 4171778)									
EM2201538-002	Anonymous	EA003: pH (F)	----	0.1	pH Unit	8.6	8.6	0.0	0% - 20%
		EA003: pH (Fox)	----	0.1	pH Unit	2.8	2.8	0.0	0% - 20%
EA029-A: pH Measurements (QC Lot: 4171440)									
EB2203548-001	Anonymous	EA029: pH KCl (23A)	----	0.1	pH Unit	9.6	9.6	0.0	0% - 20%
		EA029: pH OX (23B)	----	0.1	pH Unit	7.9	7.8	1.3	0% - 20%
EA029-B: Acidity Trail (QC Lot: 4171440)									
EB2203548-001	Anonymous	EA029: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.020	<0.020	0.0	No Limit



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EA029-B: Acidity Trail (QC Lot: 4171440) - continued									
EB2203548-001	Anonymous	EA029: sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.020	<0.020	0.0	No Limit
		EA029: sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.020	<0.020	0.0	No Limit
		EA029: Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	<2	0.0	No Limit
		EA029: Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	<2	0.0	No Limit
		EA029: Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	<2	0.0	No Limit
EA029-C: Sulfur Trail (QC Lot: 4171440)									
EB2203548-001	Anonymous	EA029: KCl Extractable Sulfur (23Ce)	----	0.02	% S	0.020	0.023	10.9	No Limit
		EA029: Peroxide Sulfur (23De)	----	0.02	% S	0.236	0.248	4.9	0% - 50%
		EA029: Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	0.216	0.225	4.3	0% - 50%
		EA029: acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	135	141	4.3	0% - 50%
EA029-D: Calcium Values (QC Lot: 4171440)									
EB2203548-001	Anonymous	EA029: KCl Extractable Calcium (23Vh)	----	0.02	% Ca	0.089	0.092	3.8	No Limit
		EA029: Peroxide Calcium (23Wh)	----	0.02	% Ca	0.543	0.564	3.7	0% - 20%
		EA029: Acid Reacted Calcium (23X)	----	0.02	% Ca	0.454	0.471	3.6	0% - 20%
		EA029: sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	0.363	0.377	3.6	0% - 50%
		EA029: acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	227	235	3.6	0% - 20%
EA029-E: Magnesium Values (QC Lot: 4171440)									
EB2203548-001	Anonymous	EA029: KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	0.024	0.027	12.5	No Limit
		EA029: Peroxide Magnesium (23Tm)	----	0.02	% Mg	0.115	0.119	3.9	No Limit
		EA029: Acid Reacted Magnesium (23U)	----	0.02	% Mg	0.090	0.092	1.5	No Limit
		EA029: sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	0.119	0.121	1.5	No Limit
		EA029: Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	74	76	1.5	No Limit
EA029-H: Acid Base Accounting (QC Lot: 4171440)									
EB2203548-001	Anonymous	EA029: ANC Fineness Factor	----	0.5	-	1.5	1.5	0.0	No Limit
		EA029: Net Acidity (sulfur units)	----	0.02	% S	<0.02	<0.02	0.0	No Limit
		EA029: Net Acidity excluding ANC (sulfur units)	----	0.02	% S	0.22	0.22	0.0	0% - 50%
		EA029: Liming Rate	----	1	kg CaCO3/t	<1	<1	0.0	No Limit
		EA029: Liming Rate excluding ANC	----	1	kg CaCO3/t	10	10	0.0	0% - 50%
		EA029: Net Acidity (acidity units)	----	10	mole H+ / t	<10	<10	0.0	No Limit
		EA029: Net Acidity excluding ANC (acidity units)	----	10	mole H+ / t	135	141	4.3	0% - 50%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 4173050)									
ES2204270-007	BH01_5.5	EA055: Moisture Content	----	0.1	%	17.9	19.2	7.2	0% - 50%
ES2204729-011	Anonymous	EA055: Moisture Content	----	0.1	%	17.4	14.5	18.1	0% - 50%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 4173884)									



Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 4173884) - continued									
ES2204580-002	Anonymous	EA055: Moisture Content	----	0.1	%	1.2	1.4	14.4	0% - 50%
ES2204848-004	Anonymous	EA055: Moisture Content	----	0.1	%	70.0	71.3	1.9	0% - 20%
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 4173044)									
ES2204270-001	BH01_0.2	EG035T: Mercury	7439-97-6	0.1	mg/kg	0.3	0.3	0.0	No Limit
ES2204729-008	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EP066: Polychlorinated Biphenyls (PCB) (QC Lot: 4162376)									
ES2204270-001	BH01_0.2	EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EP068A: Organochlorine Pesticides (OC) (QC Lot: 4162375)									
ES2204270-001	BH01_0.2	EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4,4'-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4,4'-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4,4'-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	0.0	No Limit		
EP068B: Organophosphorus Pesticides (OP) (QC Lot: 4162375)									
ES2204270-001	BH01_0.2	EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP068B: Organophosphorus Pesticides (OP) (QC Lot: 4162375) - continued									
ES2204270-001	BH01_0.2	EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP068: Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit		
EP074A: Monocyclic Aromatic Hydrocarbons (QC Lot: 4170559)									
ES2203327-006	Anonymous	EP074: Styrene	100-42-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Isopropylbenzene	98-82-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: n-Propylbenzene	103-65-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.3.5-Trimethylbenzene	108-67-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: sec-Butylbenzene	135-98-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.2.4-Trimethylbenzene	95-63-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: tert-Butylbenzene	98-06-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: p-Isopropyltoluene	99-87-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: n-Butylbenzene	104-51-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EW2200663-001	Anonymous	EP074: Styrene	100-42-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Isopropylbenzene	98-82-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: n-Propylbenzene	103-65-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.3.5-Trimethylbenzene	108-67-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: sec-Butylbenzene	135-98-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.2.4-Trimethylbenzene	95-63-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: tert-Butylbenzene	98-06-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: p-Isopropyltoluene	99-87-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: n-Butylbenzene	104-51-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP074B: Oxygenated Compounds (QC Lot: 4170559)									
ES2203327-006	Anonymous	EP074: Vinyl Acetate	108-05-4	5	mg/kg	<5	<5	0.0	No Limit
		EP074: 2-Butanone (MEK)	78-93-3	5	mg/kg	<5	<5	0.0	No Limit
		EP074: 4-Methyl-2-pentanone (MIBK)	108-10-1	5	mg/kg	<5	<5	0.0	No Limit
		EP074: 2-Hexanone (MBK)	591-78-6	5	mg/kg	<5	<5	0.0	No Limit
EW2200663-001	Anonymous	EP074: Vinyl Acetate	108-05-4	5	mg/kg	<5	<5	0.0	No Limit
		EP074: 2-Butanone (MEK)	78-93-3	5	mg/kg	<5	<5	0.0	No Limit
		EP074: 4-Methyl-2-pentanone (MIBK)	108-10-1	5	mg/kg	<5	<5	0.0	No Limit
		EP074: 2-Hexanone (MBK)	591-78-6	5	mg/kg	<5	<5	0.0	No Limit
EP074C: Sulfonated Compounds (QC Lot: 4170559)									
ES2203327-006	Anonymous	EP074: Carbon disulfide	75-15-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP074C: Sulfonated Compounds (QC Lot: 4170559) - continued									
EW2200663-001	Anonymous	EP074: Carbon disulfide	75-15-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP074D: Fumigants (QC Lot: 4170559)									
ES2203327-006	Anonymous	EP074: 2,2-Dichloropropane	594-20-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,2-Dichloropropane	78-87-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: cis-1,3-Dichloropropylene	10061-01-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: trans-1,3-Dichloropropylene	10061-02-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,2-Dibromoethane (EDB)	106-93-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EW2200663-001	Anonymous	EP074: 2,2-Dichloropropane	594-20-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,2-Dichloropropane	78-87-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: cis-1,3-Dichloropropylene	10061-01-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: trans-1,3-Dichloropropylene	10061-02-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,2-Dibromoethane (EDB)	106-93-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP074E: Halogenated Aliphatic Compounds (QC Lot: 4170559)									
ES2203327-006	Anonymous	EP074: 1,1-Dichloroethene	75-35-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Iodomethane	74-88-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: trans-1,2-Dichloroethene	156-60-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,1-Dichloroethane	75-34-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: cis-1,2-Dichloroethene	156-59-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,1,1-Trichloroethane	71-55-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,1-Dichloropropylene	563-58-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Carbon Tetrachloride	56-23-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,2-Dichloroethane	107-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Trichloroethene	79-01-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Dibromomethane	74-95-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,1,2-Trichloroethane	79-00-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,3-Dichloropropane	142-28-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Tetrachloroethene	127-18-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,1,1,2-Tetrachloroethane	630-20-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: trans-1,4-Dichloro-2-butene	110-57-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: cis-1,4-Dichloro-2-butene	1476-11-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,1,2,2-Tetrachloroethane	79-34-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,2,3-Trichloropropane	96-18-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Pentachloroethane	76-01-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Dichlorodifluoromethane	75-71-8	5	mg/kg	<5	<5	0.0	No Limit
		EP074: Chloromethane	74-87-3	5	mg/kg	<5	<5	0.0	No Limit
		EP074: Vinyl chloride	75-01-4	5	mg/kg	<5	<5	0.0	No Limit
		EP074: Bromomethane	74-83-9	5	mg/kg	<5	<5	0.0	No Limit
		EP074: Chloroethane	75-00-3	5	mg/kg	<5	<5	0.0	No Limit
		EP074: Trichlorofluoromethane	75-69-4	5	mg/kg	<5	<5	0.0	No Limit



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP074E: Halogenated Aliphatic Compounds (QC Lot: 4170559) - continued									
EW2200663-001	Anonymous	EP074: 1.1-Dichloroethene	75-35-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Iodomethane	74-88-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: trans-1.2-Dichloroethene	156-60-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.1-Dichloroethane	75-34-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: cis-1.2-Dichloroethene	156-59-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.1.1-Trichloroethane	71-55-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.1-Dichloropropylene	563-58-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Carbon Tetrachloride	56-23-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.2-Dichloroethane	107-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Trichloroethene	79-01-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Dibromomethane	74-95-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.1.2-Trichloroethane	79-00-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.3-Dichloropropane	142-28-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Tetrachloroethene	127-18-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.1.1.2-Tetrachloroethane	630-20-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: trans-1.4-Dichloro-2-butene	110-57-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: cis-1.4-Dichloro-2-butene	1476-11-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.1.2.2-Tetrachloroethane	79-34-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.2.3-Trichloropropane	96-18-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Pentachloroethane	76-01-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Dichlorodifluoromethane	75-71-8	5	mg/kg	<5	<5	0.0	No Limit
		EP074: Chloromethane	74-87-3	5	mg/kg	<5	<5	0.0	No Limit
		EP074: Vinyl chloride	75-01-4	5	mg/kg	<5	<5	0.0	No Limit
		EP074: Bromomethane	74-83-9	5	mg/kg	<5	<5	0.0	No Limit
EP074: Chloroethane	75-00-3	5	mg/kg	<5	<5	0.0	No Limit		
EP074: Trichlorofluoromethane	75-69-4	5	mg/kg	<5	<5	0.0	No Limit		
EP074F: Halogenated Aromatic Compounds (QC Lot: 4170559)									
ES2203327-006	Anonymous	EP074: Chlorobenzene	108-90-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Bromobenzene	108-86-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 2-Chlorotoluene	95-49-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 4-Chlorotoluene	106-43-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.2.3-Trichlorobenzene	87-61-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EW2200663-001	Anonymous	EP074: Chlorobenzene	108-90-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Bromobenzene	108-86-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 2-Chlorotoluene	95-49-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 4-Chlorotoluene	106-43-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.2.3-Trichlorobenzene	87-61-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP074G: Trihalomethanes (QC Lot: 4170559)									
ES2203327-006	Anonymous	EP074: Chloroform	67-66-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit



Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)	
EP074G: Trihalomethanes (QC Lot: 4170559) - continued										
ES2203327-006	Anonymous	EP074: Bromodichloromethane	75-27-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP074: Dibromochloromethane	124-48-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP074: Bromoform	75-25-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
EW2200663-001	Anonymous	EP074: Chloroform	67-66-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP074: Bromodichloromethane	75-27-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP074: Dibromochloromethane	124-48-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP074: Bromoform	75-25-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
EP075(SIM)A: Phenolic Compounds (QC Lot: 4162374)										
ES2204270-001	BH01_0.2	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075(SIM): 2,4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075(SIM): 2,4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075(SIM): 2,6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075(SIM): 2,4,6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075(SIM): 2,4,5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit	
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4162374)										
ES2204270-001	BH01_0.2	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	0.9	0.9	0.0	No Limit	
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	1.9	2.0	7.2	No Limit	
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	2.0	2.1	0.0	No Limit	
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	1.4	1.1	21.6	No Limit	
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	1.2	1.0	23.4	No Limit	
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2	0.5	mg/kg	2.0	1.2	48.4	No Limit	
			205-82-3							
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	0.8	<0.5	43.2	No Limit	
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	1.5	1.3	15.0	No Limit	
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	1.0	0.7	26.9	No Limit	
		EP075(SIM): Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075(SIM): Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	0.9	0.7	18.6	No Limit	
EP075(SIM): Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	13.6	# 11.0	21.1	0% - 20%			



Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4162374) - continued										
ES2204270-001	BH01_0.2	EP075(SIM): Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	2.0	1.6	23.2	No Limit	
EP075B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4162377)										
ES2204270-001	BH01_0.2	EP075: 2-Methylnaphthalene	91-57-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075: 2-Chloronaphthalene	91-58-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075: N-2-Fluorenyl Acetamide	53-96-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075: 7.12-Dimethylbenz(a)anthracene	57-97-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075: 3-Methylcholanthrene	56-49-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
EP075C: Phthalate Esters (QC Lot: 4162377)										
ES2204270-001	BH01_0.2	EP075: Dimethyl phthalate	131-11-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075: Diethyl phthalate	84-66-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075: Di-n-butyl phthalate	84-74-2	0.5	mg/kg	1.0	1.0	0.0	No Limit	
		EP075: Butyl benzyl phthalate	85-68-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075: Di-n-octylphthalate	117-84-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
EP075D: Nitrosamines (QC Lot: 4162377)										
ES2204270-001	BH01_0.2	EP075: N-Nitrosomethylethylamine	10595-95-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075: N-Nitrosodiethylamine	55-18-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075: N-Nitrosopyrrolidine	930-55-2	0.5	mg/kg	<1.0	<1.0	0.0	No Limit	
		EP075: N-Nitrosomorpholine	59-89-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075: N-Nitrosodi-n-propylamine	621-64-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075: N-Nitrosopiperidine	100-75-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075: N-Nitrosodibutylamine	924-16-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075: N-Nitrosodiphenyl & Diphenylamine	86-30-6	0.5	mg/kg	<1.0	<1.0	0.0	No Limit	
			122-39-4							
		EP075: Methapyrilene	91-80-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
EP075E: Nitroaromatics and Ketones (QC Lot: 4162377)										
ES2204270-001	BH01_0.2	EP075: 2-Picoline	109-06-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075: Acetophenone	98-86-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075: Nitrobenzene	98-95-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075: Isophorone	78-59-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075: 2,6-Dinitrotoluene	606-20-2	0.5	mg/kg	<1.0	<1.0	0.0	No Limit	
		EP075: 2,4-Dinitrotoluene	121-14-2	0.5	mg/kg	<1.0	<1.0	0.0	No Limit	
		EP075: 1-Naphthylamine	134-32-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075: 4-Nitroquinoline-N-oxide	56-57-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075: 5-Nitro-o-toluidine	99-55-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075: 1,3,5-Trinitrobenzene	99-35-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075: Phenacetin	62-44-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075: 4-Aminobiphenyl	92-67-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075: Pentachloronitrobenzene	82-68-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075: Pronamide	23950-58-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP075E: Nitroaromatics and Ketones (QC Lot: 4162377) - continued									
ES2204270-001	BH01_0.2	EP075: Dimethylaminoazobenzene	60-11-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Chlorobenzilate	510-15-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Azobenzene	103-33-3	1	mg/kg	<1	<1	0.0	No Limit
EP075F: Haloethers (QC Lot: 4162377)									
ES2204270-001	BH01_0.2	EP075: Bis(2-chloroethyl) ether	111-44-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Bis(2-chloroethoxy) methane	111-91-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 4-Chlorophenyl phenyl ether	7005-72-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 4-Bromophenyl phenyl ether	101-55-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075G: Chlorinated Hydrocarbons (QC Lot: 4162377)									
ES2204270-001	BH01_0.2	EP075: 1,3-Dichlorobenzene	541-73-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 1,4-Dichlorobenzene	106-46-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 1,2-Dichlorobenzene	95-50-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Hexachloroethane	67-72-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 1,2,4-Trichlorobenzene	120-82-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Hexachloropropylene	1888-71-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Hexachlorobutadiene	87-68-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Pentachlorobenzene	608-93-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Hexachlorobenzene (HCB)	118-74-1	0.5	mg/kg	<1.0	<1.0	0.0	No Limit
		EP075: Hexachlorocyclopentadiene	77-47-4	2.5	mg/kg	<2.5	<2.5	0.0	No Limit
EP075H: Anilines and Benzidines (QC Lot: 4162377)									
ES2204270-001	BH01_0.2	EP075: Aniline	62-53-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 4-Chloroaniline	106-47-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 2-Nitroaniline	88-74-4	0.5	mg/kg	<1.0	<1.0	0.0	No Limit
		EP075: 3-Nitroaniline	99-09-2	0.5	mg/kg	<1.0	<1.0	0.0	No Limit
		EP075: Dibenzofuran	132-64-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 4-Nitroaniline	100-01-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Carbazole	86-74-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 3,3'-Dichlorobenzidine	91-94-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075I: Organochlorine Pesticides (QC Lot: 4162377)									
ES2204270-001	BH01_0.2	EP075: alpha-BHC	319-84-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: beta-BHC	319-85-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: gamma-BHC	58-89-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: delta-BHC	319-86-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Heptachlor	76-44-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Aldrin	309-00-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Heptachlor epoxide	1024-57-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: alpha-Endosulfan	959-98-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 4,4'-DDE	72-55-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Dieldrin	60-57-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

Page : 11 of 25
 Work Order : ES2204270
 Client : EP RISK MANAGEMENT
 Project : EP2515



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP075I: Organochlorine Pesticides (QC Lot: 4162377) - continued									
ES2204270-001	BH01_0.2	EP075: Endrin	72-20-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: beta-Endosulfan	33213-65-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 4.4'-DDD	72-54-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Endosulfan sulfate	1031-07-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 4.4'-DDT	50-29-3	0.5	mg/kg	<1.0	<1.0	0.0	No Limit
EP075J: Organophosphorus Pesticides (QC Lot: 4162377)									
ES2204270-001	BH01_0.2	EP075: Dichlorvos	62-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Dimethoate	60-51-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Diazinon	333-41-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Chlorpyrifos-methyl	5598-13-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Malathion	121-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Fenthion	55-38-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Chlorpyrifos	2921-88-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Pirimphos-ethyl	23505-41-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Chlorfenvinphos	470-90-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Prothiofos	34643-46-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075: Ethion	563-12-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4162373)									
ES2204270-001	BH01_0.2	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4170558)									
ES2203327-006	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EW2200663-001	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4170565)									
ES2204801-001	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
ES2204801-008	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4162373)									
ES2204270-001	BH01_0.2	EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4170558)									
ES2203327-006	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
EW2200663-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4170565)									
ES2204801-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
ES2204801-008	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
EP080: BTEXN (QC Lot: 4170558)									
ES2203327-006	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP080: BTEXN (QC Lot: 4170558) - continued									
ES2203327-006	Anonymous	EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit
		EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
EW2200663-001	Anonymous	EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit
		EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
EP080: BTEXN (QC Lot: 4170565)									
ES2204801-001	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit
ES2204801-008	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 4164325)									
ES2203327-012	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
ES2203698-017	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 4164325)									
ES2203327-012	Anonymous	EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 4164325) - continued									
ES2203327-012	Anonymous	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	<0.001	0.0	No Limit
ES2203698-017	Anonymous	EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	<0.001	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 4164325)									
ES2203327-012	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
ES2203698-017	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit



Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike Concentration	Spike Recovery (%)		Acceptable Limits (%)	
						LCS	Low	High	
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 4173043)									
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	121.1 mg/kg	103	88.0	113	
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	0.74 mg/kg	90.8	70.0	130	
EG005T: Chromium	7440-47-3	2	mg/kg	<2	19.6 mg/kg	114	68.0	132	
EG005T: Copper	7440-50-8	5	mg/kg	<5	52.9 mg/kg	111	89.0	111	
EG005T: Lead	7439-92-1	5	mg/kg	<5	60.8 mg/kg	101	82.0	119	
EG005T: Nickel	7440-02-0	2	mg/kg	<2	15.3 mg/kg	103	80.0	120	
EG005T: Zinc	7440-66-6	5	mg/kg	<5	139.3 mg/kg	86.7	66.0	133	
EA029-A: pH Measurements (QCLot: 4171440)									
EA029: pH KCl (23A)	----	0.1	pH Unit	<0.1	4.4 pH Unit	101	70.0	130	
EA029: pH OX (23B)	----	0.1	pH Unit	<0.1	4.2 pH Unit	107	70.0	130	
EA029-B: Acidity Trail (QCLot: 4171440)									
EA029: Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	19 mole H+ / t	87.5	70.0	130	
EA029: Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	27.5 mole H+ / t	86.4	70.0	130	
EA029: Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	----	----	----	----	
EA029: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.020	----	----	----	----	
EA029: sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.020	----	----	----	----	
EA029: sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.020	----	----	----	----	
EA029-C: Sulfur Trail (QCLot: 4171440)									
EA029: KCl Extractable Sulfur (23Ce)	----	0.02	% S	<0.020	0.03595 % S	111	70.0	130	
EA029: Peroxide Sulfur (23De)	----	0.02	% S	<0.020	0.14405 % S	114	70.0	130	
EA029: Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	<0.020	----	----	----	----	
EA029: acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	<10	----	----	----	----	
EA029-D: Calcium Values (QCLot: 4171440)									
EA029: KCl Extractable Calcium (23Vh)	----	0.02	% Ca	<0.020	0.22443 % Ca	105	70.0	130	
EA029: Peroxide Calcium (23Wh)	----	0.02	% Ca	<0.020	0.22637 % Ca	115	70.0	130	
EA029: Acid Reacted Calcium (23X)	----	0.02	% Ca	<0.020	----	----	----	----	
EA029: acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	<10	----	----	----	----	
EA029: sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	<0.020	----	----	----	----	
EA029-E: Magnesium Values (QCLot: 4171440)									
EA029: KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	<0.020	0.20621 % Mg	101	70.0	130	
EA029: Peroxide Magnesium (23Tm)	----	0.02	% Mg	<0.020	0.23199 % Mg	120	70.0	130	
EA029: Acid Reacted Magnesium (23U)	----	0.02	% Mg	<0.020	----	----	----	----	
EA029: Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	<10	----	----	----	----	
EA029: sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	<0.020	----	----	----	----	



Sub-Matrix: SOIL

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
				Result	Spike	Spike Recovery (%)	Acceptable Limits (%)	
					Concentration	LCS	Low	High
EA029-H: Acid Base Accounting (QCLot: 4171440)								
EA029: ANC Fineness Factor	----	0.5	-	<0.5	----	----	----	----
EA029: Net Acidity (sulfur units)	----	0.02	% S	<0.02	----	----	----	----
EA029: Net Acidity (acidity units)	----	10	mole H+ / t	<10	----	----	----	----
EA029: Liming Rate	----	1	kg CaCO3/t	<1	----	----	----	----
EA029: Net Acidity excluding ANC (sulfur units)	----	0.02	% S	<0.02	----	----	----	----
EA029: Net Acidity excluding ANC (acidity units)	----	10	mole H+ / t	<10	----	----	----	----
EA029: Liming Rate excluding ANC	----	1	kg CaCO3/t	<1	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS (QCLot: 4173044)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	0.087 mg/kg	106	70.0	125
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 4162376)								
EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	1 mg/kg	105	62.0	126
EP068A: Organochlorine Pesticides (OC) (QCLot: 4162375)								
EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	0.5 mg/kg	96.5	69.0	113
EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	0.5 mg/kg	97.2	65.0	117
EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	0.5 mg/kg	93.7	67.0	119
EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	0.5 mg/kg	95.0	68.0	116
EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	89.2	65.0	117
EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	0.5 mg/kg	85.6	67.0	115
EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	0.5 mg/kg	94.0	69.0	115
EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	0.5 mg/kg	91.2	62.0	118
EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	0.5 mg/kg	102	63.0	117
EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	0.5 mg/kg	98.0	66.0	116
EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	0.5 mg/kg	105	64.0	116
EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	0.5 mg/kg	98.0	66.0	116
EP068: 4,4'-DDE	72-55-9	0.05	mg/kg	<0.05	0.5 mg/kg	101	67.0	115
EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	0.5 mg/kg	82.3	67.0	123
EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	0.5 mg/kg	98.0	69.0	115
EP068: 4,4'-DDD	72-54-8	0.05	mg/kg	<0.05	0.5 mg/kg	102	69.0	121
EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	0.5 mg/kg	86.4	56.0	120
EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	0.5 mg/kg	90.0	62.0	124
EP068: 4,4'-DDT	50-29-3	0.2	mg/kg	<0.2	0.5 mg/kg	85.3	66.0	120
EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	0.5 mg/kg	98.1	64.0	122
EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	0.5 mg/kg	98.5	54.0	130
EP068B: Organophosphorus Pesticides (OP) (QCLot: 4162375)								
EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	0.5 mg/kg	77.7	59.0	119
EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	76.1	62.0	128
EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	0.5 mg/kg	80.6	54.0	126
EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	0.5 mg/kg	101	67.0	119



Sub-Matrix: SOIL

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike	Spike Recovery (%)		Acceptable Limits (%)	
					Concentration	LCS	Low	High	
EP068B: Organophosphorus Pesticides (OP) (QCLot: 4162375) - continued									
EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	0.5 mg/kg	107	70.0	120	
EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	0.5 mg/kg	92.5	72.0	120	
EP068: Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	0.5 mg/kg	94.4	68.0	120	
EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	0.5 mg/kg	82.6	68.0	122	
EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	0.5 mg/kg	95.5	69.0	117	
EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	0.5 mg/kg	94.0	76.0	118	
EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	0.5 mg/kg	84.0	64.0	122	
EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	0.5 mg/kg	99.2	70.0	116	
EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	0.5 mg/kg	78.8	69.0	121	
EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	0.5 mg/kg	86.4	66.0	118	
EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	0.5 mg/kg	79.2	68.0	124	
EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	0.5 mg/kg	101	62.0	112	
EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	0.5 mg/kg	89.7	68.0	120	
EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	0.5 mg/kg	103	65.0	127	
EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	0.5 mg/kg	55.5	41.0	123	
EP074A: Monocyclic Aromatic Hydrocarbons (QCLot: 4170559)									
EP074: Styrene	100-42-5	0.5	mg/kg	<0.5	1 mg/kg	92.4	67.0	113	
EP074: Isopropylbenzene	98-82-8	0.5	mg/kg	<0.5	1 mg/kg	95.0	65.0	117	
EP074: n-Propylbenzene	103-65-1	0.5	mg/kg	<0.5	1 mg/kg	94.1	66.0	122	
EP074: 1,3,5-Trimethylbenzene	108-67-8	0.5	mg/kg	<0.5	1 mg/kg	94.0	68.0	118	
EP074: sec-Butylbenzene	135-98-8	0.5	mg/kg	<0.5	1 mg/kg	95.2	69.0	119	
EP074: 1,2,4-Trimethylbenzene	95-63-6	0.5	mg/kg	<0.5	1 mg/kg	93.6	69.0	117	
EP074: tert-Butylbenzene	98-06-6	0.5	mg/kg	<0.5	1 mg/kg	95.3	69.0	115	
EP074: p-Isopropyltoluene	99-87-6	0.5	mg/kg	<0.5	1 mg/kg	94.4	66.0	118	
EP074: n-Butylbenzene	104-51-8	0.5	mg/kg	<0.5	1 mg/kg	94.6	59.0	125	
EP074B: Oxygenated Compounds (QCLot: 4170559)									
EP074: Vinyl Acetate	108-05-4	5	mg/kg	<5	10 mg/kg	89.9	29.6	156	
EP074: 2-Butanone (MEK)	78-93-3	5	mg/kg	<5	10 mg/kg	91.4	58.0	136	
EP074: 4-Methyl-2-pentanone (MIBK)	108-10-1	5	mg/kg	<5	10 mg/kg	91.6	62.0	132	
EP074: 2-Hexanone (MBK)	591-78-6	5	mg/kg	<5	10 mg/kg	91.5	54.0	136	
EP074C: Sulfonated Compounds (QCLot: 4170559)									
EP074: Carbon disulfide	75-15-0	0.5	mg/kg	<0.5	1 mg/kg	90.3	54.0	126	
EP074D: Fumigants (QCLot: 4170559)									
EP074: 2,2-Dichloropropane	594-20-7	0.5	mg/kg	<0.5	1 mg/kg	94.3	60.0	126	
EP074: 1,2-Dichloropropane	78-87-5	0.5	mg/kg	<0.5	1 mg/kg	93.6	68.0	124	
EP074: cis-1,3-Dichloropropylene	10061-01-5	0.5	mg/kg	<0.5	1 mg/kg	90.5	51.0	119	
EP074: trans-1,3-Dichloropropylene	10061-02-6	0.5	mg/kg	<0.5	1 mg/kg	90.6	52.0	114	
EP074: 1,2-Dibromoethane (EDB)	106-93-4	0.5	mg/kg	<0.5	1 mg/kg	94.5	63.0	115	



Sub-Matrix: SOIL

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike	Spike Recovery (%)		Acceptable Limits (%)	
					Concentration	LCS	Low	High	
EP074E: Halogenated Aliphatic Compounds (QCLot: 4170559)									
EP074: Dichlorodifluoromethane	75-71-8	5	mg/kg	<5	10 mg/kg	88.6	30.0	148	
EP074: Chloromethane	74-87-3	5	mg/kg	<5	10 mg/kg	113	41.0	141	
EP074: Vinyl chloride	75-01-4	5	mg/kg	<5	10 mg/kg	109	43.0	147	
EP074: Bromomethane	74-83-9	5	mg/kg	<5	10 mg/kg	105	47.0	141	
EP074: Chloroethane	75-00-3	5	mg/kg	<5	10 mg/kg	102	49.0	143	
EP074: Trichlorofluoromethane	75-69-4	5	mg/kg	<5	10 mg/kg	101	49.0	135	
EP074: 1,1-Dichloroethene	75-35-4	0.5	mg/kg	<0.5	1 mg/kg	94.5	54.0	126	
EP074: Iodomethane	74-88-4	0.5	mg/kg	<0.5	1 mg/kg	89.7	43.0	129	
EP074: trans-1,2-Dichloroethene	156-60-5	0.5	mg/kg	<0.5	1 mg/kg	88.4	64.0	120	
EP074: 1,1-Dichloroethane	75-34-3	0.5	mg/kg	<0.5	1 mg/kg	87.1	67.0	125	
EP074: cis-1,2-Dichloroethene	156-59-2	0.5	mg/kg	<0.5	1 mg/kg	86.1	69.0	121	
EP074: 1,1,1-Trichloroethane	71-55-6	0.5	mg/kg	<0.5	1 mg/kg	86.3	65.0	117	
EP074: 1,1-Dichloropropylene	563-58-6	0.5	mg/kg	<0.5	1 mg/kg	88.5	65.0	123	
EP074: Carbon Tetrachloride	56-23-5	0.5	mg/kg	<0.5	1 mg/kg	86.8	59.0	125	
EP074: 1,2-Dichloroethane	107-06-2	0.5	mg/kg	<0.5	1 mg/kg	98.2	65.0	125	
EP074: Trichloroethene	79-01-6	0.5	mg/kg	<0.5	1 mg/kg	95.6	70.0	118	
EP074: Dibromomethane	74-95-3	0.5	mg/kg	<0.5	1 mg/kg	91.6	68.0	118	
EP074: 1,1,2-Trichloroethane	79-00-5	0.5	mg/kg	<0.5	1 mg/kg	93.7	64.0	126	
EP074: 1,3-Dichloropropane	142-28-9	0.5	mg/kg	<0.5	1 mg/kg	94.1	68.0	122	
EP074: Tetrachloroethene	127-18-4	0.5	mg/kg	<0.5	1 mg/kg	95.4	67.0	143	
EP074: 1,1,1,2-Tetrachloroethane	630-20-6	0.5	mg/kg	<0.5	1 mg/kg	92.6	62.0	122	
EP074: trans-1,4-Dichloro-2-butene	110-57-6	0.5	mg/kg	<0.5	1 mg/kg	91.4	54.0	128	
EP074: cis-1,4-Dichloro-2-butene	1476-11-5	0.5	mg/kg	<0.5	1 mg/kg	90.4	55.0	129	
EP074: 1,1,2,2-Tetrachloroethane	79-34-5	0.5	mg/kg	<0.5	1 mg/kg	92.9	65.0	121	
EP074: 1,2,3-Trichloropropane	96-18-4	0.5	mg/kg	<0.5	1 mg/kg	91.0	61.0	125	
EP074: Pentachloroethane	76-01-7	0.5	mg/kg	<0.5	1 mg/kg	89.9	19.8	134	
EP074: 1,2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg	<0.5	1 mg/kg	89.2	53.0	129	
EP074F: Halogenated Aromatic Compounds (QCLot: 4170559)									
EP074: Chlorobenzene	108-90-7	0.5	mg/kg	<0.5	1 mg/kg	94.1	68.0	116	
EP074: Bromobenzene	108-86-1	0.5	mg/kg	<0.5	1 mg/kg	94.9	70.0	114	
EP074: 2-Chlorotoluene	95-49-8	0.5	mg/kg	<0.5	1 mg/kg	94.4	68.0	122	
EP074: 4-Chlorotoluene	106-43-4	0.5	mg/kg	<0.5	1 mg/kg	94.3	67.0	123	
EP074: 1,2,3-Trichlorobenzene	87-61-6	0.5	mg/kg	<0.5	1 mg/kg	94.9	52.0	122	
EP074G: Trihalomethanes (QCLot: 4170559)									
EP074: Chloroform	67-66-3	0.5	mg/kg	<0.5	1 mg/kg	87.2	66.0	124	
EP074: Bromodichloromethane	75-27-4	0.5	mg/kg	<0.5	1 mg/kg	90.0	61.0	121	
EP074: Dibromochloromethane	124-48-1	0.5	mg/kg	<0.5	1 mg/kg	89.9	63.0	121	
EP074: Bromoform	75-25-2	0.5	mg/kg	<0.5	1 mg/kg	87.0	60.0	126	



Sub-Matrix: SOIL

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike Concentration	Spike Recovery (%)		Acceptable Limits (%)	
						LCS	Low	High	
EP075(SIM)A: Phenolic Compounds (QCLot: 4162374)									
EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	6 mg/kg	110	71.0	125	
EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	6 mg/kg	103	72.0	124	
EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	6 mg/kg	91.6	71.0	123	
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	12 mg/kg	96.4	67.0	127	
EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	6 mg/kg	73.1	54.0	114	
EP075(SIM): 2,4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	6 mg/kg	88.3	68.0	126	
EP075(SIM): 2,4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	6 mg/kg	91.8	66.0	120	
EP075(SIM): 2,6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	6 mg/kg	90.0	70.0	120	
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	6 mg/kg	84.7	70.0	116	
EP075(SIM): 2,4,6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	6 mg/kg	94.3	54.0	114	
EP075(SIM): 2,4,5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	6 mg/kg	96.8	60.0	114	
EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	12 mg/kg	48.7	10.0	57.0	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4162374)									
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	6 mg/kg	96.4	77.0	125	
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	6 mg/kg	107	72.0	124	
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	6 mg/kg	91.5	73.0	127	
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	6 mg/kg	103	72.0	126	
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	6 mg/kg	101	75.0	127	
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	6 mg/kg	96.9	77.0	127	
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	6 mg/kg	102	73.0	127	
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	6 mg/kg	100	74.0	128	
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	6 mg/kg	105	69.0	123	
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	6 mg/kg	90.4	75.0	127	
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2	0.5	mg/kg	<0.5	6 mg/kg	97.3	68.0	116	
	205-82-3								
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	6 mg/kg	103	74.0	126	
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	6 mg/kg	105	70.0	126	
EP075(SIM): Indeno(1,2,3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	6 mg/kg	96.7	61.0	121	
EP075(SIM): Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	6 mg/kg	93.8	62.0	118	
EP075(SIM): Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	6 mg/kg	88.8	63.0	121	
EP075B: Polynuclear Aromatic Hydrocarbons (QCLot: 4162377)									
EP075: 2-Methylnaphthalene	91-57-6	0.5	mg/kg	<0.5	1.5 mg/kg	86.5	58.0	116	
EP075: 2-Chloronaphthalene	91-58-7	0.5	mg/kg	<0.5	1.5 mg/kg	91.1	54.0	112	
EP075: N-2-Fluorenyl Acetamide	53-96-3	0.5	mg/kg	<0.5	1.5 mg/kg	64.6	58.0	114	
EP075: 7,12-Dimethylbenz(a)anthracene	57-97-6	0.5	mg/kg	<0.5	1.5 mg/kg	81.9	48.1	106	
EP075: 3-Methylcholanthrene	56-49-5	0.5	mg/kg	<0.5	1.5 mg/kg	73.0	50.0	116	
EP075C: Phthalate Esters (QCLot: 4162377)									
EP075: Dimethyl phthalate	131-11-3	0.5	mg/kg	<0.5	1.5 mg/kg	101	60.0	118	



Sub-Matrix: SOIL

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
				Result	Spike	Spike Recovery (%)	Acceptable Limits (%)	
					Concentration	LCS	Low	High
EP075C: Phthalate Esters (QCLot: 4162377) - continued								
EP075: Diethyl phthalate	84-66-2	0.5	mg/kg	<0.5	1.5 mg/kg	98.2	65.0	115
EP075: Di-n-butyl phthalate	84-74-2	0.5	mg/kg	<0.5	1.5 mg/kg	79.0	65.0	121
EP075: Butyl benzyl phthalate	85-68-7	0.5	mg/kg	<0.5	1.5 mg/kg	80.6	62.0	116
EP075: bis(2-ethylhexyl) phthalate	117-81-7	----	mg/kg	----	1.5 mg/kg	73.3	69.0	133
EP075: Di-n-octylphthalate	117-84-0	0.5	mg/kg	<0.5	1.5 mg/kg	71.8	62.0	124
EP075D: Nitrosamines (QCLot: 4162377)								
EP075: N-Nitrosomethylethylamine	10595-95-6	0.5	mg/kg	<0.5	1.5 mg/kg	80.7	39.4	124
EP075: N-Nitrosodiethylamine	55-18-5	0.5	mg/kg	<0.5	1.5 mg/kg	78.0	59.0	117
EP075: N-Nitrosopyrrolidine	930-55-2	0.5	mg/kg	<0.5	1.5 mg/kg	101	53.0	125
EP075: N-Nitrosomorpholine	59-89-2	0.5	mg/kg	<0.5	1.5 mg/kg	96.1	65.0	121
EP075: N-Nitrosodi-n-propylamine	621-64-7	0.5	mg/kg	<0.5	1.5 mg/kg	90.3	59.0	123
EP075: N-Nitrosopiperidine	100-75-4	0.5	mg/kg	<0.5	1.5 mg/kg	79.3	57.0	115
EP075: N-Nitrosodibutylamine	924-16-3	0.5	mg/kg	<0.5	1.5 mg/kg	83.6	57.0	119
EP075: N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	0.5	mg/kg	<0.6	3 mg/kg	100	42.0	112
EP075: Methapyrilene	91-80-5	0.5	mg/kg	<0.5	1.5 mg/kg	38.7	16.3	123
EP075E: Nitroaromatics and Ketones (QCLot: 4162377)								
EP075: 2-Picoline	109-06-8	0.5	mg/kg	<0.5	1.5 mg/kg	79.8	27.3	129
EP075: Acetophenone	98-86-2	0.5	mg/kg	<0.5	1.5 mg/kg	85.7	60.0	116
EP075: Nitrobenzene	98-95-3	0.5	mg/kg	<0.5	1.5 mg/kg	# 52.2	65.0	119
EP075: Isophorone	78-59-1	0.5	mg/kg	<0.5	1.5 mg/kg	78.7	62.0	116
EP075: 2,6-Dinitrotoluene	606-20-2	0.5	mg/kg	<0.5	1.5 mg/kg	103	58.0	118
EP075: 2,4-Dinitrotoluene	121-14-2	0.5	mg/kg	<0.5	1.5 mg/kg	99.1	59.0	115
EP075: 1-Naphthylamine	134-32-7	0.5	mg/kg	<0.5	1.5 mg/kg	59.9	18.0	112
EP075: 4-Nitroquinoline-N-oxide	56-57-5	0.5	mg/kg	<0.5	1.5 mg/kg	67.6	10.0	87.0
EP075: 5-Nitro-o-toluidine	99-55-8	0.5	mg/kg	<0.5	1.5 mg/kg	97.5	48.3	98.5
EP075: Azobenzene	103-33-3	1	mg/kg	<1	1.5 mg/kg	98.6	62.0	118
EP075: 1,3,5-Trinitrobenzene	99-35-4	0.5	mg/kg	<0.5	1.5 mg/kg	90.4	36.0	114
EP075: Phenacetin	62-44-2	0.5	mg/kg	<0.5	1.5 mg/kg	76.5	62.0	114
EP075: 4-Aminobiphenyl	92-67-1	0.5	mg/kg	<0.5	1.5 mg/kg	72.4	36.1	102
EP075: Pentachloronitrobenzene	82-68-8	0.5	mg/kg	<0.5	1.5 mg/kg	96.8	56.0	110
EP075: Pronamide	23950-58-5	0.5	mg/kg	<0.5	1.5 mg/kg	# 45.6	54.0	110
EP075: Dimethylaminoazobenzene	60-11-7	0.5	mg/kg	<0.5	1.5 mg/kg	83.0	48.0	108
EP075: Chlorobenzilate	510-15-6	0.5	mg/kg	<0.5	1.5 mg/kg	79.2	57.4	112
EP075F: Haloethers (QCLot: 4162377)								
EP075: Bis(2-chloroethyl) ether	111-44-4	0.5	mg/kg	<0.5	1.5 mg/kg	79.5	63.0	121
EP075: Bis(2-chloroethoxy) methane	111-91-1	0.5	mg/kg	<0.5	1.5 mg/kg	64.9	59.0	115
EP075: 4-Chlorophenyl phenyl ether	7005-72-3	0.5	mg/kg	<0.5	1.5 mg/kg	98.2	58.0	112



Sub-Matrix: SOIL

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike	Spike Recovery (%)		Acceptable Limits (%)	
					Concentration	LCS	Low	High	
EP075F: Haloethers (QCLot: 4162377) - continued									
EP075: 4-Bromophenyl phenyl ether	101-55-3	0.5	mg/kg	<0.5	1.5 mg/kg	99.2	58.0	110	
EP075G: Chlorinated Hydrocarbons (QCLot: 4162377)									
EP075: 1,3-Dichlorobenzene	541-73-1	0.5	mg/kg	<0.5	1.5 mg/kg	87.0	58.0	112	
EP075: 1,4-Dichlorobenzene	106-46-7	0.5	mg/kg	<0.5	1.5 mg/kg	86.7	58.0	116	
EP075: 1,2-Dichlorobenzene	95-50-1	0.5	mg/kg	<0.5	1.5 mg/kg	87.9	57.0	115	
EP075: Hexachloroethane	67-72-1	0.5	mg/kg	<0.5	1.5 mg/kg	82.3	54.0	116	
EP075: 1,2,4-Trichlorobenzene	120-82-1	0.5	mg/kg	<0.5	1.5 mg/kg	68.5	62.9	108	
EP075: Hexachloropropylene	1888-71-7	0.5	mg/kg	<0.5	1.5 mg/kg	71.3	39.1	110	
EP075: Hexachlorobutadiene	87-68-3	0.5	mg/kg	<0.5	1.5 mg/kg	79.3	59.0	117	
EP075: Hexachlorocyclopentadiene	77-47-4	2.5	mg/kg	<2.5	1.5 mg/kg	56.4	24.3	108	
EP075: Pentachlorobenzene	608-93-5	0.5	mg/kg	<0.5	1.5 mg/kg	84.6	57.0	109	
EP075: Hexachlorobenzene (HCB)	118-74-1	0.5	mg/kg	<0.5	1.5 mg/kg	97.8	59.0	111	
EP075H: Anilines and Benzidines (QCLot: 4162377)									
EP075: Aniline	62-53-3	0.5	mg/kg	<0.5	1.5 mg/kg	81.5	13.2	108	
EP075: 4-Chloroaniline	106-47-8	0.5	mg/kg	<0.5	1.5 mg/kg	60.1	20.5	99.0	
EP075: 2-Nitroaniline	88-74-4	0.5	mg/kg	<0.5	1.5 mg/kg	94.2	52.0	112	
EP075: 3-Nitroaniline	99-09-2	0.5	mg/kg	<0.5	1.5 mg/kg	79.8	31.5	93.7	
EP075: Dibenzofuran	132-64-9	0.5	mg/kg	<0.5	1.5 mg/kg	96.7	60.0	110	
EP075: 4-Nitroaniline	100-01-6	0.5	mg/kg	<0.5	1.5 mg/kg	104	42.0	112	
EP075: Carbazole	86-74-8	0.5	mg/kg	<0.5	1.5 mg/kg	84.7	59.0	111	
EP075: 3,3'-Dichlorobenzidine	91-94-1	0.5	mg/kg	<0.5	1.5 mg/kg	75.0	23.1	113	
EP075I: Organochlorine Pesticides (QCLot: 4162377)									
EP075: alpha-BHC	319-84-6	0.5	mg/kg	<0.5	1.5 mg/kg	103	63.0	113	
EP075: beta-BHC	319-85-7	0.5	mg/kg	<0.5	1.5 mg/kg	100	57.0	113	
EP075: gamma-BHC	58-89-9	0.5	mg/kg	<0.5	1.5 mg/kg	99.2	61.0	117	
EP075: delta-BHC	319-86-8	0.5	mg/kg	<0.5	1.5 mg/kg	81.9	64.0	118	
EP075: Heptachlor	76-44-8	0.5	mg/kg	<0.5	1.5 mg/kg	76.2	55.0	115	
EP075: Aldrin	309-00-2	0.5	mg/kg	<0.5	1.5 mg/kg	80.0	61.0	115	
EP075: Heptachlor epoxide	1024-57-3	0.5	mg/kg	<0.5	1.5 mg/kg	80.7	56.0	118	
EP075: alpha-Endosulfan	959-98-8	0.5	mg/kg	<0.5	1.5 mg/kg	83.3	65.0	125	
EP075: 4,4'-DDE	72-55-9	0.5	mg/kg	<0.5	1.5 mg/kg	80.8	60.0	116	
EP075: Dieldrin	60-57-1	0.5	mg/kg	<0.5	1.5 mg/kg	81.8	64.0	118	
EP075: Endrin	72-20-8	0.5	mg/kg	<0.5	1.5 mg/kg	81.8	53.0	117	
EP075: beta-Endosulfan	33213-65-9	0.5	mg/kg	<0.5	1.5 mg/kg	81.3	65.0	115	
EP075: 4,4'-DDD	72-54-8	0.5	mg/kg	<0.5	1.5 mg/kg	80.9	62.0	118	
EP075: Endosulfan sulfate	1031-07-8	0.5	mg/kg	<0.5	1.5 mg/kg	90.4	63.0	129	
EP075: 4,4'-DDT	50-29-3	0.5	mg/kg	<0.5	1.5 mg/kg	81.7	46.0	122	
EP075J: Organophosphorus Pesticides (QCLot: 4162377)									



Sub-Matrix: SOIL

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
				Result	Spike	Spike Recovery (%)	Acceptable Limits (%)	
					Concentration	LCS	Low	High
EP075J: Organophosphorus Pesticides (QCLot: 4162377) - continued								
EP075: Dichlorvos	62-73-7	0.5	mg/kg	<0.5	1.5 mg/kg	78.0	46.0	112
EP075: Dimethoate	60-51-5	0.5	mg/kg	<0.5	1.5 mg/kg	88.6	63.0	119
EP075: Diazinon	333-41-5	0.5	mg/kg	<0.5	1.5 mg/kg	77.1	68.0	134
EP075: Chlorpyrifos-methyl	5598-13-0	0.5	mg/kg	<0.5	1.5 mg/kg	79.5	60.0	130
EP075: Malathion	121-75-5	0.5	mg/kg	<0.5	1.5 mg/kg	82.4	65.0	127
EP075: Fenthion	55-38-9	0.5	mg/kg	<0.5	1.5 mg/kg	81.0	60.0	116
EP075: Chlorpyrifos	2921-88-2	0.5	mg/kg	<0.5	1.5 mg/kg	77.3	63.0	113
EP075: Pirimphos-ethyl	23505-41-1	0.5	mg/kg	<0.5	1.5 mg/kg	77.7	65.0	115
EP075: Chlorfenvinphos	470-90-6	0.5	mg/kg	<0.5	1.5 mg/kg	76.5	59.0	103
EP075: Prothiofos	34643-46-4	0.5	mg/kg	<0.5	1.5 mg/kg	80.2	59.0	119
EP075: Ethion	563-12-2	0.5	mg/kg	<0.5	1.5 mg/kg	75.1	62.0	118
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4162373)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	300 mg/kg	113	75.0	129
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	450 mg/kg	97.7	77.0	131
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	300 mg/kg	105	71.0	129
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4170558)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	26 mg/kg	81.3	68.4	128
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4170565)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	26 mg/kg	70.8	68.4	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4162373)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	375 mg/kg	94.5	77.0	125
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	525 mg/kg	105	74.0	138
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	225 mg/kg	98.5	63.0	131
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4170558)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	31 mg/kg	83.2	68.4	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4170565)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	31 mg/kg	71.1	68.4	128
EP080: BTEXN (QCLot: 4170558)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	83.3	62.0	116
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	89.0	67.0	121
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	83.8	65.0	117
EP080: meta- & para-Xylene	108-38-3	0.5	mg/kg	<0.5	2 mg/kg	82.7	66.0	118
	106-42-3							
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	81.6	68.0	120
EP080: Naphthalene	91-20-3	1	mg/kg	<1	1 mg/kg	108	63.0	119
EP080: BTEXN (QCLot: 4170565)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	75.1	62.0	116
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	75.2	67.0	121



Sub-Matrix: SOIL

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%)	Acceptable Limits (%)	
						LCS	Low	High
EP080: BTEXN (QCLot: 4170565) - continued								
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	71.3	65.0	117
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	2 mg/kg	73.6	66.0	118
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	77.2	68.0	120
EP080: Naphthalene	91-20-3	1	mg/kg	<1	1 mg/kg	106	63.0	119
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4164325)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	0.00125 mg/kg	96.0	72.0	128
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	0.00125 mg/kg	88.8	67.0	130
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	99.6	68.0	136
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4164325)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	0.00625 mg/kg	87.4	71.0	135
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	0.00125 mg/kg	81.6	69.0	132
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	0.00125 mg/kg	113	70.0	132
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	0.00125 mg/kg	98.0	71.0	131
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	111	69.0	133
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4164325)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	0.00125 mg/kg	97.2	62.0	145
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	0.00125 mg/kg	99.6	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	0.00125 mg/kg	120	65.0	137
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	0.00125 mg/kg	126	69.2	143

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: SOIL

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report			
				Spike Concentration	Spike Recovery(%)	Acceptable Limits (%)	
					MS	Low	High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 4173043)							
ES2204270-001	BH01_0.2	EG005T: Arsenic	7440-38-2	50 mg/kg	92.4	70.0	130
		EG005T: Cadmium	7440-43-9	50 mg/kg	93.0	70.0	130
		EG005T: Chromium	7440-47-3	50 mg/kg	90.5	68.0	132
		EG005T: Copper	7440-50-8	250 mg/kg	105	70.0	130
		EG005T: Lead	7439-92-1	250 mg/kg	103	70.0	130
		EG005T: Nickel	7440-02-0	50 mg/kg	107	70.0	130
		EG005T: Zinc	7440-66-6	250 mg/kg	90.4	66.0	133
EG035T: Total Recoverable Mercury by FIMS (QCLot: 4173044)							
ES2204270-001	BH01_0.2	EG035T: Mercury	7439-97-6	5 mg/kg	97.5	70.0	130



Sub-Matrix: SOIL

				Matrix Spike (MS) Report			
				Spike	Spike Recovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 4162376)							
ES2204270-001	BH01_0.2	EP066: Total Polychlorinated biphenyls	----	1 mg/kg	103	70.0	130
EP068A: Organochlorine Pesticides (OC) (QCLot: 4162375)							
ES2204270-001	BH01_0.2	EP068: gamma-BHC	58-89-9	0.5 mg/kg	81.4	70.0	130
		EP068: Heptachlor	76-44-8	0.5 mg/kg	82.2	70.0	130
		EP068: Aldrin	309-00-2	0.5 mg/kg	79.4	70.0	130
		EP068: Dieldrin	60-57-1	0.5 mg/kg	96.2	70.0	130
		EP068: Endrin	72-20-8	2 mg/kg	75.6	70.0	130
		EP068: 4,4'-DDT	50-29-3	2 mg/kg	86.3	70.0	130
EP068B: Organophosphorus Pesticides (OP) (QCLot: 4162375)							
ES2204270-001	BH01_0.2	EP068: Diazinon	333-41-5	0.5 mg/kg	105	70.0	130
		EP068: Chlorpyrifos-methyl	5598-13-0	0.5 mg/kg	82.9	70.0	130
		EP068: Pirimphos-ethyl	23505-41-1	0.5 mg/kg	88.9	70.0	130
		EP068: Bromophos-ethyl	4824-78-6	0.5 mg/kg	81.8	70.0	130
		EP068: Prothiofos	34643-46-4	0.5 mg/kg	80.0	70.0	130
EP074E: Halogenated Aliphatic Compounds (QCLot: 4170559)							
EW2200663-001	Anonymous	EP074: 1,1-Dichloroethene	75-35-4	2.5 mg/kg	106	70.0	130
		EP074: Trichloroethene	79-01-6	2.5 mg/kg	91.8	70.0	130
EP074F: Halogenated Aromatic Compounds (QCLot: 4170559)							
EW2200663-001	Anonymous	EP074: Chlorobenzene	108-90-7	2.5 mg/kg	86.7	70.0	130
EP075(SIM)A: Phenolic Compounds (QCLot: 4162374)							
ES2204270-001	BH01_0.2	EP075(SIM): Phenol	108-95-2	10 mg/kg	94.1	70.0	130
		EP075(SIM): 2-Chlorophenol	95-57-8	10 mg/kg	103	70.0	130
		EP075(SIM): 2-Nitrophenol	88-75-5	10 mg/kg	78.4	60.0	130
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	10 mg/kg	87.8	70.0	130
		EP075(SIM): Pentachlorophenol	87-86-5	10 mg/kg	54.6	20.0	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4162374)							
ES2204270-001	BH01_0.2	EP075(SIM): Acenaphthene	83-32-9	10 mg/kg	88.9	70.0	130
		EP075(SIM): Pyrene	129-00-0	10 mg/kg	86.2	70.0	130
EP075D: Nitrosamines (QCLot: 4162377)							
ES2204270-001	BH01_0.2	EP075: N-Nitrosodi-n-propylamine	621-64-7	10 mg/kg	82.6	50.0	130
EP075E: Nitroaromatics and Ketones (QCLot: 4162377)							
ES2204270-001	BH01_0.2	EP075: 2,4-Dinitrotoluene	121-14-2	10 mg/kg	106	40.0	130
EP075G: Chlorinated Hydrocarbons (QCLot: 4162377)							
ES2204270-001	BH01_0.2	EP075: 1,4-Dichlorobenzene	106-46-7	10 mg/kg	84.3	60.0	130
		EP075: 1,2,4-Trichlorobenzene	120-82-1	10 mg/kg	84.2	50.0	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4162373)							



Sub-Matrix: SOIL

				Matrix Spike (MS) Report				
				Spike Concentration	SpikeRecovery(%) MS	Acceptable Limits (%)		
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High	
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4162373) - continued								
ES2204270-001	BH01_0.2	EP071: C10 - C14 Fraction	----	480 mg/kg	124	73.0	137	
		EP071: C15 - C28 Fraction	----	3100 mg/kg	121	53.0	131	
		EP071: C29 - C36 Fraction	----	2060 mg/kg	115	52.0	132	
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4170558)								
EW2200663-001	Anonymous	EP080: C6 - C9 Fraction	----	32.5 mg/kg	97.1	70.0	130	
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4170565)								
ES2204801-001	Anonymous	EP080: C6 - C9 Fraction	----	32.5 mg/kg	98.4	70.0	130	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4162373)								
ES2204270-001	BH01_0.2	EP071: >C10 - C16 Fraction	----	860 mg/kg	118	73.0	137	
		EP071: >C16 - C34 Fraction	----	4320 mg/kg	120	53.0	131	
		EP071: >C34 - C40 Fraction	----	890 mg/kg	102	52.0	132	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4170558)								
EW2200663-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	37.5 mg/kg	102	70.0	130	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4170565)								
ES2204801-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	37.5 mg/kg	94.8	70.0	130	
EP080: BTEXN (QCLot: 4170558)								
EW2200663-001	Anonymous	EP080: Benzene	71-43-2	2.5 mg/kg	91.2	70.0	130	
		EP080: Toluene	108-88-3	2.5 mg/kg	79.8	70.0	130	
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	89.8	70.0	130	
		EP080: meta- & para-Xylene	108-38-3	2.5 mg/kg	87.5	70.0	130	
			106-42-3					
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	87.9	70.0	130	
	EP080: Naphthalene	91-20-3	2.5 mg/kg	86.2	70.0	130		
EP080: BTEXN (QCLot: 4170565)								
ES2204801-001	Anonymous	EP080: Benzene	71-43-2	2.5 mg/kg	96.9	70.0	130	
		EP080: Toluene	108-88-3	2.5 mg/kg	91.8	70.0	130	
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	90.7	70.0	130	
		EP080: meta- & para-Xylene	108-38-3	2.5 mg/kg	91.0	70.0	130	
			106-42-3					
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	92.2	70.0	130	
	EP080: Naphthalene	91-20-3	2.5 mg/kg	84.7	70.0	130		
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4164325)								
ES2203327-012	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.00125 mg/kg	94.8	72.0	128	
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.00125 mg/kg	85.2	67.0	130	
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.00125 mg/kg	96.0	68.0	136	
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4164325)								



Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4164325) - continued							
ES2203327-012	Anonymous	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.00625 mg/kg	90.0	71.0	135
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.00125 mg/kg	86.0	69.0	132
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.00125 mg/kg	122	70.0	132
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.00125 mg/kg	104	71.0	131
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.00125 mg/kg	111	69.0	133
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4164325)							
ES2203327-012	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.00125 mg/kg	100	62.0	145
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.00125 mg/kg	105	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.00125 mg/kg	106	65.0	137
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.00125 mg/kg	122	69.2	143

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: ES2204645	Page	: 1 of 10
Client	: EP RISK MANAGEMENT	Laboratory	: Environmental Division Sydney
Contact	: HARRISON BLAKE	Telephone	: +61 2 8784 8555
Project	: EP2515	Date Samples Received	: 10-Feb-2022
Site	: ----	Issue Date	: 22-Feb-2022
Sampler	: HARRISON BLAKE	No. of samples received	: 6
Order number	: ----	No. of samples analysed	: 4

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO** Method Blank value outliers occur.
- **NO** Duplicate outliers occur.
- Laboratory Control outliers exist - please see following pages for full details.
- Matrix Spike outliers exist - please see following pages for full details.
- For all regular sample matrices, **NO** surrogate recovery outliers occur.

Outliers : Analysis Holding Time Compliance

- **NO** Analysis Holding Time Outliers exist.

Outliers : Frequency of Quality Control Samples

- **NO** Quality Control Sample Frequency Outliers exist.



Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Laboratory Control Spike (LCS) Recoveries							
EP075B: Polynuclear Aromatic Hydrocarbons	QC-4168438-002	----	7.12-Dimethylbenz(a)anthracene	57-97-6	114 %	48.1-106%	Recovery greater than upper control limit
Matrix Spike (MS) Recoveries							
EP074E: Halogenated Aliphatic Compounds	EW2200685--001	Anonymous	1.1-Dichloroethene	75-35-4	69.8 %	70.0-130%	Recovery less than lower data quality objective
EP231A: Perfluoroalkyl Sulfonic Acids	EP2201466--085	Anonymous	Perfluorohexane sulfonic acid (PFHxS)	355-46-4	Not Determined	----	MS recovery not determined, background level greater than or equal to 4x spike level.
EP231A: Perfluoroalkyl Sulfonic Acids	EP2201466--085	Anonymous	Perfluorooctane sulfonic acid (PFOS)	1763-23-1	Not Determined	----	MS recovery not determined, background level greater than or equal to 4x spike level.
EP231B: Perfluoroalkyl Carboxylic Acids	EP2201466--085	Anonymous	Perfluorohexanoic acid (PFHxA)	307-24-4	Not Determined	----	MS recovery not determined, background level greater than or equal to 4x spike level.
EP231B: Perfluoroalkyl Carboxylic Acids	EP2201466--085	Anonymous	Perfluorooctanoic acid (PFOA)	335-67-1	Not Determined	----	MS recovery not determined, background level greater than or equal to 4x spike level.
EP231D: (n:2) Fluorotelomer Sulfonic Acids	EP2201466--085	Anonymous	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	Not Determined	----	MS recovery not determined, background level greater than or equal to 4x spike level.

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for VOC in soils vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

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

Method	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EA003 :pH (field/fox)								
Snap Lock Bag - frozen (EA003) BH05_2.0,	BH05_4.0	10-Feb-2022	21-Feb-2022	05-Nov-2024	✓	21-Feb-2022	22-May-2022	✓
EA029-A: pH Measurements								
Snap Lock Bag - frozen (EA029) BH05_4.0		10-Feb-2022	17-Feb-2022	05-Nov-2024	✓	17-Feb-2022	18-May-2022	✓



Matrix: SOIL

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

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EA029-B: Acidity Trail								
Snap Lock Bag - frozen (EA029) BH05_4.0	10-Feb-2022	17-Feb-2022	05-Nov-2024	✓	17-Feb-2022	18-May-2022	✓	
EA029-C: Sulfur Trail								
Snap Lock Bag - frozen (EA029) BH05_4.0	10-Feb-2022	17-Feb-2022	05-Nov-2024	✓	17-Feb-2022	18-May-2022	✓	
EA029-D: Calcium Values								
Snap Lock Bag - frozen (EA029) BH05_4.0	10-Feb-2022	17-Feb-2022	05-Nov-2024	✓	17-Feb-2022	18-May-2022	✓	
EA029-E: Magnesium Values								
Snap Lock Bag - frozen (EA029) BH05_4.0	10-Feb-2022	17-Feb-2022	05-Nov-2024	✓	17-Feb-2022	18-May-2022	✓	
EA029-F: Excess Acid Neutralising Capacity								
Snap Lock Bag - frozen (EA029) BH05_4.0	10-Feb-2022	17-Feb-2022	05-Nov-2024	✓	17-Feb-2022	18-May-2022	✓	
EA029-G: Retained Acidity								
Snap Lock Bag - frozen (EA029) BH05_4.0	10-Feb-2022	17-Feb-2022	05-Nov-2024	✓	17-Feb-2022	18-May-2022	✓	
EA029-H: Acid Base Accounting								
Snap Lock Bag - frozen (EA029) BH05_4.0	10-Feb-2022	17-Feb-2022	05-Nov-2024	✓	17-Feb-2022	18-May-2022	✓	
EA055: Moisture Content (Dried @ 105-110°C)								
Soil Glass Jar - Unpreserved (EA055) BH05_0.2, BH05_2.0	BH05_1.5	10-Feb-2022	----	----	----	18-Feb-2022	24-Feb-2022	✓
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Snap Lock Bag - Friable Asbestos/PSD Bag (EA200) BH05_0.2, BH05_1.5	BH05_1.5	10-Feb-2022	----	----	----	14-Feb-2022	09-Aug-2022	✓
EG005(ED093)T: Total Metals by ICP-AES								
Soil Glass Jar - Unpreserved (EG005T) BH05_0.2, BH05_2.0	BH05_1.5	10-Feb-2022	18-Feb-2022	09-Aug-2022	✓	18-Feb-2022	09-Aug-2022	✓
EG035T: Total Recoverable Mercury by FIMS								
Soil Glass Jar - Unpreserved (EG035T) BH05_0.2, BH05_2.0	BH05_1.5	10-Feb-2022	18-Feb-2022	10-Mar-2022	✓	18-Feb-2022	10-Mar-2022	✓
EP066: Polychlorinated Biphenyls (PCB)								
Soil Glass Jar - Unpreserved (EP066) BH05_0.2, BH05_2.0	BH05_1.5	10-Feb-2022	16-Feb-2022	24-Feb-2022	✓	17-Feb-2022	28-Mar-2022	✓



Matrix: SOIL

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

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP068A: Organochlorine Pesticides (OC)								
Soil Glass Jar - Unpreserved (EP068) BH05_0.2, BH05_2.0	BH05_1.5	10-Feb-2022	16-Feb-2022	24-Feb-2022	✓	17-Feb-2022	28-Mar-2022	✓
EP068B: Organophosphorus Pesticides (OP)								
Soil Glass Jar - Unpreserved (EP068) BH05_0.2, BH05_2.0	BH05_1.5	10-Feb-2022	16-Feb-2022	24-Feb-2022	✓	17-Feb-2022	28-Mar-2022	✓
EP074A: Monocyclic Aromatic Hydrocarbons								
Soil Glass Jar - Unpreserved (EP074) BH05_0.2		10-Feb-2022	15-Feb-2022	17-Feb-2022	✓	16-Feb-2022	17-Feb-2022	✓
EP074B: Oxygenated Compounds								
Soil Glass Jar - Unpreserved (EP074) BH05_0.2		10-Feb-2022	15-Feb-2022	17-Feb-2022	✓	16-Feb-2022	17-Feb-2022	✓
EP074C: Sulfonated Compounds								
Soil Glass Jar - Unpreserved (EP074) BH05_0.2		10-Feb-2022	15-Feb-2022	17-Feb-2022	✓	16-Feb-2022	17-Feb-2022	✓
EP074D: Fumigants								
Soil Glass Jar - Unpreserved (EP074) BH05_0.2		10-Feb-2022	15-Feb-2022	17-Feb-2022	✓	16-Feb-2022	17-Feb-2022	✓
EP074E: Halogenated Aliphatic Compounds								
Soil Glass Jar - Unpreserved (EP074) BH05_0.2		10-Feb-2022	15-Feb-2022	17-Feb-2022	✓	16-Feb-2022	17-Feb-2022	✓
EP074F: Halogenated Aromatic Compounds								
Soil Glass Jar - Unpreserved (EP074) BH05_0.2		10-Feb-2022	15-Feb-2022	17-Feb-2022	✓	16-Feb-2022	17-Feb-2022	✓
EP074G: Trihalomethanes								
Soil Glass Jar - Unpreserved (EP074) BH05_0.2		10-Feb-2022	15-Feb-2022	17-Feb-2022	✓	16-Feb-2022	17-Feb-2022	✓
EP075(SIM)A: Phenolic Compounds								
Soil Glass Jar - Unpreserved (EP075(SIM)) BH05_0.2, BH05_2.0	BH05_1.5	10-Feb-2022	16-Feb-2022	24-Feb-2022	✓	18-Feb-2022	28-Mar-2022	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Soil Glass Jar - Unpreserved (EP075(SIM)) BH05_0.2, BH05_2.0	BH05_1.5	10-Feb-2022	16-Feb-2022	24-Feb-2022	✓	18-Feb-2022	28-Mar-2022	✓
EP075B: Polynuclear Aromatic Hydrocarbons								
Soil Glass Jar - Unpreserved (EP075) BH05_0.2		10-Feb-2022	16-Feb-2022	24-Feb-2022	✓	18-Feb-2022	28-Mar-2022	✓



Matrix: SOIL

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

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP075C: Phthalate Esters							
Soil Glass Jar - Unpreserved (EP075) BH05_0.2	10-Feb-2022	16-Feb-2022	24-Feb-2022	✓	18-Feb-2022	28-Mar-2022	✓
EP075D: Nitrosamines							
Soil Glass Jar - Unpreserved (EP075) BH05_0.2	10-Feb-2022	16-Feb-2022	24-Feb-2022	✓	18-Feb-2022	28-Mar-2022	✓
EP075E: Nitroaromatics and Ketones							
Soil Glass Jar - Unpreserved (EP075) BH05_0.2	10-Feb-2022	16-Feb-2022	24-Feb-2022	✓	18-Feb-2022	28-Mar-2022	✓
EP075F: Haloethers							
Soil Glass Jar - Unpreserved (EP075) BH05_0.2	10-Feb-2022	16-Feb-2022	24-Feb-2022	✓	18-Feb-2022	28-Mar-2022	✓
EP075G: Chlorinated Hydrocarbons							
Soil Glass Jar - Unpreserved (EP075) BH05_0.2	10-Feb-2022	16-Feb-2022	24-Feb-2022	✓	18-Feb-2022	28-Mar-2022	✓
EP075H: Anilines and Benzidines							
Soil Glass Jar - Unpreserved (EP075) BH05_0.2	10-Feb-2022	16-Feb-2022	24-Feb-2022	✓	18-Feb-2022	28-Mar-2022	✓
EP080/071: Total Petroleum Hydrocarbons							
Soil Glass Jar - Unpreserved (EP080) BH05_1.5, BH05_2.0	10-Feb-2022	15-Feb-2022	24-Feb-2022	✓	15-Feb-2022	24-Feb-2022	✓
Soil Glass Jar - Unpreserved (EP080) BH05_0.2	10-Feb-2022	15-Feb-2022	24-Feb-2022	✓	16-Feb-2022	24-Feb-2022	✓
Soil Glass Jar - Unpreserved (EP071) BH05_0.2, BH05_2.0, BH05_1.5	10-Feb-2022	16-Feb-2022	24-Feb-2022	✓	17-Feb-2022	28-Mar-2022	✓
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions							
Soil Glass Jar - Unpreserved (EP080) BH05_1.5, BH05_2.0	10-Feb-2022	15-Feb-2022	24-Feb-2022	✓	15-Feb-2022	24-Feb-2022	✓
Soil Glass Jar - Unpreserved (EP080) BH05_0.2	10-Feb-2022	15-Feb-2022	24-Feb-2022	✓	16-Feb-2022	24-Feb-2022	✓
Soil Glass Jar - Unpreserved (EP071) BH05_0.2, BH05_2.0, BH05_1.5	10-Feb-2022	16-Feb-2022	24-Feb-2022	✓	17-Feb-2022	28-Mar-2022	✓
EP080: BTEXN							
Soil Glass Jar - Unpreserved (EP080) BH05_1.5, BH05_2.0	10-Feb-2022	15-Feb-2022	24-Feb-2022	✓	15-Feb-2022	24-Feb-2022	✓
Soil Glass Jar - Unpreserved (EP080) BH05_0.2	10-Feb-2022	15-Feb-2022	24-Feb-2022	✓	16-Feb-2022	24-Feb-2022	✓
EP231A: Perfluoroalkyl Sulfonic Acids							
HDPE Soil Jar (EP231X) BH05_0.2	10-Feb-2022	14-Feb-2022	09-Aug-2022	✓	15-Feb-2022	26-Mar-2022	✓



Matrix: **SOIL**

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

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP231B: Perfluoroalkyl Carboxylic Acids							
HDPE Soil Jar (EP231X) BH05_0.2	10-Feb-2022	14-Feb-2022	09-Aug-2022	✓	15-Feb-2022	26-Mar-2022	✓
EP231D: (n:2) Fluorotelomer Sulfonic Acids							
HDPE Soil Jar (EP231X) BH05_0.2	10-Feb-2022	14-Feb-2022	09-Aug-2022	✓	15-Feb-2022	26-Mar-2022	✓
EP231P: PFAS Sums							
HDPE Soil Jar (EP231X) BH05_0.2	10-Feb-2022	14-Feb-2022	09-Aug-2022	✓	15-Feb-2022	26-Mar-2022	✓



Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: * = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type	Method	Count		Rate (%)			Quality Control Specification
		QC	Reaular	Actual	Expected	Evaluation	
Analytical Methods							
Laboratory Duplicates (DUP)							
Moisture Content	EA055	2	20	10.00	10.00	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	2	14	14.29	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	18	11.11	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	2	14	14.29	10.00	✓	NEPM 2013 B3 & ALS QC Standard
pH field/fox	EA003	2	20	10.00	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	2	14	14.29	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Semivolatile Organic Compounds	EP075	1	7	14.29	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Suspension Peroxide Oxidation-Combined Acidity and Sulphate	EA029	1	7	14.29	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	2	20	10.00	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	2	20	10.00	10.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	2	14	14.29	10.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	4	38	10.53	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Volatile Organic Compounds	EP074	2	15	13.33	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
PAH/Phenols (SIM)	EP075(SIM)	1	14	7.14	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	18	5.56	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	14	7.14	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	14	7.14	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Semivolatile Organic Compounds	EP075	1	7	14.29	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Suspension Peroxide Oxidation-Combined Acidity and Sulphate	EA029	1	7	14.29	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	14	7.14	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	38	5.26	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Volatile Organic Compounds	EP074	1	15	6.67	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
PAH/Phenols (SIM)	EP075(SIM)	1	14	7.14	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	18	5.56	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	14	7.14	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	14	7.14	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Semivolatile Organic Compounds	EP075	1	7	14.29	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Suspension Peroxide Oxidation-Combined Acidity and Sulphate	EA029	1	7	14.29	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard



Matrix: **SOIL**

Evaluation: * = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type	Method	Count		Rate (%)			Quality Control Specification
		QC	Reaular	Actual	Expected	Evaluation	
Analytical Methods							
Method Blanks (MB) - Continued							
Total Metals by ICP-AES	EG005T	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	14	7.14	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	38	5.26	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Volatile Organic Compounds	EP074	1	15	6.67	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
PAH/Phenols (SIM)	EP075(SIM)	1	14	7.14	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	18	5.56	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	14	7.14	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	14	7.14	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Semivolatile Organic Compounds	EP075	1	7	14.29	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	14	7.14	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	38	5.26	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Volatile Organic Compounds	EP074	1	15	6.67	5.00	✓	NEPM 2013 B3 & ALS QC Standard



Brief Method Summaries

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

Analytical Methods	Method	Matrix	Method Descriptions
pH field/fox	EA003	SOIL	In house: Referenced to Ahern et al 1998 - determined on a 1:5 soil/water extract designed to simulate field measured pH and pH after the extract has been oxidised with peroxide.
Suspension Peroxide Oxidation-Combined Acidity and Sulphate	EA029	SOIL	In house: Referenced to Ahern et al 2004 - a suspension peroxide oxidation method following the 'sulfur trail' by determining the level of 1M KCL extractable sulfur and the sulfur level after oxidation of soil sulphides. The 'acidity trail' is followed by measurement of TAA, TPA and TSA. Liming Rate is based on results for samples as submitted and incorporates a minimum safety factor of 1.5.
Moisture Content	EA055	SOIL	In house: A gravimetric procedure based on weight loss over a 12 hour drying period at 105-110 degrees C. This method is compliant with NEPM Schedule B(3).
Asbestos Identification in Soils	EA200	SOIL	AS 4964 Method for the qualitative identification of asbestos in bulk samples Analysis by Polarised Light Microscopy including dispersion staining
Total Metals by ICP-AES	EG005T	SOIL	In house: Referenced to APHA 3120; USEPA SW 846 - 6010. Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM Schedule B(3)
Total Mercury by FIMS	EG035T	SOIL	In house: Referenced to APHA 3112 Hg - B (Flow-injection (SnCl ₂) (Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. Mercury in solids are determined following an appropriate acid digestion. Ionic mercury is reduced online to atomic mercury vapour by SnCl ₂ which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM Schedule B(3)
Polychlorinated Biphenyls (PCB)	EP066	SOIL	In house: Referenced to USEPA SW 846 - 8270 Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3).
Pesticides by GCMS	EP068	SOIL	In house: Referenced to USEPA SW 846 - 8270 Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This technique is compliant with NEPM Schedule B(3).
TRH - Semivolatile Fraction	EP071	SOIL	In house: Referenced to USEPA SW 846 - 8015 Sample extracts are analysed by Capillary GC/FID and quantified against alkane standards over the range C10 - C40. Compliant with NEPM Schedule B(3).
Volatile Organic Compounds	EP074	SOIL	In house: Referenced to USEPA SW 846 - 8260 Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3).
Semivolatile Organic Compounds	EP075	SOIL	In house: Referenced to USEPA SW 846 - 8270 Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This technique is compliant with NEPM Schedule B(3).
PAH/Phenols (SIM)	EP075(SIM)	SOIL	In house: Referenced to USEPA SW 846 - 8270. Extracts are analysed by Capillary GC/MS in Selective Ion Mode (SIM) and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)



Analytical Methods	Method	Matrix	Method Descriptions
TRH Volatiles/BTEX	EP080	SOIL	In house: Referenced to USEPA SW 846 - 8260. Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve. Compliant with NEPM Schedule B(3) amended.
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	SOIL	In-house: Analysis of soils by solvent extraction followed by LC-Electrospray-MS-MS, Negative Mode using MRM using internal standard quantitation. Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to a portion of soil which is then extracted with MTBE and an ion pairing reagent. A portion of extract is exchanged into the analytical solvent mixture, combined with an equal volume reagent water and filtered for analysis. Method procedures and data quality objectives conform to US DoD QSM 5.3, table B-15 requirements.

Preparation Methods	Method	Matrix	Method Descriptions
Drying only	EN020D	SOIL	In house
Drying at 85 degrees, bagging and labelling (ASS)	EN020PR	SOIL	In house
Hot Block Digest for metals in soils sediments and sludges	EN69	SOIL	In house: Referenced to USEPA 200.2. Hot Block Acid Digestion 1.0g of sample is heated with Nitric and Hydrochloric acids, then cooled. Peroxide is added and samples heated and cooled again before being filtered and bulked to volume for analysis. Digest is appropriate for determination of selected metals in sludge, sediments, and soils. This method is compliant with NEPM Schedule B(3).
Methanolic Extraction of Soils for Purge and Trap	ORG16	SOIL	In house: Referenced to USEPA SW 846 - 5030A. 5g of solid is shaken with surrogate and 10mL methanol prior to analysis by Purge and Trap - GC/MS.
Tumbler Extraction of Solids	ORG17	SOIL	In house: Mechanical agitation (tumbler). 10g of sample, Na2SO4 and surrogate are extracted with 30mL 1:1 DCM/Acetone by end over end tumble. The solvent is decanted, dehydrated and concentrated (by KD) to the desired volume for analysis.
QuEChERS Extraction of Solids	ORG71	SOIL	In house: Sequential extractions with Acetonitrile/Methanol by shaking. Extraction efficiency aided by the addition of salts under acidic conditions. Where relevant, interferences from co-extracted organics are removed with dispersive clean-up media (dSPE). The extract is either diluted or concentrated and exchanged into the analytical solvent.

QUALITY CONTROL REPORT

Work Order	: ES2204627	Page	: 1 of 29
Client	: EP RISK MANAGEMENT	Laboratory	: Environmental Division Sydney
Contact	: HARRISON BLAKE	Contact	: Tyler Anderson
Address	: Level 4 73 Walker St North Sydney 2060	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: +61 2 8784 8555
Project	: EP2515	Date Samples Received	: 10-Feb-2022
Order number	: ----	Date Analysis Commenced	: 14-Feb-2022
C-O-C number	: ----	Issue Date	: 22-Feb-2022
Sampler	: HARRISON BLAKE		
Site	: ----		
Quote number	: SYBQ/401/21		
No. of samples received	: 8		
No. of samples analysed	: 5		



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

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

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

<i>Signatories</i>	<i>Position</i>	<i>Accreditation Category</i>
Alana Smylie	Team Leader - Asbestos	Newcastle - Asbestos, Mayfield West, NSW
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Edwandy Fadjjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Franco Lentini	LCMS Coordinator	Sydney Inorganics, Smithfield, NSW
Franco Lentini	LCMS Coordinator	Sydney Organics, Smithfield, NSW
Ivan Taylor	Analyst	Sydney Inorganics, Smithfield, NSW



General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key :
 Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
 CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
 LOR = Limit of reporting
 RPD = Relative Percentage Difference
 # = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 4181607)									
ES2204627-001	BH02_0.1	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	15	22	39.5	0% - 50%
		EG005T: Nickel	7440-02-0	2	mg/kg	85	92	8.0	0% - 20%
		EG005T: Arsenic	7440-38-2	5	mg/kg	7	9	28.4	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	717	694	3.2	0% - 20%
		EG005T: Lead	7439-92-1	5	mg/kg	819	829	1.2	0% - 20%
		EG005T: Zinc	7440-66-6	5	mg/kg	1330	1340	0.6	0% - 20%
ES2204889-002	Anonymous	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	8	8	0.0	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	14	16	7.7	No Limit
EA003 :pH (field/fox) (QC Lot: 4182456)									
EM2202286-001	Anonymous	EA003: pH (F)	----	0.1	pH Unit	8.4	8.5	0.0	0% - 20%
		EA003: pH (Fox)	----	0.1	pH Unit	6.0	6.0	0.0	0% - 20%
ES2204627-003	BH02_2.0	EA003: pH (F)	----	0.1	pH Unit	7.0	7.1	0.0	0% - 20%
		EA003: pH (Fox)	----	0.1	pH Unit	4.4	4.5	0.0	0% - 20%
EA029-A: pH Measurements (QC Lot: 4176623)									
EM2202186-002	Anonymous	EA029: pH KCl (23A)	----	0.1	pH Unit	5.6	5.6	0.0	0% - 20%
		EA029: pH OX (23B)	----	0.1	pH Unit	6.2	6.2	0.0	0% - 20%
EA029-B: Acidity Trail (QC Lot: 4176623)									



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EA029-B: Acidity Trail (QC Lot: 4176623) - continued									
EM2202186-002	Anonymous	EA029: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.020	<0.020	0.0	No Limit
		EA029: sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.020	<0.020	0.0	No Limit
		EA029: sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.020	<0.020	0.0	No Limit
		EA029: Titratable Actual Acidity (23F)	----	2	mole H+ / t	6	6	0.0	No Limit
		EA029: Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	6	6	0.0	No Limit
		EA029: Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	<2	0.0	No Limit
EA029-C: Sulfur Trail (QC Lot: 4176623)									
EM2202186-002	Anonymous	EA029: KCl Extractable Sulfur (23Ce)	----	0.02	% S	<0.020	<0.020	0.0	No Limit
		EA029: Peroxide Sulfur (23De)	----	0.02	% S	<0.020	<0.020	0.0	No Limit
		EA029: Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	<0.020	<0.020	0.0	No Limit
		EA029: acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	<10	<10	0.0	No Limit
EA029-D: Calcium Values (QC Lot: 4176623)									
EM2202186-002	Anonymous	EA029: KCl Extractable Calcium (23Vh)	----	0.02	% Ca	0.054	0.058	6.8	No Limit
		EA029: Peroxide Calcium (23Wh)	----	0.02	% Ca	0.058	0.060	4.2	No Limit
		EA029: Acid Reacted Calcium (23X)	----	0.02	% Ca	<0.020	<0.020	0.0	No Limit
		EA029: sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	<0.020	<0.020	0.0	No Limit
		EA029: acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	<10	<10	0.0	No Limit
EA029-E: Magnesium Values (QC Lot: 4176623)									
EM2202186-002	Anonymous	EA029: KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	0.065	0.069	6.7	No Limit
		EA029: Peroxide Magnesium (23Tm)	----	0.02	% Mg	0.075	0.078	4.1	No Limit
		EA029: Acid Reacted Magnesium (23U)	----	0.02	% Mg	<0.020	<0.020	0.0	No Limit
		EA029: sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	<0.020	<0.020	0.0	No Limit
		EA029: Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	<10	<10	0.0	No Limit
EA029-H: Acid Base Accounting (QC Lot: 4176623)									
EM2202186-002	Anonymous	EA029: ANC Fineness Factor	----	0.5	-	1.5	1.5	0.0	No Limit
		EA029: Net Acidity (sulfur units)	----	0.02	% S	<0.02	<0.02	0.0	No Limit
		EA029: Net Acidity excluding ANC (sulfur units)	----	0.02	% S	<0.02	<0.02	0.0	No Limit
		EA029: Liming Rate	----	1	kg CaCO3/t	<1	<1	0.0	No Limit
		EA029: Liming Rate excluding ANC	----	1	kg CaCO3/t	<1	<1	0.0	No Limit
		EA029: Net Acidity (acidity units)	----	10	mole H+ / t	<10	<10	0.0	No Limit
		EA029: Net Acidity excluding ANC (acidity units)	----	10	mole H+ / t	<10	<10	0.0	No Limit
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 4181614)									
ES2204627-003	BH02_2.0	EA055: Moisture Content	----	0.1	%	20.6	21.6	4.9	0% - 20%
ES2204889-010	Anonymous	EA055: Moisture Content	----	0.1	%	1.2	1.3	10.6	No Limit



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 4182642)									
ES2204627-006	BH02_5.5	EA055: Moisture Content	----	0.1	%	18.5	17.9	3.6	0% - 20%
ES2204777-015	Anonymous	EA055: Moisture Content	----	0.1	%	15.4	15.4	0.0	0% - 20%
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 4181608)									
ES2204627-001	BH02_0.1	EG035T: Mercury	7439-97-6	0.1	mg/kg	0.2	0.2	0.0	No Limit
ES2204889-002	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EP066: Polychlorinated Biphenyls (PCB) (QC Lot: 4168437)									
ES2204644-003	Anonymous	EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
ES2204462-001	Anonymous	EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EP068A: Organochlorine Pesticides (OC) (QC Lot: 4168436)									
ES2204644-003	Anonymous	EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4,4'-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4,4'-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4,4'-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	0.0	No Limit		
ES2204462-001	Anonymous	EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP068A: Organochlorine Pesticides (OC) (QC Lot: 4168436) - continued									
ES2204462-001	Anonymous	EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4.4'-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4.4'-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4.4'-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	0.0	No Limit		
EP068B: Organophosphorus Pesticides (OP) (QC Lot: 4168436)									
ES2204644-003	Anonymous	EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
EP068: Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	0.0	No Limit		
EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit		
ES2204462-001	Anonymous	EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit		



Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP068B: Organophosphorus Pesticides (OP) (QC Lot: 4168436) - continued									
ES2204462-001	Anonymous	EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP068: Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit		
EP074A: Monocyclic Aromatic Hydrocarbons (QC Lot: 4172740)									
ES2204787-001	Anonymous	EP074: Styrene	100-42-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Isopropylbenzene	98-82-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: n-Propylbenzene	103-65-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,3,5-Trimethylbenzene	108-67-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: sec-Butylbenzene	135-98-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,2,4-Trimethylbenzene	95-63-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: tert-Butylbenzene	98-06-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: p-Isopropyltoluene	99-87-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: n-Butylbenzene	104-51-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EW2200685-001	Anonymous	EP074: Styrene	100-42-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Isopropylbenzene	98-82-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: n-Propylbenzene	103-65-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,3,5-Trimethylbenzene	108-67-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: sec-Butylbenzene	135-98-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,2,4-Trimethylbenzene	95-63-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: tert-Butylbenzene	98-06-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: p-Isopropyltoluene	99-87-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: n-Butylbenzene	104-51-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP074B: Oxygenated Compounds (QC Lot: 4172740)									
ES2204787-001	Anonymous	EP074: Vinyl Acetate	108-05-4	5	mg/kg	<5	<5	0.0	No Limit
		EP074: 2-Butanone (MEK)	78-93-3	5	mg/kg	<5	<5	0.0	No Limit
		EP074: 4-Methyl-2-pentanone (MIBK)	108-10-1	5	mg/kg	<5	<5	0.0	No Limit
		EP074: 2-Hexanone (MBK)	591-78-6	5	mg/kg	<5	<5	0.0	No Limit
EW2200685-001	Anonymous	EP074: Vinyl Acetate	108-05-4	5	mg/kg	<5	<5	0.0	No Limit
		EP074: 2-Butanone (MEK)	78-93-3	5	mg/kg	<5	<5	0.0	No Limit
		EP074: 4-Methyl-2-pentanone (MIBK)	108-10-1	5	mg/kg	<5	<5	0.0	No Limit
		EP074: 2-Hexanone (MBK)	591-78-6	5	mg/kg	<5	<5	0.0	No Limit
EP074C: Sulfonated Compounds (QC Lot: 4172740)									
ES2204787-001	Anonymous	EP074: Carbon disulfide	75-15-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP074C: Sulfonated Compounds (QC Lot: 4172740) - continued									
EW2200685-001	Anonymous	EP074: Carbon disulfide	75-15-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP074D: Fumigants (QC Lot: 4172740)									
ES2204787-001	Anonymous	EP074: 2,2-Dichloropropane	594-20-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,2-Dichloropropane	78-87-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: cis-1,3-Dichloropropylene	10061-01-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: trans-1,3-Dichloropropylene	10061-02-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,2-Dibromoethane (EDB)	106-93-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EW2200685-001	Anonymous	EP074: 2,2-Dichloropropane	594-20-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,2-Dichloropropane	78-87-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: cis-1,3-Dichloropropylene	10061-01-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: trans-1,3-Dichloropropylene	10061-02-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,2-Dibromoethane (EDB)	106-93-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP074E: Halogenated Aliphatic Compounds (QC Lot: 4172740)									
ES2204787-001	Anonymous	EP074: 1,1-Dichloroethene	75-35-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Iodomethane	74-88-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: trans-1,2-Dichloroethene	156-60-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,1-Dichloroethane	75-34-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: cis-1,2-Dichloroethene	156-59-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,1,1-Trichloroethane	71-55-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,1-Dichloropropylene	563-58-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Carbon Tetrachloride	56-23-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,2-Dichloroethane	107-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Trichloroethene	79-01-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Dibromomethane	74-95-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,1,2-Trichloroethane	79-00-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,3-Dichloropropane	142-28-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Tetrachloroethene	127-18-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,1,1,2-Tetrachloroethane	630-20-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: trans-1,4-Dichloro-2-butene	110-57-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: cis-1,4-Dichloro-2-butene	1476-11-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,1,2,2-Tetrachloroethane	79-34-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,2,3-Trichloropropane	96-18-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Pentachloroethane	76-01-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Dichlorodifluoromethane	75-71-8	5	mg/kg	<5	<5	0.0	No Limit
		EP074: Chloromethane	74-87-3	5	mg/kg	<5	<5	0.0	No Limit
		EP074: Vinyl chloride	75-01-4	5	mg/kg	<5	<5	0.0	No Limit
		EP074: Bromomethane	74-83-9	5	mg/kg	<5	<5	0.0	No Limit
		EP074: Chloroethane	75-00-3	5	mg/kg	<5	<5	0.0	No Limit
		EP074: Trichlorofluoromethane	75-69-4	5	mg/kg	<5	<5	0.0	No Limit



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP074E: Halogenated Aliphatic Compounds (QC Lot: 4172740) - continued									
EW2200685-001	Anonymous	EP074: 1,1-Dichloroethene	75-35-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Iodomethane	74-88-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: trans-1,2-Dichloroethene	156-60-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,1-Dichloroethane	75-34-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: cis-1,2-Dichloroethene	156-59-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,1,1-Trichloroethane	71-55-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,1-Dichloropropylene	563-58-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Carbon Tetrachloride	56-23-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,2-Dichloroethane	107-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Trichloroethene	79-01-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Dibromomethane	74-95-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,1,2-Trichloroethane	79-00-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,3-Dichloropropane	142-28-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Tetrachloroethene	127-18-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,1,1,2-Tetrachloroethane	630-20-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: trans-1,4-Dichloro-2-butene	110-57-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: cis-1,4-Dichloro-2-butene	1476-11-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,1,2,2-Tetrachloroethane	79-34-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,2,3-Trichloropropane	96-18-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Pentachloroethane	76-01-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Dichlorodifluoromethane	75-71-8	5	mg/kg	<5	<5	0.0	No Limit
		EP074: Chloromethane	74-87-3	5	mg/kg	<5	<5	0.0	No Limit
		EP074: Vinyl chloride	75-01-4	5	mg/kg	<5	<5	0.0	No Limit
EP074: Bromomethane	74-83-9	5	mg/kg	<5	<5	0.0	No Limit		
EP074: Chloroethane	75-00-3	5	mg/kg	<5	<5	0.0	No Limit		
EP074: Trichlorofluoromethane	75-69-4	5	mg/kg	<5	<5	0.0	No Limit		
EP074F: Halogenated Aromatic Compounds (QC Lot: 4172740)									
ES2204787-001	Anonymous	EP074: Chlorobenzene	108-90-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Bromobenzene	108-86-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 2-Chlorotoluene	95-49-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 4-Chlorotoluene	106-43-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,2,3-Trichlorobenzene	87-61-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EW2200685-001	Anonymous	EP074: Chlorobenzene	108-90-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Bromobenzene	108-86-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 2-Chlorotoluene	95-49-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 4-Chlorotoluene	106-43-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,2,3-Trichlorobenzene	87-61-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP074G: Trihalomethanes (QC Lot: 4172740)									
ES2204787-001	Anonymous	EP074: Chloroform	67-66-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP074G: Trihalomethanes (QC Lot: 4172740) - continued									
ES2204787-001	Anonymous	EP074: Bromodichloromethane	75-27-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Dibromochloromethane	124-48-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Bromoform	75-25-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EW2200685-001	Anonymous	EP074: Chloroform	67-66-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Bromodichloromethane	75-27-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Dibromochloromethane	124-48-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Bromoform	75-25-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075(SIM)A: Phenolic Compounds (QC Lot: 4168435)									
ES2204644-003	Anonymous	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2,4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2,4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2,6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2,4,6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2,4,5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
		ES2204462-001	Anonymous	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5
EP075(SIM): 2-Chlorophenol	95-57-8			0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075(SIM): 2-Methylphenol	95-48-7			0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075(SIM): 2-Nitrophenol	88-75-5			0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075(SIM): 2,4-Dimethylphenol	105-67-9			0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075(SIM): 2,4-Dichlorophenol	120-83-2			0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075(SIM): 2,6-Dichlorophenol	87-65-0			0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7			0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075(SIM): 2,4,6-Trichlorophenol	88-06-2			0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075(SIM): 2,4,5-Trichlorophenol	95-95-4			0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075(SIM): 3- & 4-Methylphenol	1319-77-3			1	mg/kg	<1	<1	0.0	No Limit
EP075(SIM): Pentachlorophenol	87-86-5			2	mg/kg	<2	<2	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4168435)									
ES2204644-003	Anonymous	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report							
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)		
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4168435) - continued											
ES2204644-003	Anonymous	EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP075(SIM): Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP075(SIM): Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
ES2204462-001	Anonymous	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	1.4	1.2	14.4	No Limit		
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	0.5	0.5	0.0	No Limit		
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	2.2	2.2	0.0	No Limit		
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	2.2	2.1	6.1	No Limit		
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	1.1	1.1	0.0	No Limit		
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	1.0	0.9	0.0	No Limit		
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	1.4	1.3	0.0	No Limit		
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	1.2	1.2	0.0	No Limit		
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	0.7	<0.5	34.7	No Limit		
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	0.8	0.5	49.8	No Limit		
		EP075(SIM): Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	12.5	11.0	12.8	0% - 20%		
		EP075(SIM): Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	1.5	1.4	0.0	No Limit		
		EP075A: Phenolic Compounds (QC Lot: 4168438)									
		ES2204462-001	Anonymous	EP075: Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075: 2-Chlorophenol	95-57-8			0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
EP075: 2-Methylphenol	95-48-7			0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
EP075: 3- & 4-Methylphenol	1319-77-3			0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
EP075: 2-Nitrophenol	88-75-5			0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
EP075: 2,4-Dimethylphenol	105-67-9			0.5	mg/kg	<0.5	<0.5	0.0	No Limit		



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP075A: Phenolic Compounds (QC Lot: 4168438) - continued									
ES2204462-001	Anonymous	EP075: 2,4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 2,6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 2,4,6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 2,4,5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Pentachlorophenol	87-86-5	1	mg/kg	<1	<1	0.0	No Limit
EP075B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4168438)									
ES2204462-001	Anonymous	EP075: Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 2-Methylnaphthalene	91-57-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 2-Chloronaphthalene	91-58-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Phenanthrene	85-01-8	0.5	mg/kg	2.1	2.4	13.5	No Limit
		EP075: Anthracene	120-12-7	0.5	mg/kg	0.7	0.7	0.0	No Limit
		EP075: Fluoranthene	206-44-0	0.5	mg/kg	3.2	3.5	9.4	No Limit
		EP075: Pyrene	129-00-0	0.5	mg/kg	3.2	3.4	8.1	No Limit
		EP075: N-2-Fluorenyl Acetamide	53-96-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Benz(a)anthracene	56-55-3	0.5	mg/kg	1.6	1.9	14.1	No Limit
		EP075: Chrysene	218-01-9	0.5	mg/kg	1.4	1.5	0.0	No Limit
		EP075: 7,12-Dimethylbenz(a)anthracene	57-97-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Benzo(a)pyrene	50-32-8	0.5	mg/kg	1.9	1.8	0.0	No Limit
		EP075: 3-Methylcholanthrene	56-49-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Indeno(1,2,3-cd)pyrene	193-39-5	0.5	mg/kg	1.1	1.0	0.0	No Limit
		EP075: Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075: Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	1.3	1.2	0.0	No Limit		
EP075: Benzo(b+j) & Benzo(k)fluoranthene	205-99-2 207-08-9	1	mg/kg	3	3	0.0	No Limit		
EP075C: Phthalate Esters (QC Lot: 4168438)									
ES2204462-001	Anonymous	EP075: Dimethyl phthalate	131-11-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Diethyl phthalate	84-66-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Di-n-butyl phthalate	84-74-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Butyl benzyl phthalate	85-68-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Di-n-octylphthalate	117-84-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075D: Nitrosamines (QC Lot: 4168438)									
ES2204462-001	Anonymous	EP075: N-Nitrosomethylethylamine	10595-95-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: N-Nitrosodiethylamine	55-18-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: N-Nitrosopyrrolidine	930-55-2	0.5	mg/kg	<1.0	<1.0	0.0	No Limit
		EP075: N-Nitrosomorpholine	59-89-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: N-Nitrosodi-n-propylamine	621-64-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP075D: Nitrosamines (QC Lot: 4168438) - continued									
ES2204462-001	Anonymous	EP075: N-Nitrosopiperidine	100-75-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: N-Nitrosodibutylamine	924-16-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	0.5	mg/kg	<1.0	<1.0	0.0	No Limit
		EP075: Methapyrilene	91-80-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075E: Nitroaromatics and Ketones (QC Lot: 4168438)									
ES2204462-001	Anonymous	EP075: 2-Picoline	109-06-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Acetophenone	98-86-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Nitrobenzene	98-95-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Isophorone	78-59-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 2,6-Dinitrotoluene	606-20-2	0.5	mg/kg	<1.0	<1.0	0.0	No Limit
		EP075: 2,4-Dinitrotoluene	121-14-2	0.5	mg/kg	<1.0	<1.0	0.0	No Limit
		EP075: 1-Naphthylamine	134-32-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 4-Nitroquinoline-N-oxide	56-57-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 5-Nitro-o-toluidine	99-55-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 1,3,5-Trinitrobenzene	99-35-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Phenacetin	62-44-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 4-Aminobiphenyl	92-67-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Pentachloronitrobenzene	82-68-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Pronamide	23950-58-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Dimethylaminoazobenzene	60-11-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075: Chlorobenzilate	510-15-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
EP075: Azobenzene	103-33-3	1	mg/kg	<1	<1	0.0	No Limit		
EP075F: Haloethers (QC Lot: 4168438)									
ES2204462-001	Anonymous	EP075: Bis(2-chloroethyl) ether	111-44-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Bis(2-chloroethoxy) methane	111-91-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 4-Chlorophenyl phenyl ether	7005-72-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 4-Bromophenyl phenyl ether	101-55-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075G: Chlorinated Hydrocarbons (QC Lot: 4168438)									
ES2204462-001	Anonymous	EP075: 1,3-Dichlorobenzene	541-73-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 1,4-Dichlorobenzene	106-46-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 1,2-Dichlorobenzene	95-50-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Hexachloroethane	67-72-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 1,2,4-Trichlorobenzene	120-82-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Hexachloropropylene	1888-71-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Hexachlorobutadiene	87-68-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Pentachlorobenzene	608-93-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Hexachlorobenzene (HCB)	118-74-1	0.5	mg/kg	<1.0	<1.0	0.0	No Limit
		EP075: Hexachlorocyclopentadiene	77-47-4	2.5	mg/kg	<2.5	<2.5	0.0	No Limit



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP075H: Anilines and Benzidines (QC Lot: 4168438)									
ES2204462-001	Anonymous	EP075: Aniline	62-53-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 4-Chloroaniline	106-47-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 2-Nitroaniline	88-74-4	0.5	mg/kg	<1.0	<1.0	0.0	No Limit
		EP075: 3-Nitroaniline	99-09-2	0.5	mg/kg	<1.0	<1.0	0.0	No Limit
		EP075: Dibenzofuran	132-64-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 4-Nitroaniline	100-01-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Carbazole	86-74-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 3,3'-Dichlorobenzidine	91-94-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075I: Organochlorine Pesticides (QC Lot: 4168438)									
ES2204462-001	Anonymous	EP075: alpha-BHC	319-84-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: beta-BHC	319-85-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: gamma-BHC	58-89-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: delta-BHC	319-86-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Heptachlor	76-44-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Aldrin	309-00-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Heptachlor epoxide	1024-57-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: alpha-Endosulfan	959-98-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 4,4'-DDE	72-55-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Dieldrin	60-57-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Endrin	72-20-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: beta-Endosulfan	33213-65-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 4,4'-DDD	72-54-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Endosulfan sulfate	1031-07-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 4,4'-DDT	50-29-3	0.5	mg/kg	<1.0	<1.0	0.0	No Limit
EP075J: Organophosphorus Pesticides (QC Lot: 4168438)									
ES2204462-001	Anonymous	EP075: Dichlorvos	62-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Dimethoate	60-51-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Diazinon	333-41-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Chlorpyrifos-methyl	5598-13-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Malathion	121-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Fenthion	55-38-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Chlorpyrifos	2921-88-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Pirimphos-ethyl	23505-41-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Chlorfenvinphos	470-90-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Prothiofos	34643-46-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Ethion	563-12-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4168434)									
ES2204644-003	Anonymous	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4168434) - continued									
ES2204462-001	Anonymous	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4172738)									
ES2204577-001	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
ES2204753-001	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4172739)									
ES2204787-001	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EW2200685-001	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4168434)									
ES2204644-003	Anonymous	EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
ES2204462-001	Anonymous	EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4172738)									
ES2204577-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
ES2204753-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4172739)									
ES2204787-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
EW2200685-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
EP080: BTEXN (QC Lot: 4172738)									
ES2204577-001	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit
ES2204753-001	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit
EP080: BTEXN (QC Lot: 4172739)									
ES2204787-001	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)	
EP080: BTEXN (QC Lot: 4172739) - continued										
ES2204787-001	Anonymous	EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP080: meta- & para-Xylene	108-38-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
			106-42-3							
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit	
EW2200685-001	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit	
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP080: meta- & para-Xylene	108-38-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
			106-42-3							
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit	
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 4171663)										
EP2201466-085	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	0.0024	0.0019	22.9	0% - 50%	
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	0.0290	0.0262	10.5	0% - 20%	
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	8.41	8.11	3.6	0% - 20%	
ES2201383-006	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit	
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit	
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit	
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 4171663)										
EP2201466-085	Anonymous	EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	0.0039	0.0034	12.6	0% - 50%	
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	0.0177	0.0152	15.3	0% - 20%	
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	0.0019	0.0016	18.3	No Limit	
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	0.0091	0.0079	14.1	0% - 20%	
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	0.002	0.002	0.0	No Limit	
ES2201383-006	Anonymous	EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit	
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit	
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit	
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit	
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	<0.001	0.0	No Limit	
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 4171663)										
EP2201466-085	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit	
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	0.0038	0.0035	5.9	No Limit	
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	0.0491	0.0460	6.5	0% - 20%	
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit	

Page : 16 of 29
 Work Order : ES2204627
 Client : EP RISK MANAGEMENT
 Project : EP2515



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 4171663) - continued									
ES2201383-006	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit



Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike Concentration	Spike Recovery (%)		Acceptable Limits (%)	
						LCS	Low	High	
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 4181607)									
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	121.1 mg/kg	95.9	88.0	113	
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	0.74 mg/kg	81.4	70.0	130	
EG005T: Chromium	7440-47-3	2	mg/kg	<2	19.6 mg/kg	82.4	68.0	132	
EG005T: Copper	7440-50-8	5	mg/kg	<5	52.9 mg/kg	96.3	89.0	111	
EG005T: Lead	7439-92-1	5	mg/kg	<5	60.8 mg/kg	85.2	82.0	119	
EG005T: Nickel	7440-02-0	2	mg/kg	<2	15.3 mg/kg	86.5	80.0	120	
EG005T: Zinc	7440-66-6	5	mg/kg	<5	139.3 mg/kg	79.0	66.0	133	
EA029-A: pH Measurements (QCLot: 4176623)									
EA029: pH KCl (23A)	----	0.1	pH Unit	<0.1	4.4 pH Unit	100	70.0	130	
EA029: pH OX (23B)	----	0.1	pH Unit	<0.1	4.2 pH Unit	102	70.0	130	
EA029-B: Acidity Trail (QCLot: 4176623)									
EA029: Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	19 mole H+ / t	83.4	70.0	130	
EA029: Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	27.5 mole H+ / t	92.4	70.0	130	
EA029: Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	----	----	----	----	
EA029: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.020	----	----	----	----	
EA029: sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.020	----	----	----	----	
EA029: sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.020	----	----	----	----	
EA029-C: Sulfur Trail (QCLot: 4176623)									
EA029: KCl Extractable Sulfur (23Ce)	----	0.02	% S	<0.020	0.03595 % S	113	70.0	130	
EA029: Peroxide Sulfur (23De)	----	0.02	% S	<0.020	0.14405 % S	121	70.0	130	
EA029: Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	<0.020	----	----	----	----	
EA029: acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	<10	----	----	----	----	
EA029-D: Calcium Values (QCLot: 4176623)									
EA029: KCl Extractable Calcium (23Vh)	----	0.02	% Ca	<0.020	0.22443 % Ca	107	70.0	130	
EA029: Peroxide Calcium (23Wh)	----	0.02	% Ca	<0.020	0.22637 % Ca	127	70.0	130	
EA029: Acid Reacted Calcium (23X)	----	0.02	% Ca	<0.020	----	----	----	----	
EA029: acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	<10	----	----	----	----	
EA029: sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	<0.020	----	----	----	----	
EA029-E: Magnesium Values (QCLot: 4176623)									
EA029: KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	<0.020	0.20621 % Mg	101	70.0	130	
EA029: Peroxide Magnesium (23Tm)	----	0.02	% Mg	<0.020	0.23199 % Mg	126	70.0	130	
EA029: Acid Reacted Magnesium (23U)	----	0.02	% Mg	<0.020	----	----	----	----	
EA029: Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	<10	----	----	----	----	
EA029: sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	<0.020	----	----	----	----	



Sub-Matrix: SOIL

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike	Spike Recovery (%)		Acceptable Limits (%)	
					Concentration	LCS	Low	High	
EA029-H: Acid Base Accounting (QCLot: 4176623)									
EA029: ANC Fineness Factor	----	0.5	-	<0.5	----	----	----	----	
EA029: Net Acidity (sulfur units)	----	0.02	% S	<0.02	----	----	----	----	
EA029: Net Acidity (acidity units)	----	10	mole H+ / t	<10	----	----	----	----	
EA029: Liming Rate	----	1	kg CaCO3/t	<1	----	----	----	----	
EA029: Net Acidity excluding ANC (sulfur units)	----	0.02	% S	<0.02	----	----	----	----	
EA029: Net Acidity excluding ANC (acidity units)	----	10	mole H+ / t	<10	----	----	----	----	
EA029: Liming Rate excluding ANC	----	1	kg CaCO3/t	<1	----	----	----	----	
EG035T: Total Recoverable Mercury by FIMS (QCLot: 4181608)									
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	0.087 mg/kg	85.0	70.0	125	
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 4168437)									
EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	1 mg/kg	120	62.0	126	
EP068A: Organochlorine Pesticides (OC) (QCLot: 4168436)									
EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	0.5 mg/kg	98.7	69.0	113	
EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	0.5 mg/kg	95.3	65.0	117	
EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	0.5 mg/kg	103	67.0	119	
EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	0.5 mg/kg	97.7	68.0	116	
EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	88.1	65.0	117	
EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	0.5 mg/kg	96.4	67.0	115	
EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	0.5 mg/kg	98.4	69.0	115	
EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	0.5 mg/kg	97.9	62.0	118	
EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	0.5 mg/kg	92.5	63.0	117	
EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	0.5 mg/kg	105	66.0	116	
EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	0.5 mg/kg	99.4	64.0	116	
EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	0.5 mg/kg	99.0	66.0	116	
EP068: 4,4'-DDE	72-55-9	0.05	mg/kg	<0.05	0.5 mg/kg	97.3	67.0	115	
EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	0.5 mg/kg	100.0	67.0	123	
EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	0.5 mg/kg	100	69.0	115	
EP068: 4,4'-DDD	72-54-8	0.05	mg/kg	<0.05	0.5 mg/kg	101	69.0	121	
EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	0.5 mg/kg	89.6	56.0	120	
EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	0.5 mg/kg	97.2	62.0	124	
EP068: 4,4'-DDT	50-29-3	0.2	mg/kg	<0.2	0.5 mg/kg	104	66.0	120	
EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	0.5 mg/kg	94.9	64.0	122	
EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	0.5 mg/kg	97.7	54.0	130	
EP068B: Organophosphorus Pesticides (OP) (QCLot: 4168436)									
EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	0.5 mg/kg	92.6	59.0	119	
EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	92.5	62.0	128	
EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	0.5 mg/kg	86.3	54.0	126	
EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	0.5 mg/kg	89.8	67.0	119	



Sub-Matrix: SOIL

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike	Spike Recovery (%)		Acceptable Limits (%)	
					Concentration	LCS	Low	High	
EP068B: Organophosphorus Pesticides (OP) (QCLot: 4168436) - continued									
EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	0.5 mg/kg	105	70.0	120	
EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	0.5 mg/kg	95.0	72.0	120	
EP068: Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	0.5 mg/kg	95.9	68.0	120	
EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	0.5 mg/kg	92.0	68.0	122	
EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	0.5 mg/kg	94.5	69.0	117	
EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	0.5 mg/kg	96.6	76.0	118	
EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	0.5 mg/kg	96.0	64.0	122	
EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	0.5 mg/kg	96.0	70.0	116	
EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	0.5 mg/kg	92.4	69.0	121	
EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	0.5 mg/kg	87.8	66.0	118	
EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	0.5 mg/kg	93.6	68.0	124	
EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	0.5 mg/kg	95.2	62.0	112	
EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	0.5 mg/kg	94.3	68.0	120	
EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	0.5 mg/kg	91.5	65.0	127	
EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	0.5 mg/kg	74.0	41.0	123	
EP074A: Monocyclic Aromatic Hydrocarbons (QCLot: 4172740)									
EP074: Styrene	100-42-5	0.5	mg/kg	<0.5	1 mg/kg	89.0	67.0	113	
EP074: Isopropylbenzene	98-82-8	0.5	mg/kg	<0.5	1 mg/kg	94.6	65.0	117	
EP074: n-Propylbenzene	103-65-1	0.5	mg/kg	<0.5	1 mg/kg	93.2	66.0	122	
EP074: 1,3,5-Trimethylbenzene	108-67-8	0.5	mg/kg	<0.5	1 mg/kg	94.0	68.0	118	
EP074: sec-Butylbenzene	135-98-8	0.5	mg/kg	<0.5	1 mg/kg	94.8	69.0	119	
EP074: 1,2,4-Trimethylbenzene	95-63-6	0.5	mg/kg	<0.5	1 mg/kg	91.0	69.0	117	
EP074: tert-Butylbenzene	98-06-6	0.5	mg/kg	<0.5	1 mg/kg	92.5	69.0	115	
EP074: p-Isopropyltoluene	99-87-6	0.5	mg/kg	<0.5	1 mg/kg	91.5	66.0	118	
EP074: n-Butylbenzene	104-51-8	0.5	mg/kg	<0.5	1 mg/kg	92.6	59.0	125	
EP074B: Oxygenated Compounds (QCLot: 4172740)									
EP074: Vinyl Acetate	108-05-4	5	mg/kg	<5	10 mg/kg	98.2	29.6	156	
EP074: 2-Butanone (MEK)	78-93-3	5	mg/kg	<5	10 mg/kg	97.7	58.0	136	
EP074: 4-Methyl-2-pentanone (MIBK)	108-10-1	5	mg/kg	<5	10 mg/kg	97.2	62.0	132	
EP074: 2-Hexanone (MBK)	591-78-6	5	mg/kg	<5	10 mg/kg	92.6	54.0	136	
EP074C: Sulfonated Compounds (QCLot: 4172740)									
EP074: Carbon disulfide	75-15-0	0.5	mg/kg	<0.5	1 mg/kg	86.8	54.0	126	
EP074D: Fumigants (QCLot: 4172740)									
EP074: 2,2-Dichloropropane	594-20-7	0.5	mg/kg	<0.5	1 mg/kg	98.8	60.0	126	
EP074: 1,2-Dichloropropane	78-87-5	0.5	mg/kg	<0.5	1 mg/kg	103	68.0	124	
EP074: cis-1,3-Dichloropropylene	10061-01-5	0.5	mg/kg	<0.5	1 mg/kg	93.8	51.0	119	
EP074: trans-1,3-Dichloropropylene	10061-02-6	0.5	mg/kg	<0.5	1 mg/kg	92.9	52.0	114	
EP074: 1,2-Dibromoethane (EDB)	106-93-4	0.5	mg/kg	<0.5	1 mg/kg	98.0	63.0	115	



Sub-Matrix: SOIL

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike	Spike Recovery (%)		Acceptable Limits (%)	
					Concentration	LCS	Low	High	
EP074E: Halogenated Aliphatic Compounds (QCLot: 4172740)									
EP074: Dichlorodifluoromethane	75-71-8	5	mg/kg	<5	10 mg/kg	78.1	30.0	148	
EP074: Chloromethane	74-87-3	5	mg/kg	<5	10 mg/kg	87.9	41.0	141	
EP074: Vinyl chloride	75-01-4	5	mg/kg	<5	10 mg/kg	91.2	43.0	147	
EP074: Bromomethane	74-83-9	5	mg/kg	<5	10 mg/kg	91.6	47.0	141	
EP074: Chloroethane	75-00-3	5	mg/kg	<5	10 mg/kg	91.6	49.0	143	
EP074: Trichlorofluoromethane	75-69-4	5	mg/kg	<5	10 mg/kg	92.7	49.0	135	
EP074: 1,1-Dichloroethene	75-35-4	0.5	mg/kg	<0.5	1 mg/kg	92.3	54.0	126	
EP074: Iodomethane	74-88-4	0.5	mg/kg	<0.5	1 mg/kg	68.7	43.0	129	
EP074: trans-1,2-Dichloroethene	156-60-5	0.5	mg/kg	<0.5	1 mg/kg	99.5	64.0	120	
EP074: 1,1-Dichloroethane	75-34-3	0.5	mg/kg	<0.5	1 mg/kg	99.9	67.0	125	
EP074: cis-1,2-Dichloroethene	156-59-2	0.5	mg/kg	<0.5	1 mg/kg	98.4	69.0	121	
EP074: 1,1,1-Trichloroethane	71-55-6	0.5	mg/kg	<0.5	1 mg/kg	95.3	65.0	117	
EP074: 1,1-Dichloropropylene	563-58-6	0.5	mg/kg	<0.5	1 mg/kg	97.2	65.0	123	
EP074: Carbon Tetrachloride	56-23-5	0.5	mg/kg	<0.5	1 mg/kg	94.9	59.0	125	
EP074: 1,2-Dichloroethane	107-06-2	0.5	mg/kg	<0.5	1 mg/kg	102	65.0	125	
EP074: Trichloroethene	79-01-6	0.5	mg/kg	<0.5	1 mg/kg	101	70.0	118	
EP074: Dibromomethane	74-95-3	0.5	mg/kg	<0.5	1 mg/kg	97.6	68.0	118	
EP074: 1,1,2-Trichloroethane	79-00-5	0.5	mg/kg	<0.5	1 mg/kg	99.7	64.0	126	
EP074: 1,3-Dichloropropane	142-28-9	0.5	mg/kg	<0.5	1 mg/kg	100	68.0	122	
EP074: Tetrachloroethene	127-18-4	0.5	mg/kg	<0.5	1 mg/kg	98.5	67.0	143	
EP074: 1,1,1,2-Tetrachloroethane	630-20-6	0.5	mg/kg	<0.5	1 mg/kg	97.5	62.0	122	
EP074: trans-1,4-Dichloro-2-butene	110-57-6	0.5	mg/kg	<0.5	1 mg/kg	95.5	54.0	128	
EP074: cis-1,4-Dichloro-2-butene	1476-11-5	0.5	mg/kg	<0.5	1 mg/kg	94.5	55.0	129	
EP074: 1,1,2,2-Tetrachloroethane	79-34-5	0.5	mg/kg	<0.5	1 mg/kg	101	65.0	121	
EP074: 1,2,3-Trichloropropane	96-18-4	0.5	mg/kg	<0.5	1 mg/kg	103	61.0	125	
EP074: Pentachloroethane	76-01-7	0.5	mg/kg	<0.5	1 mg/kg	96.8	19.8	134	
EP074: 1,2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg	<0.5	1 mg/kg	103	53.0	129	
EP074F: Halogenated Aromatic Compounds (QCLot: 4172740)									
EP074: Chlorobenzene	108-90-7	0.5	mg/kg	<0.5	1 mg/kg	97.4	68.0	116	
EP074: Bromobenzene	108-86-1	0.5	mg/kg	<0.5	1 mg/kg	93.7	70.0	114	
EP074: 2-Chlorotoluene	95-49-8	0.5	mg/kg	<0.5	1 mg/kg	94.1	68.0	122	
EP074: 4-Chlorotoluene	106-43-4	0.5	mg/kg	<0.5	1 mg/kg	96.7	67.0	123	
EP074: 1,2,3-Trichlorobenzene	87-61-6	0.5	mg/kg	<0.5	1 mg/kg	100	52.0	122	
EP074G: Trihalomethanes (QCLot: 4172740)									
EP074: Chloroform	67-66-3	0.5	mg/kg	<0.5	1 mg/kg	106	66.0	124	
EP074: Bromodichloromethane	75-27-4	0.5	mg/kg	<0.5	1 mg/kg	95.9	61.0	121	
EP074: Dibromochloromethane	124-48-1	0.5	mg/kg	<0.5	1 mg/kg	94.8	63.0	121	
EP074: Bromoform	75-25-2	0.5	mg/kg	<0.5	1 mg/kg	90.8	60.0	126	



Sub-Matrix: SOIL

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
				Result	Spike	Spike Recovery (%)	Acceptable Limits (%)	
					Concentration	LCS	Low	High
EP075(SIM)A: Phenolic Compounds (QCLot: 4168435)								
EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	6 mg/kg	95.0	71.0	125
EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	6 mg/kg	102	72.0	124
EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	6 mg/kg	99.5	71.0	123
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	12 mg/kg	105	67.0	127
EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	6 mg/kg	86.2	54.0	114
EP075(SIM): 2,4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	6 mg/kg	97.3	68.0	126
EP075(SIM): 2,4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	6 mg/kg	93.0	66.0	120
EP075(SIM): 2,6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	6 mg/kg	95.2	70.0	120
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	6 mg/kg	88.9	70.0	116
EP075(SIM): 2,4,6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	6 mg/kg	89.0	54.0	114
EP075(SIM): 2,4,5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	6 mg/kg	90.7	60.0	114
EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	12 mg/kg	51.4	10.0	57.0
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4168435)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	6 mg/kg	105	77.0	125
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	6 mg/kg	96.7	72.0	124
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	6 mg/kg	101	73.0	127
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	6 mg/kg	105	72.0	126
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	6 mg/kg	106	75.0	127
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	6 mg/kg	98.7	77.0	127
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	6 mg/kg	105	73.0	127
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	6 mg/kg	104	74.0	128
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	6 mg/kg	96.6	69.0	123
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	6 mg/kg	100	75.0	127
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2	0.5	mg/kg	<0.5	6 mg/kg	93.5	68.0	116
	205-82-3							
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	6 mg/kg	100	74.0	126
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	6 mg/kg	87.0	70.0	126
EP075(SIM): Indeno(1,2,3-cd)pyrene	193-39-5	0.5	mg/kg	<0.5	6 mg/kg	94.7	61.0	121
EP075(SIM): Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	6 mg/kg	93.8	62.0	118
EP075(SIM): Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	6 mg/kg	93.4	63.0	121
EP075A: Phenolic Compounds (QCLot: 4168438)								
EP075: Phenol	108-95-2	0.5	mg/kg	<0.5	1.5 mg/kg	91.2	64.0	114
EP075: 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	1.5 mg/kg	82.2	57.0	115
EP075: 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	1.5 mg/kg	85.3	55.0	117
EP075: 3- & 4-Methylphenol	1319-77-3	0.5	mg/kg	<0.5	1.5 mg/kg	93.9	46.0	122
EP075: 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	1.5 mg/kg	93.9	47.0	117
EP075: 2,4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	1.5 mg/kg	98.6	13.7	108
EP075: 2,4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	1.5 mg/kg	86.7	47.0	105
EP075: 2,6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	1.5 mg/kg	84.9	48.0	110



Sub-Matrix: SOIL

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report				
					Spike Concentration	Spike Recovery (%)		Acceptable Limits (%)	
						LCS	Low	High	
EP075A: Phenolic Compounds (QCLot: 4168438) - continued									
EP075: 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	1.5 mg/kg	67.8	57.0	113	
EP075: 2,4,6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	1.5 mg/kg	69.9	49.0	109	
EP075: 2,4,5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	1.5 mg/kg	72.3	49.0	107	
EP075: Pentachlorophenol	87-86-5	1	mg/kg	<1	3 mg/kg	59.0	12.0	76.0	
EP075B: Polynuclear Aromatic Hydrocarbons (QCLot: 4168438)									
EP075: Naphthalene	91-20-3	0.5	mg/kg	<0.5	1.5 mg/kg	86.3	62.0	118	
EP075: 2-Methylnaphthalene	91-57-6	0.5	mg/kg	<0.5	1.5 mg/kg	70.8	58.0	116	
EP075: 2-Chloronaphthalene	91-58-7	0.5	mg/kg	<0.5	1.5 mg/kg	80.0	54.0	112	
EP075: Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	1.5 mg/kg	76.3	56.0	114	
EP075: Acenaphthene	83-32-9	0.5	mg/kg	<0.5	1.5 mg/kg	89.5	62.0	112	
EP075: Fluorene	86-73-7	0.5	mg/kg	<0.5	1.5 mg/kg	92.2	59.0	115	
EP075: Phenanthrene	85-01-8	0.5	mg/kg	<0.5	1.5 mg/kg	84.0	63.0	113	
EP075: Anthracene	120-12-7	0.5	mg/kg	<0.5	1.5 mg/kg	83.0	57.0	111	
EP075: Fluoranthene	206-44-0	0.5	mg/kg	<0.5	1.5 mg/kg	86.6	58.0	114	
EP075: Pyrene	129-00-0	0.5	mg/kg	<0.5	1.5 mg/kg	86.6	57.0	117	
EP075: N-2-Fluorenyl Acetamide	53-96-3	0.5	mg/kg	<0.5	1.5 mg/kg	73.8	58.0	114	
EP075: Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	1.5 mg/kg	91.8	59.0	115	
EP075: Chrysene	218-01-9	0.5	mg/kg	<0.5	1.5 mg/kg	84.8	61.0	117	
EP075: Benzo(b+j) & Benzo(k)fluoranthene	205-99-2 207-08-9	1	mg/kg	<1	3 mg/kg	84.0	57.0	119	
EP075: 7,12-Dimethylbenz(a)anthracene	57-97-6	0.5	mg/kg	<0.5	1.5 mg/kg	# 114	48.1	106	
EP075: Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	1.5 mg/kg	83.6	56.0	116	
EP075: 3-Methylcholanthrene	56-49-5	0.5	mg/kg	<0.5	1.5 mg/kg	80.8	50.0	116	
EP075: Indeno(1,2,3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	1.5 mg/kg	76.4	55.0	117	
EP075: Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	1.5 mg/kg	77.8	53.0	119	
EP075: Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	1.5 mg/kg	79.3	56.0	120	
EP075C: Phthalate Esters (QCLot: 4168438)									
EP075: Dimethyl phthalate	131-11-3	0.5	mg/kg	<0.5	1.5 mg/kg	83.6	60.0	118	
EP075: Diethyl phthalate	84-66-2	0.5	mg/kg	<0.5	1.5 mg/kg	107	65.0	115	
EP075: Di-n-butyl phthalate	84-74-2	0.5	mg/kg	<0.5	1.5 mg/kg	82.5	65.0	121	
EP075: Butyl benzyl phthalate	85-68-7	0.5	mg/kg	<0.5	1.5 mg/kg	84.6	62.0	116	
EP075: bis(2-ethylhexyl) phthalate	117-81-7	----	mg/kg	----	1.5 mg/kg	74.9	69.0	133	
EP075: Di-n-octylphthalate	117-84-0	0.5	mg/kg	<0.5	1.5 mg/kg	77.0	62.0	124	
EP075D: Nitrosamines (QCLot: 4168438)									
EP075: N-Nitrosomethylethylamine	10595-95-6	0.5	mg/kg	<0.5	1.5 mg/kg	78.5	39.4	124	
EP075: N-Nitrosodiethylamine	55-18-5	0.5	mg/kg	<0.5	1.5 mg/kg	88.9	59.0	117	
EP075: N-Nitrosopyrrolidine	930-55-2	0.5	mg/kg	<0.5	1.5 mg/kg	94.1	53.0	125	
EP075: N-Nitrosomorpholine	59-89-2	0.5	mg/kg	<0.5	1.5 mg/kg	91.6	65.0	121	



Sub-Matrix: SOIL

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report				
					Spike Concentration	Spike Recovery (%)		Acceptable Limits (%)	
						LCS	Low	High	High
EP075D: Nitrosamines (QCLot: 4168438) - continued									
EP075: N-Nitrosodi-n-propylamine	621-64-7	0.5	mg/kg	<0.5	1.5 mg/kg	94.0	59.0	123	
EP075: N-Nitrosopiperidine	100-75-4	0.5	mg/kg	<0.5	1.5 mg/kg	87.8	57.0	115	
EP075: N-Nitrosodibutylamine	924-16-3	0.5	mg/kg	<0.5	1.5 mg/kg	90.4	57.0	119	
EP075: N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	0.5	mg/kg	<0.6	3 mg/kg	95.9	42.0	112	
EP075: Methapyrilene	91-80-5	0.5	mg/kg	<0.5	1.5 mg/kg	49.6	16.3	123	
EP075E: Nitroaromatics and Ketones (QCLot: 4168438)									
EP075: 2-Picoline	109-06-8	0.5	mg/kg	<0.5	1.5 mg/kg	87.1	27.3	129	
EP075: Acetophenone	98-86-2	0.5	mg/kg	<0.5	1.5 mg/kg	87.5	60.0	116	
EP075: Nitrobenzene	98-95-3	0.5	mg/kg	<0.5	1.5 mg/kg	86.6	65.0	119	
EP075: Isophorone	78-59-1	0.5	mg/kg	<0.5	1.5 mg/kg	94.4	62.0	116	
EP075: 2,6-Dinitrotoluene	606-20-2	0.5	mg/kg	<0.5	1.5 mg/kg	78.3	58.0	118	
EP075: 2,4-Dinitrotoluene	121-14-2	0.5	mg/kg	<0.5	1.5 mg/kg	92.2	59.0	115	
EP075: 1-Naphthylamine	134-32-7	0.5	mg/kg	<0.5	1.5 mg/kg	41.4	18.0	112	
EP075: 4-Nitroquinoline-N-oxide	56-57-5	0.5	mg/kg	<0.5	1.5 mg/kg	77.6	10.0	87.0	
EP075: 5-Nitro-o-toluidine	99-55-8	0.5	mg/kg	<0.5	1.5 mg/kg	84.8	48.3	98.5	
EP075: Azobenzene	103-33-3	1	mg/kg	<1	1.5 mg/kg	93.9	62.0	118	
EP075: 1,3,5-Trinitrobenzene	99-35-4	0.5	mg/kg	<0.5	1.5 mg/kg	91.0	36.0	114	
EP075: Phenacetin	62-44-2	0.5	mg/kg	<0.5	1.5 mg/kg	96.3	62.0	114	
EP075: 4-Aminobiphenyl	92-67-1	0.5	mg/kg	<0.5	1.5 mg/kg	61.9	36.1	102	
EP075: Pentachloronitrobenzene	82-68-8	0.5	mg/kg	<0.5	1.5 mg/kg	93.9	56.0	110	
EP075: Pronamide	23950-58-5	0.5	mg/kg	<0.5	1.5 mg/kg	81.3	54.0	110	
EP075: Dimethylaminoazobenzene	60-11-7	0.5	mg/kg	<0.5	1.5 mg/kg	82.0	48.0	108	
EP075: Chlorobenzilate	510-15-6	0.5	mg/kg	<0.5	1.5 mg/kg	82.8	57.4	112	
EP075F: Haloethers (QCLot: 4168438)									
EP075: Bis(2-chloroethyl) ether	111-44-4	0.5	mg/kg	<0.5	1.5 mg/kg	66.0	63.0	121	
EP075: Bis(2-chloroethoxy) methane	111-91-1	0.5	mg/kg	<0.5	1.5 mg/kg	85.8	59.0	115	
EP075: 4-Chlorophenyl phenyl ether	7005-72-3	0.5	mg/kg	<0.5	1.5 mg/kg	94.0	58.0	112	
EP075: 4-Bromophenyl phenyl ether	101-55-3	0.5	mg/kg	<0.5	1.5 mg/kg	95.1	58.0	110	
EP075G: Chlorinated Hydrocarbons (QCLot: 4168438)									
EP075: 1,3-Dichlorobenzene	541-73-1	0.5	mg/kg	<0.5	1.5 mg/kg	85.0	58.0	112	
EP075: 1,4-Dichlorobenzene	106-46-7	0.5	mg/kg	<0.5	1.5 mg/kg	94.0	58.0	116	
EP075: 1,2-Dichlorobenzene	95-50-1	0.5	mg/kg	<0.5	1.5 mg/kg	81.6	57.0	115	
EP075: Hexachloroethane	67-72-1	0.5	mg/kg	<0.5	1.5 mg/kg	83.4	54.0	116	
EP075: 1,2,4-Trichlorobenzene	120-82-1	0.5	mg/kg	<0.5	1.5 mg/kg	92.2	62.9	108	
EP075: Hexachloropropylene	1888-71-7	0.5	mg/kg	<0.5	1.5 mg/kg	86.2	39.1	110	
EP075: Hexachlorobutadiene	87-68-3	0.5	mg/kg	<0.5	1.5 mg/kg	81.3	59.0	117	
EP075: Hexachlorocyclopentadiene	77-47-4	2.5	mg/kg	<2.5	1.5 mg/kg	68.5	24.3	108	



Sub-Matrix: SOIL

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike	Spike Recovery (%)		Acceptable Limits (%)	
					Concentration	LCS	Low	High	
EP075G: Chlorinated Hydrocarbons (QCLot: 4168438) - continued									
EP075: Pentachlorobenzene	608-93-5	0.5	mg/kg	<0.5	1.5 mg/kg	87.7	57.0	109	
EP075: Hexachlorobenzene (HCB)	118-74-1	0.5	mg/kg	<0.5	1.5 mg/kg	97.0	59.0	111	
EP075H: Anilines and Benzidines (QCLot: 4168438)									
EP075: Aniline	62-53-3	0.5	mg/kg	<0.5	1.5 mg/kg	71.6	13.2	108	
EP075: 4-Chloroaniline	106-47-8	0.5	mg/kg	<0.5	1.5 mg/kg	35.8	20.5	99.0	
EP075: 2-Nitroaniline	88-74-4	0.5	mg/kg	<0.5	1.5 mg/kg	76.9	52.0	112	
EP075: 3-Nitroaniline	99-09-2	0.5	mg/kg	<0.5	1.5 mg/kg	63.6	31.5	93.7	
EP075: Dibenzofuran	132-64-9	0.5	mg/kg	<0.5	1.5 mg/kg	92.5	60.0	110	
EP075: 4-Nitroaniline	100-01-6	0.5	mg/kg	<0.5	1.5 mg/kg	94.5	42.0	112	
EP075: Carbazole	86-74-8	0.5	mg/kg	<0.5	1.5 mg/kg	87.5	59.0	111	
EP075: 3,3'-Dichlorobenzidine	91-94-1	0.5	mg/kg	<0.5	1.5 mg/kg	67.0	23.1	113	
EP075I: Organochlorine Pesticides (QCLot: 4168438)									
EP075: alpha-BHC	319-84-6	0.5	mg/kg	<0.5	1.5 mg/kg	93.9	63.0	113	
EP075: beta-BHC	319-85-7	0.5	mg/kg	<0.5	1.5 mg/kg	98.7	57.0	113	
EP075: gamma-BHC	58-89-9	0.5	mg/kg	<0.5	1.5 mg/kg	94.7	61.0	117	
EP075: delta-BHC	319-86-8	0.5	mg/kg	<0.5	1.5 mg/kg	84.7	64.0	118	
EP075: Heptachlor	76-44-8	0.5	mg/kg	<0.5	1.5 mg/kg	80.7	55.0	115	
EP075: Aldrin	309-00-2	0.5	mg/kg	<0.5	1.5 mg/kg	88.6	61.0	115	
EP075: Heptachlor epoxide	1024-57-3	0.5	mg/kg	<0.5	1.5 mg/kg	85.0	56.0	118	
EP075: alpha-Endosulfan	959-98-8	0.5	mg/kg	<0.5	1.5 mg/kg	88.0	65.0	125	
EP075: 4,4'-DDE	72-55-9	0.5	mg/kg	<0.5	1.5 mg/kg	83.0	60.0	116	
EP075: Dieldrin	60-57-1	0.5	mg/kg	<0.5	1.5 mg/kg	87.1	64.0	118	
EP075: Endrin	72-20-8	0.5	mg/kg	<0.5	1.5 mg/kg	83.2	53.0	117	
EP075: beta-Endosulfan	33213-65-9	0.5	mg/kg	<0.5	1.5 mg/kg	87.2	65.0	115	
EP075: 4,4'-DDD	72-54-8	0.5	mg/kg	<0.5	1.5 mg/kg	85.4	62.0	118	
EP075: Endosulfan sulfate	1031-07-8	0.5	mg/kg	<0.5	1.5 mg/kg	110	63.0	129	
EP075: 4,4'-DDT	50-29-3	0.5	mg/kg	<0.5	1.5 mg/kg	87.9	46.0	122	
EP075J: Organophosphorus Pesticides (QCLot: 4168438)									
EP075: Dichlorvos	62-73-7	0.5	mg/kg	<0.5	1.5 mg/kg	86.5	46.0	112	
EP075: Dimethoate	60-51-5	0.5	mg/kg	<0.5	1.5 mg/kg	89.9	63.0	119	
EP075: Diazinon	333-41-5	0.5	mg/kg	<0.5	1.5 mg/kg	89.0	68.0	134	
EP075: Chlorpyrifos-methyl	5598-13-0	0.5	mg/kg	<0.5	1.5 mg/kg	87.0	60.0	130	
EP075: Malathion	121-75-5	0.5	mg/kg	<0.5	1.5 mg/kg	91.8	65.0	127	
EP075: Fenthion	55-38-9	0.5	mg/kg	<0.5	1.5 mg/kg	87.7	60.0	116	
EP075: Chlorpyrifos	2921-88-2	0.5	mg/kg	<0.5	1.5 mg/kg	83.4	63.0	113	
EP075: Pirimphos-ethyl	23505-41-1	0.5	mg/kg	<0.5	1.5 mg/kg	81.8	65.0	115	
EP075: Chlorfenvinphos	470-90-6	0.5	mg/kg	<0.5	1.5 mg/kg	77.1	59.0	103	
EP075: Prothiofos	34643-46-4	0.5	mg/kg	<0.5	1.5 mg/kg	84.3	59.0	119	



Sub-Matrix: SOIL

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike	Spike Recovery (%)		Acceptable Limits (%)	
					Concentration	LCS	Low	High	
EP075J: Organophosphorus Pesticides (QCLot: 4168438) - continued									
EP075: Ethion	563-12-2	0.5	mg/kg	<0.5	1.5 mg/kg	88.7	62.0	118	
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4168434)									
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	300 mg/kg	107	75.0	129	
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	450 mg/kg	108	77.0	131	
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	300 mg/kg	104	71.0	129	
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4172738)									
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	26 mg/kg	90.6	68.4	128	
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4172739)									
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	26 mg/kg	92.6	68.4	128	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4168434)									
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	375 mg/kg	111	77.0	125	
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	525 mg/kg	105	74.0	138	
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	225 mg/kg	103	63.0	131	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4172738)									
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	31 mg/kg	94.2	68.4	128	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4172739)									
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	31 mg/kg	90.8	68.4	128	
EP080: BTEXN (QCLot: 4172738)									
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	92.4	62.0	116	
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	88.5	67.0	121	
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	93.2	65.0	117	
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	2 mg/kg	93.3	66.0	118	
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	93.6	68.0	120	
EP080: Naphthalene	91-20-3	1	mg/kg	<1	1 mg/kg	118	63.0	119	
EP080: BTEXN (QCLot: 4172739)									
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	100	62.0	116	
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	94.1	67.0	121	
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	90.2	65.0	117	
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	2 mg/kg	92.6	66.0	118	
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	96.4	68.0	120	
EP080: Naphthalene	91-20-3	1	mg/kg	<1	1 mg/kg	85.5	63.0	119	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4171663)									
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	0.00125 mg/kg	109	72.0	128	
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	0.00125 mg/kg	99.6	67.0	130	
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	80.4	68.0	136	



Sub-Matrix: SOIL

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report				
					Spike Concentration	Spike Recovery (%)		Acceptable Limits (%)	
						LCS	Low	High	
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4171663)									
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	0.00625 mg/kg	98.3	71.0	135	
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	0.00125 mg/kg	104	69.0	132	
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	0.00125 mg/kg	120	70.0	132	
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	0.00125 mg/kg	103	71.0	131	
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	105	69.0	133	
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4171663)									
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	0.00125 mg/kg	128	62.0	145	
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	0.00125 mg/kg	105	64.0	140	
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	0.00125 mg/kg	118	65.0	137	
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	0.00125 mg/kg	137	69.2	143	

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: SOIL

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report			
				Spike Concentration	Spike Recovery(%) MS	Acceptable Limits (%)	
				Low	High		
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 4181607)							
ES2204627-001	BH02_0.1	EG005T: Arsenic	7440-38-2	50 mg/kg	108	70.0	130
		EG005T: Cadmium	7440-43-9	50 mg/kg	95.9	70.0	130
		EG005T: Chromium	7440-47-3	50 mg/kg	106	68.0	132
		EG005T: Copper	7440-50-8	250 mg/kg	104	70.0	130
		EG005T: Lead	7439-92-1	250 mg/kg	113	70.0	130
		EG005T: Nickel	7440-02-0	50 mg/kg	102	70.0	130
		EG005T: Zinc	7440-66-6	250 mg/kg	93.8	66.0	133
EG035T: Total Recoverable Mercury by FIMS (QCLot: 4181608)							
ES2204627-001	BH02_0.1	EG035T: Mercury	7439-97-6	5 mg/kg	102	70.0	130
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 4168437)							
ES2204462-001	Anonymous	EP066: Total Polychlorinated biphenyls	---	1 mg/kg	91.0	70.0	130
EP068A: Organochlorine Pesticides (OC) (QCLot: 4168436)							
ES2204462-001	Anonymous	EP068: gamma-BHC	58-89-9	0.5 mg/kg	86.1	70.0	130
		EP068: Heptachlor	76-44-8	0.5 mg/kg	83.0	70.0	130
		EP068: Aldrin	309-00-2	0.5 mg/kg	93.6	70.0	130
		EP068: Dieldrin	60-57-1	0.5 mg/kg	116	70.0	130
		EP068: Endrin	72-20-8	2 mg/kg	79.7	70.0	130
		EP068: 4,4'-DDT	50-29-3	2 mg/kg	82.0	70.0	130



Sub-Matrix: SOIL				Matrix Spike (MS) Report			
				Spike Concentration	SpikeRecovery(%) MS	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP068B: Organophosphorus Pesticides (OP) (QCLot: 4168436)							
ES2204462-001	Anonymous	EP068: Diazinon	333-41-5	0.5 mg/kg	103	70.0	130
		EP068: Chlorpyrifos-methyl	5598-13-0	0.5 mg/kg	87.6	70.0	130
		EP068: Pirimphos-ethyl	23505-41-1	0.5 mg/kg	87.1	70.0	130
		EP068: Bromophos-ethyl	4824-78-6	0.5 mg/kg	88.0	70.0	130
		EP068: Prothiofos	34643-46-4	0.5 mg/kg	75.6	70.0	130
EP074E: Halogenated Aliphatic Compounds (QCLot: 4172740)							
EW2200685-001	Anonymous	EP074: 1,1-Dichloroethene	75-35-4	2.5 mg/kg	# 69.8	70.0	130
		EP074: Trichloroethene	79-01-6	2.5 mg/kg	79.6	70.0	130
EP074F: Halogenated Aromatic Compounds (QCLot: 4172740)							
EW2200685-001	Anonymous	EP074: Chlorobenzene	108-90-7	2.5 mg/kg	99.0	70.0	130
EP075(SIM)A: Phenolic Compounds (QCLot: 4168435)							
ES2204462-001	Anonymous	EP075(SIM): Phenol	108-95-2	10 mg/kg	87.9	70.0	130
		EP075(SIM): 2-Chlorophenol	95-57-8	10 mg/kg	96.2	70.0	130
		EP075(SIM): 2-Nitrophenol	88-75-5	10 mg/kg	78.6	60.0	130
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	10 mg/kg	84.9	70.0	130
		EP075(SIM): Pentachlorophenol	87-86-5	10 mg/kg	44.8	20.0	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4168435)							
ES2204462-001	Anonymous	EP075(SIM): Acenaphthene	83-32-9	10 mg/kg	93.2	70.0	130
		EP075(SIM): Pyrene	129-00-0	10 mg/kg	114	70.0	130
EP075A: Phenolic Compounds (QCLot: 4168438)							
ES2204462-001	Anonymous	EP075: Phenol	108-95-2	10 mg/kg	100	60.0	130
		EP075: 2-Chlorophenol	95-57-8	10 mg/kg	84.4	60.0	130
		EP075: 2-Nitrophenol	88-75-5	10 mg/kg	89.7	50.0	130
		EP075: 4-Chloro-3-methylphenol	59-50-7	10 mg/kg	112	50.0	130
		EP075: Pentachlorophenol	87-86-5	10 mg/kg	62.4	10.0	130
EP075B: Polynuclear Aromatic Hydrocarbons (QCLot: 4168438)							
ES2204462-001	Anonymous	EP075: Acenaphthene	83-32-9	10 mg/kg	84.0	50.0	130
		EP075: Pyrene	129-00-0	10 mg/kg	80.1	50.0	130
EP075D: Nitrosamines (QCLot: 4168438)							
ES2204462-001	Anonymous	EP075: N-Nitrosodi-n-propylamine	621-64-7	10 mg/kg	90.5	50.0	130
EP075E: Nitroaromatics and Ketones (QCLot: 4168438)							
ES2204462-001	Anonymous	EP075: 2,4-Dinitrotoluene	121-14-2	10 mg/kg	91.2	40.0	130
EP075G: Chlorinated Hydrocarbons (QCLot: 4168438)							
ES2204462-001	Anonymous	EP075: 1,4-Dichlorobenzene	106-46-7	10 mg/kg	86.8	60.0	130
		EP075: 1,2,4-Trichlorobenzene	120-82-1	10 mg/kg	96.2	50.0	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4168434)							



Sub-Matrix: SOIL

				Matrix Spike (MS) Report			
				Spike Concentration	SpikeRecovery(%) MS	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4168434) - continued							
ES2204462-001	Anonymous	EP071: C10 - C14 Fraction	----	480 mg/kg	91.0	73.0	137
		EP071: C15 - C28 Fraction	----	3100 mg/kg	111	53.0	131
		EP071: C29 - C36 Fraction	----	2060 mg/kg	118	52.0	132
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4172738)							
ES2204577-001	Anonymous	EP080: C6 - C9 Fraction	----	32.5 mg/kg	87.4	70.0	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4172739)							
EW2200685-001	Anonymous	EP080: C6 - C9 Fraction	----	32.5 mg/kg	88.2	70.0	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4168434)							
ES2204462-001	Anonymous	EP071: >C10 - C16 Fraction	----	860 mg/kg	102	73.0	137
		EP071: >C16 - C34 Fraction	----	4320 mg/kg	115	53.0	131
		EP071: >C34 - C40 Fraction	----	890 mg/kg	116	52.0	132
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4172738)							
ES2204577-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	37.5 mg/kg	90.8	70.0	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4172739)							
EW2200685-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	37.5 mg/kg	88.1	70.0	130
EP080: BTEXN (QCLot: 4172738)							
ES2204577-001	Anonymous	EP080: Benzene	71-43-2	2.5 mg/kg	85.4	70.0	130
		EP080: Toluene	108-88-3	2.5 mg/kg	78.5	70.0	130
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	85.5	70.0	130
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2.5 mg/kg	83.5	70.0	130
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	85.8	70.0	130
		EP080: Naphthalene	91-20-3	2.5 mg/kg	82.7	70.0	130
EP080: BTEXN (QCLot: 4172739)							
EW2200685-001	Anonymous	EP080: Benzene	71-43-2	2.5 mg/kg	96.5	70.0	130
		EP080: Toluene	108-88-3	2.5 mg/kg	93.9	70.0	130
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	94.0	70.0	130
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2.5 mg/kg	96.2	70.0	130
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	96.6	70.0	130
		EP080: Naphthalene	91-20-3	2.5 mg/kg	96.4	70.0	130
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4171663)							
EP2201466-085	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.00125 mg/kg	84.4	72.0	128
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.00125 mg/kg	# Not Determined	67.0	130



Sub-Matrix: SOIL

				Matrix Spike (MS) Report			
Laboratory sample ID		Sample ID	Method: Compound	CAS Number	Spike Concentration	Spike Recovery(%) MS	Acceptable Limits (%) Low High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4171663) - continued							
EP2201466-085	Anonymous	EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.00125 mg/kg	# Not Determined	68.0	136
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4171663)							
EP2201466-085	Anonymous	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.00625 mg/kg	93.9	71.0	135
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.00125 mg/kg	70.8	69.0	132
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.00125 mg/kg	# Not Determined	70.0	132
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.00125 mg/kg	87.2	71.0	131
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.00125 mg/kg	# Not Determined	69.0	133
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4171663)							
EP2201466-085	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.00125 mg/kg	129	62.0	145
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.00125 mg/kg	84.0	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.00125 mg/kg	# Not Determined	65.0	137
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.00125 mg/kg	73.2	69.2	143

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: ES2204627	Page	: 1 of 10
Client	: EP RISK MANAGEMENT	Laboratory	: Environmental Division Sydney
Contact	: HARRISON BLAKE	Telephone	: +61 2 8784 8555
Project	: EP2515	Date Samples Received	: 10-Feb-2022
Site	: ----	Issue Date	: 22-Feb-2022
Sampler	: HARRISON BLAKE	No. of samples received	: 8
Order number	: ----	No. of samples analysed	: 5

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO** Method Blank value outliers occur.
- **NO** Duplicate outliers occur.
- Laboratory Control outliers exist - please see following pages for full details.
- Matrix Spike outliers exist - please see following pages for full details.
- For all regular sample matrices, **NO** surrogate recovery outliers occur.

Outliers : Analysis Holding Time Compliance

- **NO** Analysis Holding Time Outliers exist.

Outliers : Frequency of Quality Control Samples

- **NO** Quality Control Sample Frequency Outliers exist.



Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Laboratory Control Spike (LCS) Recoveries							
EP075B: Polynuclear Aromatic Hydrocarbons	QC-4168438-002	----	7.12-Dimethylbenz(a)anthracene	57-97-6	114 %	48.1-106%	Recovery greater than upper control limit
Matrix Spike (MS) Recoveries							
EP074E: Halogenated Aliphatic Compounds	EW2200685--001	Anonymous	1.1-Dichloroethene	75-35-4	69.8 %	70.0-130%	Recovery less than lower data quality objective
EP231A: Perfluoroalkyl Sulfonic Acids	EP2201466--085	Anonymous	Perfluorohexane sulfonic acid (PFHxS)	355-46-4	Not Determined	----	MS recovery not determined, background level greater than or equal to 4x spike level.
EP231A: Perfluoroalkyl Sulfonic Acids	EP2201466--085	Anonymous	Perfluorooctane sulfonic acid (PFOS)	1763-23-1	Not Determined	----	MS recovery not determined, background level greater than or equal to 4x spike level.
EP231B: Perfluoroalkyl Carboxylic Acids	EP2201466--085	Anonymous	Perfluorohexanoic acid (PFHxA)	307-24-4	Not Determined	----	MS recovery not determined, background level greater than or equal to 4x spike level.
EP231B: Perfluoroalkyl Carboxylic Acids	EP2201466--085	Anonymous	Perfluorooctanoic acid (PFOA)	335-67-1	Not Determined	----	MS recovery not determined, background level greater than or equal to 4x spike level.
EP231D: (n:2) Fluorotelomer Sulfonic Acids	EP2201466--085	Anonymous	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	Not Determined	----	MS recovery not determined, background level greater than or equal to 4x spike level.

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for **VOC in soils** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

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

Method	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EA003 :pH (field/fox)								
Snap Lock Bag - frozen on receipt at ALS (EA003) BH02_2.0,	BH02_4.0	09-Feb-2022	21-Feb-2022	04-Nov-2024	✓	21-Feb-2022	22-May-2022	✓
EA029-A: pH Measurements								
Snap Lock Bag - frozen on receipt at ALS (EA029) BH02_4.0		09-Feb-2022	17-Feb-2022	04-Nov-2024	✓	17-Feb-2022	18-May-2022	✓



Matrix: SOIL

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

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EA029-B: Acidity Trail								
Snap Lock Bag - frozen on receipt at ALS (EA029) BH02_4.0	09-Feb-2022	17-Feb-2022	04-Nov-2024	✓	17-Feb-2022	18-May-2022	✓	
EA029-C: Sulfur Trail								
Snap Lock Bag - frozen on receipt at ALS (EA029) BH02_4.0	09-Feb-2022	17-Feb-2022	04-Nov-2024	✓	17-Feb-2022	18-May-2022	✓	
EA029-D: Calcium Values								
Snap Lock Bag - frozen on receipt at ALS (EA029) BH02_4.0	09-Feb-2022	17-Feb-2022	04-Nov-2024	✓	17-Feb-2022	18-May-2022	✓	
EA029-E: Magnesium Values								
Snap Lock Bag - frozen on receipt at ALS (EA029) BH02_4.0	09-Feb-2022	17-Feb-2022	04-Nov-2024	✓	17-Feb-2022	18-May-2022	✓	
EA029-F: Excess Acid Neutralising Capacity								
Snap Lock Bag - frozen on receipt at ALS (EA029) BH02_4.0	09-Feb-2022	17-Feb-2022	04-Nov-2024	✓	17-Feb-2022	18-May-2022	✓	
EA029-G: Retained Acidity								
Snap Lock Bag - frozen on receipt at ALS (EA029) BH02_4.0	09-Feb-2022	17-Feb-2022	04-Nov-2024	✓	17-Feb-2022	18-May-2022	✓	
EA029-H: Acid Base Accounting								
Snap Lock Bag - frozen on receipt at ALS (EA029) BH02_4.0	09-Feb-2022	17-Feb-2022	04-Nov-2024	✓	17-Feb-2022	18-May-2022	✓	
EA055: Moisture Content (Dried @ 105-110°C)								
HDPE Soil Jar (EA055) BH02_5.5	09-Feb-2022	----	----	----	18-Feb-2022	23-Feb-2022	✓	
Soil Glass Jar - Unpreserved (EA055) BH02_0.1, BH02_2.0	BH02_1.0,	09-Feb-2022	----	----	----	18-Feb-2022	23-Feb-2022	✓
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Snap Lock Bag - Friable Asbestos/PSD Bag (EA200) BH02_0.1	09-Feb-2022	----	----	----	14-Feb-2022	08-Aug-2022	✓	
EG005(ED093)T: Total Metals by ICP-AES								
Soil Glass Jar - Unpreserved (EG005T) BH02_0.1, BH02_2.0	BH02_1.0,	09-Feb-2022	18-Feb-2022	08-Aug-2022	✓	18-Feb-2022	08-Aug-2022	✓
EG035T: Total Recoverable Mercury by FIMS								
Soil Glass Jar - Unpreserved (EG035T) BH02_0.1, BH02_2.0	BH02_1.0,	09-Feb-2022	18-Feb-2022	09-Mar-2022	✓	18-Feb-2022	09-Mar-2022	✓
EP066: Polychlorinated Biphenyls (PCB)								
Soil Glass Jar - Unpreserved (EP066) BH02_0.1, BH02_2.0	BH02_1.0,	09-Feb-2022	16-Feb-2022	23-Feb-2022	✓	17-Feb-2022	28-Mar-2022	✓



Matrix: **SOIL**

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

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP068A: Organochlorine Pesticides (OC)								
Soil Glass Jar - Unpreserved (EP068) BH02_0.1, BH02_2.0	BH02_1.0	09-Feb-2022	16-Feb-2022	23-Feb-2022	✓	17-Feb-2022	28-Mar-2022	✓
EP068B: Organophosphorus Pesticides (OP)								
Soil Glass Jar - Unpreserved (EP068) BH02_0.1, BH02_2.0	BH02_1.0	09-Feb-2022	16-Feb-2022	23-Feb-2022	✓	17-Feb-2022	28-Mar-2022	✓
EP074A: Monocyclic Aromatic Hydrocarbons								
Soil Glass Jar - Unpreserved (EP074) BH02_0.1,	BH02_1.0	09-Feb-2022	15-Feb-2022	16-Feb-2022	✓	16-Feb-2022	16-Feb-2022	✓
EP074B: Oxygenated Compounds								
Soil Glass Jar - Unpreserved (EP074) BH02_0.1,	BH02_1.0	09-Feb-2022	15-Feb-2022	16-Feb-2022	✓	16-Feb-2022	16-Feb-2022	✓
EP074C: Sulfonated Compounds								
Soil Glass Jar - Unpreserved (EP074) BH02_0.1,	BH02_1.0	09-Feb-2022	15-Feb-2022	16-Feb-2022	✓	16-Feb-2022	16-Feb-2022	✓
EP074D: Fumigants								
Soil Glass Jar - Unpreserved (EP074) BH02_0.1,	BH02_1.0	09-Feb-2022	15-Feb-2022	16-Feb-2022	✓	16-Feb-2022	16-Feb-2022	✓
EP074E: Halogenated Aliphatic Compounds								
Soil Glass Jar - Unpreserved (EP074) BH02_0.1,	BH02_1.0	09-Feb-2022	15-Feb-2022	16-Feb-2022	✓	16-Feb-2022	16-Feb-2022	✓
EP074F: Halogenated Aromatic Compounds								
Soil Glass Jar - Unpreserved (EP074) BH02_0.1,	BH02_1.0	09-Feb-2022	15-Feb-2022	16-Feb-2022	✓	16-Feb-2022	16-Feb-2022	✓
EP074G: Trihalomethanes								
Soil Glass Jar - Unpreserved (EP074) BH02_0.1,	BH02_1.0	09-Feb-2022	15-Feb-2022	16-Feb-2022	✓	16-Feb-2022	16-Feb-2022	✓
EP075(SIM)A: Phenolic Compounds								
Soil Glass Jar - Unpreserved (EP075(SIM)) BH02_0.1, BH02_2.0	BH02_1.0,	09-Feb-2022	16-Feb-2022	23-Feb-2022	✓	18-Feb-2022	28-Mar-2022	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Soil Glass Jar - Unpreserved (EP075(SIM)) BH02_0.1, BH02_2.0	BH02_1.0,	09-Feb-2022	16-Feb-2022	23-Feb-2022	✓	18-Feb-2022	28-Mar-2022	✓
EP075A: Phenolic Compounds								
Soil Glass Jar - Unpreserved (EP075) BH02_0.1,	BH02_1.0	09-Feb-2022	16-Feb-2022	23-Feb-2022	✓	18-Feb-2022	28-Mar-2022	✓



Matrix: **SOIL**

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

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP075B: Polynuclear Aromatic Hydrocarbons								
Soil Glass Jar - Unpreserved (EP075) BH02_0.1, BH02_1.0	09-Feb-2022	16-Feb-2022	23-Feb-2022	✓	18-Feb-2022	28-Mar-2022	✓	
EP075C: Phthalate Esters								
Soil Glass Jar - Unpreserved (EP075) BH02_0.1, BH02_1.0	09-Feb-2022	16-Feb-2022	23-Feb-2022	✓	18-Feb-2022	28-Mar-2022	✓	
EP075D: Nitrosamines								
Soil Glass Jar - Unpreserved (EP075) BH02_0.1, BH02_1.0	09-Feb-2022	16-Feb-2022	23-Feb-2022	✓	18-Feb-2022	28-Mar-2022	✓	
EP075E: Nitroaromatics and Ketones								
Soil Glass Jar - Unpreserved (EP075) BH02_0.1, BH02_1.0	09-Feb-2022	16-Feb-2022	23-Feb-2022	✓	18-Feb-2022	28-Mar-2022	✓	
EP075F: Haloethers								
Soil Glass Jar - Unpreserved (EP075) BH02_0.1, BH02_1.0	09-Feb-2022	16-Feb-2022	23-Feb-2022	✓	18-Feb-2022	28-Mar-2022	✓	
EP075G: Chlorinated Hydrocarbons								
Soil Glass Jar - Unpreserved (EP075) BH02_0.1, BH02_1.0	09-Feb-2022	16-Feb-2022	23-Feb-2022	✓	18-Feb-2022	28-Mar-2022	✓	
EP075H: Anilines and Benzidines								
Soil Glass Jar - Unpreserved (EP075) BH02_0.1, BH02_1.0	09-Feb-2022	16-Feb-2022	23-Feb-2022	✓	18-Feb-2022	28-Mar-2022	✓	
EP075I: Organochlorine Pesticides								
Soil Glass Jar - Unpreserved (EP075) BH02_0.1, BH02_1.0	09-Feb-2022	16-Feb-2022	23-Feb-2022	✓	18-Feb-2022	28-Mar-2022	✓	
EP075J: Organophosphorus Pesticides								
Soil Glass Jar - Unpreserved (EP075) BH02_0.1, BH02_1.0	09-Feb-2022	16-Feb-2022	23-Feb-2022	✓	18-Feb-2022	28-Mar-2022	✓	
EP080/071: Total Petroleum Hydrocarbons								
Soil Glass Jar - Unpreserved (EP080) BH02_2.0	09-Feb-2022	15-Feb-2022	23-Feb-2022	✓	15-Feb-2022	23-Feb-2022	✓	
Soil Glass Jar - Unpreserved (EP080) BH02_0.1, BH02_1.0	09-Feb-2022	15-Feb-2022	23-Feb-2022	✓	16-Feb-2022	23-Feb-2022	✓	
Soil Glass Jar - Unpreserved (EP071) BH02_0.1, BH02_2.0	09-Feb-2022	16-Feb-2022	23-Feb-2022	✓	17-Feb-2022	28-Mar-2022	✓	



Matrix: **SOIL**

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

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions							
Soil Glass Jar - Unpreserved (EP080) BH02_2.0	09-Feb-2022	15-Feb-2022	23-Feb-2022	✓	15-Feb-2022	23-Feb-2022	✓
Soil Glass Jar - Unpreserved (EP080) BH02_0.1, BH02_1.0	09-Feb-2022	15-Feb-2022	23-Feb-2022	✓	16-Feb-2022	23-Feb-2022	✓
Soil Glass Jar - Unpreserved (EP071) BH02_0.1, BH02_2.0	09-Feb-2022	16-Feb-2022	23-Feb-2022	✓	17-Feb-2022	28-Mar-2022	✓
EP080: BTEXN							
Soil Glass Jar - Unpreserved (EP080) BH02_2.0	09-Feb-2022	15-Feb-2022	23-Feb-2022	✓	15-Feb-2022	23-Feb-2022	✓
Soil Glass Jar - Unpreserved (EP080) BH02_0.1, BH02_1.0	09-Feb-2022	15-Feb-2022	23-Feb-2022	✓	16-Feb-2022	23-Feb-2022	✓
EP231A: Perfluoroalkyl Sulfonic Acids							
HDPE Soil Jar (EP231X) BH02_0.1, BH02_5.5	09-Feb-2022	14-Feb-2022	08-Aug-2022	✓	15-Feb-2022	26-Mar-2022	✓
EP231B: Perfluoroalkyl Carboxylic Acids							
HDPE Soil Jar (EP231X) BH02_0.1, BH02_5.5	09-Feb-2022	14-Feb-2022	08-Aug-2022	✓	15-Feb-2022	26-Mar-2022	✓
EP231D: (n:2) Fluorotelomer Sulfonic Acids							
HDPE Soil Jar (EP231X) BH02_0.1, BH02_5.5	09-Feb-2022	14-Feb-2022	08-Aug-2022	✓	15-Feb-2022	26-Mar-2022	✓
EP231P: PFAS Sums							
HDPE Soil Jar (EP231X) BH02_0.1, BH02_5.5	09-Feb-2022	14-Feb-2022	08-Aug-2022	✓	15-Feb-2022	26-Mar-2022	✓



Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: * = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type	Method	Count		Rate (%)			Quality Control Specification
		QC	Reaular	Actual	Expected	Evaluation	
Analytical Methods							
Laboratory Duplicates (DUP)							
Moisture Content	EA055	4	39	10.26	10.00	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	2	14	14.29	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	18	11.11	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	2	14	14.29	10.00	✓	NEPM 2013 B3 & ALS QC Standard
pH field/fox	EA003	2	20	10.00	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	2	14	14.29	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Semivolatile Organic Compounds	EP075	1	7	14.29	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Suspension Peroxide Oxidation-Combined Acidity and Sulphate	EA029	1	7	14.29	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	2	20	10.00	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	2	20	10.00	10.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	2	14	14.29	10.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	4	38	10.53	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Volatile Organic Compounds	EP074	2	15	13.33	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
PAH/Phenols (SIM)	EP075(SIM)	1	14	7.14	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	18	5.56	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	14	7.14	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	14	7.14	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Semivolatile Organic Compounds	EP075	1	7	14.29	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Suspension Peroxide Oxidation-Combined Acidity and Sulphate	EA029	1	7	14.29	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	14	7.14	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	38	5.26	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Volatile Organic Compounds	EP074	1	15	6.67	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
PAH/Phenols (SIM)	EP075(SIM)	1	14	7.14	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	18	5.56	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	14	7.14	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	14	7.14	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Semivolatile Organic Compounds	EP075	1	7	14.29	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Suspension Peroxide Oxidation-Combined Acidity and Sulphate	EA029	1	7	14.29	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard



Matrix: **SOIL**

Evaluation: * = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type	Method	Count		Rate (%)			Quality Control Specification
		QC	Reaular	Actual	Expected	Evaluation	
Analytical Methods							
Method Blanks (MB) - Continued							
Total Metals by ICP-AES	EG005T	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	14	7.14	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	38	5.26	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Volatile Organic Compounds	EP074	1	15	6.67	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
PAH/Phenols (SIM)	EP075(SIM)	1	14	7.14	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	18	5.56	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	14	7.14	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	14	7.14	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Semivolatile Organic Compounds	EP075	1	7	14.29	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	14	7.14	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	38	5.26	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Volatile Organic Compounds	EP074	1	15	6.67	5.00	✓	NEPM 2013 B3 & ALS QC Standard



Brief Method Summaries

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

Analytical Methods	Method	Matrix	Method Descriptions
pH field/fox	EA003	SOIL	In house: Referenced to Ahern et al 1998 - determined on a 1:5 soil/water extract designed to simulate field measured pH and pH after the extract has been oxidised with peroxide.
Suspension Peroxide Oxidation-Combined Acidity and Sulphate	EA029	SOIL	In house: Referenced to Ahern et al 2004 - a suspension peroxide oxidation method following the 'sulfur trail' by determining the level of 1M KCL extractable sulfur and the sulfur level after oxidation of soil sulphides. The 'acidity trail' is followed by measurement of TAA, TPA and TSA. Liming Rate is based on results for samples as submitted and incorporates a minimum safety factor of 1.5.
Moisture Content	EA055	SOIL	In house: A gravimetric procedure based on weight loss over a 12 hour drying period at 105-110 degrees C. This method is compliant with NEPM Schedule B(3).
Asbestos Identification in Soils	EA200	SOIL	AS 4964 Method for the qualitative identification of asbestos in bulk samples Analysis by Polarised Light Microscopy including dispersion staining
Total Metals by ICP-AES	EG005T	SOIL	In house: Referenced to APHA 3120; USEPA SW 846 - 6010. Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM Schedule B(3)
Total Mercury by FIMS	EG035T	SOIL	In house: Referenced to APHA 3112 Hg - B (Flow-injection (SnCl ₂) (Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. Mercury in solids are determined following an appropriate acid digestion. Ionic mercury is reduced online to atomic mercury vapour by SnCl ₂ which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM Schedule B(3)
Polychlorinated Biphenyls (PCB)	EP066	SOIL	In house: Referenced to USEPA SW 846 - 8270 Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3).
Pesticides by GCMS	EP068	SOIL	In house: Referenced to USEPA SW 846 - 8270 Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This technique is compliant with NEPM Schedule B(3).
TRH - Semivolatile Fraction	EP071	SOIL	In house: Referenced to USEPA SW 846 - 8015 Sample extracts are analysed by Capillary GC/FID and quantified against alkane standards over the range C10 - C40. Compliant with NEPM Schedule B(3).
Volatile Organic Compounds	EP074	SOIL	In house: Referenced to USEPA SW 846 - 8260 Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3).
Semivolatile Organic Compounds	EP075	SOIL	In house: Referenced to USEPA SW 846 - 8270 Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This technique is compliant with NEPM Schedule B(3).
PAH/Phenols (SIM)	EP075(SIM)	SOIL	In house: Referenced to USEPA SW 846 - 8270. Extracts are analysed by Capillary GC/MS in Selective Ion Mode (SIM) and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)



Analytical Methods	Method	Matrix	Method Descriptions
TRH Volatiles/BTEX	EP080	SOIL	In house: Referenced to USEPA SW 846 - 8260. Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve. Compliant with NEPM Schedule B(3) amended.
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	SOIL	In-house: Analysis of soils by solvent extraction followed by LC-Electrospray-MS-MS, Negative Mode using MRM using internal standard quantitation. Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to a portion of soil which is then extracted with MTBE and an ion pairing reagent. A portion of extract is exchanged into the analytical solvent mixture, combined with an equal volume reagent water and filtered for analysis. Method procedures and data quality objectives conform to US DoD QSM 5.3, table B-15 requirements.

Preparation Methods	Method	Matrix	Method Descriptions
Drying only	EN020D	SOIL	In house
Drying at 85 degrees, bagging and labelling (ASS)	EN020PR	SOIL	In house
Hot Block Digest for metals in soils sediments and sludges	EN69	SOIL	In house: Referenced to USEPA 200.2. Hot Block Acid Digestion 1.0g of sample is heated with Nitric and Hydrochloric acids, then cooled. Peroxide is added and samples heated and cooled again before being filtered and bulked to volume for analysis. Digest is appropriate for determination of selected metals in sludge, sediments, and soils. This method is compliant with NEPM Schedule B(3).
Methanolic Extraction of Soils for Purge and Trap	ORG16	SOIL	In house: Referenced to USEPA SW 846 - 5030A. 5g of solid is shaken with surrogate and 10mL methanol prior to analysis by Purge and Trap - GC/MS.
Tumbler Extraction of Solids	ORG17	SOIL	In house: Mechanical agitation (tumbler). 10g of sample, Na2SO4 and surrogate are extracted with 30mL 1:1 DCM/Acetone by end over end tumble. The solvent is decanted, dehydrated and concentrated (by KD) to the desired volume for analysis.
QuEChERS Extraction of Solids	ORG71	SOIL	In house: Sequential extractions with Acetonitrile/Methanol by shaking. Extraction efficiency aided by the addition of salts under acidic conditions. Where relevant, interferences from co-extracted organics are removed with dispersive clean-up media (dSPE). The extract is either diluted or concentrated and exchanged into the analytical solvent.

QUALITY CONTROL REPORT

Work Order	: ES2204462	Page	: 1 of 32
Client	: EP RISK MANAGEMENT	Laboratory	: Environmental Division Sydney
Contact	: HARRISON BLAKE	Contact	: Tyler Anderson
Address	: Level 4 73 Walker St North Sydney 2060	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: +61 2 8784 8555
Project	: EP2515	Date Samples Received	: 09-Feb-2022
Order number	: ----	Date Analysis Commenced	: 14-Feb-2022
C-O-C number	: ----	Issue Date	: 23-Feb-2022
Sampler	: HARRISON BLAKE		
Site	: ----		
Quote number	: SYBQ/401/21		
No. of samples received	: 12		
No. of samples analysed	: 6		



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

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

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

<i>Signatories</i>	<i>Position</i>	<i>Accreditation Category</i>
Alana Smylie	Team Leader - Asbestos	Newcastle - Asbestos, Mayfield West, NSW
Ben Felgendrejeris	Senior Acid Sulfate Soil Chemist	Brisbane Acid Sulphate Soils, Stafford, QLD
Edwandy Fadjjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Franco Lentini	LCMS Coordinator	Sydney Inorganics, Smithfield, NSW
Franco Lentini	LCMS Coordinator	Sydney Organics, Smithfield, NSW
Ivan Taylor	Analyst	Sydney Inorganics, Smithfield, NSW
Sanjeshni Jyoti	Senior Chemist Volatiles	Sydney Organics, Smithfield, NSW



General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key :
 Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
 CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
 LOR = Limit of reporting
 RPD = Relative Percentage Difference
 # = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 4181562)									
ES2204977-006	Anonymous	EG005T: Cadmium	7440-43-9	1	mg/kg	8	8	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	51	50	0.0	0% - 20%
		EG005T: Nickel	7440-02-0	2	mg/kg	136	140	2.3	0% - 20%
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	44	47	4.9	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	53300	53800	0.9	0% - 20%
ES2204977-001	Anonymous	EG005T: Cadmium	7440-43-9	1	mg/kg	8	8	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	46	49	6.2	0% - 20%
		EG005T: Nickel	7440-02-0	2	mg/kg	175	173	0.9	0% - 20%
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	55	56	0.0	0% - 50%
		EG005T: Lead	7439-92-1	5	mg/kg	28	<5	140	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	28100	29200	3.6	0% - 20%
EA003 :pH (field/fox) (QC Lot: 4182456)									
EM2202286-001	Anonymous	EA003: pH (F)	----	0.1	pH Unit	8.4	8.5	0.0	0% - 20%
		EA003: pH (Fox)	----	0.1	pH Unit	6.0	6.0	0.0	0% - 20%
ES2204627-003	Anonymous	EA003: pH (F)	----	0.1	pH Unit	7.0	7.1	0.0	0% - 20%
		EA003: pH (Fox)	----	0.1	pH Unit	4.4	4.5	0.0	0% - 20%
EA029-A: pH Measurements (QC Lot: 4176623)									
EM2202186-002	Anonymous	EA029: pH KCl (23A)	----	0.1	pH Unit	5.6	5.6	0.0	0% - 20%
		EA029: pH OX (23B)	----	0.1	pH Unit	6.2	6.2	0.0	0% - 20%
EA029-B: Acidity Trail (QC Lot: 4176623)									



Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EA029-B: Acidity Trail (QC Lot: 4176623) - continued									
EM2202186-002	Anonymous	EA029: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.020	<0.020	0.0	No Limit
		EA029: sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.020	<0.020	0.0	No Limit
		EA029: sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.020	<0.020	0.0	No Limit
		EA029: Titratable Actual Acidity (23F)	----	2	mole H+ / t	6	6	0.0	No Limit
		EA029: Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	6	6	0.0	No Limit
		EA029: Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	<2	0.0	No Limit
EA029-C: Sulfur Trail (QC Lot: 4176623)									
EM2202186-002	Anonymous	EA029: KCl Extractable Sulfur (23Ce)	----	0.02	% S	<0.020	<0.020	0.0	No Limit
		EA029: Peroxide Sulfur (23De)	----	0.02	% S	<0.020	<0.020	0.0	No Limit
		EA029: Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	<0.020	<0.020	0.0	No Limit
		EA029: acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	<10	<10	0.0	No Limit
EA029-D: Calcium Values (QC Lot: 4176623)									
EM2202186-002	Anonymous	EA029: KCl Extractable Calcium (23Vh)	----	0.02	% Ca	0.054	0.058	6.8	No Limit
		EA029: Peroxide Calcium (23Wh)	----	0.02	% Ca	0.058	0.060	4.2	No Limit
		EA029: Acid Reacted Calcium (23X)	----	0.02	% Ca	<0.020	<0.020	0.0	No Limit
		EA029: sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	<0.020	<0.020	0.0	No Limit
		EA029: acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	<10	<10	0.0	No Limit
EA029-E: Magnesium Values (QC Lot: 4176623)									
EM2202186-002	Anonymous	EA029: KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	0.065	0.069	6.7	No Limit
		EA029: Peroxide Magnesium (23Tm)	----	0.02	% Mg	0.075	0.078	4.1	No Limit
		EA029: Acid Reacted Magnesium (23U)	----	0.02	% Mg	<0.020	<0.020	0.0	No Limit
		EA029: sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	<0.020	<0.020	0.0	No Limit
		EA029: Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	<10	<10	0.0	No Limit
EA029-H: Acid Base Accounting (QC Lot: 4176623)									
EM2202186-002	Anonymous	EA029: ANC Fineness Factor	----	0.5	-	1.5	1.5	0.0	No Limit
		EA029: Net Acidity (sulfur units)	----	0.02	% S	<0.02	<0.02	0.0	No Limit
		EA029: Net Acidity excluding ANC (sulfur units)	----	0.02	% S	<0.02	<0.02	0.0	No Limit
		EA029: Liming Rate	----	1	kg CaCO3/t	<1	<1	0.0	No Limit
		EA029: Liming Rate excluding ANC	----	1	kg CaCO3/t	<1	<1	0.0	No Limit
		EA029: Net Acidity (acidity units)	----	10	mole H+ / t	<10	<10	0.0	No Limit
		EA029: Net Acidity excluding ANC (acidity units)	----	10	mole H+ / t	<10	<10	0.0	No Limit
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 4181568)									
ES2204462-006	BH03_1.5	EA055: Moisture Content	----	0.1	%	23.0	21.6	6.2	0% - 20%
ES2204977-009	Anonymous	EA055: Moisture Content	----	0.1	%	44.3	44.4	0.0	0% - 20%



Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 4181563)									
ES2204977-006	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
ES2204977-001	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EP066: Polychlorinated Biphenyls (PCB) (QC Lot: 4168437)									
ES2204644-003	Anonymous	EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
ES2204462-001	BH03_0.2	EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EP068A: Organochlorine Pesticides (OC) (QC Lot: 4168436)									
ES2204644-003	Anonymous	EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4,4'-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4,4'-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4,4'-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	0.0	No Limit		
ES2204462-001	BH03_0.2	EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4,4'-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit



Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP068A: Organochlorine Pesticides (OC) (QC Lot: 4168436) - continued									
ES2204462-001	BH03_0.2	EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4.4'-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4.4'-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
EP068B: Organophosphorus Pesticides (OP) (QC Lot: 4168436)									
ES2204644-003	Anonymous	EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP068: Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		ES2204462-001	BH03_0.2	EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05
EP068: Demeton-S-methyl	919-86-8			0.05	mg/kg	<0.05	<0.05	0.0	No Limit
EP068: Dimethoate	60-51-5			0.05	mg/kg	<0.05	<0.05	0.0	No Limit
EP068: Diazinon	333-41-5			0.05	mg/kg	<0.05	<0.05	0.0	No Limit
EP068: Chlorpyrifos-methyl	5598-13-0			0.05	mg/kg	<0.05	<0.05	0.0	No Limit
EP068: Malathion	121-75-5			0.05	mg/kg	<0.05	<0.05	0.0	No Limit
EP068: Fenthion	55-38-9			0.05	mg/kg	<0.05	<0.05	0.0	No Limit
EP068: Chlorpyrifos	2921-88-2			0.05	mg/kg	<0.05	<0.05	0.0	No Limit
EP068: Pirimphos-ethyl	23505-41-1			0.05	mg/kg	<0.05	<0.05	0.0	No Limit
EP068: Chlorfenvinphos	470-90-6			0.05	mg/kg	<0.05	<0.05	0.0	No Limit
EP068: Bromophos-ethyl	4824-78-6			0.05	mg/kg	<0.05	<0.05	0.0	No Limit
EP068: Fenamiphos	22224-92-6			0.05	mg/kg	<0.05	<0.05	0.0	No Limit



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP068B: Organophosphorus Pesticides (OP) (QC Lot: 4168436) - continued									
ES2204462-001	BH03_0.2	EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP068: Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
EP074A: Monocyclic Aromatic Hydrocarbons (QC Lot: 4174112)									
ES2203546-003	Anonymous	EP074: Styrene	100-42-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Isopropylbenzene	98-82-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: n-Propylbenzene	103-65-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,3,5-Trimethylbenzene	108-67-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: sec-Butylbenzene	135-98-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,2,4-Trimethylbenzene	95-63-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: tert-Butylbenzene	98-06-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: p-Isopropyltoluene	99-87-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP074: n-Butylbenzene	104-51-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
EP074B: Oxygenated Compounds (QC Lot: 4174112)									
ES2203546-003	Anonymous	EP074: Vinyl Acetate	108-05-4	5	mg/kg	<5	<5	0.0	No Limit
		EP074: 2-Butanone (MEK)	78-93-3	5	mg/kg	<5	<5	0.0	No Limit
		EP074: 4-Methyl-2-pentanone (MIBK)	108-10-1	5	mg/kg	<5	<5	0.0	No Limit
		EP074: 2-Hexanone (MBK)	591-78-6	5	mg/kg	<5	<5	0.0	No Limit
EP074C: Sulfonated Compounds (QC Lot: 4174112)									
ES2203546-003	Anonymous	EP074: Carbon disulfide	75-15-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP074D: Fumigants (QC Lot: 4174112)									
ES2203546-003	Anonymous	EP074: 2,2-Dichloropropane	594-20-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,2-Dichloropropane	78-87-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: cis-1,3-Dichloropropylene	10061-01-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: trans-1,3-Dichloropropylene	10061-02-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,2-Dibromoethane (EDB)	106-93-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP074E: Halogenated Aliphatic Compounds (QC Lot: 4174112)									
ES2203546-003	Anonymous	EP074: 1,1-Dichloroethene	75-35-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Iodomethane	74-88-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: trans-1,2-Dichloroethene	156-60-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,1-Dichloroethane	75-34-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: cis-1,2-Dichloroethene	156-59-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,1,1-Trichloroethane	71-55-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,1-Dichloropropylene	563-58-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Carbon Tetrachloride	56-23-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP074E: Halogenated Aliphatic Compounds (QC Lot: 4174112) - continued									
ES2203546-003	Anonymous	EP074: 1,2-Dichloroethane	107-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Trichloroethene	79-01-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Dibromomethane	74-95-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,1,2-Trichloroethane	79-00-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,3-Dichloropropane	142-28-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Tetrachloroethene	127-18-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,1,1,2-Tetrachloroethane	630-20-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: trans-1,4-Dichloro-2-butene	110-57-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: cis-1,4-Dichloro-2-butene	1476-11-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,1,2,2-Tetrachloroethane	79-34-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,2,3-Trichloropropane	96-18-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Pentachloroethane	76-01-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Dichlorodifluoromethane	75-71-8	5	mg/kg	<5	<5	0.0	No Limit
		EP074: Chloromethane	74-87-3	5	mg/kg	<5	<5	0.0	No Limit
		EP074: Vinyl chloride	75-01-4	5	mg/kg	<5	<5	0.0	No Limit
EP074: Bromomethane	74-83-9	5	mg/kg	<5	<5	0.0	No Limit		
EP074: Chloroethane	75-00-3	5	mg/kg	<5	<5	0.0	No Limit		
EP074: Trichlorofluoromethane	75-69-4	5	mg/kg	<5	<5	0.0	No Limit		
EP074F: Halogenated Aromatic Compounds (QC Lot: 4174112)									
ES2203546-003	Anonymous	EP074: Chlorobenzene	108-90-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Bromobenzene	108-86-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 2-Chlorotoluene	95-49-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 4-Chlorotoluene	106-43-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,2,3-Trichlorobenzene	87-61-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP074G: Trihalomethanes (QC Lot: 4174112)									
ES2203546-003	Anonymous	EP074: Chloroform	67-66-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Bromodichloromethane	75-27-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Dibromochloromethane	124-48-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Bromoform	75-25-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075(SIM)A: Phenolic Compounds (QC Lot: 4168435)									
ES2204644-003	Anonymous	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2,4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2,4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2,6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2,4,6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP075(SIM)A: Phenolic Compounds (QC Lot: 4168435) - continued									
ES2204644-003	Anonymous	EP075(SIM): 2,4,5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
ES2204462-001	BH03_0.2	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2,4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2,4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2,6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2,4,6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2,4,5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4168435)									
ES2204644-003	Anonymous	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075(SIM): Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
ES2204462-001	BH03_0.2	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4168435) - continued									
ES2204462-001	BH03_0.2	EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	1.4	1.2	14.4	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	0.5	0.5	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	2.2	2.2	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	2.2	2.1	6.1	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	1.1	1.1	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	1.0	0.9	0.0	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	1.4	1.3	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	1.2	1.2	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	0.7	<0.5	34.7	No Limit
		EP075(SIM): Dibenzo(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	0.8	0.5	49.8	No Limit
		EP075(SIM): Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	12.5	11.0	12.8	0% - 20%
		EP075(SIM): Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	1.5	1.4	0.0	No Limit
EP075A: Phenolic Compounds (QC Lot: 4168438)									
ES2204462-001	BH03_0.2	EP075: Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 3- & 4-Methylphenol	1319-77-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 2,4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 2,4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 2,6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 2,4,6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 2,4,5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Pentachlorophenol	87-86-5	1	mg/kg	<1	<1	0.0	No Limit
		EP075B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4168438)							
ES2204462-001	BH03_0.2	EP075: Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 2-Methylnaphthalene	91-57-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 2-Chloronaphthalene	91-58-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Phenanthrene	85-01-8	0.5	mg/kg	2.1	2.4	13.5	No Limit
		EP075: Anthracene	120-12-7	0.5	mg/kg	0.7	0.7	0.0	No Limit
		EP075: Fluoranthene	206-44-0	0.5	mg/kg	3.2	3.5	9.4	No Limit
		EP075: Pyrene	129-00-0	0.5	mg/kg	3.2	3.4	8.1	No Limit



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP075B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4168438) - continued									
ES2204462-001	BH03_0.2	EP075: N-2-Fluorenyl Acetamide	53-96-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Benz(a)anthracene	56-55-3	0.5	mg/kg	1.6	1.9	14.1	No Limit
		EP075: Chrysene	218-01-9	0.5	mg/kg	1.4	1.5	0.0	No Limit
		EP075: 7.12-Dimethylbenz(a)anthracene	57-97-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Benzo(a)pyrene	50-32-8	0.5	mg/kg	1.9	1.8	0.0	No Limit
		EP075: 3-Methylcholanthrene	56-49-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	1.1	1.0	0.0	No Limit
		EP075: Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	1.3	1.2	0.0	No Limit
		EP075: Benzo(b+j) & Benzo(k)fluoranthene	205-99-2 207-08-9	1	mg/kg	3	3	0.0	No Limit
EP075C: Phthalate Esters (QC Lot: 4168438)									
ES2204462-001	BH03_0.2	EP075: Dimethyl phthalate	131-11-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Diethyl phthalate	84-66-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Di-n-butyl phthalate	84-74-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Butyl benzyl phthalate	85-68-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Di-n-octylphthalate	117-84-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075D: Nitrosamines (QC Lot: 4168438)									
ES2204462-001	BH03_0.2	EP075: N-Nitrosomethylethylamine	10595-95-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: N-Nitrosodiethylamine	55-18-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: N-Nitrosopyrrolidine	930-55-2	0.5	mg/kg	<1.0	<1.0	0.0	No Limit
		EP075: N-Nitrosomorpholine	59-89-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: N-Nitrosodi-n-propylamine	621-64-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: N-Nitrosopiperidine	100-75-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: N-Nitrosodibutylamine	924-16-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	0.5	mg/kg	<1.0	<1.0	0.0	No Limit
		EP075: Methapyrilene	91-80-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075E: Nitroaromatics and Ketones (QC Lot: 4168438)									
ES2204462-001	BH03_0.2	EP075: 2-Picoline	109-06-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Acetophenone	98-86-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Nitrobenzene	98-95-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Isophorone	78-59-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 2,6-Dinitrotoluene	606-20-2	0.5	mg/kg	<1.0	<1.0	0.0	No Limit
		EP075: 2,4-Dinitrotoluene	121-14-2	0.5	mg/kg	<1.0	<1.0	0.0	No Limit
		EP075: 1-Naphthylamine	134-32-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 4-Nitroquinoline-N-oxide	56-57-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 5-Nitro-o-toluidine	99-55-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 1,3,5-Trinitrobenzene	99-35-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Phenacetin	62-44-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP075E: Nitroaromatics and Ketones (QC Lot: 4168438) - continued									
ES2204462-001	BH03_0.2	EP075: 4-Aminobiphenyl	92-67-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Pentachloronitrobenzene	82-68-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Pronamide	23950-58-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Dimethylaminoazobenzene	60-11-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Chlorobenzilate	510-15-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Azobenzene	103-33-3	1	mg/kg	<1	<1	0.0	No Limit
EP075F: Haloethers (QC Lot: 4168438)									
ES2204462-001	BH03_0.2	EP075: Bis(2-chloroethyl) ether	111-44-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Bis(2-chloroethoxy) methane	111-91-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 4-Chlorophenyl phenyl ether	7005-72-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 4-Bromophenyl phenyl ether	101-55-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075G: Chlorinated Hydrocarbons (QC Lot: 4168438)									
ES2204462-001	BH03_0.2	EP075: 1,3-Dichlorobenzene	541-73-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 1,4-Dichlorobenzene	106-46-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 1,2-Dichlorobenzene	95-50-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Hexachloroethane	67-72-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 1,2,4-Trichlorobenzene	120-82-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Hexachloropropylene	1888-71-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Hexachlorobutadiene	87-68-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Pentachlorobenzene	608-93-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Hexachlorobenzene (HCB)	118-74-1	0.5	mg/kg	<1.0	<1.0	0.0	No Limit
		EP075: Hexachlorocyclopentadiene	77-47-4	2.5	mg/kg	<2.5	<2.5	0.0	No Limit
EP075H: Anilines and Benzidines (QC Lot: 4168438)									
ES2204462-001	BH03_0.2	EP075: Aniline	62-53-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 4-Chloroaniline	106-47-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 2-Nitroaniline	88-74-4	0.5	mg/kg	<1.0	<1.0	0.0	No Limit
		EP075: 3-Nitroaniline	99-09-2	0.5	mg/kg	<1.0	<1.0	0.0	No Limit
		EP075: Dibenzofuran	132-64-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 4-Nitroaniline	100-01-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Carbazole	86-74-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 3,3'-Dichlorobenzidine	91-94-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075I: Organochlorine Pesticides (QC Lot: 4168438)									
ES2204462-001	BH03_0.2	EP075: alpha-BHC	319-84-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: beta-BHC	319-85-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: gamma-BHC	58-89-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: delta-BHC	319-86-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Heptachlor	76-44-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Aldrin	309-00-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Heptachlor epoxide	1024-57-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit



Sub-Matrix: SOIL

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP075I: Organochlorine Pesticides (QC Lot: 4168438) - continued									
ES2204462-001	BH03_0.2	EP075: alpha-Endosulfan	959-98-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 4.4'-DDE	72-55-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Dieldrin	60-57-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Endrin	72-20-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: beta-Endosulfan	33213-65-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 4.4'-DDD	72-54-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Endosulfan sulfate	1031-07-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 4.4'-DDT	50-29-3	0.5	mg/kg	<1.0	<1.0	0.0	No Limit
EP075J: Organophosphorus Pesticides (QC Lot: 4168438)									
ES2204462-001	BH03_0.2	EP075: Dichlorvos	62-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Dimethoate	60-51-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Diazinon	333-41-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Chlorpyrifos-methyl	5598-13-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Malathion	121-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Fenthion	55-38-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Chlorpyrifos	2921-88-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Pirimphos-ethyl	23505-41-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Chlorfenvinphos	470-90-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Prothiofos	34643-46-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075: Ethion	563-12-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4168434)									
ES2204644-003	Anonymous	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
ES2204462-001	BH03_0.2	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4172738)									
ES2204577-001	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
ES2204753-001	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4174111)									
ES2204684-033	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
ES2203546-003	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4168434)									
ES2204644-003	Anonymous	EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
ES2204462-001	BH03_0.2	EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit



Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4168434) - continued										
ES2204462-001	BH03_0.2	EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4172738)										
ES2204577-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit	
ES2204753-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4174111)										
ES2204684-033	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit	
ES2203546-003	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit	
EP080: BTEXN (QC Lot: 4172738)										
ES2204577-001	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit	
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP080: meta- & para-Xylene	108-38-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
			106-42-3							
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
ES2204753-001	Anonymous	EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit	
		EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit	
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP080: meta- & para-Xylene	108-38-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
			106-42-3							
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit			
EP080: BTEXN (QC Lot: 4174111)										
ES2204684-033	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit	
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP080: meta- & para-Xylene	108-38-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
			106-42-3							
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
ES2203546-003	Anonymous	EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit	
		EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit	
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP080: meta- & para-Xylene	108-38-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
			106-42-3							
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit			
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 4172384)										
ES2203546-001	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit	



Sub-Matrix: SOIL

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 4172384) - continued									
ES2203546-001	Anonymous	EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 4177308)									
ES2204462-011	BH03_0.5 Dup	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit		
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 4172384)									
ES2203546-001	Anonymous	EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	<0.001	0.0	No Limit		
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 4177308)									
ES2204462-011	BH03_0.5 Dup	EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	<0.001	0.0	No Limit		
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 4172384)									
ES2203546-001	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit



Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 4172384) - continued									
ES2203546-001	Anonymous	EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 4177308)									
ES2204462-011	BH03_0.5 Dup	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 4172384)									
ES2203546-001	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 4177308)									
ES2204462-011	BH03_0.5 Dup	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit

Page : 16 of 32
 Work Order : ES2204462
 Client : EP RISK MANAGEMENT
 Project : EP2515



Sub-Matrix: **SOIL**

				<i>Laboratory Duplicate (DUP) Report</i>					
<i>Laboratory sample ID</i>	<i>Sample ID</i>	<i>Method: Compound</i>	<i>CAS Number</i>	<i>LOR</i>	<i>Unit</i>	<i>Original Result</i>	<i>Duplicate Result</i>	<i>RPD (%)</i>	<i>Acceptable RPD (%)</i>
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 4177308) - continued									
ES2204462-011	BH03_0.5 Dup	EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit



Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike Concentration	Spike Recovery (%)		Acceptable Limits (%)	
						LCS	Low	High	
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 4181562)									
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	121.1 mg/kg	97.4	88.0	113	
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	0.74 mg/kg	93.9	70.0	130	
EG005T: Chromium	7440-47-3	2	mg/kg	<2	19.6 mg/kg	107	68.0	132	
EG005T: Copper	7440-50-8	5	mg/kg	<5	52.9 mg/kg	104	89.0	111	
EG005T: Lead	7439-92-1	5	mg/kg	<5	60.8 mg/kg	101	82.0	119	
EG005T: Nickel	7440-02-0	2	mg/kg	<2	15.3 mg/kg	102	80.0	120	
EG005T: Zinc	7440-66-6	5	mg/kg	<5	139.3 mg/kg	96.6	66.0	133	
EA029-A: pH Measurements (QCLot: 4176623)									
EA029: pH KCl (23A)	----	0.1	pH Unit	<0.1	4.4 pH Unit	100	70.0	130	
EA029: pH OX (23B)	----	0.1	pH Unit	<0.1	4.2 pH Unit	102	70.0	130	
EA029-B: Acidity Trail (QCLot: 4176623)									
EA029: Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	19 mole H+ / t	83.4	70.0	130	
EA029: Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	27.5 mole H+ / t	92.4	70.0	130	
EA029: Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	----	----	----	----	
EA029: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.020	----	----	----	----	
EA029: sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.020	----	----	----	----	
EA029: sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.020	----	----	----	----	
EA029-C: Sulfur Trail (QCLot: 4176623)									
EA029: KCl Extractable Sulfur (23Ce)	----	0.02	% S	<0.020	0.03595 % S	113	70.0	130	
EA029: Peroxide Sulfur (23De)	----	0.02	% S	<0.020	0.14405 % S	121	70.0	130	
EA029: Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	<0.020	----	----	----	----	
EA029: acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	<10	----	----	----	----	
EA029-D: Calcium Values (QCLot: 4176623)									
EA029: KCl Extractable Calcium (23Vh)	----	0.02	% Ca	<0.020	0.22443 % Ca	107	70.0	130	
EA029: Peroxide Calcium (23Wh)	----	0.02	% Ca	<0.020	0.22637 % Ca	127	70.0	130	
EA029: Acid Reacted Calcium (23X)	----	0.02	% Ca	<0.020	----	----	----	----	
EA029: acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	<10	----	----	----	----	
EA029: sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	<0.020	----	----	----	----	
EA029-E: Magnesium Values (QCLot: 4176623)									
EA029: KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	<0.020	0.20621 % Mg	101	70.0	130	
EA029: Peroxide Magnesium (23Tm)	----	0.02	% Mg	<0.020	0.23199 % Mg	126	70.0	130	
EA029: Acid Reacted Magnesium (23U)	----	0.02	% Mg	<0.020	----	----	----	----	
EA029: Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	<10	----	----	----	----	
EA029: sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	<0.020	----	----	----	----	



Sub-Matrix: SOIL

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike	Spike Recovery (%)		Acceptable Limits (%)	
					Concentration	LCS	Low	High	
EA029-H: Acid Base Accounting (QCLot: 4176623)									
EA029: ANC Fineness Factor	----	0.5	-	<0.5	----	----	----	----	
EA029: Net Acidity (sulfur units)	----	0.02	% S	<0.02	----	----	----	----	
EA029: Net Acidity (acidity units)	----	10	mole H+ / t	<10	----	----	----	----	
EA029: Liming Rate	----	1	kg CaCO3/t	<1	----	----	----	----	
EA029: Net Acidity excluding ANC (sulfur units)	----	0.02	% S	<0.02	----	----	----	----	
EA029: Net Acidity excluding ANC (acidity units)	----	10	mole H+ / t	<10	----	----	----	----	
EA029: Liming Rate excluding ANC	----	1	kg CaCO3/t	<1	----	----	----	----	
EG035T: Total Recoverable Mercury by FIMS (QCLot: 4181563)									
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	0.087 mg/kg	100	70.0	125	
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 4168437)									
EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	1 mg/kg	120	62.0	126	
EP068A: Organochlorine Pesticides (OC) (QCLot: 4168436)									
EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	0.5 mg/kg	98.7	69.0	113	
EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	0.5 mg/kg	95.3	65.0	117	
EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	0.5 mg/kg	103	67.0	119	
EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	0.5 mg/kg	97.7	68.0	116	
EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	88.1	65.0	117	
EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	0.5 mg/kg	96.4	67.0	115	
EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	0.5 mg/kg	98.4	69.0	115	
EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	0.5 mg/kg	97.9	62.0	118	
EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	0.5 mg/kg	92.5	63.0	117	
EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	0.5 mg/kg	105	66.0	116	
EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	0.5 mg/kg	99.4	64.0	116	
EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	0.5 mg/kg	99.0	66.0	116	
EP068: 4,4'-DDE	72-55-9	0.05	mg/kg	<0.05	0.5 mg/kg	97.3	67.0	115	
EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	0.5 mg/kg	100.0	67.0	123	
EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	0.5 mg/kg	100	69.0	115	
EP068: 4,4'-DDD	72-54-8	0.05	mg/kg	<0.05	0.5 mg/kg	101	69.0	121	
EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	0.5 mg/kg	89.6	56.0	120	
EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	0.5 mg/kg	97.2	62.0	124	
EP068: 4,4'-DDT	50-29-3	0.2	mg/kg	<0.2	0.5 mg/kg	104	66.0	120	
EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	0.5 mg/kg	94.9	64.0	122	
EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	0.5 mg/kg	97.7	54.0	130	
EP068B: Organophosphorus Pesticides (OP) (QCLot: 4168436)									
EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	0.5 mg/kg	92.6	59.0	119	
EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	92.5	62.0	128	
EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	0.5 mg/kg	86.3	54.0	126	
EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	0.5 mg/kg	89.8	67.0	119	



Sub-Matrix: SOIL

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike	Spike Recovery (%)		Acceptable Limits (%)	
					Concentration	LCS	Low	High	
EP068B: Organophosphorus Pesticides (OP) (QCLot: 4168436) - continued									
EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	0.5 mg/kg	105	70.0	120	
EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	0.5 mg/kg	95.0	72.0	120	
EP068: Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	0.5 mg/kg	95.9	68.0	120	
EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	0.5 mg/kg	92.0	68.0	122	
EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	0.5 mg/kg	94.5	69.0	117	
EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	0.5 mg/kg	96.6	76.0	118	
EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	0.5 mg/kg	96.0	64.0	122	
EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	0.5 mg/kg	96.0	70.0	116	
EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	0.5 mg/kg	92.4	69.0	121	
EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	0.5 mg/kg	87.8	66.0	118	
EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	0.5 mg/kg	93.6	68.0	124	
EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	0.5 mg/kg	95.2	62.0	112	
EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	0.5 mg/kg	94.3	68.0	120	
EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	0.5 mg/kg	91.5	65.0	127	
EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	0.5 mg/kg	74.0	41.0	123	
EP074A: Monocyclic Aromatic Hydrocarbons (QCLot: 4174112)									
EP074: Styrene	100-42-5	0.5	mg/kg	<0.5	1 mg/kg	90.3	67.0	113	
EP074: Isopropylbenzene	98-82-8	0.5	mg/kg	<0.5	1 mg/kg	89.9	65.0	117	
EP074: n-Propylbenzene	103-65-1	0.5	mg/kg	<0.5	1 mg/kg	86.6	66.0	122	
EP074: 1,3,5-Trimethylbenzene	108-67-8	0.5	mg/kg	<0.5	1 mg/kg	89.1	68.0	118	
EP074: sec-Butylbenzene	135-98-8	0.5	mg/kg	<0.5	1 mg/kg	88.9	69.0	119	
EP074: 1,2,4-Trimethylbenzene	95-63-6	0.5	mg/kg	<0.5	1 mg/kg	87.4	69.0	117	
EP074: tert-Butylbenzene	98-06-6	0.5	mg/kg	<0.5	1 mg/kg	85.5	69.0	115	
EP074: p-Isopropyltoluene	99-87-6	0.5	mg/kg	<0.5	1 mg/kg	87.1	66.0	118	
EP074: n-Butylbenzene	104-51-8	0.5	mg/kg	<0.5	1 mg/kg	88.8	59.0	125	
EP074B: Oxygenated Compounds (QCLot: 4174112)									
EP074: Vinyl Acetate	108-05-4	5	mg/kg	<5	10 mg/kg	78.8	29.6	156	
EP074: 2-Butanone (MEK)	78-93-3	5	mg/kg	<5	10 mg/kg	60.6	58.0	136	
EP074: 4-Methyl-2-pentanone (MIBK)	108-10-1	5	mg/kg	<5	10 mg/kg	97.1	62.0	132	
EP074: 2-Hexanone (MBK)	591-78-6	5	mg/kg	<5	10 mg/kg	65.2	54.0	136	
EP074C: Sulfonated Compounds (QCLot: 4174112)									
EP074: Carbon disulfide	75-15-0	0.5	mg/kg	<0.5	1 mg/kg	86.4	54.0	126	
EP074D: Fumigants (QCLot: 4174112)									
EP074: 2,2-Dichloropropane	594-20-7	0.5	mg/kg	<0.5	1 mg/kg	92.9	60.0	126	
EP074: 1,2-Dichloropropane	78-87-5	0.5	mg/kg	<0.5	1 mg/kg	95.3	68.0	124	
EP074: cis-1,3-Dichloropropylene	10061-01-5	0.5	mg/kg	<0.5	1 mg/kg	88.8	51.0	119	
EP074: trans-1,3-Dichloropropylene	10061-02-6	0.5	mg/kg	<0.5	1 mg/kg	90.4	52.0	114	
EP074: 1,2-Dibromoethane (EDB)	106-93-4	0.5	mg/kg	<0.5	1 mg/kg	98.2	63.0	115	



Sub-Matrix: SOIL

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike	Spike Recovery (%)		Acceptable Limits (%)	
					Concentration	LCS	Low	High	
EP074E: Halogenated Aliphatic Compounds (QCLot: 4174112)									
EP074: Dichlorodifluoromethane	75-71-8	5	mg/kg	<5	10 mg/kg	58.2	30.0	148	
EP074: Chloromethane	74-87-3	5	mg/kg	<5	10 mg/kg	81.2	41.0	141	
EP074: Vinyl chloride	75-01-4	5	mg/kg	<5	10 mg/kg	83.3	43.0	147	
EP074: Bromomethane	74-83-9	5	mg/kg	<5	10 mg/kg	87.2	47.0	141	
EP074: Chloroethane	75-00-3	5	mg/kg	<5	10 mg/kg	91.7	49.0	143	
EP074: Trichlorofluoromethane	75-69-4	5	mg/kg	<5	10 mg/kg	89.9	49.0	135	
EP074: 1,1-Dichloroethene	75-35-4	0.5	mg/kg	<0.5	1 mg/kg	90.3	54.0	126	
EP074: Iodomethane	74-88-4	0.5	mg/kg	<0.5	1 mg/kg	83.7	43.0	129	
EP074: trans-1,2-Dichloroethene	156-60-5	0.5	mg/kg	<0.5	1 mg/kg	86.5	64.0	120	
EP074: 1,1-Dichloroethane	75-34-3	0.5	mg/kg	<0.5	1 mg/kg	92.2	67.0	125	
EP074: cis-1,2-Dichloroethene	156-59-2	0.5	mg/kg	<0.5	1 mg/kg	90.8	69.0	121	
EP074: 1,1,1-Trichloroethane	71-55-6	0.5	mg/kg	<0.5	1 mg/kg	89.9	65.0	117	
EP074: 1,1-Dichloropropylene	563-58-6	0.5	mg/kg	<0.5	1 mg/kg	88.9	65.0	123	
EP074: Carbon Tetrachloride	56-23-5	0.5	mg/kg	<0.5	1 mg/kg	87.3	59.0	125	
EP074: 1,2-Dichloroethane	107-06-2	0.5	mg/kg	<0.5	1 mg/kg	96.3	65.0	125	
EP074: Trichloroethene	79-01-6	0.5	mg/kg	<0.5	1 mg/kg	90.9	70.0	118	
EP074: Dibromomethane	74-95-3	0.5	mg/kg	<0.5	1 mg/kg	93.8	68.0	118	
EP074: 1,1,2-Trichloroethane	79-00-5	0.5	mg/kg	<0.5	1 mg/kg	98.8	64.0	126	
EP074: 1,3-Dichloropropane	142-28-9	0.5	mg/kg	<0.5	1 mg/kg	97.2	68.0	122	
EP074: Tetrachloroethene	127-18-4	0.5	mg/kg	<0.5	1 mg/kg	87.2	67.0	143	
EP074: 1,1,1,2-Tetrachloroethane	630-20-6	0.5	mg/kg	<0.5	1 mg/kg	95.2	62.0	122	
EP074: trans-1,4-Dichloro-2-butene	110-57-6	0.5	mg/kg	<0.5	1 mg/kg	92.0	54.0	128	
EP074: cis-1,4-Dichloro-2-butene	1476-11-5	0.5	mg/kg	<0.5	1 mg/kg	92.3	55.0	129	
EP074: 1,1,2,2-Tetrachloroethane	79-34-5	0.5	mg/kg	<0.5	1 mg/kg	96.6	65.0	121	
EP074: 1,2,3-Trichloropropane	96-18-4	0.5	mg/kg	<0.5	1 mg/kg	93.6	61.0	125	
EP074: Pentachloroethane	76-01-7	0.5	mg/kg	<0.5	1 mg/kg	101	19.8	134	
EP074: 1,2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg	<0.5	1 mg/kg	93.2	53.0	129	
EP074F: Halogenated Aromatic Compounds (QCLot: 4174112)									
EP074: Chlorobenzene	108-90-7	0.5	mg/kg	<0.5	1 mg/kg	95.1	68.0	116	
EP074: Bromobenzene	108-86-1	0.5	mg/kg	<0.5	1 mg/kg	91.5	70.0	114	
EP074: 2-Chlorotoluene	95-49-8	0.5	mg/kg	<0.5	1 mg/kg	92.2	68.0	122	
EP074: 4-Chlorotoluene	106-43-4	0.5	mg/kg	<0.5	1 mg/kg	91.5	67.0	123	
EP074: 1,2,3-Trichlorobenzene	87-61-6	0.5	mg/kg	<0.5	1 mg/kg	98.7	52.0	122	
EP074G: Trihalomethanes (QCLot: 4174112)									
EP074: Chloroform	67-66-3	0.5	mg/kg	<0.5	1 mg/kg	98.5	66.0	124	
EP074: Bromodichloromethane	75-27-4	0.5	mg/kg	<0.5	1 mg/kg	90.6	61.0	121	
EP074: Dibromochloromethane	124-48-1	0.5	mg/kg	<0.5	1 mg/kg	92.2	63.0	121	
EP074: Bromoform	75-25-2	0.5	mg/kg	<0.5	1 mg/kg	91.5	60.0	126	



Sub-Matrix: SOIL

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike	Spike Recovery (%)		Acceptable Limits (%)	
					Concentration	LCS	Low	High	
EP075(SIM)A: Phenolic Compounds (QCLot: 4168435)									
EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	6 mg/kg	95.0	71.0	125	
EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	6 mg/kg	102	72.0	124	
EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	6 mg/kg	99.5	71.0	123	
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	12 mg/kg	105	67.0	127	
EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	6 mg/kg	86.2	54.0	114	
EP075(SIM): 2,4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	6 mg/kg	97.3	68.0	126	
EP075(SIM): 2,4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	6 mg/kg	93.0	66.0	120	
EP075(SIM): 2,6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	6 mg/kg	95.2	70.0	120	
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	6 mg/kg	88.9	70.0	116	
EP075(SIM): 2,4,6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	6 mg/kg	89.0	54.0	114	
EP075(SIM): 2,4,5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	6 mg/kg	90.7	60.0	114	
EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	12 mg/kg	51.4	10.0	57.0	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4168435)									
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	6 mg/kg	105	77.0	125	
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	6 mg/kg	96.7	72.0	124	
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	6 mg/kg	101	73.0	127	
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	6 mg/kg	105	72.0	126	
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	6 mg/kg	106	75.0	127	
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	6 mg/kg	98.7	77.0	127	
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	6 mg/kg	105	73.0	127	
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	6 mg/kg	104	74.0	128	
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	6 mg/kg	96.6	69.0	123	
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	6 mg/kg	100	75.0	127	
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2	0.5	mg/kg	<0.5	6 mg/kg	93.5	68.0	116	
	205-82-3								
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	6 mg/kg	100	74.0	126	
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	6 mg/kg	87.0	70.0	126	
EP075(SIM): Indeno(1,2,3-cd)pyrene	193-39-5	0.5	mg/kg	<0.5	6 mg/kg	94.7	61.0	121	
EP075(SIM): Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	6 mg/kg	93.8	62.0	118	
EP075(SIM): Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	6 mg/kg	93.4	63.0	121	
EP075A: Phenolic Compounds (QCLot: 4168438)									
EP075: Phenol	108-95-2	0.5	mg/kg	<0.5	1.5 mg/kg	91.2	64.0	114	
EP075: 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	1.5 mg/kg	82.2	57.0	115	
EP075: 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	1.5 mg/kg	85.3	55.0	117	
EP075: 3- & 4-Methylphenol	1319-77-3	0.5	mg/kg	<0.5	1.5 mg/kg	93.9	46.0	122	
EP075: 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	1.5 mg/kg	93.9	47.0	117	
EP075: 2,4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	1.5 mg/kg	98.6	13.7	108	
EP075: 2,4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	1.5 mg/kg	86.7	47.0	105	
EP075: 2,6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	1.5 mg/kg	84.9	48.0	110	



Sub-Matrix: SOIL

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike	Spike Recovery (%)		Acceptable Limits (%)	
					Concentration	LCS	Low	High	
EP075A: Phenolic Compounds (QCLot: 4168438) - continued									
EP075: 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	1.5 mg/kg	67.8	57.0	113	
EP075: 2,4,6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	1.5 mg/kg	69.9	49.0	109	
EP075: 2,4,5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	1.5 mg/kg	72.3	49.0	107	
EP075: Pentachlorophenol	87-86-5	1	mg/kg	<1	3 mg/kg	59.0	12.0	76.0	
EP075B: Polynuclear Aromatic Hydrocarbons (QCLot: 4168438)									
EP075: Naphthalene	91-20-3	0.5	mg/kg	<0.5	1.5 mg/kg	86.3	62.0	118	
EP075: 2-Methylnaphthalene	91-57-6	0.5	mg/kg	<0.5	1.5 mg/kg	70.8	58.0	116	
EP075: 2-Chloronaphthalene	91-58-7	0.5	mg/kg	<0.5	1.5 mg/kg	80.0	54.0	112	
EP075: Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	1.5 mg/kg	76.3	56.0	114	
EP075: Acenaphthene	83-32-9	0.5	mg/kg	<0.5	1.5 mg/kg	89.5	62.0	112	
EP075: Fluorene	86-73-7	0.5	mg/kg	<0.5	1.5 mg/kg	92.2	59.0	115	
EP075: Phenanthrene	85-01-8	0.5	mg/kg	<0.5	1.5 mg/kg	84.0	63.0	113	
EP075: Anthracene	120-12-7	0.5	mg/kg	<0.5	1.5 mg/kg	83.0	57.0	111	
EP075: Fluoranthene	206-44-0	0.5	mg/kg	<0.5	1.5 mg/kg	86.6	58.0	114	
EP075: Pyrene	129-00-0	0.5	mg/kg	<0.5	1.5 mg/kg	86.6	57.0	117	
EP075: N-2-Fluorenyl Acetamide	53-96-3	0.5	mg/kg	<0.5	1.5 mg/kg	73.8	58.0	114	
EP075: Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	1.5 mg/kg	91.8	59.0	115	
EP075: Chrysene	218-01-9	0.5	mg/kg	<0.5	1.5 mg/kg	84.8	61.0	117	
EP075: Benzo(b+j) & Benzo(k)fluoranthene	205-99-2 207-08-9	1	mg/kg	<1	3 mg/kg	84.0	57.0	119	
EP075: 7,12-Dimethylbenz(a)anthracene	57-97-6	0.5	mg/kg	<0.5	1.5 mg/kg	# 114	48.1	106	
EP075: Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	1.5 mg/kg	83.6	56.0	116	
EP075: 3-Methylcholanthrene	56-49-5	0.5	mg/kg	<0.5	1.5 mg/kg	80.8	50.0	116	
EP075: Indeno(1,2,3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	1.5 mg/kg	76.4	55.0	117	
EP075: Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	1.5 mg/kg	77.8	53.0	119	
EP075: Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	1.5 mg/kg	79.3	56.0	120	
EP075C: Phthalate Esters (QCLot: 4168438)									
EP075: Dimethyl phthalate	131-11-3	0.5	mg/kg	<0.5	1.5 mg/kg	83.6	60.0	118	
EP075: Diethyl phthalate	84-66-2	0.5	mg/kg	<0.5	1.5 mg/kg	107	65.0	115	
EP075: Di-n-butyl phthalate	84-74-2	0.5	mg/kg	<0.5	1.5 mg/kg	82.5	65.0	121	
EP075: Butyl benzyl phthalate	85-68-7	0.5	mg/kg	<0.5	1.5 mg/kg	84.6	62.0	116	
EP075: bis(2-ethylhexyl) phthalate	117-81-7	----	mg/kg	----	1.5 mg/kg	74.9	69.0	133	
EP075: Di-n-octylphthalate	117-84-0	0.5	mg/kg	<0.5	1.5 mg/kg	77.0	62.0	124	
EP075D: Nitrosamines (QCLot: 4168438)									
EP075: N-Nitrosomethylethylamine	10595-95-6	0.5	mg/kg	<0.5	1.5 mg/kg	78.5	39.4	124	
EP075: N-Nitrosodiethylamine	55-18-5	0.5	mg/kg	<0.5	1.5 mg/kg	88.9	59.0	117	
EP075: N-Nitrosopyrrolidine	930-55-2	0.5	mg/kg	<0.5	1.5 mg/kg	94.1	53.0	125	
EP075: N-Nitrosomorpholine	59-89-2	0.5	mg/kg	<0.5	1.5 mg/kg	91.6	65.0	121	



Sub-Matrix: SOIL

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike	Spike Recovery (%)		Acceptable Limits (%)	
					Concentration	LCS	Low	High	
EP075D: Nitrosamines (QCLot: 4168438) - continued									
EP075: N-Nitrosodi-n-propylamine	621-64-7	0.5	mg/kg	<0.5	1.5 mg/kg	94.0	59.0	123	
EP075: N-Nitrosopiperidine	100-75-4	0.5	mg/kg	<0.5	1.5 mg/kg	87.8	57.0	115	
EP075: N-Nitrosodibutylamine	924-16-3	0.5	mg/kg	<0.5	1.5 mg/kg	90.4	57.0	119	
EP075: N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	0.5	mg/kg	<0.6	3 mg/kg	95.9	42.0	112	
EP075: Methapyrilene	91-80-5	0.5	mg/kg	<0.5	1.5 mg/kg	49.6	16.3	123	
EP075E: Nitroaromatics and Ketones (QCLot: 4168438)									
EP075: 2-Picoline	109-06-8	0.5	mg/kg	<0.5	1.5 mg/kg	87.1	27.3	129	
EP075: Acetophenone	98-86-2	0.5	mg/kg	<0.5	1.5 mg/kg	87.5	60.0	116	
EP075: Nitrobenzene	98-95-3	0.5	mg/kg	<0.5	1.5 mg/kg	86.6	65.0	119	
EP075: Isophorone	78-59-1	0.5	mg/kg	<0.5	1.5 mg/kg	94.4	62.0	116	
EP075: 2,6-Dinitrotoluene	606-20-2	0.5	mg/kg	<0.5	1.5 mg/kg	78.3	58.0	118	
EP075: 2,4-Dinitrotoluene	121-14-2	0.5	mg/kg	<0.5	1.5 mg/kg	92.2	59.0	115	
EP075: 1-Naphthylamine	134-32-7	0.5	mg/kg	<0.5	1.5 mg/kg	41.4	18.0	112	
EP075: 4-Nitroquinoline-N-oxide	56-57-5	0.5	mg/kg	<0.5	1.5 mg/kg	77.6	10.0	87.0	
EP075: 5-Nitro-o-toluidine	99-55-8	0.5	mg/kg	<0.5	1.5 mg/kg	84.8	48.3	98.5	
EP075: Azobenzene	103-33-3	1	mg/kg	<1	1.5 mg/kg	93.9	62.0	118	
EP075: 1,3,5-Trinitrobenzene	99-35-4	0.5	mg/kg	<0.5	1.5 mg/kg	91.0	36.0	114	
EP075: Phenacetin	62-44-2	0.5	mg/kg	<0.5	1.5 mg/kg	96.3	62.0	114	
EP075: 4-Aminobiphenyl	92-67-1	0.5	mg/kg	<0.5	1.5 mg/kg	61.9	36.1	102	
EP075: Pentachloronitrobenzene	82-68-8	0.5	mg/kg	<0.5	1.5 mg/kg	93.9	56.0	110	
EP075: Pronamide	23950-58-5	0.5	mg/kg	<0.5	1.5 mg/kg	81.3	54.0	110	
EP075: Dimethylaminoazobenzene	60-11-7	0.5	mg/kg	<0.5	1.5 mg/kg	82.0	48.0	108	
EP075: Chlorobenzilate	510-15-6	0.5	mg/kg	<0.5	1.5 mg/kg	82.8	57.4	112	
EP075F: Haloethers (QCLot: 4168438)									
EP075: Bis(2-chloroethyl) ether	111-44-4	0.5	mg/kg	<0.5	1.5 mg/kg	66.0	63.0	121	
EP075: Bis(2-chloroethoxy) methane	111-91-1	0.5	mg/kg	<0.5	1.5 mg/kg	85.8	59.0	115	
EP075: 4-Chlorophenyl phenyl ether	7005-72-3	0.5	mg/kg	<0.5	1.5 mg/kg	94.0	58.0	112	
EP075: 4-Bromophenyl phenyl ether	101-55-3	0.5	mg/kg	<0.5	1.5 mg/kg	95.1	58.0	110	
EP075G: Chlorinated Hydrocarbons (QCLot: 4168438)									
EP075: 1,3-Dichlorobenzene	541-73-1	0.5	mg/kg	<0.5	1.5 mg/kg	85.0	58.0	112	
EP075: 1,4-Dichlorobenzene	106-46-7	0.5	mg/kg	<0.5	1.5 mg/kg	94.0	58.0	116	
EP075: 1,2-Dichlorobenzene	95-50-1	0.5	mg/kg	<0.5	1.5 mg/kg	81.6	57.0	115	
EP075: Hexachloroethane	67-72-1	0.5	mg/kg	<0.5	1.5 mg/kg	83.4	54.0	116	
EP075: 1,2,4-Trichlorobenzene	120-82-1	0.5	mg/kg	<0.5	1.5 mg/kg	92.2	62.9	108	
EP075: Hexachloropropylene	1888-71-7	0.5	mg/kg	<0.5	1.5 mg/kg	86.2	39.1	110	
EP075: Hexachlorobutadiene	87-68-3	0.5	mg/kg	<0.5	1.5 mg/kg	81.3	59.0	117	
EP075: Hexachlorocyclopentadiene	77-47-4	2.5	mg/kg	<2.5	1.5 mg/kg	68.5	24.3	108	



Sub-Matrix: SOIL

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike	Spike Recovery (%)		Acceptable Limits (%)	
					Concentration	LCS	Low	High	
EP075G: Chlorinated Hydrocarbons (QCLot: 4168438) - continued									
EP075: Pentachlorobenzene	608-93-5	0.5	mg/kg	<0.5	1.5 mg/kg	87.7	57.0	109	
EP075: Hexachlorobenzene (HCB)	118-74-1	0.5	mg/kg	<0.5	1.5 mg/kg	97.0	59.0	111	
EP075H: Anilines and Benzidines (QCLot: 4168438)									
EP075: Aniline	62-53-3	0.5	mg/kg	<0.5	1.5 mg/kg	71.6	13.2	108	
EP075: 4-Chloroaniline	106-47-8	0.5	mg/kg	<0.5	1.5 mg/kg	35.8	20.5	99.0	
EP075: 2-Nitroaniline	88-74-4	0.5	mg/kg	<0.5	1.5 mg/kg	76.9	52.0	112	
EP075: 3-Nitroaniline	99-09-2	0.5	mg/kg	<0.5	1.5 mg/kg	63.6	31.5	93.7	
EP075: Dibenzofuran	132-64-9	0.5	mg/kg	<0.5	1.5 mg/kg	92.5	60.0	110	
EP075: 4-Nitroaniline	100-01-6	0.5	mg/kg	<0.5	1.5 mg/kg	94.5	42.0	112	
EP075: Carbazole	86-74-8	0.5	mg/kg	<0.5	1.5 mg/kg	87.5	59.0	111	
EP075: 3,3'-Dichlorobenzidine	91-94-1	0.5	mg/kg	<0.5	1.5 mg/kg	67.0	23.1	113	
EP075I: Organochlorine Pesticides (QCLot: 4168438)									
EP075: alpha-BHC	319-84-6	0.5	mg/kg	<0.5	1.5 mg/kg	93.9	63.0	113	
EP075: beta-BHC	319-85-7	0.5	mg/kg	<0.5	1.5 mg/kg	98.7	57.0	113	
EP075: gamma-BHC	58-89-9	0.5	mg/kg	<0.5	1.5 mg/kg	94.7	61.0	117	
EP075: delta-BHC	319-86-8	0.5	mg/kg	<0.5	1.5 mg/kg	84.7	64.0	118	
EP075: Heptachlor	76-44-8	0.5	mg/kg	<0.5	1.5 mg/kg	80.7	55.0	115	
EP075: Aldrin	309-00-2	0.5	mg/kg	<0.5	1.5 mg/kg	88.6	61.0	115	
EP075: Heptachlor epoxide	1024-57-3	0.5	mg/kg	<0.5	1.5 mg/kg	85.0	56.0	118	
EP075: alpha-Endosulfan	959-98-8	0.5	mg/kg	<0.5	1.5 mg/kg	88.0	65.0	125	
EP075: 4,4'-DDE	72-55-9	0.5	mg/kg	<0.5	1.5 mg/kg	83.0	60.0	116	
EP075: Dieldrin	60-57-1	0.5	mg/kg	<0.5	1.5 mg/kg	87.1	64.0	118	
EP075: Endrin	72-20-8	0.5	mg/kg	<0.5	1.5 mg/kg	83.2	53.0	117	
EP075: beta-Endosulfan	33213-65-9	0.5	mg/kg	<0.5	1.5 mg/kg	87.2	65.0	115	
EP075: 4,4'-DDD	72-54-8	0.5	mg/kg	<0.5	1.5 mg/kg	85.4	62.0	118	
EP075: Endosulfan sulfate	1031-07-8	0.5	mg/kg	<0.5	1.5 mg/kg	110	63.0	129	
EP075: 4,4'-DDT	50-29-3	0.5	mg/kg	<0.5	1.5 mg/kg	87.9	46.0	122	
EP075J: Organophosphorus Pesticides (QCLot: 4168438)									
EP075: Dichlorvos	62-73-7	0.5	mg/kg	<0.5	1.5 mg/kg	86.5	46.0	112	
EP075: Dimethoate	60-51-5	0.5	mg/kg	<0.5	1.5 mg/kg	89.9	63.0	119	
EP075: Diazinon	333-41-5	0.5	mg/kg	<0.5	1.5 mg/kg	89.0	68.0	134	
EP075: Chlorpyrifos-methyl	5598-13-0	0.5	mg/kg	<0.5	1.5 mg/kg	87.0	60.0	130	
EP075: Malathion	121-75-5	0.5	mg/kg	<0.5	1.5 mg/kg	91.8	65.0	127	
EP075: Fenthion	55-38-9	0.5	mg/kg	<0.5	1.5 mg/kg	87.7	60.0	116	
EP075: Chlorpyrifos	2921-88-2	0.5	mg/kg	<0.5	1.5 mg/kg	83.4	63.0	113	
EP075: Pirimphos-ethyl	23505-41-1	0.5	mg/kg	<0.5	1.5 mg/kg	81.8	65.0	115	
EP075: Chlorfenvinphos	470-90-6	0.5	mg/kg	<0.5	1.5 mg/kg	77.1	59.0	103	
EP075: Prothiofos	34643-46-4	0.5	mg/kg	<0.5	1.5 mg/kg	84.3	59.0	119	



Sub-Matrix: SOIL

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike	Spike Recovery (%)		Acceptable Limits (%)	
					Concentration	LCS	Low	High	
EP075J: Organophosphorus Pesticides (QCLot: 4168438) - continued									
EP075: Ethion	563-12-2	0.5	mg/kg	<0.5	1.5 mg/kg	88.7	62.0	118	
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4168434)									
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	300 mg/kg	107	75.0	129	
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	450 mg/kg	108	77.0	131	
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	300 mg/kg	104	71.0	129	
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4172738)									
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	26 mg/kg	90.6	68.4	128	
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4174111)									
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	26 mg/kg	102	68.4	128	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4168434)									
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	375 mg/kg	111	77.0	125	
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	525 mg/kg	105	74.0	138	
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	225 mg/kg	103	63.0	131	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4172738)									
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	31 mg/kg	94.2	68.4	128	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4174111)									
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	31 mg/kg	101	68.4	128	
EP080: BTEXN (QCLot: 4172738)									
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	92.4	62.0	116	
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	88.5	67.0	121	
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	93.2	65.0	117	
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	2 mg/kg	93.3	66.0	118	
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	93.6	68.0	120	
EP080: Naphthalene	91-20-3	1	mg/kg	<1	1 mg/kg	118	63.0	119	
EP080: BTEXN (QCLot: 4174111)									
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	106	62.0	116	
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	98.5	67.0	121	
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	96.8	65.0	117	
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	2 mg/kg	95.2	66.0	118	
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	97.7	68.0	120	
EP080: Naphthalene	91-20-3	1	mg/kg	<1	1 mg/kg	112	63.0	119	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4172384)									
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	0.00125 mg/kg	96.0	72.0	128	
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	0.00125 mg/kg	88.4	73.0	123	
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	0.00125 mg/kg	86.0	67.0	130	



Sub-Matrix: SOIL

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike	Spike Recovery (%)		Acceptable Limits (%)	
					Concentration	LCS	Low	High	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4172384) - continued									
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	0.00125 mg/kg	85.2	70.0	132	
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	85.6	68.0	136	
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	0.00125 mg/kg	90.0	59.0	134	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4177308)									
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	0.00125 mg/kg	103	72.0	128	
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	0.00125 mg/kg	99.6	73.0	123	
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	0.00125 mg/kg	101	67.0	130	
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	0.00125 mg/kg	107	70.0	132	
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	92.4	68.0	136	
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	0.00125 mg/kg	108	59.0	134	
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4172384)									
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	0.00625 mg/kg	93.9	71.0	135	
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	0.00125 mg/kg	103	69.0	132	
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	0.00125 mg/kg	116	70.0	132	
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	0.00125 mg/kg	98.0	71.0	131	
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	98.0	69.0	133	
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	100	72.0	129	
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	0.00125 mg/kg	95.6	69.0	133	
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	0.00125 mg/kg	107	64.0	136	
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	109	69.0	135	
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	0.00125 mg/kg	103	66.0	139	
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	0.00312 mg/kg	112	69.0	133	
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4177308)									
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	0.00625 mg/kg	99.5	71.0	135	
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	0.00125 mg/kg	116	69.0	132	
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	0.00125 mg/kg	124	70.0	132	
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	0.00125 mg/kg	101	71.0	131	
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	105	69.0	133	
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	87.6	72.0	129	
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	0.00125 mg/kg	100	69.0	133	
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	0.00125 mg/kg	110	64.0	136	
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	109	69.0	135	
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	0.00125 mg/kg	106	66.0	139	
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	0.00312 mg/kg	79.5	69.0	133	
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4172384)									
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	0.00125 mg/kg	99.2	67.0	137	
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	0.00312 mg/kg	107	71.6	129	
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	0.00312 mg/kg	100	69.8	131	



Sub-Matrix: SOIL

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
				Result	Spike	Spike Recovery (%)	Acceptable Limits (%)	
					Concentration	LCS	Low	High
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4172384) - continued								
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	0.00312 mg/kg	106	68.7	130
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	0.00312 mg/kg	105	65.1	134
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	0.00125 mg/kg	102	63.0	144
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	0.00125 mg/kg	77.6	61.0	139
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4177308)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	0.00125 mg/kg	82.4	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	0.00312 mg/kg	98.9	71.6	129
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	0.00312 mg/kg	88.1	69.8	131
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	0.00312 mg/kg	82.8	68.7	130
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	0.00312 mg/kg	68.3	65.1	134
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	0.00125 mg/kg	92.8	63.0	144
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	0.00125 mg/kg	98.8	61.0	139
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4172384)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	0.00125 mg/kg	119	62.0	145
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	0.00125 mg/kg	105	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	0.00125 mg/kg	119	65.0	137
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	0.00125 mg/kg	106	69.2	143
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4177308)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	0.00125 mg/kg	113	62.0	145
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	0.00125 mg/kg	95.6	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	0.00125 mg/kg	104	65.0	137
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	0.00125 mg/kg	116	69.2	143

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: SOIL

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report		
				Spike	SpikeRecovery(%)	Acceptable Limits (%)
				Concentration	MS	Low High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 4181562)						



Sub-Matrix: SOIL

				Matrix Spike (MS) Report			
				Spike Concentration	SpikeRecovery(%) MS	Acceptable Limits (%) Low High	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 4181562) - continued							
ES2204977-001	Anonymous	EG005T: Arsenic	7440-38-2	50 mg/kg	91.2	70.0	130
		EG005T: Cadmium	7440-43-9	50 mg/kg	80.8	70.0	130
		EG005T: Chromium	7440-47-3	50 mg/kg	91.7	68.0	132
		EG005T: Copper	7440-50-8	250 mg/kg	97.5	70.0	130
		EG005T: Lead	7439-92-1	250 mg/kg	74.6	70.0	130
		EG005T: Nickel	7440-02-0	50 mg/kg	70.2	70.0	130
		EG005T: Zinc	7440-66-6	250 mg/kg	# Not Determined	66.0	133
EG035T: Total Recoverable Mercury by FIMS (QCLot: 4181563)							
ES2204977-001	Anonymous	EG035T: Mercury	7439-97-6	5 mg/kg	96.9	70.0	130
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 4168437)							
ES2204462-001	BH03_0.2	EP066: Total Polychlorinated biphenyls	----	1 mg/kg	91.0	70.0	130
EP068A: Organochlorine Pesticides (OC) (QCLot: 4168436)							
ES2204462-001	BH03_0.2	EP068: gamma-BHC	58-89-9	0.5 mg/kg	86.1	70.0	130
		EP068: Heptachlor	76-44-8	0.5 mg/kg	83.0	70.0	130
		EP068: Aldrin	309-00-2	0.5 mg/kg	93.6	70.0	130
		EP068: Dieldrin	60-57-1	0.5 mg/kg	116	70.0	130
		EP068: Endrin	72-20-8	2 mg/kg	79.7	70.0	130
		EP068: 4,4'-DDT	50-29-3	2 mg/kg	82.0	70.0	130
EP068B: Organophosphorus Pesticides (OP) (QCLot: 4168436)							
ES2204462-001	BH03_0.2	EP068: Diazinon	333-41-5	0.5 mg/kg	103	70.0	130
		EP068: Chlorpyrifos-methyl	5598-13-0	0.5 mg/kg	87.6	70.0	130
		EP068: Pirimphos-ethyl	23505-41-1	0.5 mg/kg	87.1	70.0	130
		EP068: Bromophos-ethyl	4824-78-6	0.5 mg/kg	88.0	70.0	130
		EP068: Prothiofos	34643-46-4	0.5 mg/kg	75.6	70.0	130
EP074E: Halogenated Aliphatic Compounds (QCLot: 4174112)							
ES2203546-003	Anonymous	EP074: 1,1-Dichloroethene	75-35-4	2.5 mg/kg	79.6	70.0	130
		EP074: Trichloroethene	79-01-6	2.5 mg/kg	78.9	70.0	130
EP074F: Halogenated Aromatic Compounds (QCLot: 4174112)							
ES2203546-003	Anonymous	EP074: Chlorobenzene	108-90-7	2.5 mg/kg	83.8	70.0	130
EP075(SIM)A: Phenolic Compounds (QCLot: 4168435)							
ES2204462-001	BH03_0.2	EP075(SIM): Phenol	108-95-2	10 mg/kg	87.9	70.0	130
		EP075(SIM): 2-Chlorophenol	95-57-8	10 mg/kg	96.2	70.0	130
		EP075(SIM): 2-Nitrophenol	88-75-5	10 mg/kg	78.6	60.0	130
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	10 mg/kg	84.9	70.0	130
		EP075(SIM): Pentachlorophenol	87-86-5	10 mg/kg	44.8	20.0	130



Sub-Matrix: SOIL

				Matrix Spike (MS) Report			
				Spike Concentration	SpikeRecovery(%) MS	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4168435)							
ES2204462-001	BH03_0.2	EP075(SIM): Acenaphthene	83-32-9	10 mg/kg	93.2	70.0	130
		EP075(SIM): Pyrene	129-00-0	10 mg/kg	114	70.0	130
EP075A: Phenolic Compounds (QCLot: 4168438)							
ES2204462-001	BH03_0.2	EP075: Phenol	108-95-2	10 mg/kg	100	60.0	130
		EP075: 2-Chlorophenol	95-57-8	10 mg/kg	84.4	60.0	130
		EP075: 2-Nitrophenol	88-75-5	10 mg/kg	89.7	50.0	130
		EP075: 4-Chloro-3-methylphenol	59-50-7	10 mg/kg	112	50.0	130
		EP075: Pentachlorophenol	87-86-5	10 mg/kg	62.4	10.0	130
EP075B: Polynuclear Aromatic Hydrocarbons (QCLot: 4168438)							
ES2204462-001	BH03_0.2	EP075: Acenaphthene	83-32-9	10 mg/kg	84.0	50.0	130
		EP075: Pyrene	129-00-0	10 mg/kg	80.1	50.0	130
EP075D: Nitrosamines (QCLot: 4168438)							
ES2204462-001	BH03_0.2	EP075: N-Nitrosodi-n-propylamine	621-64-7	10 mg/kg	90.5	50.0	130
EP075E: Nitroaromatics and Ketones (QCLot: 4168438)							
ES2204462-001	BH03_0.2	EP075: 2,4-Dinitrotoluene	121-14-2	10 mg/kg	91.2	40.0	130
EP075G: Chlorinated Hydrocarbons (QCLot: 4168438)							
ES2204462-001	BH03_0.2	EP075: 1,4-Dichlorobenzene	106-46-7	10 mg/kg	86.8	60.0	130
		EP075: 1,2,4-Trichlorobenzene	120-82-1	10 mg/kg	96.2	50.0	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4168434)							
ES2204462-001	BH03_0.2	EP071: C10 - C14 Fraction	----	480 mg/kg	91.0	73.0	137
		EP071: C15 - C28 Fraction	----	3100 mg/kg	111	53.0	131
		EP071: C29 - C36 Fraction	----	2060 mg/kg	118	52.0	132
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4172738)							
ES2204577-001	Anonymous	EP080: C6 - C9 Fraction	----	32.5 mg/kg	87.4	70.0	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4174111)							
ES2203546-003	Anonymous	EP080: C6 - C9 Fraction	----	32.5 mg/kg	100	70.0	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4168434)							
ES2204462-001	BH03_0.2	EP071: >C10 - C16 Fraction	----	860 mg/kg	102	73.0	137
		EP071: >C16 - C34 Fraction	----	4320 mg/kg	115	53.0	131
		EP071: >C34 - C40 Fraction	----	890 mg/kg	116	52.0	132
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4172738)							
ES2204577-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	37.5 mg/kg	90.8	70.0	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4174111)							
ES2203546-003	Anonymous	EP080: C6 - C10 Fraction	C6_C10	37.5 mg/kg	97.8	70.0	130
EP080: BTEXN (QCLot: 4172738)							



Sub-Matrix: SOIL

				Matrix Spike (MS) Report				
				Spike	SpikeRecovery(%)	Acceptable Limits (%)		
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High	
EP080: BTEXN (QCLot: 4172738) - continued								
ES2204577-001	Anonymous	EP080: Benzene	71-43-2	2.5 mg/kg	85.4	70.0	130	
		EP080: Toluene	108-88-3	2.5 mg/kg	78.5	70.0	130	
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	85.5	70.0	130	
		EP080: meta- & para-Xylene	108-38-3	2.5 mg/kg	83.5	70.0	130	
			106-42-3					
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	85.8	70.0	130	
	EP080: Naphthalene	91-20-3	2.5 mg/kg	82.7	70.0	130		
EP080: BTEXN (QCLot: 4174111)								
ES2203546-003	Anonymous	EP080: Benzene	71-43-2	2.5 mg/kg	98.6	70.0	130	
		EP080: Toluene	108-88-3	2.5 mg/kg	88.7	70.0	130	
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	91.1	70.0	130	
		EP080: meta- & para-Xylene	108-38-3	2.5 mg/kg	87.1	70.0	130	
			106-42-3					
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	89.6	70.0	130	
	EP080: Naphthalene	91-20-3	2.5 mg/kg	86.8	70.0	130		
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4172384)								
ES2203546-001	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.00125 mg/kg	87.2	72.0	128	
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.00125 mg/kg	100	73.0	123	
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.00125 mg/kg	95.2	67.0	130	
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.00125 mg/kg	89.2	70.0	132	
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.00125 mg/kg	89.2	68.0	136	
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.00125 mg/kg	111	59.0	134	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4177308)								
ES2204462-011	BH03_0.5 Dup	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.00125 mg/kg	102	72.0	128	
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.00125 mg/kg	96.4	73.0	123	
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.00125 mg/kg	99.6	67.0	130	
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.00125 mg/kg	101	70.0	132	
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.00125 mg/kg	86.8	68.0	136	
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.00125 mg/kg	109	59.0	134	
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4172384)								
ES2203546-001	Anonymous	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.00625 mg/kg	93.0	71.0	135	
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.00125 mg/kg	97.2	69.0	132	
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.00125 mg/kg	115	70.0	132	
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.00125 mg/kg	95.6	71.0	131	
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.00125 mg/kg	96.4	69.0	133	
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.00125 mg/kg	104	72.0	129	
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.00125 mg/kg	96.0	69.0	133	
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.00125 mg/kg	101	64.0	136	



Sub-Matrix: SOIL

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4172384) - continued							
ES2203546-001	Anonymous	EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.00125 mg/kg	102	69.0	135
		EP231X: Perfluorotridecanoic acid (PFTTrDA)	72629-94-8	0.00125 mg/kg	94.4	66.0	139
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.00312 mg/kg	110	69.0	133
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4177308)							
ES2204462-011	BH03_0.5 Dup	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.00625 mg/kg	101	71.0	135
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.00125 mg/kg	120	69.0	132
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.00125 mg/kg	103	70.0	132
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.00125 mg/kg	104	71.0	131
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.00125 mg/kg	101	69.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.00125 mg/kg	82.8	72.0	129
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.00125 mg/kg	104	69.0	133
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.00125 mg/kg	107	64.0	136
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.00125 mg/kg	110	69.0	135
		EP231X: Perfluorotridecanoic acid (PFTTrDA)	72629-94-8	0.00125 mg/kg	106	66.0	139
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.00312 mg/kg	99.5	69.0	133
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4172384)							
ES2203546-001	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.00125 mg/kg	92.8	67.0	137
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.00312 mg/kg	102	71.6	129
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.00312 mg/kg	103	69.8	131
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.00312 mg/kg	102	68.7	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.00312 mg/kg	103	65.1	134
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.00125 mg/kg	100	63.0	144
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.00125 mg/kg	76.0	61.0	139
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4177308)							
ES2204462-011	BH03_0.5 Dup	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.00125 mg/kg	100	67.0	137
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.00312 mg/kg	96.3	71.6	129
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.00312 mg/kg	102	69.8	131
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.00312 mg/kg	81.1	68.7	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.00312 mg/kg	79.3	65.1	134
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.00125 mg/kg	101	63.0	144



Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4177308) - continued							
ES2204462-011	BH03_0.5 Dup	EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.00125 mg/kg	108	61.0	139
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4172384)							
ES2203546-001	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.00125 mg/kg	115	62.0	145
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.00125 mg/kg	105	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.00125 mg/kg	94.8	65.0	137
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.00125 mg/kg	95.2	69.2	143
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4177308)							
ES2204462-011	BH03_0.5 Dup	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.00125 mg/kg	123	62.0	145
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.00125 mg/kg	90.8	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.00125 mg/kg	108	65.0	137
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.00125 mg/kg	73.2	69.2	143

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: ES2204462	Page	: 1 of 10
Client	: EP RISK MANAGEMENT	Laboratory	: Environmental Division Sydney
Contact	: HARRISON BLAKE	Telephone	: +61 2 8784 8555
Project	: EP2515	Date Samples Received	: 09-Feb-2022
Site	: ----	Issue Date	: 23-Feb-2022
Sampler	: HARRISON BLAKE	No. of samples received	: 12
Order number	: ----	No. of samples analysed	: 6

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO** Method Blank value outliers occur.
- **NO** Duplicate outliers occur.
- Laboratory Control outliers exist - please see following pages for full details.
- Matrix Spike outliers exist - please see following pages for full details.
- For all regular sample matrices, **NO** surrogate recovery outliers occur.

Outliers : Analysis Holding Time Compliance

- **NO** Analysis Holding Time Outliers exist.

Outliers : Frequency of Quality Control Samples

- Quality Control Sample Frequency Outliers exist - please see following pages for full details.



Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Laboratory Control Spike (LCS) Recoveries							
EP075B: Polynuclear Aromatic Hydrocarbons	QC-4168438-002	----	7.12-Dimethylbenz(a)anthracene	57-97-6	114 %	48.1-106%	Recovery greater than upper control limit
Matrix Spike (MS) Recoveries							
EG005(ED093)T: Total Metals by ICP-AES	ES2204977--001	Anonymous	Zinc	7440-66-6	Not Determined	----	MS recovery not determined, background level greater than or equal to 4x spike level.

Outliers : Frequency of Quality Control Samples

Matrix: **SOIL**

Quality Control Sample Type	Count		Rate (%)		Quality Control Specification
	QC	Regular	Actual	Expected	
Laboratory Duplicates (DUP)					
Moisture Content	2	21	9.52	10.00	NEPM 2013 B3 & ALS QC Standard

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for **VOC in soils** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

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

Method	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA003 :pH (field/fox)							
Snap Lock Bag - frozen on receipt at ALS (EA003) BH03_3.0	09-Feb-2022	21-Feb-2022	04-Nov-2024	✓	21-Feb-2022	22-May-2022	✓
EA029-A: pH Measurements							
Snap Lock Bag - frozen on receipt at ALS (EA029) BH03_3.0	09-Feb-2022	17-Feb-2022	04-Nov-2024	✓	17-Feb-2022	18-May-2022	✓
EA029-B: Acidity Trail							
Snap Lock Bag - frozen on receipt at ALS (EA029) BH03_3.0	09-Feb-2022	17-Feb-2022	04-Nov-2024	✓	17-Feb-2022	18-May-2022	✓
EA029-C: Sulfur Trail							
Snap Lock Bag - frozen on receipt at ALS (EA029) BH03_3.0	09-Feb-2022	17-Feb-2022	04-Nov-2024	✓	17-Feb-2022	18-May-2022	✓



Matrix: SOIL

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

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EA029-D: Calcium Values								
Snap Lock Bag - frozen on receipt at ALS (EA029) BH03_3.0	09-Feb-2022	17-Feb-2022	04-Nov-2024	✓	17-Feb-2022	18-May-2022	✓	
EA029-E: Magnesium Values								
Snap Lock Bag - frozen on receipt at ALS (EA029) BH03_3.0	09-Feb-2022	17-Feb-2022	04-Nov-2024	✓	17-Feb-2022	18-May-2022	✓	
EA029-F: Excess Acid Neutralising Capacity								
Snap Lock Bag - frozen on receipt at ALS (EA029) BH03_3.0	09-Feb-2022	17-Feb-2022	04-Nov-2024	✓	17-Feb-2022	18-May-2022	✓	
EA029-G: Retained Acidity								
Snap Lock Bag - frozen on receipt at ALS (EA029) BH03_3.0	09-Feb-2022	17-Feb-2022	04-Nov-2024	✓	17-Feb-2022	18-May-2022	✓	
EA029-H: Acid Base Accounting								
Snap Lock Bag - frozen on receipt at ALS (EA029) BH03_3.0	09-Feb-2022	17-Feb-2022	04-Nov-2024	✓	17-Feb-2022	18-May-2022	✓	
EA055: Moisture Content (Dried @ 105-110°C)								
HDPE Soil Jar (EA055) BH03_0.5 Dup	09-Feb-2022	----	----	----	19-Feb-2022	23-Feb-2022	✓	
Soil Glass Jar - Unpreserved (EA055) BH03_0.2, BH03_1.5, BH03_0.2 Dup	BH03_0.5, BH03_3.0	09-Feb-2022	----	----	18-Feb-2022	23-Feb-2022	✓	
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Snap Lock Bag - Friable Asbestos/PSD Bag (EA200) BH03_0.2, BH03_1.5	BH03_0.5	09-Feb-2022	----	----	14-Feb-2022	08-Aug-2022	✓	
EG005(ED093)T: Total Metals by ICP-AES								
Soil Glass Jar - Unpreserved (EG005T) BH03_0.2, BH03_1.5, BH03_0.2 Dup	BH03_0.5, BH03_3.0	09-Feb-2022	18-Feb-2022	07-Aug-2022	✓	18-Feb-2022	07-Aug-2022	✓
EG035T: Total Recoverable Mercury by FIMS								
Soil Glass Jar - Unpreserved (EG035T) BH03_0.2, BH03_1.5, BH03_0.2 Dup	BH03_0.5, BH03_3.0	09-Feb-2022	18-Feb-2022	09-Mar-2022	✓	18-Feb-2022	09-Mar-2022	✓
EP066: Polychlorinated Biphenyls (PCB)								
Soil Glass Jar - Unpreserved (EP066) BH03_0.2, BH03_1.5, BH03_0.2 Dup	BH03_0.5, BH03_3.0	09-Feb-2022	16-Feb-2022	23-Feb-2022	✓	17-Feb-2022	28-Mar-2022	✓



Matrix: SOIL

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

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP068A: Organochlorine Pesticides (OC)								
Soil Glass Jar - Unpreserved (EP068) BH03_0.2, BH03_1.5, BH03_0.2 Dup	BH03_0.5, BH03_3.0	09-Feb-2022	16-Feb-2022	23-Feb-2022	✓	17-Feb-2022	28-Mar-2022	✓
EP068B: Organophosphorus Pesticides (OP)								
Soil Glass Jar - Unpreserved (EP068) BH03_0.2, BH03_1.5, BH03_0.2 Dup	BH03_0.5, BH03_3.0	09-Feb-2022	16-Feb-2022	23-Feb-2022	✓	17-Feb-2022	28-Mar-2022	✓
EP074A: Monocyclic Aromatic Hydrocarbons								
Soil Glass Jar - Unpreserved (EP074) BH03_0.2,	BH03_3.0	09-Feb-2022	16-Feb-2022	16-Feb-2022	✓	16-Feb-2022	16-Feb-2022	✓
EP074B: Oxygenated Compounds								
Soil Glass Jar - Unpreserved (EP074) BH03_0.2,	BH03_3.0	09-Feb-2022	16-Feb-2022	16-Feb-2022	✓	16-Feb-2022	16-Feb-2022	✓
EP074C: Sulfonated Compounds								
Soil Glass Jar - Unpreserved (EP074) BH03_0.2,	BH03_3.0	09-Feb-2022	16-Feb-2022	16-Feb-2022	✓	16-Feb-2022	16-Feb-2022	✓
EP074D: Fumigants								
Soil Glass Jar - Unpreserved (EP074) BH03_0.2,	BH03_3.0	09-Feb-2022	16-Feb-2022	16-Feb-2022	✓	16-Feb-2022	16-Feb-2022	✓
EP074E: Halogenated Aliphatic Compounds								
Soil Glass Jar - Unpreserved (EP074) BH03_0.2,	BH03_3.0	09-Feb-2022	16-Feb-2022	16-Feb-2022	✓	16-Feb-2022	16-Feb-2022	✓
EP074F: Halogenated Aromatic Compounds								
Soil Glass Jar - Unpreserved (EP074) BH03_0.2,	BH03_3.0	09-Feb-2022	16-Feb-2022	16-Feb-2022	✓	16-Feb-2022	16-Feb-2022	✓
EP074G: Trihalomethanes								
Soil Glass Jar - Unpreserved (EP074) BH03_0.2,	BH03_3.0	09-Feb-2022	16-Feb-2022	16-Feb-2022	✓	16-Feb-2022	16-Feb-2022	✓
EP075(SIM)A: Phenolic Compounds								
Soil Glass Jar - Unpreserved (EP075(SIM)) BH03_0.2, BH03_1.5, BH03_0.2 Dup	BH03_0.5, BH03_3.0	09-Feb-2022	16-Feb-2022	23-Feb-2022	✓	18-Feb-2022	28-Mar-2022	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Soil Glass Jar - Unpreserved (EP075(SIM)) BH03_0.2, BH03_1.5, BH03_0.2 Dup	BH03_0.5, BH03_3.0	09-Feb-2022	16-Feb-2022	23-Feb-2022	✓	18-Feb-2022	28-Mar-2022	✓



Matrix: SOIL

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

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP075A: Phenolic Compounds							
Soil Glass Jar - Unpreserved (EP075) BH03_0.2, BH03_3.0	09-Feb-2022	16-Feb-2022	23-Feb-2022	✓	18-Feb-2022	28-Mar-2022	✓
EP075B: Polynuclear Aromatic Hydrocarbons							
Soil Glass Jar - Unpreserved (EP075) BH03_0.2, BH03_3.0	09-Feb-2022	16-Feb-2022	23-Feb-2022	✓	18-Feb-2022	28-Mar-2022	✓
EP075C: Phthalate Esters							
Soil Glass Jar - Unpreserved (EP075) BH03_0.2, BH03_3.0	09-Feb-2022	16-Feb-2022	23-Feb-2022	✓	18-Feb-2022	28-Mar-2022	✓
EP075D: Nitrosamines							
Soil Glass Jar - Unpreserved (EP075) BH03_0.2, BH03_3.0	09-Feb-2022	16-Feb-2022	23-Feb-2022	✓	18-Feb-2022	28-Mar-2022	✓
EP075E: Nitroaromatics and Ketones							
Soil Glass Jar - Unpreserved (EP075) BH03_0.2, BH03_3.0	09-Feb-2022	16-Feb-2022	23-Feb-2022	✓	18-Feb-2022	28-Mar-2022	✓
EP075F: Haloethers							
Soil Glass Jar - Unpreserved (EP075) BH03_0.2, BH03_3.0	09-Feb-2022	16-Feb-2022	23-Feb-2022	✓	18-Feb-2022	28-Mar-2022	✓
EP075G: Chlorinated Hydrocarbons							
Soil Glass Jar - Unpreserved (EP075) BH03_0.2, BH03_3.0	09-Feb-2022	16-Feb-2022	23-Feb-2022	✓	18-Feb-2022	28-Mar-2022	✓
EP075H: Anilines and Benzidines							
Soil Glass Jar - Unpreserved (EP075) BH03_0.2, BH03_3.0	09-Feb-2022	16-Feb-2022	23-Feb-2022	✓	18-Feb-2022	28-Mar-2022	✓
EP075I: Organochlorine Pesticides							
Soil Glass Jar - Unpreserved (EP075) BH03_0.2, BH03_3.0	09-Feb-2022	16-Feb-2022	23-Feb-2022	✓	18-Feb-2022	28-Mar-2022	✓
EP075J: Organophosphorus Pesticides							
Soil Glass Jar - Unpreserved (EP075) BH03_0.2, BH03_3.0	09-Feb-2022	16-Feb-2022	23-Feb-2022	✓	18-Feb-2022	28-Mar-2022	✓
EP080/071: Total Petroleum Hydrocarbons							
Soil Glass Jar - Unpreserved (EP080) BH03_0.5, BH03_0.2 Dup, BH03_1.5,	09-Feb-2022	15-Feb-2022	23-Feb-2022	✓	15-Feb-2022	23-Feb-2022	✓
Soil Glass Jar - Unpreserved (EP080) BH03_0.2, BH03_3.0	09-Feb-2022	16-Feb-2022	23-Feb-2022	✓	16-Feb-2022	23-Feb-2022	✓
Soil Glass Jar - Unpreserved (EP071) BH03_0.2, BH03_1.5, BH03_0.2 Dup, BH03_0.5, BH03_3.0,	09-Feb-2022	16-Feb-2022	23-Feb-2022	✓	17-Feb-2022	28-Mar-2022	✓



Matrix: SOIL

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

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
Soil Glass Jar - Unpreserved (EP080) BH03_0.5, BH03_0.2 Dup	BH03_1.5,	09-Feb-2022	15-Feb-2022	23-Feb-2022	✓	15-Feb-2022	23-Feb-2022	✓
Soil Glass Jar - Unpreserved (EP080) BH03_0.2,	BH03_3.0	09-Feb-2022	16-Feb-2022	23-Feb-2022	✓	16-Feb-2022	23-Feb-2022	✓
Soil Glass Jar - Unpreserved (EP071) BH03_0.2, BH03_1.5, BH03_0.2 Dup	BH03_0.5, BH03_3.0,	09-Feb-2022	16-Feb-2022	23-Feb-2022	✓	17-Feb-2022	28-Mar-2022	✓
EP080: BTEXN								
Soil Glass Jar - Unpreserved (EP080) BH03_0.5, BH03_0.2 Dup	BH03_1.5,	09-Feb-2022	15-Feb-2022	23-Feb-2022	✓	15-Feb-2022	23-Feb-2022	✓
Soil Glass Jar - Unpreserved (EP080) BH03_0.2,	BH03_3.0	09-Feb-2022	16-Feb-2022	23-Feb-2022	✓	16-Feb-2022	23-Feb-2022	✓
EP231A: Perfluoroalkyl Sulfonic Acids								
HDPE Soil Jar (EP231X) BH03_0.2,	BH03_0.5	09-Feb-2022	15-Feb-2022	08-Aug-2022	✓	16-Feb-2022	27-Mar-2022	✓
HDPE Soil Jar (EP231X) BH03_0.5 Dup		09-Feb-2022	22-Feb-2022	07-Aug-2022	✓	22-Feb-2022	03-Apr-2022	✓
EP231B: Perfluoroalkyl Carboxylic Acids								
HDPE Soil Jar (EP231X) BH03_0.2,	BH03_0.5	09-Feb-2022	15-Feb-2022	08-Aug-2022	✓	16-Feb-2022	27-Mar-2022	✓
HDPE Soil Jar (EP231X) BH03_0.5 Dup		09-Feb-2022	22-Feb-2022	07-Aug-2022	✓	22-Feb-2022	03-Apr-2022	✓
EP231C: Perfluoroalkyl Sulfonamides								
HDPE Soil Jar (EP231X) BH03_0.5 Dup		09-Feb-2022	22-Feb-2022	07-Aug-2022	✓	22-Feb-2022	03-Apr-2022	✓
EP231D: (n:2) Fluorotelomer Sulfonic Acids								
HDPE Soil Jar (EP231X) BH03_0.2,	BH03_0.5	09-Feb-2022	15-Feb-2022	08-Aug-2022	✓	16-Feb-2022	27-Mar-2022	✓
HDPE Soil Jar (EP231X) BH03_0.5 Dup		09-Feb-2022	22-Feb-2022	07-Aug-2022	✓	22-Feb-2022	03-Apr-2022	✓
EP231P: PFAS Sums								
HDPE Soil Jar (EP231X) BH03_0.2,	BH03_0.5	09-Feb-2022	15-Feb-2022	08-Aug-2022	✓	16-Feb-2022	27-Mar-2022	✓
HDPE Soil Jar (EP231X) BH03_0.5 Dup		09-Feb-2022	22-Feb-2022	07-Aug-2022	✓	22-Feb-2022	03-Apr-2022	✓



Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: ✖ = Quality Control frequency not within specification ; ✔ = Quality Control frequency within specification.

Quality Control Sample Type	Method	Count		Rate (%)			Quality Control Specification
		QC	Reaular	Actual	Expected	Evaluation	
Analytical Methods							
Laboratory Duplicates (DUP)							
Moisture Content	EA055	2	21	9.52	10.00	✖	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	2	14	14.29	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	8	25.00	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	2	14	14.29	10.00	✔	NEPM 2013 B3 & ALS QC Standard
pH field/fox	EA003	2	20	10.00	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	2	14	14.29	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Semivolatile Organic Compounds	EP075	1	7	14.29	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Suspension Peroxide Oxidation-Combined Acidity and Sulphate	EA029	1	7	14.29	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	2	20	10.00	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	2	20	10.00	10.00	✔	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	2	14	14.29	10.00	✔	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	4	29	13.79	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Volatile Organic Compounds	EP074	1	8	12.50	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
PAH/Phenols (SIM)	EP075(SIM)	1	14	7.14	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	8	25.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	14	7.14	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	14	7.14	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Semivolatile Organic Compounds	EP075	1	7	14.29	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Suspension Peroxide Oxidation-Combined Acidity and Sulphate	EA029	1	7	14.29	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	20	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	20	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	14	7.14	5.00	✔	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	29	6.90	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Volatile Organic Compounds	EP074	1	8	12.50	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
PAH/Phenols (SIM)	EP075(SIM)	1	14	7.14	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	8	25.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	14	7.14	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	14	7.14	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Semivolatile Organic Compounds	EP075	1	7	14.29	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Suspension Peroxide Oxidation-Combined Acidity and Sulphate	EA029	1	7	14.29	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	20	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard



Matrix: **SOIL**

Evaluation: * = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type	Method	Count		Rate (%)			Quality Control Specification
		QC	Reaular	Actual	Expected	Evaluation	
Analytical Methods							
Method Blanks (MB) - Continued							
Total Metals by ICP-AES	EG005T	2	20	10.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	14	7.14	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	29	6.90	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Volatile Organic Compounds	EP074	1	8	12.50	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
PAH/Phenols (SIM)	EP075(SIM)	1	14	7.14	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	8	25.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	14	7.14	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	14	7.14	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Semivolatile Organic Compounds	EP075	1	7	14.29	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	14	7.14	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	29	6.90	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Volatile Organic Compounds	EP074	1	8	12.50	5.00	✓	NEPM 2013 B3 & ALS QC Standard



Brief Method Summaries

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

Analytical Methods	Method	Matrix	Method Descriptions
pH field/fox	EA003	SOIL	In house: Referenced to Ahern et al 1998 - determined on a 1:5 soil/water extract designed to simulate field measured pH and pH after the extract has been oxidised with peroxide.
Suspension Peroxide Oxidation-Combined Acidity and Sulphate	EA029	SOIL	In house: Referenced to Ahern et al 2004 - a suspension peroxide oxidation method following the 'sulfur trail' by determining the level of 1M KCL extractable sulfur and the sulfur level after oxidation of soil sulphides. The 'acidity trail' is followed by measurement of TAA, TPA and TSA. Liming Rate is based on results for samples as submitted and incorporates a minimum safety factor of 1.5.
Moisture Content	EA055	SOIL	In house: A gravimetric procedure based on weight loss over a 12 hour drying period at 105-110 degrees C. This method is compliant with NEPM Schedule B(3).
Asbestos Identification in Soils	EA200	SOIL	AS 4964 Method for the qualitative identification of asbestos in bulk samples Analysis by Polarised Light Microscopy including dispersion staining
Total Metals by ICP-AES	EG005T	SOIL	In house: Referenced to APHA 3120; USEPA SW 846 - 6010. Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM Schedule B(3)
Total Mercury by FIMS	EG035T	SOIL	In house: Referenced to APHA 3112 Hg - B (Flow-injection (SnCl ₂) (Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. Mercury in solids are determined following an appropriate acid digestion. Ionic mercury is reduced online to atomic mercury vapour by SnCl ₂ which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM Schedule B(3)
Polychlorinated Biphenyls (PCB)	EP066	SOIL	In house: Referenced to USEPA SW 846 - 8270 Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3).
Pesticides by GCMS	EP068	SOIL	In house: Referenced to USEPA SW 846 - 8270 Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This technique is compliant with NEPM Schedule B(3).
TRH - Semivolatile Fraction	EP071	SOIL	In house: Referenced to USEPA SW 846 - 8015 Sample extracts are analysed by Capillary GC/FID and quantified against alkane standards over the range C10 - C40. Compliant with NEPM Schedule B(3).
Volatile Organic Compounds	EP074	SOIL	In house: Referenced to USEPA SW 846 - 8260 Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3).
Semivolatile Organic Compounds	EP075	SOIL	In house: Referenced to USEPA SW 846 - 8270 Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This technique is compliant with NEPM Schedule B(3).
PAH/Phenols (SIM)	EP075(SIM)	SOIL	In house: Referenced to USEPA SW 846 - 8270. Extracts are analysed by Capillary GC/MS in Selective Ion Mode (SIM) and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)



Analytical Methods	Method	Matrix	Method Descriptions
TRH Volatiles/BTEX	EP080	SOIL	In house: Referenced to USEPA SW 846 - 8260. Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve. Compliant with NEPM Schedule B(3) amended.
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	SOIL	In-house: Analysis of soils by solvent extraction followed by LC-Electrospray-MS-MS, Negative Mode using MRM using internal standard quantitation. Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to a portion of soil which is then extracted with MTBE and an ion pairing reagent. A portion of extract is exchanged into the analytical solvent mixture, combined with an equal volume reagent water and filtered for analysis. Method procedures and data quality objectives conform to US DoD QSM 5.3, table B-15 requirements.

Preparation Methods	Method	Matrix	Method Descriptions
Drying only	EN020D	SOIL	In house
Drying at 85 degrees, bagging and labelling (ASS)	EN020PR	SOIL	In house
Hot Block Digest for metals in soils sediments and sludges	EN69	SOIL	In house: Referenced to USEPA 200.2. Hot Block Acid Digestion 1.0g of sample is heated with Nitric and Hydrochloric acids, then cooled. Peroxide is added and samples heated and cooled again before being filtered and bulked to volume for analysis. Digest is appropriate for determination of selected metals in sludge, sediments, and soils. This method is compliant with NEPM Schedule B(3).
Methanolic Extraction of Soils for Purge and Trap	ORG16	SOIL	In house: Referenced to USEPA SW 846 - 5030A. 5g of solid is shaken with surrogate and 10mL methanol prior to analysis by Purge and Trap - GC/MS.
Tumbler Extraction of Solids	ORG17	SOIL	In house: Mechanical agitation (tumbler). 10g of sample, Na2SO4 and surrogate are extracted with 30mL 1:1 DCM/Acetone by end over end tumble. The solvent is decanted, dehydrated and concentrated (by KD) to the desired volume for analysis.
QuEChERS Extraction of Solids	ORG71	SOIL	In house: Sequential extractions with Acetonitrile/Methanol by shaking. Extraction efficiency aided by the addition of salts under acidic conditions. Where relevant, interferences from co-extracted organics are removed with dispersive clean-up media (dSPE). The extract is either diluted or concentrated and exchanged into the analytical solvent.

QUALITY CONTROL REPORT

Work Order	: ES2204644	Page	: 1 of 25
Client	: EP RISK MANAGEMENT	Laboratory	: Environmental Division Sydney
Contact	: HARRISON BLAKE	Contact	: Tyler Anderson
Address	: Level 4 73 Walker St North Sydney 2060	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: +61 2 8784 8555
Project	: EP2515	Date Samples Received	: 10-Feb-2022
Order number	: ----	Date Analysis Commenced	: 14-Feb-2022
C-O-C number	: ----	Issue Date	: 22-Feb-2022
Sampler	: HARRISON BLAKE		
Site	: ----		
Quote number	: SY/497/20 Primary analysis only		
No. of samples received	: 7		
No. of samples analysed	: 5		



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

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

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

<i>Signatories</i>	<i>Position</i>	<i>Accreditation Category</i>
Alana Smylie	Team Leader - Asbestos	Newcastle - Asbestos, Mayfield West, NSW
Ben Felgendrejeris	Senior Acid Sulfate Soil Chemist	Brisbane Acid Sulphate Soils, Stafford, QLD
Edwandy Fadjjar	Organic Coordinator	Sydney Inorganics, Smithfield, NSW
Edwandy Fadjjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Franco Lentini	LCMS Coordinator	Sydney Organics, Smithfield, NSW
Ivan Taylor	Analyst	Sydney Inorganics, Smithfield, NSW



General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key :
 Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
 CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
 LOR = Limit of reporting
 RPD = Relative Percentage Difference
 # = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 4181607)									
ES2204627-001	Anonymous	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	15	22	39.5	0% - 50%
		EG005T: Nickel	7440-02-0	2	mg/kg	85	92	8.0	0% - 20%
		EG005T: Arsenic	7440-38-2	5	mg/kg	7	9	28.4	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	717	694	3.2	0% - 20%
		EG005T: Lead	7439-92-1	5	mg/kg	819	829	1.2	0% - 20%
		EG005T: Zinc	7440-66-6	5	mg/kg	1330	1340	0.6	0% - 20%
ES2204889-002	Anonymous	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	8	8	0.0	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	14	16	7.7	No Limit
EA003 :pH (field/fox) (QC Lot: 4182456)									
EM2202286-001	Anonymous	EA003: pH (F)	----	0.1	pH Unit	8.4	8.5	0.0	0% - 20%
		EA003: pH (Fox)	----	0.1	pH Unit	6.0	6.0	0.0	0% - 20%
ES2204627-003	Anonymous	EA003: pH (F)	----	0.1	pH Unit	7.0	7.1	0.0	0% - 20%
		EA003: pH (Fox)	----	0.1	pH Unit	4.4	4.5	0.0	0% - 20%
EA029-A: pH Measurements (QC Lot: 4176623)									
EM2202186-002	Anonymous	EA029: pH KCl (23A)	----	0.1	pH Unit	5.6	5.6	0.0	0% - 20%
		EA029: pH OX (23B)	----	0.1	pH Unit	6.2	6.2	0.0	0% - 20%
EA029-B: Acidity Trail (QC Lot: 4176623)									



Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EA029-B: Acidity Trail (QC Lot: 4176623) - continued									
EM2202186-002	Anonymous	EA029: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.020	<0.020	0.0	No Limit
		EA029: sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.020	<0.020	0.0	No Limit
		EA029: sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.020	<0.020	0.0	No Limit
		EA029: Titratable Actual Acidity (23F)	----	2	mole H+ / t	6	6	0.0	No Limit
		EA029: Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	6	6	0.0	No Limit
		EA029: Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	<2	0.0	No Limit
EA029-C: Sulfur Trail (QC Lot: 4176623)									
EM2202186-002	Anonymous	EA029: KCl Extractable Sulfur (23Ce)	----	0.02	% S	<0.020	<0.020	0.0	No Limit
		EA029: Peroxide Sulfur (23De)	----	0.02	% S	<0.020	<0.020	0.0	No Limit
		EA029: Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	<0.020	<0.020	0.0	No Limit
		EA029: acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	<10	<10	0.0	No Limit
EA029-D: Calcium Values (QC Lot: 4176623)									
EM2202186-002	Anonymous	EA029: KCl Extractable Calcium (23Vh)	----	0.02	% Ca	0.054	0.058	6.8	No Limit
		EA029: Peroxide Calcium (23Wh)	----	0.02	% Ca	0.058	0.060	4.2	No Limit
		EA029: Acid Reacted Calcium (23X)	----	0.02	% Ca	<0.020	<0.020	0.0	No Limit
		EA029: sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	<0.020	<0.020	0.0	No Limit
		EA029: acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	<10	<10	0.0	No Limit
EA029-E: Magnesium Values (QC Lot: 4176623)									
EM2202186-002	Anonymous	EA029: KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	0.065	0.069	6.7	No Limit
		EA029: Peroxide Magnesium (23Tm)	----	0.02	% Mg	0.075	0.078	4.1	No Limit
		EA029: Acid Reacted Magnesium (23U)	----	0.02	% Mg	<0.020	<0.020	0.0	No Limit
		EA029: sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	<0.020	<0.020	0.0	No Limit
		EA029: Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	<10	<10	0.0	No Limit
EA029-H: Acid Base Accounting (QC Lot: 4176623)									
EM2202186-002	Anonymous	EA029: ANC Fineness Factor	----	0.5	-	1.5	1.5	0.0	No Limit
		EA029: Net Acidity (sulfur units)	----	0.02	% S	<0.02	<0.02	0.0	No Limit
		EA029: Net Acidity excluding ANC (sulfur units)	----	0.02	% S	<0.02	<0.02	0.0	No Limit
		EA029: Liming Rate	----	1	kg CaCO3/t	<1	<1	0.0	No Limit
		EA029: Liming Rate excluding ANC	----	1	kg CaCO3/t	<1	<1	0.0	No Limit
		EA029: Net Acidity (acidity units)	----	10	mole H+ / t	<10	<10	0.0	No Limit
		EA029: Net Acidity excluding ANC (acidity units)	----	10	mole H+ / t	<10	<10	0.0	No Limit
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 4181614)									
ES2204627-003	Anonymous	EA055: Moisture Content	----	0.1	%	20.6	21.6	4.9	0% - 20%
ES2204889-010	Anonymous	EA055: Moisture Content	----	0.1	%	1.2	1.3	10.6	No Limit



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 4181608)									
ES2204627-001	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	0.2	0.2	0.0	No Limit
ES2204889-002	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EP066: Polychlorinated Biphenyls (PCB) (QC Lot: 4168437)									
ES2204644-003	BH04_2.0	EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
ES2204462-001	Anonymous	EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EP068A: Organochlorine Pesticides (OC) (QC Lot: 4168436)									
ES2204644-003	BH04_2.0	EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4.4'-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4.4'-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4.4'-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	0.0	No Limit		
ES2204462-001	Anonymous	EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4.4'-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP068A: Organochlorine Pesticides (OC) (QC Lot: 4168436) - continued									
ES2204462-001	Anonymous	EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4.4'-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4.4'-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
EP068B: Organophosphorus Pesticides (OP) (QC Lot: 4168436)									
ES2204644-003	BH04_2.0	EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP068: Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		ES2204462-001	Anonymous	EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05
EP068: Demeton-S-methyl	919-86-8			0.05	mg/kg	<0.05	<0.05	0.0	No Limit
EP068: Dimethoate	60-51-5			0.05	mg/kg	<0.05	<0.05	0.0	No Limit
EP068: Diazinon	333-41-5			0.05	mg/kg	<0.05	<0.05	0.0	No Limit
EP068: Chlorpyrifos-methyl	5598-13-0			0.05	mg/kg	<0.05	<0.05	0.0	No Limit
EP068: Malathion	121-75-5			0.05	mg/kg	<0.05	<0.05	0.0	No Limit
EP068: Fenthion	55-38-9			0.05	mg/kg	<0.05	<0.05	0.0	No Limit
EP068: Chlorpyrifos	2921-88-2			0.05	mg/kg	<0.05	<0.05	0.0	No Limit
EP068: Pirimphos-ethyl	23505-41-1			0.05	mg/kg	<0.05	<0.05	0.0	No Limit
EP068: Chlorfenvinphos	470-90-6			0.05	mg/kg	<0.05	<0.05	0.0	No Limit
EP068: Bromophos-ethyl	4824-78-6			0.05	mg/kg	<0.05	<0.05	0.0	No Limit
EP068: Fenamiphos	22224-92-6			0.05	mg/kg	<0.05	<0.05	0.0	No Limit



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report							
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)		
EP068B: Organophosphorus Pesticides (OP) (QC Lot: 4168436) - continued											
ES2204462-001	Anonymous	EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	0.0	No Limit		
		EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit		
		EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit		
		EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	0.0	No Limit		
		EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	0.0	No Limit		
		EP068: Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	0.0	No Limit		
		EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit		
EP074A: Monocyclic Aromatic Hydrocarbons (QC Lot: 4172740)											
ES2204787-001	Anonymous	EP074: Styrene	100-42-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP074: Isopropylbenzene	98-82-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP074: n-Propylbenzene	103-65-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP074: 1.3.5-Trimethylbenzene	108-67-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP074: sec-Butylbenzene	135-98-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP074: 1.2.4-Trimethylbenzene	95-63-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP074: tert-Butylbenzene	98-06-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP074: p-Isopropyltoluene	99-87-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
EW2200685-001	Anonymous	EP074: n-Butylbenzene	104-51-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP074: Styrene	100-42-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP074: Isopropylbenzene	98-82-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP074: n-Propylbenzene	103-65-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP074: 1.3.5-Trimethylbenzene	108-67-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP074: sec-Butylbenzene	135-98-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP074: 1.2.4-Trimethylbenzene	95-63-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP074: tert-Butylbenzene	98-06-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
EP074B: Oxygenated Compounds (QC Lot: 4172740)	Anonymous	EP074: p-Isopropyltoluene	99-87-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP074: n-Butylbenzene	104-51-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP074: Vinyl Acetate	108-05-4	5	mg/kg	<5	<5	0.0	No Limit		
		EP074: 2-Butanone (MEK)	78-93-3	5	mg/kg	<5	<5	0.0	No Limit		
		EP074: 4-Methyl-2-pentanone (MIBK)	108-10-1	5	mg/kg	<5	<5	0.0	No Limit		
		EP074: 2-Hexanone (MBK)	591-78-6	5	mg/kg	<5	<5	0.0	No Limit		
		EW2200685-001	Anonymous	EP074: Vinyl Acetate	108-05-4	5	mg/kg	<5	<5	0.0	No Limit
				EP074: 2-Butanone (MEK)	78-93-3	5	mg/kg	<5	<5	0.0	No Limit
EP074: 4-Methyl-2-pentanone (MIBK)	108-10-1			5	mg/kg	<5	<5	0.0	No Limit		
EP074: 2-Hexanone (MBK)	591-78-6			5	mg/kg	<5	<5	0.0	No Limit		
EP074C: Sulfonated Compounds (QC Lot: 4172740)											
ES2204787-001	Anonymous	EP074: Carbon disulfide	75-15-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
EW2200685-001	Anonymous	EP074: Carbon disulfide	75-15-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
EP074D: Fumigants (QC Lot: 4172740)											



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP074D: Fumigants (QC Lot: 4172740) - continued									
ES2204787-001	Anonymous	EP074: 2,2-Dichloropropane	594-20-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,2-Dichloropropane	78-87-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: cis-1,3-Dichloropropylene	10061-01-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: trans-1,3-Dichloropropylene	10061-02-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,2-Dibromoethane (EDB)	106-93-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EW2200685-001	Anonymous	EP074: 2,2-Dichloropropane	594-20-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,2-Dichloropropane	78-87-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: cis-1,3-Dichloropropylene	10061-01-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: trans-1,3-Dichloropropylene	10061-02-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,2-Dibromoethane (EDB)	106-93-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP074E: Halogenated Aliphatic Compounds (QC Lot: 4172740)									
ES2204787-001	Anonymous	EP074: 1,1-Dichloroethene	75-35-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Iodomethane	74-88-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: trans-1,2-Dichloroethene	156-60-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,1-Dichloroethane	75-34-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: cis-1,2-Dichloroethene	156-59-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,1,1-Trichloroethane	71-55-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,1-Dichloropropylene	563-58-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Carbon Tetrachloride	56-23-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,2-Dichloroethane	107-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Trichloroethene	79-01-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Dibromomethane	74-95-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,1,2-Trichloroethane	79-00-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,3-Dichloropropane	142-28-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Tetrachloroethene	127-18-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,1,1,2-Tetrachloroethane	630-20-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: trans-1,4-Dichloro-2-butene	110-57-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: cis-1,4-Dichloro-2-butene	1476-11-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,1,2,2-Tetrachloroethane	79-34-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,2,3-Trichloropropane	96-18-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Pentachloroethane	76-01-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Dichlorodifluoromethane	75-71-8	5	mg/kg	<5	<5	0.0	No Limit
		EP074: Chloromethane	74-87-3	5	mg/kg	<5	<5	0.0	No Limit
		EP074: Vinyl chloride	75-01-4	5	mg/kg	<5	<5	0.0	No Limit
		EP074: Bromomethane	74-83-9	5	mg/kg	<5	<5	0.0	No Limit
		EP074: Chloroethane	75-00-3	5	mg/kg	<5	<5	0.0	No Limit
		EP074: Trichlorofluoromethane	75-69-4	5	mg/kg	<5	<5	0.0	No Limit
EW2200685-001	Anonymous	EP074: 1,1-Dichloroethene	75-35-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Iodomethane	74-88-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP074E: Halogenated Aliphatic Compounds (QC Lot: 4172740) - continued									
EW2200685-001	Anonymous	EP074: trans-1,2-Dichloroethene	156-60-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,1-Dichloroethane	75-34-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: cis-1,2-Dichloroethene	156-59-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,1,1-Trichloroethane	71-55-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,1-Dichloropropylene	563-58-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Carbon Tetrachloride	56-23-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,2-Dichloroethane	107-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Trichloroethene	79-01-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Dibromomethane	74-95-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,1,2-Trichloroethane	79-00-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,3-Dichloropropane	142-28-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Tetrachloroethene	127-18-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,1,1,2-Tetrachloroethane	630-20-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: trans-1,4-Dichloro-2-butene	110-57-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: cis-1,4-Dichloro-2-butene	1476-11-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,1,2,2-Tetrachloroethane	79-34-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,2,3-Trichloropropane	96-18-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Pentachloroethane	76-01-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Dichlorodifluoromethane	75-71-8	5	mg/kg	<5	<5	0.0	No Limit
EP074: Chloromethane	74-87-3	5	mg/kg	<5	<5	0.0	No Limit		
EP074: Vinyl chloride	75-01-4	5	mg/kg	<5	<5	0.0	No Limit		
EP074: Bromomethane	74-83-9	5	mg/kg	<5	<5	0.0	No Limit		
EP074: Chloroethane	75-00-3	5	mg/kg	<5	<5	0.0	No Limit		
EP074: Trichlorofluoromethane	75-69-4	5	mg/kg	<5	<5	0.0	No Limit		
EP074F: Halogenated Aromatic Compounds (QC Lot: 4172740)									
ES2204787-001	Anonymous	EP074: Chlorobenzene	108-90-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Bromobenzene	108-86-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 2-Chlorotoluene	95-49-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 4-Chlorotoluene	106-43-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,2,3-Trichlorobenzene	87-61-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EW2200685-001	Anonymous	EP074: Chlorobenzene	108-90-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Bromobenzene	108-86-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 2-Chlorotoluene	95-49-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 4-Chlorotoluene	106-43-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,2,3-Trichlorobenzene	87-61-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP074G: Trihalomethanes (QC Lot: 4172740)									
ES2204787-001	Anonymous	EP074: Chloroform	67-66-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Bromodichloromethane	75-27-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Dibromochloromethane	124-48-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit



Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP074G: Trihalomethanes (QC Lot: 4172740) - continued									
ES2204787-001	Anonymous	EP074: Bromoform	75-25-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EW2200685-001	Anonymous	EP074: Chloroform	67-66-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Bromodichloromethane	75-27-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Dibromochloromethane	124-48-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Bromoform	75-25-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075(SIM)A: Phenolic Compounds (QC Lot: 4168435)									
ES2204644-003	BH04_2.0	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
ES2204462-001	Anonymous	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4168435)									
ES2204644-003	BH04_2.0	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4168435) - continued										
ES2204644-003	BH04_2.0	EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
			205-82-3							
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075(SIM): Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
	EP075(SIM): Benzo(a)pyrene TEQ (zero)	----		0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
ES2204462-001	Anonymous	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	1.4	1.2	14.4	No Limit	
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	0.5	0.5	0.0	No Limit	
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	2.2	2.2	0.0	No Limit	
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	2.2	2.1	6.1	No Limit	
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	1.1	1.1	0.0	No Limit	
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	1.0	0.9	0.0	No Limit	
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2	0.5	mg/kg	1.4	1.3	0.0	No Limit	
			205-82-3							
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	1.2	1.2	0.0	No Limit	
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	0.7	<0.5	34.7	No Limit	
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	0.8	0.5	49.8	No Limit	
		EP075(SIM): Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	12.5	11.0	12.8	0% - 20%	
			EP075(SIM): Benzo(a)pyrene TEQ (zero)	----		0.5	mg/kg	1.5	1.4	0.0
EP075B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4168438)										
ES2204462-001	Anonymous	EP075: 2-Methylnaphthalene	91-57-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075: 2-Chloronaphthalene	91-58-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075: N-2-Fluorenyl Acetamide	53-96-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075: 7.12-Dimethylbenz(a)anthracene	57-97-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075: 3-Methylcholanthrene	56-49-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
EP075C: Phthalate Esters (QC Lot: 4168438)										
ES2204462-001	Anonymous	EP075: Dimethyl phthalate	131-11-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075: Diethyl phthalate	84-66-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP075C: Phthalate Esters (QC Lot: 4168438) - continued									
ES2204462-001	Anonymous	EP075: Di-n-butyl phthalate	84-74-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Butyl benzyl phthalate	85-68-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Di-n-octylphthalate	117-84-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075D: Nitrosamines (QC Lot: 4168438)									
ES2204462-001	Anonymous	EP075: N-Nitrosomethylethylamine	10595-95-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: N-Nitrosodiethylamine	55-18-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: N-Nitrosopyrrolidine	930-55-2	0.5	mg/kg	<1.0	<1.0	0.0	No Limit
		EP075: N-Nitrosomorpholine	59-89-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: N-Nitrosodi-n-propylamine	621-64-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: N-Nitrosopiperidine	100-75-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: N-Nitrosodibutylamine	924-16-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	0.5	mg/kg	<1.0	<1.0	0.0	No Limit
EP075: Methapyrilene	91-80-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
EP075E: Nitroaromatics and Ketones (QC Lot: 4168438)									
ES2204462-001	Anonymous	EP075: 2-Picoline	109-06-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Acetophenone	98-86-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Nitrobenzene	98-95-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Isophorone	78-59-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 2,6-Dinitrotoluene	606-20-2	0.5	mg/kg	<1.0	<1.0	0.0	No Limit
		EP075: 2,4-Dinitrotoluene	121-14-2	0.5	mg/kg	<1.0	<1.0	0.0	No Limit
		EP075: 1-Naphthylamine	134-32-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 4-Nitroquinoline-N-oxide	56-57-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 5-Nitro-o-toluidine	99-55-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 1,3,5-Trinitrobenzene	99-35-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Phenacetin	62-44-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 4-Aminobiphenyl	92-67-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Pentachloronitrobenzene	82-68-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Pronamide	23950-58-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Dimethylaminoazobenzene	60-11-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Chlorobenzilate	510-15-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075: Azobenzene	103-33-3	1	mg/kg	<1	<1	0.0	No Limit		
EP075F: Haloethers (QC Lot: 4168438)									
ES2204462-001	Anonymous	EP075: Bis(2-chloroethyl) ether	111-44-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Bis(2-chloroethoxy) methane	111-91-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 4-Chlorophenyl phenyl ether	7005-72-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 4-Bromophenyl phenyl ether	101-55-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075G: Chlorinated Hydrocarbons (QC Lot: 4168438)									
ES2204462-001	Anonymous	EP075: 1,3-Dichlorobenzene	541-73-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP075G: Chlorinated Hydrocarbons (QC Lot: 4168438) - continued									
ES2204462-001	Anonymous	EP075: 1,4-Dichlorobenzene	106-46-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 1,2-Dichlorobenzene	95-50-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Hexachloroethane	67-72-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 1,2,4-Trichlorobenzene	120-82-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Hexachloropropylene	1888-71-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Hexachlorobutadiene	87-68-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Pentachlorobenzene	608-93-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Hexachlorobenzene (HCB)	118-74-1	0.5	mg/kg	<1.0	<1.0	0.0	No Limit
		EP075: Hexachlorocyclopentadiene	77-47-4	2.5	mg/kg	<2.5	<2.5	0.0	No Limit
EP075H: Anilines and Benzidines (QC Lot: 4168438)									
ES2204462-001	Anonymous	EP075: Aniline	62-53-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 4-Chloroaniline	106-47-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 2-Nitroaniline	88-74-4	0.5	mg/kg	<1.0	<1.0	0.0	No Limit
		EP075: 3-Nitroaniline	99-09-2	0.5	mg/kg	<1.0	<1.0	0.0	No Limit
		EP075: Dibenzofuran	132-64-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 4-Nitroaniline	100-01-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Carbazole	86-74-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 3,3'-Dichlorobenzidine	91-94-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4168434)									
ES2204644-003	BH04_2.0	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
ES2204462-001	Anonymous	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4172738)									
ES2204577-001	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
ES2204753-001	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4172739)									
ES2204787-001	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EW2200685-001	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4168434)									
ES2204644-003	BH04_2.0	EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
ES2204462-001	Anonymous	EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4172738)									



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4172738) - continued										
ES2204577-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit	
ES2204753-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4172739)										
ES2204787-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit	
EW2200685-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit	
EP080: BTEXN (QC Lot: 4172738)										
ES2204577-001	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit	
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP080: meta- & para-Xylene	108-38-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
			106-42-3							
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
ES2204753-001	Anonymous	EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit	
		EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit	
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP080: meta- & para-Xylene	108-38-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
			106-42-3							
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit			
EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit			
EP080: BTEXN (QC Lot: 4172739)										
ES2204787-001	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit	
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP080: meta- & para-Xylene	108-38-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
			106-42-3							
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
EW2200685-001	Anonymous	EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit	
		EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit	
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP080: meta- & para-Xylene	108-38-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
			106-42-3							
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit			
EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit			
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 4171663)										
EP2201466-085	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	0.0024	0.0019	22.9	0% - 50%	
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	0.0290	0.0262	10.5	0% - 20%	
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	8.41	8.11	3.6	0% - 20%	
ES2201383-006	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit	



Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 4171663) - continued									
ES2201383-006	Anonymous	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 4171663)									
EP2201466-085	Anonymous	EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	0.0039	0.0034	12.6	0% - 50%
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	0.0177	0.0152	15.3	0% - 20%
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	0.0019	0.0016	18.3	No Limit
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	0.0091	0.0079	14.1	0% - 20%
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	0.002	0.002	0.0	No Limit
ES2201383-006	Anonymous	EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	<0.001	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 4171663)									
EP2201466-085	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	0.0038	0.0035	5.9	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	0.0491	0.0460	6.5	0% - 20%
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
ES2201383-006	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit



Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike Concentration	Spike Recovery (%)		Acceptable Limits (%)	
						LCS	Low	High	
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 4181607)									
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	121.1 mg/kg	95.9	88.0	113	
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	0.74 mg/kg	81.4	70.0	130	
EG005T: Chromium	7440-47-3	2	mg/kg	<2	19.6 mg/kg	82.4	68.0	132	
EG005T: Copper	7440-50-8	5	mg/kg	<5	52.9 mg/kg	96.3	89.0	111	
EG005T: Lead	7439-92-1	5	mg/kg	<5	60.8 mg/kg	85.2	82.0	119	
EG005T: Nickel	7440-02-0	2	mg/kg	<2	15.3 mg/kg	86.5	80.0	120	
EG005T: Zinc	7440-66-6	5	mg/kg	<5	139.3 mg/kg	79.0	66.0	133	
EA029-A: pH Measurements (QCLot: 4176623)									
EA029: pH KCl (23A)	----	0.1	pH Unit	<0.1	4.4 pH Unit	100	70.0	130	
EA029: pH OX (23B)	----	0.1	pH Unit	<0.1	4.2 pH Unit	102	70.0	130	
EA029-B: Acidity Trail (QCLot: 4176623)									
EA029: Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	19 mole H+ / t	83.4	70.0	130	
EA029: Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	27.5 mole H+ / t	92.4	70.0	130	
EA029: Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	----	----	----	----	
EA029: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.020	----	----	----	----	
EA029: sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.020	----	----	----	----	
EA029: sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.020	----	----	----	----	
EA029-C: Sulfur Trail (QCLot: 4176623)									
EA029: KCl Extractable Sulfur (23Ce)	----	0.02	% S	<0.020	0.03595 % S	113	70.0	130	
EA029: Peroxide Sulfur (23De)	----	0.02	% S	<0.020	0.14405 % S	121	70.0	130	
EA029: Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	<0.020	----	----	----	----	
EA029: acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	<10	----	----	----	----	
EA029-D: Calcium Values (QCLot: 4176623)									
EA029: KCl Extractable Calcium (23Vh)	----	0.02	% Ca	<0.020	0.22443 % Ca	107	70.0	130	
EA029: Peroxide Calcium (23Wh)	----	0.02	% Ca	<0.020	0.22637 % Ca	127	70.0	130	
EA029: Acid Reacted Calcium (23X)	----	0.02	% Ca	<0.020	----	----	----	----	
EA029: acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	<10	----	----	----	----	
EA029: sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	<0.020	----	----	----	----	
EA029-E: Magnesium Values (QCLot: 4176623)									
EA029: KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	<0.020	0.20621 % Mg	101	70.0	130	
EA029: Peroxide Magnesium (23Tm)	----	0.02	% Mg	<0.020	0.23199 % Mg	126	70.0	130	
EA029: Acid Reacted Magnesium (23U)	----	0.02	% Mg	<0.020	----	----	----	----	
EA029: Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	<10	----	----	----	----	
EA029: sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	<0.020	----	----	----	----	



Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
				Result	Spike	Spike Recovery (%)	Acceptable Limits (%)	
					Concentration	LCS	Low	High
EA029-H: Acid Base Accounting (QCLot: 4176623)								
EA029: ANC Fineness Factor	----	0.5	-	<0.5	----	----	----	----
EA029: Net Acidity (sulfur units)	----	0.02	% S	<0.02	----	----	----	----
EA029: Net Acidity (acidity units)	----	10	mole H+ / t	<10	----	----	----	----
EA029: Liming Rate	----	1	kg CaCO3/t	<1	----	----	----	----
EA029: Net Acidity excluding ANC (sulfur units)	----	0.02	% S	<0.02	----	----	----	----
EA029: Net Acidity excluding ANC (acidity units)	----	10	mole H+ / t	<10	----	----	----	----
EA029: Liming Rate excluding ANC	----	1	kg CaCO3/t	<1	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS (QCLot: 4181608)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	0.087 mg/kg	85.0	70.0	125
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 4168437)								
EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	1 mg/kg	120	62.0	126
EP068A: Organochlorine Pesticides (OC) (QCLot: 4168436)								
EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	0.5 mg/kg	98.7	69.0	113
EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	0.5 mg/kg	95.3	65.0	117
EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	0.5 mg/kg	103	67.0	119
EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	0.5 mg/kg	97.7	68.0	116
EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	88.1	65.0	117
EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	0.5 mg/kg	96.4	67.0	115
EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	0.5 mg/kg	98.4	69.0	115
EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	0.5 mg/kg	97.9	62.0	118
EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	0.5 mg/kg	92.5	63.0	117
EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	0.5 mg/kg	105	66.0	116
EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	0.5 mg/kg	99.4	64.0	116
EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	0.5 mg/kg	99.0	66.0	116
EP068: 4,4'-DDE	72-55-9	0.05	mg/kg	<0.05	0.5 mg/kg	97.3	67.0	115
EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	0.5 mg/kg	100.0	67.0	123
EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	0.5 mg/kg	100	69.0	115
EP068: 4,4'-DDD	72-54-8	0.05	mg/kg	<0.05	0.5 mg/kg	101	69.0	121
EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	0.5 mg/kg	89.6	56.0	120
EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	0.5 mg/kg	97.2	62.0	124
EP068: 4,4'-DDT	50-29-3	0.2	mg/kg	<0.2	0.5 mg/kg	104	66.0	120
EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	0.5 mg/kg	94.9	64.0	122
EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	0.5 mg/kg	97.7	54.0	130
EP068B: Organophosphorus Pesticides (OP) (QCLot: 4168436)								
EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	0.5 mg/kg	92.6	59.0	119
EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	92.5	62.0	128
EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	0.5 mg/kg	86.3	54.0	126
EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	0.5 mg/kg	89.8	67.0	119



Sub-Matrix: SOIL

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike	Spike Recovery (%)		Acceptable Limits (%)	
					Concentration	LCS	Low	High	
EP068B: Organophosphorus Pesticides (OP) (QCLot: 4168436) - continued									
EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	0.5 mg/kg	105	70.0	120	
EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	0.5 mg/kg	95.0	72.0	120	
EP068: Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	0.5 mg/kg	95.9	68.0	120	
EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	0.5 mg/kg	92.0	68.0	122	
EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	0.5 mg/kg	94.5	69.0	117	
EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	0.5 mg/kg	96.6	76.0	118	
EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	0.5 mg/kg	96.0	64.0	122	
EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	0.5 mg/kg	96.0	70.0	116	
EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	0.5 mg/kg	92.4	69.0	121	
EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	0.5 mg/kg	87.8	66.0	118	
EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	0.5 mg/kg	93.6	68.0	124	
EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	0.5 mg/kg	95.2	62.0	112	
EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	0.5 mg/kg	94.3	68.0	120	
EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	0.5 mg/kg	91.5	65.0	127	
EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	0.5 mg/kg	74.0	41.0	123	
EP074A: Monocyclic Aromatic Hydrocarbons (QCLot: 4172740)									
EP074: Styrene	100-42-5	0.5	mg/kg	<0.5	1 mg/kg	89.0	67.0	113	
EP074: Isopropylbenzene	98-82-8	0.5	mg/kg	<0.5	1 mg/kg	94.6	65.0	117	
EP074: n-Propylbenzene	103-65-1	0.5	mg/kg	<0.5	1 mg/kg	93.2	66.0	122	
EP074: 1,3,5-Trimethylbenzene	108-67-8	0.5	mg/kg	<0.5	1 mg/kg	94.0	68.0	118	
EP074: sec-Butylbenzene	135-98-8	0.5	mg/kg	<0.5	1 mg/kg	94.8	69.0	119	
EP074: 1,2,4-Trimethylbenzene	95-63-6	0.5	mg/kg	<0.5	1 mg/kg	91.0	69.0	117	
EP074: tert-Butylbenzene	98-06-6	0.5	mg/kg	<0.5	1 mg/kg	92.5	69.0	115	
EP074: p-Isopropyltoluene	99-87-6	0.5	mg/kg	<0.5	1 mg/kg	91.5	66.0	118	
EP074: n-Butylbenzene	104-51-8	0.5	mg/kg	<0.5	1 mg/kg	92.6	59.0	125	
EP074B: Oxygenated Compounds (QCLot: 4172740)									
EP074: Vinyl Acetate	108-05-4	5	mg/kg	<5	10 mg/kg	98.2	29.6	156	
EP074: 2-Butanone (MEK)	78-93-3	5	mg/kg	<5	10 mg/kg	97.7	58.0	136	
EP074: 4-Methyl-2-pentanone (MIBK)	108-10-1	5	mg/kg	<5	10 mg/kg	97.2	62.0	132	
EP074: 2-Hexanone (MBK)	591-78-6	5	mg/kg	<5	10 mg/kg	92.6	54.0	136	
EP074C: Sulfonated Compounds (QCLot: 4172740)									
EP074: Carbon disulfide	75-15-0	0.5	mg/kg	<0.5	1 mg/kg	86.8	54.0	126	
EP074D: Fumigants (QCLot: 4172740)									
EP074: 2,2-Dichloropropane	594-20-7	0.5	mg/kg	<0.5	1 mg/kg	98.8	60.0	126	
EP074: 1,2-Dichloropropane	78-87-5	0.5	mg/kg	<0.5	1 mg/kg	103	68.0	124	
EP074: cis-1,3-Dichloropropylene	10061-01-5	0.5	mg/kg	<0.5	1 mg/kg	93.8	51.0	119	
EP074: trans-1,3-Dichloropropylene	10061-02-6	0.5	mg/kg	<0.5	1 mg/kg	92.9	52.0	114	
EP074: 1,2-Dibromoethane (EDB)	106-93-4	0.5	mg/kg	<0.5	1 mg/kg	98.0	63.0	115	



Sub-Matrix: SOIL

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike	Spike Recovery (%)		Acceptable Limits (%)	
					Concentration	LCS	Low	High	
EP074E: Halogenated Aliphatic Compounds (QCLot: 4172740)									
EP074: Dichlorodifluoromethane	75-71-8	5	mg/kg	<5	10 mg/kg	78.1	30.0	148	
EP074: Chloromethane	74-87-3	5	mg/kg	<5	10 mg/kg	87.9	41.0	141	
EP074: Vinyl chloride	75-01-4	5	mg/kg	<5	10 mg/kg	91.2	43.0	147	
EP074: Bromomethane	74-83-9	5	mg/kg	<5	10 mg/kg	91.6	47.0	141	
EP074: Chloroethane	75-00-3	5	mg/kg	<5	10 mg/kg	91.6	49.0	143	
EP074: Trichlorofluoromethane	75-69-4	5	mg/kg	<5	10 mg/kg	92.7	49.0	135	
EP074: 1,1-Dichloroethene	75-35-4	0.5	mg/kg	<0.5	1 mg/kg	92.3	54.0	126	
EP074: Iodomethane	74-88-4	0.5	mg/kg	<0.5	1 mg/kg	68.7	43.0	129	
EP074: trans-1,2-Dichloroethene	156-60-5	0.5	mg/kg	<0.5	1 mg/kg	99.5	64.0	120	
EP074: 1,1-Dichloroethane	75-34-3	0.5	mg/kg	<0.5	1 mg/kg	99.9	67.0	125	
EP074: cis-1,2-Dichloroethene	156-59-2	0.5	mg/kg	<0.5	1 mg/kg	98.4	69.0	121	
EP074: 1,1,1-Trichloroethane	71-55-6	0.5	mg/kg	<0.5	1 mg/kg	95.3	65.0	117	
EP074: 1,1-Dichloropropylene	563-58-6	0.5	mg/kg	<0.5	1 mg/kg	97.2	65.0	123	
EP074: Carbon Tetrachloride	56-23-5	0.5	mg/kg	<0.5	1 mg/kg	94.9	59.0	125	
EP074: 1,2-Dichloroethane	107-06-2	0.5	mg/kg	<0.5	1 mg/kg	102	65.0	125	
EP074: Trichloroethene	79-01-6	0.5	mg/kg	<0.5	1 mg/kg	101	70.0	118	
EP074: Dibromomethane	74-95-3	0.5	mg/kg	<0.5	1 mg/kg	97.6	68.0	118	
EP074: 1,1,2-Trichloroethane	79-00-5	0.5	mg/kg	<0.5	1 mg/kg	99.7	64.0	126	
EP074: 1,3-Dichloropropane	142-28-9	0.5	mg/kg	<0.5	1 mg/kg	100	68.0	122	
EP074: Tetrachloroethene	127-18-4	0.5	mg/kg	<0.5	1 mg/kg	98.5	67.0	143	
EP074: 1,1,1,2-Tetrachloroethane	630-20-6	0.5	mg/kg	<0.5	1 mg/kg	97.5	62.0	122	
EP074: trans-1,4-Dichloro-2-butene	110-57-6	0.5	mg/kg	<0.5	1 mg/kg	95.5	54.0	128	
EP074: cis-1,4-Dichloro-2-butene	1476-11-5	0.5	mg/kg	<0.5	1 mg/kg	94.5	55.0	129	
EP074: 1,1,2,2-Tetrachloroethane	79-34-5	0.5	mg/kg	<0.5	1 mg/kg	101	65.0	121	
EP074: 1,2,3-Trichloropropane	96-18-4	0.5	mg/kg	<0.5	1 mg/kg	103	61.0	125	
EP074: Pentachloroethane	76-01-7	0.5	mg/kg	<0.5	1 mg/kg	96.8	19.8	134	
EP074: 1,2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg	<0.5	1 mg/kg	103	53.0	129	
EP074F: Halogenated Aromatic Compounds (QCLot: 4172740)									
EP074: Chlorobenzene	108-90-7	0.5	mg/kg	<0.5	1 mg/kg	97.4	68.0	116	
EP074: Bromobenzene	108-86-1	0.5	mg/kg	<0.5	1 mg/kg	93.7	70.0	114	
EP074: 2-Chlorotoluene	95-49-8	0.5	mg/kg	<0.5	1 mg/kg	94.1	68.0	122	
EP074: 4-Chlorotoluene	106-43-4	0.5	mg/kg	<0.5	1 mg/kg	96.7	67.0	123	
EP074: 1,2,3-Trichlorobenzene	87-61-6	0.5	mg/kg	<0.5	1 mg/kg	100	52.0	122	
EP074G: Trihalomethanes (QCLot: 4172740)									
EP074: Chloroform	67-66-3	0.5	mg/kg	<0.5	1 mg/kg	106	66.0	124	
EP074: Bromodichloromethane	75-27-4	0.5	mg/kg	<0.5	1 mg/kg	95.9	61.0	121	
EP074: Dibromochloromethane	124-48-1	0.5	mg/kg	<0.5	1 mg/kg	94.8	63.0	121	
EP074: Bromoform	75-25-2	0.5	mg/kg	<0.5	1 mg/kg	90.8	60.0	126	



Sub-Matrix: SOIL

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike	Spike Recovery (%)		Acceptable Limits (%)	
					Concentration	LCS	Low	High	
EP075(SIM)A: Phenolic Compounds (QCLot: 4168435)									
EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	6 mg/kg	95.0	71.0	125	
EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	6 mg/kg	102	72.0	124	
EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	6 mg/kg	99.5	71.0	123	
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	12 mg/kg	105	67.0	127	
EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	6 mg/kg	86.2	54.0	114	
EP075(SIM): 2,4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	6 mg/kg	97.3	68.0	126	
EP075(SIM): 2,4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	6 mg/kg	93.0	66.0	120	
EP075(SIM): 2,6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	6 mg/kg	95.2	70.0	120	
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	6 mg/kg	88.9	70.0	116	
EP075(SIM): 2,4,6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	6 mg/kg	89.0	54.0	114	
EP075(SIM): 2,4,5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	6 mg/kg	90.7	60.0	114	
EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	12 mg/kg	51.4	10.0	57.0	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4168435)									
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	6 mg/kg	105	77.0	125	
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	6 mg/kg	96.7	72.0	124	
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	6 mg/kg	101	73.0	127	
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	6 mg/kg	105	72.0	126	
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	6 mg/kg	106	75.0	127	
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	6 mg/kg	98.7	77.0	127	
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	6 mg/kg	105	73.0	127	
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	6 mg/kg	104	74.0	128	
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	6 mg/kg	96.6	69.0	123	
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	6 mg/kg	100	75.0	127	
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2	0.5	mg/kg	<0.5	6 mg/kg	93.5	68.0	116	
	205-82-3								
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	6 mg/kg	100	74.0	126	
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	6 mg/kg	87.0	70.0	126	
EP075(SIM): Indeno(1,2,3-cd)pyrene	193-39-5	0.5	mg/kg	<0.5	6 mg/kg	94.7	61.0	121	
EP075(SIM): Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	6 mg/kg	93.8	62.0	118	
EP075(SIM): Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	6 mg/kg	93.4	63.0	121	
EP075B: Polynuclear Aromatic Hydrocarbons (QCLot: 4168438)									
EP075: 2-Methylnaphthalene	91-57-6	0.5	mg/kg	<0.5	1.5 mg/kg	70.8	58.0	116	
EP075: 2-Chloronaphthalene	91-58-7	0.5	mg/kg	<0.5	1.5 mg/kg	80.0	54.0	112	
EP075: N-2-Fluorenyl Acetamide	53-96-3	0.5	mg/kg	<0.5	1.5 mg/kg	73.8	58.0	114	
EP075: 7,12-Dimethylbenz(a)anthracene	57-97-6	0.5	mg/kg	<0.5	1.5 mg/kg	# 114	48.1	106	
EP075: 3-Methylcholanthrene	56-49-5	0.5	mg/kg	<0.5	1.5 mg/kg	80.8	50.0	116	
EP075C: Phthalate Esters (QCLot: 4168438)									
EP075: Dimethyl phthalate	131-11-3	0.5	mg/kg	<0.5	1.5 mg/kg	83.6	60.0	118	



Sub-Matrix: SOIL

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike	Spike Recovery (%)		Acceptable Limits (%)	
					Concentration	LCS	Low	High	
EP075C: Phthalate Esters (QCLot: 4168438) - continued									
EP075: Diethyl phthalate	84-66-2	0.5	mg/kg	<0.5	1.5 mg/kg	107	65.0	115	
EP075: Di-n-butyl phthalate	84-74-2	0.5	mg/kg	<0.5	1.5 mg/kg	82.5	65.0	121	
EP075: Butyl benzyl phthalate	85-68-7	0.5	mg/kg	<0.5	1.5 mg/kg	84.6	62.0	116	
EP075: bis(2-ethylhexyl) phthalate	117-81-7	----	mg/kg	----	1.5 mg/kg	74.9	69.0	133	
EP075: Di-n-octylphthalate	117-84-0	0.5	mg/kg	<0.5	1.5 mg/kg	77.0	62.0	124	
EP075D: Nitrosamines (QCLot: 4168438)									
EP075: N-Nitrosomethylethylamine	10595-95-6	0.5	mg/kg	<0.5	1.5 mg/kg	78.5	39.4	124	
EP075: N-Nitrosodiethylamine	55-18-5	0.5	mg/kg	<0.5	1.5 mg/kg	88.9	59.0	117	
EP075: N-Nitrosopyrrolidine	930-55-2	0.5	mg/kg	<0.5	1.5 mg/kg	94.1	53.0	125	
EP075: N-Nitrosomorpholine	59-89-2	0.5	mg/kg	<0.5	1.5 mg/kg	91.6	65.0	121	
EP075: N-Nitrosodi-n-propylamine	621-64-7	0.5	mg/kg	<0.5	1.5 mg/kg	94.0	59.0	123	
EP075: N-Nitrosopiperidine	100-75-4	0.5	mg/kg	<0.5	1.5 mg/kg	87.8	57.0	115	
EP075: N-Nitrosodibutylamine	924-16-3	0.5	mg/kg	<0.5	1.5 mg/kg	90.4	57.0	119	
EP075: N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	0.5	mg/kg	<0.6	3 mg/kg	95.9	42.0	112	
EP075: Methapyrilene	91-80-5	0.5	mg/kg	<0.5	1.5 mg/kg	49.6	16.3	123	
EP075E: Nitroaromatics and Ketones (QCLot: 4168438)									
EP075: 2-Picoline	109-06-8	0.5	mg/kg	<0.5	1.5 mg/kg	87.1	27.3	129	
EP075: Acetophenone	98-86-2	0.5	mg/kg	<0.5	1.5 mg/kg	87.5	60.0	116	
EP075: Nitrobenzene	98-95-3	0.5	mg/kg	<0.5	1.5 mg/kg	86.6	65.0	119	
EP075: Isophorone	78-59-1	0.5	mg/kg	<0.5	1.5 mg/kg	94.4	62.0	116	
EP075: 2,6-Dinitrotoluene	606-20-2	0.5	mg/kg	<0.5	1.5 mg/kg	78.3	58.0	118	
EP075: 2,4-Dinitrotoluene	121-14-2	0.5	mg/kg	<0.5	1.5 mg/kg	92.2	59.0	115	
EP075: 1-Naphthylamine	134-32-7	0.5	mg/kg	<0.5	1.5 mg/kg	41.4	18.0	112	
EP075: 4-Nitroquinoline-N-oxide	56-57-5	0.5	mg/kg	<0.5	1.5 mg/kg	77.6	10.0	87.0	
EP075: 5-Nitro-o-toluidine	99-55-8	0.5	mg/kg	<0.5	1.5 mg/kg	84.8	48.3	98.5	
EP075: Azobenzene	103-33-3	1	mg/kg	<1	1.5 mg/kg	93.9	62.0	118	
EP075: 1,3,5-Trinitrobenzene	99-35-4	0.5	mg/kg	<0.5	1.5 mg/kg	91.0	36.0	114	
EP075: Phenacetin	62-44-2	0.5	mg/kg	<0.5	1.5 mg/kg	96.3	62.0	114	
EP075: 4-Aminobiphenyl	92-67-1	0.5	mg/kg	<0.5	1.5 mg/kg	61.9	36.1	102	
EP075: Pentachloronitrobenzene	82-68-8	0.5	mg/kg	<0.5	1.5 mg/kg	93.9	56.0	110	
EP075: Pronamide	23950-58-5	0.5	mg/kg	<0.5	1.5 mg/kg	81.3	54.0	110	
EP075: Dimethylaminoazobenzene	60-11-7	0.5	mg/kg	<0.5	1.5 mg/kg	82.0	48.0	108	
EP075: Chlorobenzilate	510-15-6	0.5	mg/kg	<0.5	1.5 mg/kg	82.8	57.4	112	
EP075F: Haloethers (QCLot: 4168438)									
EP075: Bis(2-chloroethyl) ether	111-44-4	0.5	mg/kg	<0.5	1.5 mg/kg	66.0	63.0	121	
EP075: Bis(2-chloroethoxy) methane	111-91-1	0.5	mg/kg	<0.5	1.5 mg/kg	85.8	59.0	115	
EP075: 4-Chlorophenyl phenyl ether	7005-72-3	0.5	mg/kg	<0.5	1.5 mg/kg	94.0	58.0	112	



Sub-Matrix: SOIL

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike	Spike Recovery (%)		Acceptable Limits (%)	
					Concentration	LCS	Low	High	
EP075F: Haloethers (QCLot: 4168438) - continued									
EP075: 4-Bromophenyl phenyl ether	101-55-3	0.5	mg/kg	<0.5	1.5 mg/kg	95.1	58.0	110	
EP075G: Chlorinated Hydrocarbons (QCLot: 4168438)									
EP075: 1,3-Dichlorobenzene	541-73-1	0.5	mg/kg	<0.5	1.5 mg/kg	85.0	58.0	112	
EP075: 1,4-Dichlorobenzene	106-46-7	0.5	mg/kg	<0.5	1.5 mg/kg	94.0	58.0	116	
EP075: 1,2-Dichlorobenzene	95-50-1	0.5	mg/kg	<0.5	1.5 mg/kg	81.6	57.0	115	
EP075: Hexachloroethane	67-72-1	0.5	mg/kg	<0.5	1.5 mg/kg	83.4	54.0	116	
EP075: 1,2,4-Trichlorobenzene	120-82-1	0.5	mg/kg	<0.5	1.5 mg/kg	92.2	62.9	108	
EP075: Hexachloropropylene	1888-71-7	0.5	mg/kg	<0.5	1.5 mg/kg	86.2	39.1	110	
EP075: Hexachlorobutadiene	87-68-3	0.5	mg/kg	<0.5	1.5 mg/kg	81.3	59.0	117	
EP075: Hexachlorocyclopentadiene	77-47-4	2.5	mg/kg	<2.5	1.5 mg/kg	68.5	24.3	108	
EP075: Pentachlorobenzene	608-93-5	0.5	mg/kg	<0.5	1.5 mg/kg	87.7	57.0	109	
EP075: Hexachlorobenzene (HCB)	118-74-1	0.5	mg/kg	<0.5	1.5 mg/kg	97.0	59.0	111	
EP075H: Anilines and Benzidines (QCLot: 4168438)									
EP075: Aniline	62-53-3	0.5	mg/kg	<0.5	1.5 mg/kg	71.6	13.2	108	
EP075: 4-Chloroaniline	106-47-8	0.5	mg/kg	<0.5	1.5 mg/kg	35.8	20.5	99.0	
EP075: 2-Nitroaniline	88-74-4	0.5	mg/kg	<0.5	1.5 mg/kg	76.9	52.0	112	
EP075: 3-Nitroaniline	99-09-2	0.5	mg/kg	<0.5	1.5 mg/kg	63.6	31.5	93.7	
EP075: Dibenzofuran	132-64-9	0.5	mg/kg	<0.5	1.5 mg/kg	92.5	60.0	110	
EP075: 4-Nitroaniline	100-01-6	0.5	mg/kg	<0.5	1.5 mg/kg	94.5	42.0	112	
EP075: Carbazole	86-74-8	0.5	mg/kg	<0.5	1.5 mg/kg	87.5	59.0	111	
EP075: 3,3'-Dichlorobenzidine	91-94-1	0.5	mg/kg	<0.5	1.5 mg/kg	67.0	23.1	113	
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4168434)									
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	300 mg/kg	107	75.0	129	
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	450 mg/kg	108	77.0	131	
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	300 mg/kg	104	71.0	129	
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4172738)									
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	26 mg/kg	90.6	68.4	128	
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4172739)									
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	26 mg/kg	92.6	68.4	128	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4168434)									
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	375 mg/kg	111	77.0	125	
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	525 mg/kg	105	74.0	138	
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	225 mg/kg	103	63.0	131	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4172738)									
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	31 mg/kg	94.2	68.4	128	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4172739)									
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	31 mg/kg	90.8	68.4	128	



Sub-Matrix: SOIL

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike	Spike Recovery (%)		Acceptable Limits (%)	
					Concentration	LCS	Low	High	
EP080: BTEXN (QCLot: 4172738)									
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	92.4	62.0	116	
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	88.5	67.0	121	
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	93.2	65.0	117	
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	2 mg/kg	93.3	66.0	118	
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	93.6	68.0	120	
EP080: Naphthalene	91-20-3	1	mg/kg	<1	1 mg/kg	118	63.0	119	
EP080: BTEXN (QCLot: 4172739)									
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	100	62.0	116	
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	94.1	67.0	121	
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	90.2	65.0	117	
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	2 mg/kg	92.6	66.0	118	
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	96.4	68.0	120	
EP080: Naphthalene	91-20-3	1	mg/kg	<1	1 mg/kg	85.5	63.0	119	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4171663)									
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	0.00125 mg/kg	109	72.0	128	
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	0.00125 mg/kg	99.6	67.0	130	
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	80.4	68.0	136	
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4171663)									
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	0.00625 mg/kg	98.3	71.0	135	
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	0.00125 mg/kg	104	69.0	132	
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	0.00125 mg/kg	120	70.0	132	
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	0.00125 mg/kg	103	71.0	131	
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	105	69.0	133	
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4171663)									
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	0.00125 mg/kg	128	62.0	145	
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	0.00125 mg/kg	105	64.0	140	
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	0.00125 mg/kg	118	65.0	137	
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	0.00125 mg/kg	137	69.2	143	

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: SOIL

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report		
				Spike	SpikeRecovery(%)	Acceptable Limits (%)
				Concentration	MS	Low



Sub-Matrix: SOIL

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 4181607)							
ES2204627-001	Anonymous	EG005T: Arsenic	7440-38-2	50 mg/kg	108	70.0	130
		EG005T: Cadmium	7440-43-9	50 mg/kg	95.9	70.0	130
		EG005T: Chromium	7440-47-3	50 mg/kg	106	68.0	132
		EG005T: Copper	7440-50-8	250 mg/kg	104	70.0	130
		EG005T: Lead	7439-92-1	250 mg/kg	113	70.0	130
		EG005T: Nickel	7440-02-0	50 mg/kg	102	70.0	130
		EG005T: Zinc	7440-66-6	250 mg/kg	93.8	66.0	133
EG035T: Total Recoverable Mercury by FIMS (QCLot: 4181608)							
ES2204627-001	Anonymous	EG035T: Mercury	7439-97-6	5 mg/kg	102	70.0	130
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 4168437)							
ES2204462-001	Anonymous	EP066: Total Polychlorinated biphenyls	----	1 mg/kg	91.0	70.0	130
EP068A: Organochlorine Pesticides (OC) (QCLot: 4168436)							
ES2204462-001	Anonymous	EP068: gamma-BHC	58-89-9	0.5 mg/kg	86.1	70.0	130
		EP068: Heptachlor	76-44-8	0.5 mg/kg	83.0	70.0	130
		EP068: Aldrin	309-00-2	0.5 mg/kg	93.6	70.0	130
		EP068: Dieldrin	60-57-1	0.5 mg/kg	116	70.0	130
		EP068: Endrin	72-20-8	2 mg/kg	79.7	70.0	130
		EP068: 4,4'-DDT	50-29-3	2 mg/kg	82.0	70.0	130
EP068B: Organophosphorus Pesticides (OP) (QCLot: 4168436)							
ES2204462-001	Anonymous	EP068: Diazinon	333-41-5	0.5 mg/kg	103	70.0	130
		EP068: Chlorpyrifos-methyl	5598-13-0	0.5 mg/kg	87.6	70.0	130
		EP068: Pirimphos-ethyl	23505-41-1	0.5 mg/kg	87.1	70.0	130
		EP068: Bromophos-ethyl	4824-78-6	0.5 mg/kg	88.0	70.0	130
		EP068: Prothiofos	34643-46-4	0.5 mg/kg	75.6	70.0	130
EP074E: Halogenated Aliphatic Compounds (QCLot: 4172740)							
EW2200685-001	Anonymous	EP074: 1,1-Dichloroethene	75-35-4	2.5 mg/kg	# 69.8	70.0	130
		EP074: Trichloroethene	79-01-6	2.5 mg/kg	79.6	70.0	130
EP074F: Halogenated Aromatic Compounds (QCLot: 4172740)							
EW2200685-001	Anonymous	EP074: Chlorobenzene	108-90-7	2.5 mg/kg	99.0	70.0	130
EP075(SIM)A: Phenolic Compounds (QCLot: 4168435)							
ES2204462-001	Anonymous	EP075(SIM): Phenol	108-95-2	10 mg/kg	87.9	70.0	130
		EP075(SIM): 2-Chlorophenol	95-57-8	10 mg/kg	96.2	70.0	130
		EP075(SIM): 2-Nitrophenol	88-75-5	10 mg/kg	78.6	60.0	130
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	10 mg/kg	84.9	70.0	130
		EP075(SIM): Pentachlorophenol	87-86-5	10 mg/kg	44.8	20.0	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4168435)							



Sub-Matrix: SOIL

				Matrix Spike (MS) Report				
				Spike	SpikeRecovery(%)	Acceptable Limits (%)		
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4168435) - continued								
ES2204462-001	Anonymous	EP075(SIM): Acenaphthene	83-32-9	10 mg/kg	93.2	70.0	130	
		EP075(SIM): Pyrene	129-00-0	10 mg/kg	114	70.0	130	
EP075D: Nitrosamines (QCLot: 4168438)								
ES2204462-001	Anonymous	EP075: N-Nitrosodi-n-propylamine	621-64-7	10 mg/kg	90.5	50.0	130	
EP075E: Nitroaromatics and Ketones (QCLot: 4168438)								
ES2204462-001	Anonymous	EP075: 2,4-Dinitrotoluene	121-14-2	10 mg/kg	91.2	40.0	130	
EP075G: Chlorinated Hydrocarbons (QCLot: 4168438)								
ES2204462-001	Anonymous	EP075: 1,4-Dichlorobenzene	106-46-7	10 mg/kg	86.8	60.0	130	
		EP075: 1,2,4-Trichlorobenzene	120-82-1	10 mg/kg	96.2	50.0	130	
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4168434)								
ES2204462-001	Anonymous	EP071: C10 - C14 Fraction	----	480 mg/kg	91.0	73.0	137	
		EP071: C15 - C28 Fraction	----	3100 mg/kg	111	53.0	131	
		EP071: C29 - C36 Fraction	----	2060 mg/kg	118	52.0	132	
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4172738)								
ES2204577-001	Anonymous	EP080: C6 - C9 Fraction	----	32.5 mg/kg	87.4	70.0	130	
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4172739)								
EW2200685-001	Anonymous	EP080: C6 - C9 Fraction	----	32.5 mg/kg	88.2	70.0	130	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4168434)								
ES2204462-001	Anonymous	EP071: >C10 - C16 Fraction	----	860 mg/kg	102	73.0	137	
		EP071: >C16 - C34 Fraction	----	4320 mg/kg	115	53.0	131	
		EP071: >C34 - C40 Fraction	----	890 mg/kg	116	52.0	132	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4172738)								
ES2204577-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	37.5 mg/kg	90.8	70.0	130	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4172739)								
EW2200685-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	37.5 mg/kg	88.1	70.0	130	
EP080: BTEXN (QCLot: 4172738)								
ES2204577-001	Anonymous	EP080: Benzene	71-43-2	2.5 mg/kg	85.4	70.0	130	
		EP080: Toluene	108-88-3	2.5 mg/kg	78.5	70.0	130	
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	85.5	70.0	130	
		EP080: meta- & para-Xylene	108-38-3	2.5 mg/kg	83.5	70.0	130	
			106-42-3					
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	85.8	70.0	130	
EP080: Naphthalene	91-20-3	2.5 mg/kg	82.7	70.0	130			
EP080: BTEXN (QCLot: 4172739)								
EW2200685-001	Anonymous	EP080: Benzene	71-43-2	2.5 mg/kg	96.5	70.0	130	



Sub-Matrix: SOIL

				Matrix Spike (MS) Report				
				Spike	SpikeRecovery(%)	Acceptable Limits (%)		
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High	
EP080: BTEXN (QCLot: 4172739) - continued								
EW2200685-001	Anonymous	EP080: Toluene	108-88-3	2.5 mg/kg	93.9	70.0	130	
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	94.0	70.0	130	
		EP080: meta- & para-Xylene	108-38-3	2.5 mg/kg	96.2	70.0	130	
			106-42-3					
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	96.6	70.0	130	
		EP080: Naphthalene	91-20-3	2.5 mg/kg	96.4	70.0	130	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4171663)								
EP2201466-085	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.00125 mg/kg	84.4	72.0	128	
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.00125 mg/kg	# Not Determined	67.0	130	
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.00125 mg/kg	# Not Determined	68.0	136	
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4171663)								
EP2201466-085	Anonymous	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.00625 mg/kg	93.9	71.0	135	
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.00125 mg/kg	70.8	69.0	132	
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.00125 mg/kg	# Not Determined	70.0	132	
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.00125 mg/kg	87.2	71.0	131	
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.00125 mg/kg	# Not Determined	69.0	133	
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4171663)								
EP2201466-085	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.00125 mg/kg	129	62.0	145	
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.00125 mg/kg	84.0	64.0	140	
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.00125 mg/kg	# Not Determined	65.0	137	
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.00125 mg/kg	73.2	69.2	143	

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: ES2204644	Page	: 1 of 10
Client	: EP RISK MANAGEMENT	Laboratory	: Environmental Division Sydney
Contact	: HARRISON BLAKE	Telephone	: +61 2 8784 8555
Project	: EP2515	Date Samples Received	: 10-Feb-2022
Site	: ----	Issue Date	: 22-Feb-2022
Sampler	: HARRISON BLAKE	No. of samples received	: 7
Order number	: ----	No. of samples analysed	: 5

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO** Method Blank value outliers occur.
- **NO** Duplicate outliers occur.
- Laboratory Control outliers exist - please see following pages for full details.
- Matrix Spike outliers exist - please see following pages for full details.
- For all regular sample matrices, **NO** surrogate recovery outliers occur.

Outliers : Analysis Holding Time Compliance

- **NO** Analysis Holding Time Outliers exist.

Outliers : Frequency of Quality Control Samples

- **NO** Quality Control Sample Frequency Outliers exist.



Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Laboratory Control Spike (LCS) Recoveries							
EP075B: Polynuclear Aromatic Hydrocarbons	QC-4168438-002	----	7.12-Dimethylbenz(a)anthracene	57-97-6	114 %	48.1-106%	Recovery greater than upper control limit
Matrix Spike (MS) Recoveries							
EP074E: Halogenated Aliphatic Compounds	EW2200685--001	Anonymous	1.1-Dichloroethene	75-35-4	69.8 %	70.0-130%	Recovery less than lower data quality objective
EP231A: Perfluoroalkyl Sulfonic Acids	EP2201466--085	Anonymous	Perfluorohexane sulfonic acid (PFHxS)	355-46-4	Not Determined	----	MS recovery not determined, background level greater than or equal to 4x spike level.
EP231A: Perfluoroalkyl Sulfonic Acids	EP2201466--085	Anonymous	Perfluorooctane sulfonic acid (PFOS)	1763-23-1	Not Determined	----	MS recovery not determined, background level greater than or equal to 4x spike level.
EP231B: Perfluoroalkyl Carboxylic Acids	EP2201466--085	Anonymous	Perfluorohexanoic acid (PFHxA)	307-24-4	Not Determined	----	MS recovery not determined, background level greater than or equal to 4x spike level.
EP231B: Perfluoroalkyl Carboxylic Acids	EP2201466--085	Anonymous	Perfluorooctanoic acid (PFOA)	335-67-1	Not Determined	----	MS recovery not determined, background level greater than or equal to 4x spike level.
EP231D: (n:2) Fluorotelomer Sulfonic Acids	EP2201466--085	Anonymous	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	Not Determined	----	MS recovery not determined, background level greater than or equal to 4x spike level.

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for VOC in soils vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

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

Method	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EA003 :pH (field/fox)								
Snap Lock Bag - frozen (EA003) BH04_5.0,	BH04_7.5	10-Feb-2022	21-Feb-2022	05-Nov-2024	✓	21-Feb-2022	22-May-2022	✓
EA029-A: pH Measurements								
Snap Lock Bag - frozen (EA029) BH04_5.0		10-Feb-2022	17-Feb-2022	05-Nov-2024	✓	17-Feb-2022	18-May-2022	✓



Matrix: SOIL

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

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EA029-B: Acidity Trail								
Snap Lock Bag - frozen (EA029) BH04_5.0	10-Feb-2022	17-Feb-2022	05-Nov-2024	✓	17-Feb-2022	18-May-2022	✓	
EA029-C: Sulfur Trail								
Snap Lock Bag - frozen (EA029) BH04_5.0	10-Feb-2022	17-Feb-2022	05-Nov-2024	✓	17-Feb-2022	18-May-2022	✓	
EA029-D: Calcium Values								
Snap Lock Bag - frozen (EA029) BH04_5.0	10-Feb-2022	17-Feb-2022	05-Nov-2024	✓	17-Feb-2022	18-May-2022	✓	
EA029-E: Magnesium Values								
Snap Lock Bag - frozen (EA029) BH04_5.0	10-Feb-2022	17-Feb-2022	05-Nov-2024	✓	17-Feb-2022	18-May-2022	✓	
EA029-F: Excess Acid Neutralising Capacity								
Snap Lock Bag - frozen (EA029) BH04_5.0	10-Feb-2022	17-Feb-2022	05-Nov-2024	✓	17-Feb-2022	18-May-2022	✓	
EA029-G: Retained Acidity								
Snap Lock Bag - frozen (EA029) BH04_5.0	10-Feb-2022	17-Feb-2022	05-Nov-2024	✓	17-Feb-2022	18-May-2022	✓	
EA029-H: Acid Base Accounting								
Snap Lock Bag - frozen (EA029) BH04_5.0	10-Feb-2022	17-Feb-2022	05-Nov-2024	✓	17-Feb-2022	18-May-2022	✓	
EA055: Moisture Content (Dried @ 105-110°C)								
Soil Glass Jar - Unpreserved (EA055) BH04_0.2, BH04_2.0	BH04_1.0,	10-Feb-2022	----	----	----	18-Feb-2022	24-Feb-2022	✓
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Snap Lock Bag - Friable Asbestos/PSD Bag (EA200) BH04_0.2,	BH04_1.0	10-Feb-2022	----	----	----	14-Feb-2022	09-Aug-2022	✓
EG005(ED093)T: Total Metals by ICP-AES								
Soil Glass Jar - Unpreserved (EG005T) BH04_0.2, BH04_2.0	BH04_1.0,	10-Feb-2022	18-Feb-2022	09-Aug-2022	✓	18-Feb-2022	09-Aug-2022	✓
EG035T: Total Recoverable Mercury by FIMS								
Soil Glass Jar - Unpreserved (EG035T) BH04_0.2, BH04_2.0	BH04_1.0,	10-Feb-2022	18-Feb-2022	10-Mar-2022	✓	18-Feb-2022	10-Mar-2022	✓
EP066: Polychlorinated Biphenyls (PCB)								
Soil Glass Jar - Unpreserved (EP066) BH04_0.2, BH04_2.0	BH04_1.0,	10-Feb-2022	16-Feb-2022	24-Feb-2022	✓	17-Feb-2022	28-Mar-2022	✓



Matrix: SOIL

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

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP068A: Organochlorine Pesticides (OC)								
Soil Glass Jar - Unpreserved (EP068) BH04_0.2, BH04_2.0	BH04_1.0,	10-Feb-2022	16-Feb-2022	24-Feb-2022	✓	17-Feb-2022	28-Mar-2022	✓
EP068B: Organophosphorus Pesticides (OP)								
Soil Glass Jar - Unpreserved (EP068) BH04_0.2, BH04_2.0	BH04_1.0,	10-Feb-2022	16-Feb-2022	24-Feb-2022	✓	17-Feb-2022	28-Mar-2022	✓
EP074A: Monocyclic Aromatic Hydrocarbons								
Soil Glass Jar - Unpreserved (EP074) BH04_0.2,	BH04_2.0	10-Feb-2022	15-Feb-2022	17-Feb-2022	✓	16-Feb-2022	17-Feb-2022	✓
EP074B: Oxygenated Compounds								
Soil Glass Jar - Unpreserved (EP074) BH04_0.2,	BH04_2.0	10-Feb-2022	15-Feb-2022	17-Feb-2022	✓	16-Feb-2022	17-Feb-2022	✓
EP074C: Sulfonated Compounds								
Soil Glass Jar - Unpreserved (EP074) BH04_0.2,	BH04_2.0	10-Feb-2022	15-Feb-2022	17-Feb-2022	✓	16-Feb-2022	17-Feb-2022	✓
EP074D: Fumigants								
Soil Glass Jar - Unpreserved (EP074) BH04_0.2,	BH04_2.0	10-Feb-2022	15-Feb-2022	17-Feb-2022	✓	16-Feb-2022	17-Feb-2022	✓
EP074E: Halogenated Aliphatic Compounds								
Soil Glass Jar - Unpreserved (EP074) BH04_0.2,	BH04_2.0	10-Feb-2022	15-Feb-2022	17-Feb-2022	✓	16-Feb-2022	17-Feb-2022	✓
EP074F: Halogenated Aromatic Compounds								
Soil Glass Jar - Unpreserved (EP074) BH04_0.2,	BH04_2.0	10-Feb-2022	15-Feb-2022	17-Feb-2022	✓	16-Feb-2022	17-Feb-2022	✓
EP074G: Trihalomethanes								
Soil Glass Jar - Unpreserved (EP074) BH04_0.2,	BH04_2.0	10-Feb-2022	15-Feb-2022	17-Feb-2022	✓	16-Feb-2022	17-Feb-2022	✓
EP075(SIM)A: Phenolic Compounds								
Soil Glass Jar - Unpreserved (EP075(SIM)) BH04_0.2, BH04_2.0	BH04_1.0,	10-Feb-2022	16-Feb-2022	24-Feb-2022	✓	18-Feb-2022	28-Mar-2022	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Soil Glass Jar - Unpreserved (EP075(SIM)) BH04_0.2, BH04_2.0	BH04_1.0,	10-Feb-2022	16-Feb-2022	24-Feb-2022	✓	18-Feb-2022	28-Mar-2022	✓
EP075B: Polynuclear Aromatic Hydrocarbons								
Soil Glass Jar - Unpreserved (EP075) BH04_0.2,	BH04_2.0	10-Feb-2022	16-Feb-2022	24-Feb-2022	✓	18-Feb-2022	28-Mar-2022	✓



Matrix: SOIL

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

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP075C: Phthalate Esters							
Soil Glass Jar - Unpreserved (EP075) BH04_0.2, BH04_2.0	10-Feb-2022	16-Feb-2022	24-Feb-2022	✓	18-Feb-2022	28-Mar-2022	✓
EP075D: Nitrosamines							
Soil Glass Jar - Unpreserved (EP075) BH04_0.2, BH04_2.0	10-Feb-2022	16-Feb-2022	24-Feb-2022	✓	18-Feb-2022	28-Mar-2022	✓
EP075E: Nitroaromatics and Ketones							
Soil Glass Jar - Unpreserved (EP075) BH04_0.2, BH04_2.0	10-Feb-2022	16-Feb-2022	24-Feb-2022	✓	18-Feb-2022	28-Mar-2022	✓
EP075F: Haloethers							
Soil Glass Jar - Unpreserved (EP075) BH04_0.2, BH04_2.0	10-Feb-2022	16-Feb-2022	24-Feb-2022	✓	18-Feb-2022	28-Mar-2022	✓
EP075G: Chlorinated Hydrocarbons							
Soil Glass Jar - Unpreserved (EP075) BH04_0.2, BH04_2.0	10-Feb-2022	16-Feb-2022	24-Feb-2022	✓	18-Feb-2022	28-Mar-2022	✓
EP075H: Anilines and Benzidines							
Soil Glass Jar - Unpreserved (EP075) BH04_0.2, BH04_2.0	10-Feb-2022	16-Feb-2022	24-Feb-2022	✓	18-Feb-2022	28-Mar-2022	✓
EP080/071: Total Petroleum Hydrocarbons							
Soil Glass Jar - Unpreserved (EP080) BH04_1.0	10-Feb-2022	15-Feb-2022	24-Feb-2022	✓	15-Feb-2022	24-Feb-2022	✓
Soil Glass Jar - Unpreserved (EP080) BH04_0.2, BH04_2.0	10-Feb-2022	15-Feb-2022	24-Feb-2022	✓	16-Feb-2022	24-Feb-2022	✓
Soil Glass Jar - Unpreserved (EP071) BH04_0.2, BH04_1.0, BH04_2.0	10-Feb-2022	16-Feb-2022	24-Feb-2022	✓	17-Feb-2022	28-Mar-2022	✓
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions							
Soil Glass Jar - Unpreserved (EP080) BH04_1.0	10-Feb-2022	15-Feb-2022	24-Feb-2022	✓	15-Feb-2022	24-Feb-2022	✓
Soil Glass Jar - Unpreserved (EP080) BH04_0.2, BH04_2.0	10-Feb-2022	15-Feb-2022	24-Feb-2022	✓	16-Feb-2022	24-Feb-2022	✓
Soil Glass Jar - Unpreserved (EP071) BH04_0.2, BH04_1.0, BH04_2.0	10-Feb-2022	16-Feb-2022	24-Feb-2022	✓	17-Feb-2022	28-Mar-2022	✓
EP080: BTEXN							
Soil Glass Jar - Unpreserved (EP080) BH04_1.0	10-Feb-2022	15-Feb-2022	24-Feb-2022	✓	15-Feb-2022	24-Feb-2022	✓
Soil Glass Jar - Unpreserved (EP080) BH04_0.2, BH04_2.0	10-Feb-2022	15-Feb-2022	24-Feb-2022	✓	16-Feb-2022	24-Feb-2022	✓
EP231A: Perfluoroalkyl Sulfonic Acids							
HDPE Soil Jar (EP231X) BH04_1.0	10-Feb-2022	14-Feb-2022	09-Aug-2022	✓	15-Feb-2022	26-Mar-2022	✓



Matrix: **SOIL**

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

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP231B: Perfluoroalkyl Carboxylic Acids							
HDPE Soil Jar (EP231X) BH04_1.0	10-Feb-2022	14-Feb-2022	09-Aug-2022	✓	15-Feb-2022	26-Mar-2022	✓
EP231D: (n:2) Fluorotelomer Sulfonic Acids							
HDPE Soil Jar (EP231X) BH04_1.0	10-Feb-2022	14-Feb-2022	09-Aug-2022	✓	15-Feb-2022	26-Mar-2022	✓
EP231P: PFAS Sums							
HDPE Soil Jar (EP231X) BH04_1.0	10-Feb-2022	14-Feb-2022	09-Aug-2022	✓	15-Feb-2022	26-Mar-2022	✓



Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: * = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type	Method	Count		Rate (%)			Quality Control Specification
		QC	Reaular	Actual	Expected	Evaluation	
Analytical Methods							
Laboratory Duplicates (DUP)							
Moisture Content	EA055	2	20	10.00	10.00	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	2	14	14.29	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	18	11.11	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	2	14	14.29	10.00	✓	NEPM 2013 B3 & ALS QC Standard
pH field/fox	EA003	2	20	10.00	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	2	14	14.29	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Semivolatile Organic Compounds	EP075	1	7	14.29	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Suspension Peroxide Oxidation-Combined Acidity and Sulphate	EA029	1	7	14.29	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	2	20	10.00	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	2	20	10.00	10.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	2	14	14.29	10.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	4	38	10.53	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Volatile Organic Compounds	EP074	2	15	13.33	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
PAH/Phenols (SIM)	EP075(SIM)	1	14	7.14	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	18	5.56	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	14	7.14	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	14	7.14	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Semivolatile Organic Compounds	EP075	1	7	14.29	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Suspension Peroxide Oxidation-Combined Acidity and Sulphate	EA029	1	7	14.29	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	14	7.14	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	38	5.26	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Volatile Organic Compounds	EP074	1	15	6.67	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
PAH/Phenols (SIM)	EP075(SIM)	1	14	7.14	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	18	5.56	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	14	7.14	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	14	7.14	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Semivolatile Organic Compounds	EP075	1	7	14.29	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Suspension Peroxide Oxidation-Combined Acidity and Sulphate	EA029	1	7	14.29	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard



Matrix: **SOIL**

Evaluation: * = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type	Method	Count		Rate (%)			Quality Control Specification
		QC	Reaular	Actual	Expected	Evaluation	
Analytical Methods							
Method Blanks (MB) - Continued							
Total Metals by ICP-AES	EG005T	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	14	7.14	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	38	5.26	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Volatile Organic Compounds	EP074	1	15	6.67	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
PAH/Phenols (SIM)	EP075(SIM)	1	14	7.14	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	18	5.56	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	14	7.14	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	14	7.14	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Semivolatile Organic Compounds	EP075	1	7	14.29	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	14	7.14	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	38	5.26	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Volatile Organic Compounds	EP074	1	15	6.67	5.00	✓	NEPM 2013 B3 & ALS QC Standard



Brief Method Summaries

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

Analytical Methods	Method	Matrix	Method Descriptions
pH field/fox	EA003	SOIL	In house: Referenced to Ahern et al 1998 - determined on a 1:5 soil/water extract designed to simulate field measured pH and pH after the extract has been oxidised with peroxide.
Suspension Peroxide Oxidation-Combined Acidity and Sulphate	EA029	SOIL	In house: Referenced to Ahern et al 2004 - a suspension peroxide oxidation method following the 'sulfur trail' by determining the level of 1M KCL extractable sulfur and the sulfur level after oxidation of soil sulphides. The 'acidity trail' is followed by measurement of TAA, TPA and TSA. Liming Rate is based on results for samples as submitted and incorporates a minimum safety factor of 1.5.
Moisture Content	EA055	SOIL	In house: A gravimetric procedure based on weight loss over a 12 hour drying period at 105-110 degrees C. This method is compliant with NEPM Schedule B(3).
Asbestos Identification in Soils	EA200	SOIL	AS 4964 Method for the qualitative identification of asbestos in bulk samples Analysis by Polarised Light Microscopy including dispersion staining
Total Metals by ICP-AES	EG005T	SOIL	In house: Referenced to APHA 3120; USEPA SW 846 - 6010. Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM Schedule B(3)
Total Mercury by FIMS	EG035T	SOIL	In house: Referenced to APHA 3112 Hg - B (Flow-injection (SnCl ₂) (Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. Mercury in solids are determined following an appropriate acid digestion. Ionic mercury is reduced online to atomic mercury vapour by SnCl ₂ which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM Schedule B(3)
Polychlorinated Biphenyls (PCB)	EP066	SOIL	In house: Referenced to USEPA SW 846 - 8270 Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3).
Pesticides by GCMS	EP068	SOIL	In house: Referenced to USEPA SW 846 - 8270 Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This technique is compliant with NEPM Schedule B(3).
TRH - Semivolatile Fraction	EP071	SOIL	In house: Referenced to USEPA SW 846 - 8015 Sample extracts are analysed by Capillary GC/FID and quantified against alkane standards over the range C10 - C40. Compliant with NEPM Schedule B(3).
Volatile Organic Compounds	EP074	SOIL	In house: Referenced to USEPA SW 846 - 8260 Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3).
Semivolatile Organic Compounds	EP075	SOIL	In house: Referenced to USEPA SW 846 - 8270 Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This technique is compliant with NEPM Schedule B(3).
PAH/Phenols (SIM)	EP075(SIM)	SOIL	In house: Referenced to USEPA SW 846 - 8270. Extracts are analysed by Capillary GC/MS in Selective Ion Mode (SIM) and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)



Analytical Methods	Method	Matrix	Method Descriptions
TRH Volatiles/BTEX	EP080	SOIL	In house: Referenced to USEPA SW 846 - 8260. Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve. Compliant with NEPM Schedule B(3) amended.
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	SOIL	In-house: Analysis of soils by solvent extraction followed by LC-Electrospray-MS-MS, Negative Mode using MRM using internal standard quantitation. Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to a portion of soil which is then extracted with MTBE and an ion pairing reagent. A portion of extract is exchanged into the analytical solvent mixture, combined with an equal volume reagent water and filtered for analysis. Method procedures and data quality objectives conform to US DoD QSM 5.3, table B-15 requirements.

Preparation Methods	Method	Matrix	Method Descriptions
Drying only	EN020D	SOIL	In house
Drying at 85 degrees, bagging and labelling (ASS)	EN020PR	SOIL	In house
Hot Block Digest for metals in soils sediments and sludges	EN69	SOIL	In house: Referenced to USEPA 200.2. Hot Block Acid Digestion 1.0g of sample is heated with Nitric and Hydrochloric acids, then cooled. Peroxide is added and samples heated and cooled again before being filtered and bulked to volume for analysis. Digest is appropriate for determination of selected metals in sludge, sediments, and soils. This method is compliant with NEPM Schedule B(3).
Methanolic Extraction of Soils for Purge and Trap	ORG16	SOIL	In house: Referenced to USEPA SW 846 - 5030A. 5g of solid is shaken with surrogate and 10mL methanol prior to analysis by Purge and Trap - GC/MS.
Tumbler Extraction of Solids	ORG17	SOIL	In house: Mechanical agitation (tumbler). 10g of sample, Na2SO4 and surrogate are extracted with 30mL 1:1 DCM/Acetone by end over end tumble. The solvent is decanted, dehydrated and concentrated (by KD) to the desired volume for analysis.
QuEChERS Extraction of Solids	ORG71	SOIL	In house: Sequential extractions with Acetonitrile/Methanol by shaking. Extraction efficiency aided by the addition of salts under acidic conditions. Where relevant, interferences from co-extracted organics are removed with dispersive clean-up media (dSPE). The extract is either diluted or concentrated and exchanged into the analytical solvent.

QUALITY CONTROL REPORT

Work Order	: ES2204645	Page	: 1 of 25
Client	: EP RISK MANAGEMENT	Laboratory	: Environmental Division Sydney
Contact	: HARRISON BLAKE	Contact	: Tyler Anderson
Address	: Level 4 73 Walker St North Sydney 2060	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: +61 2 8784 8555
Project	: EP2515	Date Samples Received	: 10-Feb-2022
Order number	: ----	Date Analysis Commenced	: 14-Feb-2022
C-O-C number	: ----	Issue Date	: 22-Feb-2022
Sampler	: HARRISON BLAKE		
Site	: ----		
Quote number	: SY/497/20 Primary analysis only		
No. of samples received	: 6		
No. of samples analysed	: 4		



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

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

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

<i>Signatories</i>	<i>Position</i>	<i>Accreditation Category</i>
Alana Smylie	Team Leader - Asbestos	Newcastle - Asbestos, Mayfield West, NSW
Ben Felgendrejeris	Senior Acid Sulfate Soil Chemist	Brisbane Acid Sulphate Soils, Stafford, QLD
Edwandy Fadjjar	Organic Coordinator	Sydney Inorganics, Smithfield, NSW
Edwandy Fadjjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Franco Lentini	LCMS Coordinator	Sydney Organics, Smithfield, NSW
Ivan Taylor	Analyst	Sydney Inorganics, Smithfield, NSW



General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key :
 Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
 CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
 LOR = Limit of reporting
 RPD = Relative Percentage Difference
 # = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 4181607)									
ES2204627-001	Anonymous	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	15	22	39.5	0% - 50%
		EG005T: Nickel	7440-02-0	2	mg/kg	85	92	8.0	0% - 20%
		EG005T: Arsenic	7440-38-2	5	mg/kg	7	9	28.4	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	717	694	3.2	0% - 20%
		EG005T: Lead	7439-92-1	5	mg/kg	819	829	1.2	0% - 20%
		EG005T: Zinc	7440-66-6	5	mg/kg	1330	1340	0.6	0% - 20%
ES2204889-002	Anonymous	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	8	8	0.0	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	14	16	7.7	No Limit
EA003 :pH (field/fox) (QC Lot: 4182456)									
EM2202286-001	Anonymous	EA003: pH (F)	----	0.1	pH Unit	8.4	8.5	0.0	0% - 20%
		EA003: pH (Fox)	----	0.1	pH Unit	6.0	6.0	0.0	0% - 20%
ES2204627-003	Anonymous	EA003: pH (F)	----	0.1	pH Unit	7.0	7.1	0.0	0% - 20%
		EA003: pH (Fox)	----	0.1	pH Unit	4.4	4.5	0.0	0% - 20%
EA029-A: pH Measurements (QC Lot: 4176623)									
EM2202186-002	Anonymous	EA029: pH KCl (23A)	----	0.1	pH Unit	5.6	5.6	0.0	0% - 20%
		EA029: pH OX (23B)	----	0.1	pH Unit	6.2	6.2	0.0	0% - 20%
EA029-B: Acidity Trail (QC Lot: 4176623)									



Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EA029-B: Acidity Trail (QC Lot: 4176623) - continued									
EM2202186-002	Anonymous	EA029: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.020	<0.020	0.0	No Limit
		EA029: sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.020	<0.020	0.0	No Limit
		EA029: sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.020	<0.020	0.0	No Limit
		EA029: Titratable Actual Acidity (23F)	----	2	mole H+ / t	6	6	0.0	No Limit
		EA029: Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	6	6	0.0	No Limit
		EA029: Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	<2	0.0	No Limit
EA029-C: Sulfur Trail (QC Lot: 4176623)									
EM2202186-002	Anonymous	EA029: KCl Extractable Sulfur (23Ce)	----	0.02	% S	<0.020	<0.020	0.0	No Limit
		EA029: Peroxide Sulfur (23De)	----	0.02	% S	<0.020	<0.020	0.0	No Limit
		EA029: Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	<0.020	<0.020	0.0	No Limit
		EA029: acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	<10	<10	0.0	No Limit
EA029-D: Calcium Values (QC Lot: 4176623)									
EM2202186-002	Anonymous	EA029: KCl Extractable Calcium (23Vh)	----	0.02	% Ca	0.054	0.058	6.8	No Limit
		EA029: Peroxide Calcium (23Wh)	----	0.02	% Ca	0.058	0.060	4.2	No Limit
		EA029: Acid Reacted Calcium (23X)	----	0.02	% Ca	<0.020	<0.020	0.0	No Limit
		EA029: sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	<0.020	<0.020	0.0	No Limit
		EA029: acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	<10	<10	0.0	No Limit
EA029-E: Magnesium Values (QC Lot: 4176623)									
EM2202186-002	Anonymous	EA029: KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	0.065	0.069	6.7	No Limit
		EA029: Peroxide Magnesium (23Tm)	----	0.02	% Mg	0.075	0.078	4.1	No Limit
		EA029: Acid Reacted Magnesium (23U)	----	0.02	% Mg	<0.020	<0.020	0.0	No Limit
		EA029: sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	<0.020	<0.020	0.0	No Limit
		EA029: Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	<10	<10	0.0	No Limit
EA029-H: Acid Base Accounting (QC Lot: 4176623)									
EM2202186-002	Anonymous	EA029: ANC Fineness Factor	----	0.5	-	1.5	1.5	0.0	No Limit
		EA029: Net Acidity (sulfur units)	----	0.02	% S	<0.02	<0.02	0.0	No Limit
		EA029: Net Acidity excluding ANC (sulfur units)	----	0.02	% S	<0.02	<0.02	0.0	No Limit
		EA029: Liming Rate	----	1	kg CaCO3/t	<1	<1	0.0	No Limit
		EA029: Liming Rate excluding ANC	----	1	kg CaCO3/t	<1	<1	0.0	No Limit
		EA029: Net Acidity (acidity units)	----	10	mole H+ / t	<10	<10	0.0	No Limit
		EA029: Net Acidity excluding ANC (acidity units)	----	10	mole H+ / t	<10	<10	0.0	No Limit
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 4181614)									
ES2204627-003	Anonymous	EA055: Moisture Content	----	0.1	%	20.6	21.6	4.9	0% - 20%
ES2204889-010	Anonymous	EA055: Moisture Content	----	0.1	%	1.2	1.3	10.6	No Limit



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 4181608)									
ES2204627-001	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	0.2	0.2	0.0	No Limit
ES2204889-002	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EP066: Polychlorinated Biphenyls (PCB) (QC Lot: 4168437)									
ES2204644-003	Anonymous	EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
ES2204462-001	Anonymous	EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EP068A: Organochlorine Pesticides (OC) (QC Lot: 4168436)									
ES2204644-003	Anonymous	EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4,4'-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4,4'-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4,4'-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	0.0	No Limit		
ES2204462-001	Anonymous	EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4,4'-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP068A: Organochlorine Pesticides (OC) (QC Lot: 4168436) - continued									
ES2204462-001	Anonymous	EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4.4'-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4.4'-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
EP068B: Organophosphorus Pesticides (OP) (QC Lot: 4168436)									
ES2204644-003	Anonymous	EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP068: Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		ES2204462-001	Anonymous	EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05
EP068: Demeton-S-methyl	919-86-8			0.05	mg/kg	<0.05	<0.05	0.0	No Limit
EP068: Dimethoate	60-51-5			0.05	mg/kg	<0.05	<0.05	0.0	No Limit
EP068: Diazinon	333-41-5			0.05	mg/kg	<0.05	<0.05	0.0	No Limit
EP068: Chlorpyrifos-methyl	5598-13-0			0.05	mg/kg	<0.05	<0.05	0.0	No Limit
EP068: Malathion	121-75-5			0.05	mg/kg	<0.05	<0.05	0.0	No Limit
EP068: Fenthion	55-38-9			0.05	mg/kg	<0.05	<0.05	0.0	No Limit
EP068: Chlorpyrifos	2921-88-2			0.05	mg/kg	<0.05	<0.05	0.0	No Limit
EP068: Pirimphos-ethyl	23505-41-1			0.05	mg/kg	<0.05	<0.05	0.0	No Limit
EP068: Chlorfenvinphos	470-90-6			0.05	mg/kg	<0.05	<0.05	0.0	No Limit
EP068: Bromophos-ethyl	4824-78-6			0.05	mg/kg	<0.05	<0.05	0.0	No Limit
EP068: Fenamiphos	22224-92-6			0.05	mg/kg	<0.05	<0.05	0.0	No Limit



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report							
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)		
EP068B: Organophosphorus Pesticides (OP) (QC Lot: 4168436) - continued											
ES2204462-001	Anonymous	EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	0.0	No Limit		
		EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit		
		EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit		
		EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	0.0	No Limit		
		EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	0.0	No Limit		
		EP068: Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	0.0	No Limit		
		EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit		
EP074A: Monocyclic Aromatic Hydrocarbons (QC Lot: 4172740)											
ES2204787-001	Anonymous	EP074: Styrene	100-42-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP074: Isopropylbenzene	98-82-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP074: n-Propylbenzene	103-65-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP074: 1.3.5-Trimethylbenzene	108-67-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP074: sec-Butylbenzene	135-98-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP074: 1.2.4-Trimethylbenzene	95-63-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP074: tert-Butylbenzene	98-06-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP074: p-Isopropyltoluene	99-87-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
EW2200685-001	Anonymous	EP074: n-Butylbenzene	104-51-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP074: Styrene	100-42-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP074: Isopropylbenzene	98-82-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP074: n-Propylbenzene	103-65-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP074: 1.3.5-Trimethylbenzene	108-67-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP074: sec-Butylbenzene	135-98-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP074: 1.2.4-Trimethylbenzene	95-63-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP074: tert-Butylbenzene	98-06-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
EP074B: Oxygenated Compounds (QC Lot: 4172740)	Anonymous	EP074: p-Isopropyltoluene	99-87-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP074: n-Butylbenzene	104-51-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP074: Vinyl Acetate	108-05-4	5	mg/kg	<5	<5	0.0	No Limit		
		EP074: 2-Butanone (MEK)	78-93-3	5	mg/kg	<5	<5	0.0	No Limit		
		EP074: 4-Methyl-2-pentanone (MIBK)	108-10-1	5	mg/kg	<5	<5	0.0	No Limit		
		EP074: 2-Hexanone (MBK)	591-78-6	5	mg/kg	<5	<5	0.0	No Limit		
		EW2200685-001	Anonymous	EP074: Vinyl Acetate	108-05-4	5	mg/kg	<5	<5	0.0	No Limit
				EP074: 2-Butanone (MEK)	78-93-3	5	mg/kg	<5	<5	0.0	No Limit
EP074: 4-Methyl-2-pentanone (MIBK)	108-10-1			5	mg/kg	<5	<5	0.0	No Limit		
EP074: 2-Hexanone (MBK)	591-78-6			5	mg/kg	<5	<5	0.0	No Limit		
EP074C: Sulfonated Compounds (QC Lot: 4172740)											
ES2204787-001	Anonymous	EP074: Carbon disulfide	75-15-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
EW2200685-001	Anonymous	EP074: Carbon disulfide	75-15-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
EP074D: Fumigants (QC Lot: 4172740)											



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP074D: Fumigants (QC Lot: 4172740) - continued									
ES2204787-001	Anonymous	EP074: 2,2-Dichloropropane	594-20-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,2-Dichloropropane	78-87-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: cis-1,3-Dichloropropylene	10061-01-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: trans-1,3-Dichloropropylene	10061-02-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,2-Dibromoethane (EDB)	106-93-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EW2200685-001	Anonymous	EP074: 2,2-Dichloropropane	594-20-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,2-Dichloropropane	78-87-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: cis-1,3-Dichloropropylene	10061-01-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: trans-1,3-Dichloropropylene	10061-02-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,2-Dibromoethane (EDB)	106-93-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP074E: Halogenated Aliphatic Compounds (QC Lot: 4172740)									
ES2204787-001	Anonymous	EP074: 1,1-Dichloroethene	75-35-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Iodomethane	74-88-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: trans-1,2-Dichloroethene	156-60-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,1-Dichloroethane	75-34-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: cis-1,2-Dichloroethene	156-59-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,1,1-Trichloroethane	71-55-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,1-Dichloropropylene	563-58-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Carbon Tetrachloride	56-23-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,2-Dichloroethane	107-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Trichloroethene	79-01-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Dibromomethane	74-95-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,1,2-Trichloroethane	79-00-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,3-Dichloropropane	142-28-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Tetrachloroethene	127-18-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,1,1,2-Tetrachloroethane	630-20-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: trans-1,4-Dichloro-2-butene	110-57-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: cis-1,4-Dichloro-2-butene	1476-11-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,1,2,2-Tetrachloroethane	79-34-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,2,3-Trichloropropane	96-18-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Pentachloroethane	76-01-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Dichlorodifluoromethane	75-71-8	5	mg/kg	<5	<5	0.0	No Limit
		EP074: Chloromethane	74-87-3	5	mg/kg	<5	<5	0.0	No Limit
		EP074: Vinyl chloride	75-01-4	5	mg/kg	<5	<5	0.0	No Limit
		EP074: Bromomethane	74-83-9	5	mg/kg	<5	<5	0.0	No Limit
		EP074: Chloroethane	75-00-3	5	mg/kg	<5	<5	0.0	No Limit
		EP074: Trichlorofluoromethane	75-69-4	5	mg/kg	<5	<5	0.0	No Limit
EW2200685-001	Anonymous	EP074: 1,1-Dichloroethene	75-35-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Iodomethane	74-88-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP074E: Halogenated Aliphatic Compounds (QC Lot: 4172740) - continued									
EW2200685-001	Anonymous	EP074: trans-1,2-Dichloroethene	156-60-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,1-Dichloroethane	75-34-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: cis-1,2-Dichloroethene	156-59-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,1,1-Trichloroethane	71-55-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,1-Dichloropropylene	563-58-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Carbon Tetrachloride	56-23-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,2-Dichloroethane	107-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Trichloroethene	79-01-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Dibromomethane	74-95-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,1,2-Trichloroethane	79-00-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,3-Dichloropropane	142-28-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Tetrachloroethene	127-18-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,1,1,2-Tetrachloroethane	630-20-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: trans-1,4-Dichloro-2-butene	110-57-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: cis-1,4-Dichloro-2-butene	1476-11-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,1,2,2-Tetrachloroethane	79-34-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,2,3-Trichloropropane	96-18-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Pentachloroethane	76-01-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Dichlorodifluoromethane	75-71-8	5	mg/kg	<5	<5	0.0	No Limit
EP074: Chloromethane	74-87-3	5	mg/kg	<5	<5	0.0	No Limit		
EP074: Vinyl chloride	75-01-4	5	mg/kg	<5	<5	0.0	No Limit		
EP074: Bromomethane	74-83-9	5	mg/kg	<5	<5	0.0	No Limit		
EP074: Chloroethane	75-00-3	5	mg/kg	<5	<5	0.0	No Limit		
EP074: Trichlorofluoromethane	75-69-4	5	mg/kg	<5	<5	0.0	No Limit		
EP074F: Halogenated Aromatic Compounds (QC Lot: 4172740)									
ES2204787-001	Anonymous	EP074: Chlorobenzene	108-90-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Bromobenzene	108-86-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 2-Chlorotoluene	95-49-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 4-Chlorotoluene	106-43-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,2,3-Trichlorobenzene	87-61-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EW2200685-001	Anonymous	EP074: Chlorobenzene	108-90-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Bromobenzene	108-86-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 2-Chlorotoluene	95-49-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 4-Chlorotoluene	106-43-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,2,3-Trichlorobenzene	87-61-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP074G: Trihalomethanes (QC Lot: 4172740)									
ES2204787-001	Anonymous	EP074: Chloroform	67-66-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Bromodichloromethane	75-27-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Dibromochloromethane	124-48-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP074G: Trihalomethanes (QC Lot: 4172740) - continued									
ES2204787-001	Anonymous	EP074: Bromoform	75-25-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EW2200685-001	Anonymous	EP074: Chloroform	67-66-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Bromodichloromethane	75-27-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Dibromochloromethane	124-48-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Bromoform	75-25-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075(SIM)A: Phenolic Compounds (QC Lot: 4168435)									
ES2204644-003	Anonymous	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2,4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2,4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2,6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2,4,6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2,4,5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit
ES2204462-001	Anonymous	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2,4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2,4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2,6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2,4,6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2,4,5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit
EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit		
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4168435)									
ES2204644-003	Anonymous	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit



Sub-Matrix: SOIL

				Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4168435) - continued										
ES2204644-003	Anonymous	EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
			205-82-3							
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075(SIM): Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
	EP075(SIM): Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
ES2204462-001	Anonymous	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	1.4	1.2	14.4	No Limit	
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	0.5	0.5	0.0	No Limit	
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	2.2	2.2	0.0	No Limit	
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	2.2	2.1	6.1	No Limit	
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	1.1	1.1	0.0	No Limit	
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	1.0	0.9	0.0	No Limit	
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2	0.5	mg/kg	1.4	1.3	0.0	No Limit	
			205-82-3							
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	1.2	1.2	0.0	No Limit	
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	0.7	<0.5	34.7	No Limit	
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	0.8	0.5	49.8	No Limit	
		EP075(SIM): Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	12.5	11.0	12.8	0% - 20%	
			EP075(SIM): Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	1.5	1.4	0.0	No Limit
EP075B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4168438)										
ES2204462-001	Anonymous	EP075: 2-Methylnaphthalene	91-57-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075: 2-Chloronaphthalene	91-58-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075: N-2-Fluorenyl Acetamide	53-96-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075: 7.12-Dimethylbenz(a)anthracene	57-97-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075: 3-Methylcholanthrene	56-49-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
EP075C: Phthalate Esters (QC Lot: 4168438)										
ES2204462-001	Anonymous	EP075: Dimethyl phthalate	131-11-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075: Diethyl phthalate	84-66-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP075C: Phthalate Esters (QC Lot: 4168438) - continued									
ES2204462-001	Anonymous	EP075: Di-n-butyl phthalate	84-74-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Butyl benzyl phthalate	85-68-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Di-n-octylphthalate	117-84-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075D: Nitrosamines (QC Lot: 4168438)									
ES2204462-001	Anonymous	EP075: N-Nitrosomethylethylamine	10595-95-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: N-Nitrosodiethylamine	55-18-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: N-Nitrosopyrrolidine	930-55-2	0.5	mg/kg	<1.0	<1.0	0.0	No Limit
		EP075: N-Nitrosomorpholine	59-89-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: N-Nitrosodi-n-propylamine	621-64-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: N-Nitrosopiperidine	100-75-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: N-Nitrosodibutylamine	924-16-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	0.5	mg/kg	<1.0	<1.0	0.0	No Limit
EP075: Methapyrilene	91-80-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
EP075E: Nitroaromatics and Ketones (QC Lot: 4168438)									
ES2204462-001	Anonymous	EP075: 2-Picoline	109-06-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Acetophenone	98-86-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Nitrobenzene	98-95-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Isophorone	78-59-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 2,6-Dinitrotoluene	606-20-2	0.5	mg/kg	<1.0	<1.0	0.0	No Limit
		EP075: 2,4-Dinitrotoluene	121-14-2	0.5	mg/kg	<1.0	<1.0	0.0	No Limit
		EP075: 1-Naphthylamine	134-32-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 4-Nitroquinoline-N-oxide	56-57-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 5-Nitro-o-toluidine	99-55-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 1,3,5-Trinitrobenzene	99-35-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Phenacetin	62-44-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 4-Aminobiphenyl	92-67-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Pentachloronitrobenzene	82-68-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Pronamide	23950-58-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Dimethylaminoazobenzene	60-11-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Chlorobenzilate	510-15-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075: Azobenzene	103-33-3	1	mg/kg	<1	<1	0.0	No Limit		
EP075F: Haloethers (QC Lot: 4168438)									
ES2204462-001	Anonymous	EP075: Bis(2-chloroethyl) ether	111-44-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Bis(2-chloroethoxy) methane	111-91-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 4-Chlorophenyl phenyl ether	7005-72-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 4-Bromophenyl phenyl ether	101-55-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075G: Chlorinated Hydrocarbons (QC Lot: 4168438)									
ES2204462-001	Anonymous	EP075: 1,3-Dichlorobenzene	541-73-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit



Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP075G: Chlorinated Hydrocarbons (QC Lot: 4168438) - continued									
ES2204462-001	Anonymous	EP075: 1,4-Dichlorobenzene	106-46-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 1,2-Dichlorobenzene	95-50-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Hexachloroethane	67-72-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 1,2,4-Trichlorobenzene	120-82-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Hexachloropropylene	1888-71-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Hexachlorobutadiene	87-68-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Pentachlorobenzene	608-93-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Hexachlorobenzene (HCB)	118-74-1	0.5	mg/kg	<1.0	<1.0	0.0	No Limit
		EP075: Hexachlorocyclopentadiene	77-47-4	2.5	mg/kg	<2.5	<2.5	0.0	No Limit
EP075H: Anilines and Benzidines (QC Lot: 4168438)									
ES2204462-001	Anonymous	EP075: Aniline	62-53-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 4-Chloroaniline	106-47-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 2-Nitroaniline	88-74-4	0.5	mg/kg	<1.0	<1.0	0.0	No Limit
		EP075: 3-Nitroaniline	99-09-2	0.5	mg/kg	<1.0	<1.0	0.0	No Limit
		EP075: Dibenzofuran	132-64-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 4-Nitroaniline	100-01-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Carbazole	86-74-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: 3,3'-Dichlorobenzidine	91-94-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4168434)									
ES2204644-003	Anonymous	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
ES2204462-001	Anonymous	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4172738)									
ES2204577-001	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
ES2204753-001	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4172739)									
ES2204787-001	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EW2200685-001	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4168434)									
ES2204644-003	Anonymous	EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
ES2204462-001	Anonymous	EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4172738)									



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4172738) - continued										
ES2204577-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit	
ES2204753-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4172739)										
ES2204787-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit	
EW2200685-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit	
EP080: BTEXN (QC Lot: 4172738)										
ES2204577-001	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit	
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP080: meta- & para-Xylene	108-38-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
			106-42-3							
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
ES2204753-001	Anonymous	EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit	
		EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit	
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP080: meta- & para-Xylene	108-38-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
			106-42-3							
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit			
EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit			
EP080: BTEXN (QC Lot: 4172739)										
ES2204787-001	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit	
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP080: meta- & para-Xylene	108-38-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
			106-42-3							
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
EW2200685-001	Anonymous	EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit	
		EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit	
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP080: meta- & para-Xylene	108-38-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
			106-42-3							
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit			
EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit			
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 4171663)										
EP2201466-085	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	0.0024	0.0019	22.9	0% - 50%	
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	0.0290	0.0262	10.5	0% - 20%	
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	8.41	8.11	3.6	0% - 20%	
ES2201383-006	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit	



Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 4171663) - continued									
ES2201383-006	Anonymous	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 4171663)									
EP2201466-085	Anonymous	EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	0.0039	0.0034	12.6	0% - 50%
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	0.0177	0.0152	15.3	0% - 20%
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	0.0019	0.0016	18.3	No Limit
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	0.0091	0.0079	14.1	0% - 20%
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	0.002	0.002	0.0	No Limit
ES2201383-006	Anonymous	EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	<0.001	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 4171663)									
EP2201466-085	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	0.0038	0.0035	5.9	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	0.0491	0.0460	6.5	0% - 20%
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
ES2201383-006	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit



Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike Concentration	Spike Recovery (%)		Acceptable Limits (%)	
						LCS	Low	High	
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 4181607)									
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	121.1 mg/kg	95.9	88.0	113	
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	0.74 mg/kg	81.4	70.0	130	
EG005T: Chromium	7440-47-3	2	mg/kg	<2	19.6 mg/kg	82.4	68.0	132	
EG005T: Copper	7440-50-8	5	mg/kg	<5	52.9 mg/kg	96.3	89.0	111	
EG005T: Lead	7439-92-1	5	mg/kg	<5	60.8 mg/kg	85.2	82.0	119	
EG005T: Nickel	7440-02-0	2	mg/kg	<2	15.3 mg/kg	86.5	80.0	120	
EG005T: Zinc	7440-66-6	5	mg/kg	<5	139.3 mg/kg	79.0	66.0	133	
EA029-A: pH Measurements (QCLot: 4176623)									
EA029: pH KCl (23A)	----	0.1	pH Unit	<0.1	4.4 pH Unit	100	70.0	130	
EA029: pH OX (23B)	----	0.1	pH Unit	<0.1	4.2 pH Unit	102	70.0	130	
EA029-B: Acidity Trail (QCLot: 4176623)									
EA029: Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	19 mole H+ / t	83.4	70.0	130	
EA029: Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	27.5 mole H+ / t	92.4	70.0	130	
EA029: Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	----	----	----	----	
EA029: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.020	----	----	----	----	
EA029: sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.020	----	----	----	----	
EA029: sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.020	----	----	----	----	
EA029-C: Sulfur Trail (QCLot: 4176623)									
EA029: KCl Extractable Sulfur (23Ce)	----	0.02	% S	<0.020	0.03595 % S	113	70.0	130	
EA029: Peroxide Sulfur (23De)	----	0.02	% S	<0.020	0.14405 % S	121	70.0	130	
EA029: Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	<0.020	----	----	----	----	
EA029: acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	<10	----	----	----	----	
EA029-D: Calcium Values (QCLot: 4176623)									
EA029: KCl Extractable Calcium (23Vh)	----	0.02	% Ca	<0.020	0.22443 % Ca	107	70.0	130	
EA029: Peroxide Calcium (23Wh)	----	0.02	% Ca	<0.020	0.22637 % Ca	127	70.0	130	
EA029: Acid Reacted Calcium (23X)	----	0.02	% Ca	<0.020	----	----	----	----	
EA029: acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	<10	----	----	----	----	
EA029: sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	<0.020	----	----	----	----	
EA029-E: Magnesium Values (QCLot: 4176623)									
EA029: KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	<0.020	0.20621 % Mg	101	70.0	130	
EA029: Peroxide Magnesium (23Tm)	----	0.02	% Mg	<0.020	0.23199 % Mg	126	70.0	130	
EA029: Acid Reacted Magnesium (23U)	----	0.02	% Mg	<0.020	----	----	----	----	
EA029: Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	<10	----	----	----	----	
EA029: sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	<0.020	----	----	----	----	



Sub-Matrix: SOIL

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report				
					Spike Concentration	Spike Recovery (%)		Acceptable Limits (%)	
						LCS	Low	High	High
EA029-H: Acid Base Accounting (QCLot: 4176623)									
EA029: ANC Fineness Factor	----	0.5	-	<0.5	----	----	----	----	
EA029: Net Acidity (sulfur units)	----	0.02	% S	<0.02	----	----	----	----	
EA029: Net Acidity (acidity units)	----	10	mole H+ / t	<10	----	----	----	----	
EA029: Liming Rate	----	1	kg CaCO3/t	<1	----	----	----	----	
EA029: Net Acidity excluding ANC (sulfur units)	----	0.02	% S	<0.02	----	----	----	----	
EA029: Net Acidity excluding ANC (acidity units)	----	10	mole H+ / t	<10	----	----	----	----	
EA029: Liming Rate excluding ANC	----	1	kg CaCO3/t	<1	----	----	----	----	
EG035T: Total Recoverable Mercury by FIMS (QCLot: 4181608)									
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	0.087 mg/kg	85.0	70.0	125	
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 4168437)									
EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	1 mg/kg	120	62.0	126	
EP068A: Organochlorine Pesticides (OC) (QCLot: 4168436)									
EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	0.5 mg/kg	98.7	69.0	113	
EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	0.5 mg/kg	95.3	65.0	117	
EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	0.5 mg/kg	103	67.0	119	
EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	0.5 mg/kg	97.7	68.0	116	
EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	88.1	65.0	117	
EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	0.5 mg/kg	96.4	67.0	115	
EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	0.5 mg/kg	98.4	69.0	115	
EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	0.5 mg/kg	97.9	62.0	118	
EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	0.5 mg/kg	92.5	63.0	117	
EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	0.5 mg/kg	105	66.0	116	
EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	0.5 mg/kg	99.4	64.0	116	
EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	0.5 mg/kg	99.0	66.0	116	
EP068: 4,4'-DDE	72-55-9	0.05	mg/kg	<0.05	0.5 mg/kg	97.3	67.0	115	
EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	0.5 mg/kg	100.0	67.0	123	
EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	0.5 mg/kg	100	69.0	115	
EP068: 4,4'-DDD	72-54-8	0.05	mg/kg	<0.05	0.5 mg/kg	101	69.0	121	
EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	0.5 mg/kg	89.6	56.0	120	
EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	0.5 mg/kg	97.2	62.0	124	
EP068: 4,4'-DDT	50-29-3	0.2	mg/kg	<0.2	0.5 mg/kg	104	66.0	120	
EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	0.5 mg/kg	94.9	64.0	122	
EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	0.5 mg/kg	97.7	54.0	130	
EP068B: Organophosphorus Pesticides (OP) (QCLot: 4168436)									
EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	0.5 mg/kg	92.6	59.0	119	
EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	92.5	62.0	128	
EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	0.5 mg/kg	86.3	54.0	126	
EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	0.5 mg/kg	89.8	67.0	119	



Sub-Matrix: SOIL

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike	Spike Recovery (%)		Acceptable Limits (%)	
					Concentration	LCS	Low	High	
EP068B: Organophosphorus Pesticides (OP) (QCLot: 4168436) - continued									
EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	0.5 mg/kg	105	70.0	120	
EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	0.5 mg/kg	95.0	72.0	120	
EP068: Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	0.5 mg/kg	95.9	68.0	120	
EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	0.5 mg/kg	92.0	68.0	122	
EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	0.5 mg/kg	94.5	69.0	117	
EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	0.5 mg/kg	96.6	76.0	118	
EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	0.5 mg/kg	96.0	64.0	122	
EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	0.5 mg/kg	96.0	70.0	116	
EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	0.5 mg/kg	92.4	69.0	121	
EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	0.5 mg/kg	87.8	66.0	118	
EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	0.5 mg/kg	93.6	68.0	124	
EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	0.5 mg/kg	95.2	62.0	112	
EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	0.5 mg/kg	94.3	68.0	120	
EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	0.5 mg/kg	91.5	65.0	127	
EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	0.5 mg/kg	74.0	41.0	123	
EP074A: Monocyclic Aromatic Hydrocarbons (QCLot: 4172740)									
EP074: Styrene	100-42-5	0.5	mg/kg	<0.5	1 mg/kg	89.0	67.0	113	
EP074: Isopropylbenzene	98-82-8	0.5	mg/kg	<0.5	1 mg/kg	94.6	65.0	117	
EP074: n-Propylbenzene	103-65-1	0.5	mg/kg	<0.5	1 mg/kg	93.2	66.0	122	
EP074: 1,3,5-Trimethylbenzene	108-67-8	0.5	mg/kg	<0.5	1 mg/kg	94.0	68.0	118	
EP074: sec-Butylbenzene	135-98-8	0.5	mg/kg	<0.5	1 mg/kg	94.8	69.0	119	
EP074: 1,2,4-Trimethylbenzene	95-63-6	0.5	mg/kg	<0.5	1 mg/kg	91.0	69.0	117	
EP074: tert-Butylbenzene	98-06-6	0.5	mg/kg	<0.5	1 mg/kg	92.5	69.0	115	
EP074: p-Isopropyltoluene	99-87-6	0.5	mg/kg	<0.5	1 mg/kg	91.5	66.0	118	
EP074: n-Butylbenzene	104-51-8	0.5	mg/kg	<0.5	1 mg/kg	92.6	59.0	125	
EP074B: Oxygenated Compounds (QCLot: 4172740)									
EP074: Vinyl Acetate	108-05-4	5	mg/kg	<5	10 mg/kg	98.2	29.6	156	
EP074: 2-Butanone (MEK)	78-93-3	5	mg/kg	<5	10 mg/kg	97.7	58.0	136	
EP074: 4-Methyl-2-pentanone (MIBK)	108-10-1	5	mg/kg	<5	10 mg/kg	97.2	62.0	132	
EP074: 2-Hexanone (MBK)	591-78-6	5	mg/kg	<5	10 mg/kg	92.6	54.0	136	
EP074C: Sulfonated Compounds (QCLot: 4172740)									
EP074: Carbon disulfide	75-15-0	0.5	mg/kg	<0.5	1 mg/kg	86.8	54.0	126	
EP074D: Fumigants (QCLot: 4172740)									
EP074: 2,2-Dichloropropane	594-20-7	0.5	mg/kg	<0.5	1 mg/kg	98.8	60.0	126	
EP074: 1,2-Dichloropropane	78-87-5	0.5	mg/kg	<0.5	1 mg/kg	103	68.0	124	
EP074: cis-1,3-Dichloropropylene	10061-01-5	0.5	mg/kg	<0.5	1 mg/kg	93.8	51.0	119	
EP074: trans-1,3-Dichloropropylene	10061-02-6	0.5	mg/kg	<0.5	1 mg/kg	92.9	52.0	114	
EP074: 1,2-Dibromoethane (EDB)	106-93-4	0.5	mg/kg	<0.5	1 mg/kg	98.0	63.0	115	



Sub-Matrix: SOIL

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike	Spike Recovery (%)		Acceptable Limits (%)	
					Concentration	LCS	Low	High	
EP074E: Halogenated Aliphatic Compounds (QCLot: 4172740)									
EP074: Dichlorodifluoromethane	75-71-8	5	mg/kg	<5	10 mg/kg	78.1	30.0	148	
EP074: Chloromethane	74-87-3	5	mg/kg	<5	10 mg/kg	87.9	41.0	141	
EP074: Vinyl chloride	75-01-4	5	mg/kg	<5	10 mg/kg	91.2	43.0	147	
EP074: Bromomethane	74-83-9	5	mg/kg	<5	10 mg/kg	91.6	47.0	141	
EP074: Chloroethane	75-00-3	5	mg/kg	<5	10 mg/kg	91.6	49.0	143	
EP074: Trichlorofluoromethane	75-69-4	5	mg/kg	<5	10 mg/kg	92.7	49.0	135	
EP074: 1,1-Dichloroethene	75-35-4	0.5	mg/kg	<0.5	1 mg/kg	92.3	54.0	126	
EP074: Iodomethane	74-88-4	0.5	mg/kg	<0.5	1 mg/kg	68.7	43.0	129	
EP074: trans-1,2-Dichloroethene	156-60-5	0.5	mg/kg	<0.5	1 mg/kg	99.5	64.0	120	
EP074: 1,1-Dichloroethane	75-34-3	0.5	mg/kg	<0.5	1 mg/kg	99.9	67.0	125	
EP074: cis-1,2-Dichloroethene	156-59-2	0.5	mg/kg	<0.5	1 mg/kg	98.4	69.0	121	
EP074: 1,1,1-Trichloroethane	71-55-6	0.5	mg/kg	<0.5	1 mg/kg	95.3	65.0	117	
EP074: 1,1-Dichloropropylene	563-58-6	0.5	mg/kg	<0.5	1 mg/kg	97.2	65.0	123	
EP074: Carbon Tetrachloride	56-23-5	0.5	mg/kg	<0.5	1 mg/kg	94.9	59.0	125	
EP074: 1,2-Dichloroethane	107-06-2	0.5	mg/kg	<0.5	1 mg/kg	102	65.0	125	
EP074: Trichloroethene	79-01-6	0.5	mg/kg	<0.5	1 mg/kg	101	70.0	118	
EP074: Dibromomethane	74-95-3	0.5	mg/kg	<0.5	1 mg/kg	97.6	68.0	118	
EP074: 1,1,2-Trichloroethane	79-00-5	0.5	mg/kg	<0.5	1 mg/kg	99.7	64.0	126	
EP074: 1,3-Dichloropropane	142-28-9	0.5	mg/kg	<0.5	1 mg/kg	100	68.0	122	
EP074: Tetrachloroethene	127-18-4	0.5	mg/kg	<0.5	1 mg/kg	98.5	67.0	143	
EP074: 1,1,1,2-Tetrachloroethane	630-20-6	0.5	mg/kg	<0.5	1 mg/kg	97.5	62.0	122	
EP074: trans-1,4-Dichloro-2-butene	110-57-6	0.5	mg/kg	<0.5	1 mg/kg	95.5	54.0	128	
EP074: cis-1,4-Dichloro-2-butene	1476-11-5	0.5	mg/kg	<0.5	1 mg/kg	94.5	55.0	129	
EP074: 1,1,2,2-Tetrachloroethane	79-34-5	0.5	mg/kg	<0.5	1 mg/kg	101	65.0	121	
EP074: 1,2,3-Trichloropropane	96-18-4	0.5	mg/kg	<0.5	1 mg/kg	103	61.0	125	
EP074: Pentachloroethane	76-01-7	0.5	mg/kg	<0.5	1 mg/kg	96.8	19.8	134	
EP074: 1,2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg	<0.5	1 mg/kg	103	53.0	129	
EP074F: Halogenated Aromatic Compounds (QCLot: 4172740)									
EP074: Chlorobenzene	108-90-7	0.5	mg/kg	<0.5	1 mg/kg	97.4	68.0	116	
EP074: Bromobenzene	108-86-1	0.5	mg/kg	<0.5	1 mg/kg	93.7	70.0	114	
EP074: 2-Chlorotoluene	95-49-8	0.5	mg/kg	<0.5	1 mg/kg	94.1	68.0	122	
EP074: 4-Chlorotoluene	106-43-4	0.5	mg/kg	<0.5	1 mg/kg	96.7	67.0	123	
EP074: 1,2,3-Trichlorobenzene	87-61-6	0.5	mg/kg	<0.5	1 mg/kg	100	52.0	122	
EP074G: Trihalomethanes (QCLot: 4172740)									
EP074: Chloroform	67-66-3	0.5	mg/kg	<0.5	1 mg/kg	106	66.0	124	
EP074: Bromodichloromethane	75-27-4	0.5	mg/kg	<0.5	1 mg/kg	95.9	61.0	121	
EP074: Dibromochloromethane	124-48-1	0.5	mg/kg	<0.5	1 mg/kg	94.8	63.0	121	
EP074: Bromoform	75-25-2	0.5	mg/kg	<0.5	1 mg/kg	90.8	60.0	126	



Sub-Matrix: SOIL

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike	Spike Recovery (%)		Acceptable Limits (%)	
					Concentration	LCS	Low	High	
EP075(SIM)A: Phenolic Compounds (QCLot: 4168435)									
EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	6 mg/kg	95.0	71.0	125	
EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	6 mg/kg	102	72.0	124	
EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	6 mg/kg	99.5	71.0	123	
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	12 mg/kg	105	67.0	127	
EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	6 mg/kg	86.2	54.0	114	
EP075(SIM): 2,4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	6 mg/kg	97.3	68.0	126	
EP075(SIM): 2,4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	6 mg/kg	93.0	66.0	120	
EP075(SIM): 2,6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	6 mg/kg	95.2	70.0	120	
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	6 mg/kg	88.9	70.0	116	
EP075(SIM): 2,4,6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	6 mg/kg	89.0	54.0	114	
EP075(SIM): 2,4,5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	6 mg/kg	90.7	60.0	114	
EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	12 mg/kg	51.4	10.0	57.0	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4168435)									
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	6 mg/kg	105	77.0	125	
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	6 mg/kg	96.7	72.0	124	
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	6 mg/kg	101	73.0	127	
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	6 mg/kg	105	72.0	126	
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	6 mg/kg	106	75.0	127	
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	6 mg/kg	98.7	77.0	127	
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	6 mg/kg	105	73.0	127	
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	6 mg/kg	104	74.0	128	
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	6 mg/kg	96.6	69.0	123	
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	6 mg/kg	100	75.0	127	
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2	0.5	mg/kg	<0.5	6 mg/kg	93.5	68.0	116	
	205-82-3								
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	6 mg/kg	100	74.0	126	
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	6 mg/kg	87.0	70.0	126	
EP075(SIM): Indeno(1,2,3-cd)pyrene	193-39-5	0.5	mg/kg	<0.5	6 mg/kg	94.7	61.0	121	
EP075(SIM): Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	6 mg/kg	93.8	62.0	118	
EP075(SIM): Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	6 mg/kg	93.4	63.0	121	
EP075B: Polynuclear Aromatic Hydrocarbons (QCLot: 4168438)									
EP075: 2-Methylnaphthalene	91-57-6	0.5	mg/kg	<0.5	1.5 mg/kg	70.8	58.0	116	
EP075: 2-Chloronaphthalene	91-58-7	0.5	mg/kg	<0.5	1.5 mg/kg	80.0	54.0	112	
EP075: N-2-Fluorenyl Acetamide	53-96-3	0.5	mg/kg	<0.5	1.5 mg/kg	73.8	58.0	114	
EP075: 7,12-Dimethylbenz(a)anthracene	57-97-6	0.5	mg/kg	<0.5	1.5 mg/kg	# 114	48.1	106	
EP075: 3-Methylcholanthrene	56-49-5	0.5	mg/kg	<0.5	1.5 mg/kg	80.8	50.0	116	
EP075C: Phthalate Esters (QCLot: 4168438)									
EP075: Dimethyl phthalate	131-11-3	0.5	mg/kg	<0.5	1.5 mg/kg	83.6	60.0	118	



Sub-Matrix: SOIL

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike	Spike Recovery (%)		Acceptable Limits (%)	
					Concentration	LCS	Low	High	
EP075C: Phthalate Esters (QCLot: 4168438) - continued									
EP075: Diethyl phthalate	84-66-2	0.5	mg/kg	<0.5	1.5 mg/kg	107	65.0	115	
EP075: Di-n-butyl phthalate	84-74-2	0.5	mg/kg	<0.5	1.5 mg/kg	82.5	65.0	121	
EP075: Butyl benzyl phthalate	85-68-7	0.5	mg/kg	<0.5	1.5 mg/kg	84.6	62.0	116	
EP075: bis(2-ethylhexyl) phthalate	117-81-7	----	mg/kg	----	1.5 mg/kg	74.9	69.0	133	
EP075: Di-n-octylphthalate	117-84-0	0.5	mg/kg	<0.5	1.5 mg/kg	77.0	62.0	124	
EP075D: Nitrosamines (QCLot: 4168438)									
EP075: N-Nitrosomethylethylamine	10595-95-6	0.5	mg/kg	<0.5	1.5 mg/kg	78.5	39.4	124	
EP075: N-Nitrosodiethylamine	55-18-5	0.5	mg/kg	<0.5	1.5 mg/kg	88.9	59.0	117	
EP075: N-Nitrosopyrrolidine	930-55-2	0.5	mg/kg	<0.5	1.5 mg/kg	94.1	53.0	125	
EP075: N-Nitrosomorpholine	59-89-2	0.5	mg/kg	<0.5	1.5 mg/kg	91.6	65.0	121	
EP075: N-Nitrosodi-n-propylamine	621-64-7	0.5	mg/kg	<0.5	1.5 mg/kg	94.0	59.0	123	
EP075: N-Nitrosopiperidine	100-75-4	0.5	mg/kg	<0.5	1.5 mg/kg	87.8	57.0	115	
EP075: N-Nitrosodibutylamine	924-16-3	0.5	mg/kg	<0.5	1.5 mg/kg	90.4	57.0	119	
EP075: N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	0.5	mg/kg	<0.6	3 mg/kg	95.9	42.0	112	
EP075: Methapyrilene	91-80-5	0.5	mg/kg	<0.5	1.5 mg/kg	49.6	16.3	123	
EP075E: Nitroaromatics and Ketones (QCLot: 4168438)									
EP075: 2-Picoline	109-06-8	0.5	mg/kg	<0.5	1.5 mg/kg	87.1	27.3	129	
EP075: Acetophenone	98-86-2	0.5	mg/kg	<0.5	1.5 mg/kg	87.5	60.0	116	
EP075: Nitrobenzene	98-95-3	0.5	mg/kg	<0.5	1.5 mg/kg	86.6	65.0	119	
EP075: Isophorone	78-59-1	0.5	mg/kg	<0.5	1.5 mg/kg	94.4	62.0	116	
EP075: 2,6-Dinitrotoluene	606-20-2	0.5	mg/kg	<0.5	1.5 mg/kg	78.3	58.0	118	
EP075: 2,4-Dinitrotoluene	121-14-2	0.5	mg/kg	<0.5	1.5 mg/kg	92.2	59.0	115	
EP075: 1-Naphthylamine	134-32-7	0.5	mg/kg	<0.5	1.5 mg/kg	41.4	18.0	112	
EP075: 4-Nitroquinoline-N-oxide	56-57-5	0.5	mg/kg	<0.5	1.5 mg/kg	77.6	10.0	87.0	
EP075: 5-Nitro-o-toluidine	99-55-8	0.5	mg/kg	<0.5	1.5 mg/kg	84.8	48.3	98.5	
EP075: Azobenzene	103-33-3	1	mg/kg	<1	1.5 mg/kg	93.9	62.0	118	
EP075: 1,3,5-Trinitrobenzene	99-35-4	0.5	mg/kg	<0.5	1.5 mg/kg	91.0	36.0	114	
EP075: Phenacetin	62-44-2	0.5	mg/kg	<0.5	1.5 mg/kg	96.3	62.0	114	
EP075: 4-Aminobiphenyl	92-67-1	0.5	mg/kg	<0.5	1.5 mg/kg	61.9	36.1	102	
EP075: Pentachloronitrobenzene	82-68-8	0.5	mg/kg	<0.5	1.5 mg/kg	93.9	56.0	110	
EP075: Pronamide	23950-58-5	0.5	mg/kg	<0.5	1.5 mg/kg	81.3	54.0	110	
EP075: Dimethylaminoazobenzene	60-11-7	0.5	mg/kg	<0.5	1.5 mg/kg	82.0	48.0	108	
EP075: Chlorobenzilate	510-15-6	0.5	mg/kg	<0.5	1.5 mg/kg	82.8	57.4	112	
EP075F: Haloethers (QCLot: 4168438)									
EP075: Bis(2-chloroethyl) ether	111-44-4	0.5	mg/kg	<0.5	1.5 mg/kg	66.0	63.0	121	
EP075: Bis(2-chloroethoxy) methane	111-91-1	0.5	mg/kg	<0.5	1.5 mg/kg	85.8	59.0	115	
EP075: 4-Chlorophenyl phenyl ether	7005-72-3	0.5	mg/kg	<0.5	1.5 mg/kg	94.0	58.0	112	



Sub-Matrix: SOIL

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%)	Acceptable Limits (%)	
						LCS	Low	High
EP075F: Haloethers (QCLot: 4168438) - continued								
EP075: 4-Bromophenyl phenyl ether	101-55-3	0.5	mg/kg	<0.5	1.5 mg/kg	95.1	58.0	110
EP075G: Chlorinated Hydrocarbons (QCLot: 4168438)								
EP075: 1,3-Dichlorobenzene	541-73-1	0.5	mg/kg	<0.5	1.5 mg/kg	85.0	58.0	112
EP075: 1,4-Dichlorobenzene	106-46-7	0.5	mg/kg	<0.5	1.5 mg/kg	94.0	58.0	116
EP075: 1,2-Dichlorobenzene	95-50-1	0.5	mg/kg	<0.5	1.5 mg/kg	81.6	57.0	115
EP075: Hexachloroethane	67-72-1	0.5	mg/kg	<0.5	1.5 mg/kg	83.4	54.0	116
EP075: 1,2,4-Trichlorobenzene	120-82-1	0.5	mg/kg	<0.5	1.5 mg/kg	92.2	62.9	108
EP075: Hexachloropropylene	1888-71-7	0.5	mg/kg	<0.5	1.5 mg/kg	86.2	39.1	110
EP075: Hexachlorobutadiene	87-68-3	0.5	mg/kg	<0.5	1.5 mg/kg	81.3	59.0	117
EP075: Hexachlorocyclopentadiene	77-47-4	2.5	mg/kg	<2.5	1.5 mg/kg	68.5	24.3	108
EP075: Pentachlorobenzene	608-93-5	0.5	mg/kg	<0.5	1.5 mg/kg	87.7	57.0	109
EP075: Hexachlorobenzene (HCB)	118-74-1	0.5	mg/kg	<0.5	1.5 mg/kg	97.0	59.0	111
EP075H: Anilines and Benzidines (QCLot: 4168438)								
EP075: Aniline	62-53-3	0.5	mg/kg	<0.5	1.5 mg/kg	71.6	13.2	108
EP075: 4-Chloroaniline	106-47-8	0.5	mg/kg	<0.5	1.5 mg/kg	35.8	20.5	99.0
EP075: 2-Nitroaniline	88-74-4	0.5	mg/kg	<0.5	1.5 mg/kg	76.9	52.0	112
EP075: 3-Nitroaniline	99-09-2	0.5	mg/kg	<0.5	1.5 mg/kg	63.6	31.5	93.7
EP075: Dibenzofuran	132-64-9	0.5	mg/kg	<0.5	1.5 mg/kg	92.5	60.0	110
EP075: 4-Nitroaniline	100-01-6	0.5	mg/kg	<0.5	1.5 mg/kg	94.5	42.0	112
EP075: Carbazole	86-74-8	0.5	mg/kg	<0.5	1.5 mg/kg	87.5	59.0	111
EP075: 3,3'-Dichlorobenzidine	91-94-1	0.5	mg/kg	<0.5	1.5 mg/kg	67.0	23.1	113
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4168434)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	300 mg/kg	107	75.0	129
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	450 mg/kg	108	77.0	131
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	300 mg/kg	104	71.0	129
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4172738)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	26 mg/kg	90.6	68.4	128
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4172739)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	26 mg/kg	92.6	68.4	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4168434)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	375 mg/kg	111	77.0	125
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	525 mg/kg	105	74.0	138
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	225 mg/kg	103	63.0	131
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4172738)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	31 mg/kg	94.2	68.4	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4172739)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	31 mg/kg	90.8	68.4	128



Sub-Matrix: SOIL

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report				
					Spike Concentration	Spike Recovery (%)		Acceptable Limits (%)	
						LCS	Low	High	
EP080: BTEXN (QCLot: 4172738)									
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	92.4	62.0	116	
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	88.5	67.0	121	
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	93.2	65.0	117	
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	2 mg/kg	93.3	66.0	118	
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	93.6	68.0	120	
EP080: Naphthalene	91-20-3	1	mg/kg	<1	1 mg/kg	118	63.0	119	
EP080: BTEXN (QCLot: 4172739)									
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	100	62.0	116	
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	94.1	67.0	121	
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	90.2	65.0	117	
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	2 mg/kg	92.6	66.0	118	
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	96.4	68.0	120	
EP080: Naphthalene	91-20-3	1	mg/kg	<1	1 mg/kg	85.5	63.0	119	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4171663)									
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	0.00125 mg/kg	109	72.0	128	
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	0.00125 mg/kg	99.6	67.0	130	
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	80.4	68.0	136	
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4171663)									
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	0.00625 mg/kg	98.3	71.0	135	
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	0.00125 mg/kg	104	69.0	132	
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	0.00125 mg/kg	120	70.0	132	
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	0.00125 mg/kg	103	71.0	131	
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	105	69.0	133	
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4171663)									
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	0.00125 mg/kg	128	62.0	145	
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	0.00125 mg/kg	105	64.0	140	
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	0.00125 mg/kg	118	65.0	137	
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	0.00125 mg/kg	137	69.2	143	

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: SOIL

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report		
				Spike Concentration	Spike Recovery(%) MS	Acceptable Limits (%)
				Low	High	



Sub-Matrix: SOIL

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report			
				Spike Concentration	SpikeRecovery(%) MS	Acceptable Limits (%)	
				Low	High		
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 4181607)							
ES2204627-001	Anonymous	EG005T: Arsenic	7440-38-2	50 mg/kg	108	70.0	130
		EG005T: Cadmium	7440-43-9	50 mg/kg	95.9	70.0	130
		EG005T: Chromium	7440-47-3	50 mg/kg	106	68.0	132
		EG005T: Copper	7440-50-8	250 mg/kg	104	70.0	130
		EG005T: Lead	7439-92-1	250 mg/kg	113	70.0	130
		EG005T: Nickel	7440-02-0	50 mg/kg	102	70.0	130
		EG005T: Zinc	7440-66-6	250 mg/kg	93.8	66.0	133
EG035T: Total Recoverable Mercury by FIMS (QCLot: 4181608)							
ES2204627-001	Anonymous	EG035T: Mercury	7439-97-6	5 mg/kg	102	70.0	130
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 4168437)							
ES2204462-001	Anonymous	EP066: Total Polychlorinated biphenyls	----	1 mg/kg	91.0	70.0	130
EP068A: Organochlorine Pesticides (OC) (QCLot: 4168436)							
ES2204462-001	Anonymous	EP068: gamma-BHC	58-89-9	0.5 mg/kg	86.1	70.0	130
		EP068: Heptachlor	76-44-8	0.5 mg/kg	83.0	70.0	130
		EP068: Aldrin	309-00-2	0.5 mg/kg	93.6	70.0	130
		EP068: Dieldrin	60-57-1	0.5 mg/kg	116	70.0	130
		EP068: Endrin	72-20-8	2 mg/kg	79.7	70.0	130
		EP068: 4,4'-DDT	50-29-3	2 mg/kg	82.0	70.0	130
EP068B: Organophosphorus Pesticides (OP) (QCLot: 4168436)							
ES2204462-001	Anonymous	EP068: Diazinon	333-41-5	0.5 mg/kg	103	70.0	130
		EP068: Chlorpyrifos-methyl	5598-13-0	0.5 mg/kg	87.6	70.0	130
		EP068: Pirimphos-ethyl	23505-41-1	0.5 mg/kg	87.1	70.0	130
		EP068: Bromophos-ethyl	4824-78-6	0.5 mg/kg	88.0	70.0	130
		EP068: Prothiofos	34643-46-4	0.5 mg/kg	75.6	70.0	130
EP074E: Halogenated Aliphatic Compounds (QCLot: 4172740)							
EW2200685-001	Anonymous	EP074: 1,1-Dichloroethene	75-35-4	2.5 mg/kg	# 69.8	70.0	130
		EP074: Trichloroethene	79-01-6	2.5 mg/kg	79.6	70.0	130
EP074F: Halogenated Aromatic Compounds (QCLot: 4172740)							
EW2200685-001	Anonymous	EP074: Chlorobenzene	108-90-7	2.5 mg/kg	99.0	70.0	130
EP075(SIM)A: Phenolic Compounds (QCLot: 4168435)							
ES2204462-001	Anonymous	EP075(SIM): Phenol	108-95-2	10 mg/kg	87.9	70.0	130
		EP075(SIM): 2-Chlorophenol	95-57-8	10 mg/kg	96.2	70.0	130
		EP075(SIM): 2-Nitrophenol	88-75-5	10 mg/kg	78.6	60.0	130
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	10 mg/kg	84.9	70.0	130
		EP075(SIM): Pentachlorophenol	87-86-5	10 mg/kg	44.8	20.0	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4168435)							



Sub-Matrix: SOIL

				Matrix Spike (MS) Report				
				Spike	SpikeRecovery(%)	Acceptable Limits (%)		
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4168435) - continued								
ES2204462-001	Anonymous	EP075(SIM): Acenaphthene	83-32-9	10 mg/kg	93.2	70.0	130	
		EP075(SIM): Pyrene	129-00-0	10 mg/kg	114	70.0	130	
EP075D: Nitrosamines (QCLot: 4168438)								
ES2204462-001	Anonymous	EP075: N-Nitrosodi-n-propylamine	621-64-7	10 mg/kg	90.5	50.0	130	
EP075E: Nitroaromatics and Ketones (QCLot: 4168438)								
ES2204462-001	Anonymous	EP075: 2,4-Dinitrotoluene	121-14-2	10 mg/kg	91.2	40.0	130	
EP075G: Chlorinated Hydrocarbons (QCLot: 4168438)								
ES2204462-001	Anonymous	EP075: 1,4-Dichlorobenzene	106-46-7	10 mg/kg	86.8	60.0	130	
		EP075: 1,2,4-Trichlorobenzene	120-82-1	10 mg/kg	96.2	50.0	130	
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4168434)								
ES2204462-001	Anonymous	EP071: C10 - C14 Fraction	----	480 mg/kg	91.0	73.0	137	
		EP071: C15 - C28 Fraction	----	3100 mg/kg	111	53.0	131	
		EP071: C29 - C36 Fraction	----	2060 mg/kg	118	52.0	132	
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4172738)								
ES2204577-001	Anonymous	EP080: C6 - C9 Fraction	----	32.5 mg/kg	87.4	70.0	130	
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4172739)								
EW2200685-001	Anonymous	EP080: C6 - C9 Fraction	----	32.5 mg/kg	88.2	70.0	130	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4168434)								
ES2204462-001	Anonymous	EP071: >C10 - C16 Fraction	----	860 mg/kg	102	73.0	137	
		EP071: >C16 - C34 Fraction	----	4320 mg/kg	115	53.0	131	
		EP071: >C34 - C40 Fraction	----	890 mg/kg	116	52.0	132	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4172738)								
ES2204577-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	37.5 mg/kg	90.8	70.0	130	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4172739)								
EW2200685-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	37.5 mg/kg	88.1	70.0	130	
EP080: BTEXN (QCLot: 4172738)								
ES2204577-001	Anonymous	EP080: Benzene	71-43-2	2.5 mg/kg	85.4	70.0	130	
		EP080: Toluene	108-88-3	2.5 mg/kg	78.5	70.0	130	
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	85.5	70.0	130	
		EP080: meta- & para-Xylene	108-38-3	2.5 mg/kg	83.5	70.0	130	
			106-42-3					
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	85.8	70.0	130	
	EP080: Naphthalene	91-20-3	2.5 mg/kg	82.7	70.0	130		
EP080: BTEXN (QCLot: 4172739)								
EW2200685-001	Anonymous	EP080: Benzene	71-43-2	2.5 mg/kg	96.5	70.0	130	



Sub-Matrix: SOIL

				Matrix Spike (MS) Report				
				Spike	SpikeRecovery(%)	Acceptable Limits (%)		
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High	
EP080: BTEXN (QCLot: 4172739) - continued								
EW2200685-001	Anonymous	EP080: Toluene	108-88-3	2.5 mg/kg	93.9	70.0	130	
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	94.0	70.0	130	
		EP080: meta- & para-Xylene	108-38-3	2.5 mg/kg	96.2	70.0	130	
			106-42-3					
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	96.6	70.0	130	
		EP080: Naphthalene	91-20-3	2.5 mg/kg	96.4	70.0	130	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4171663)								
EP2201466-085	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.00125 mg/kg	84.4	72.0	128	
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.00125 mg/kg	# Not Determined	67.0	130	
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.00125 mg/kg	# Not Determined	68.0	136	
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4171663)								
EP2201466-085	Anonymous	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.00625 mg/kg	93.9	71.0	135	
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.00125 mg/kg	70.8	69.0	132	
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.00125 mg/kg	# Not Determined	70.0	132	
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.00125 mg/kg	87.2	71.0	131	
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.00125 mg/kg	# Not Determined	69.0	133	
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4171663)								
EP2201466-085	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.00125 mg/kg	129	62.0	145	
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.00125 mg/kg	84.0	64.0	140	
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.00125 mg/kg	# Not Determined	65.0	137	
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.00125 mg/kg	73.2	69.2	143	

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: ES2204270	Page	: 1 of 10
Client	: EP RISK MANAGEMENT	Laboratory	: Environmental Division Sydney
Contact	: HARRISON BLAKE	Telephone	: +61 2 8784 8555
Project	: EP2515	Date Samples Received	: 08-Feb-2022
Site	: ----	Issue Date	: 16-Feb-2022
Sampler	: HARRISON BLAKE	No. of samples received	: 8
Order number	: ----	No. of samples analysed	: 5

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO** Method Blank value outliers occur.
- **NO** Matrix Spike outliers occur.
- Duplicate outliers exist - please see following pages for full details.
- Laboratory Control outliers exist - please see following pages for full details.
- Surrogate recovery outliers exist for all regular sample matrices - please see following pages for full details.

Outliers : Analysis Holding Time Compliance

- **NO** Analysis Holding Time Outliers exist.

Outliers : Frequency of Quality Control Samples

- **NO** Quality Control Sample Frequency Outliers exist.



Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Duplicate (DUP) RPDs							
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	ES2204270--001	BH01_0.2	Sum of polycyclic aromatic hydrocarbons	----	21.1 %	0% - 20%	RPD exceeds LOR based limits
Laboratory Control Spike (LCS) Recoveries							
EP075E: Nitroaromatics and Ketones	QC-4162377-002	----	Nitrobenzene	98-95-3	52.2 %	65.0-119%	Recovery less than lower control limit
EP075E: Nitroaromatics and Ketones	QC-4162377-002	----	Pronamide	23950-58-5	45.6 %	54.0-110%	Recovery less than lower control limit

Regular Sample Surrogates

Sub-Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Samples Submitted							
EP075T: Base/Neutral Extractable Surrogates	ES2204270-001	BH01_0.2	Anthracene-d10	1719-06-8	126 %	35.0-123 %	Recovery greater than upper data quality objective

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for **VOC in soils** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

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

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EA003 : pH (field/fox)								
Snap Lock Bag - frozen (EA003) BH01_4.0,	BH01_5.5	08-Feb-2022	15-Feb-2022	03-Nov-2024	✓	15-Feb-2022	16-May-2022	✓
EA029-A: pH Measurements								
Snap Lock Bag - frozen (EA029) BH01_4.0		08-Feb-2022	15-Feb-2022	03-Nov-2024	✓	15-Feb-2022	16-May-2022	✓
EA029-B: Acidity Trail								
Snap Lock Bag - frozen (EA029) BH01_4.0		08-Feb-2022	15-Feb-2022	03-Nov-2024	✓	15-Feb-2022	16-May-2022	✓
EA029-C: Sulfur Trail								
Snap Lock Bag - frozen (EA029) BH01_4.0		08-Feb-2022	15-Feb-2022	03-Nov-2024	✓	15-Feb-2022	16-May-2022	✓



Matrix: **SOIL**

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

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EA029-D: Calcium Values								
Snap Lock Bag - frozen (EA029) BH01_4.0	08-Feb-2022	15-Feb-2022	03-Nov-2024	✓	15-Feb-2022	16-May-2022	✓	
EA029-E: Magnesium Values								
Snap Lock Bag - frozen (EA029) BH01_4.0	08-Feb-2022	15-Feb-2022	03-Nov-2024	✓	15-Feb-2022	16-May-2022	✓	
EA029-F: Excess Acid Neutralising Capacity								
Snap Lock Bag - frozen (EA029) BH01_4.0	08-Feb-2022	15-Feb-2022	03-Nov-2024	✓	15-Feb-2022	16-May-2022	✓	
EA029-G: Retained Acidity								
Snap Lock Bag - frozen (EA029) BH01_4.0	08-Feb-2022	15-Feb-2022	03-Nov-2024	✓	15-Feb-2022	16-May-2022	✓	
EA029-H: Acid Base Accounting								
Snap Lock Bag - frozen (EA029) BH01_4.0	08-Feb-2022	15-Feb-2022	03-Nov-2024	✓	15-Feb-2022	16-May-2022	✓	
EA055: Moisture Content (Dried @ 105-110°C)								
Soil Glass Jar - Unpreserved (EA055) BH01_0.2, BH01_1.0, BH01_2.0, BH01_5.5	08-Feb-2022	----	----	----	15-Feb-2022	22-Feb-2022	✓	
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Snap Lock Bag: Separate bag received (EA200) BH01_0.2	08-Feb-2022	----	----	----	09-Feb-2022	07-Aug-2022	✓	
EG005(ED093)T: Total Metals by ICP-AES								
Soil Glass Jar - Unpreserved (EG005T) BH01_0.2, BH01_5.5	BH01_1.0,	08-Feb-2022	15-Feb-2022	07-Aug-2022	✓	15-Feb-2022	07-Aug-2022	✓
EG035T: Total Recoverable Mercury by FIMS								
Soil Glass Jar - Unpreserved (EG035T) BH01_0.2, BH01_5.5	BH01_1.0,	08-Feb-2022	15-Feb-2022	08-Mar-2022	✓	15-Feb-2022	08-Mar-2022	✓
EP066: Polychlorinated Biphenyls (PCB)								
Soil Glass Jar - Unpreserved (EP066) BH01_0.2, BH01_5.5	BH01_1.0,	08-Feb-2022	14-Feb-2022	22-Feb-2022	✓	15-Feb-2022	26-Mar-2022	✓
EP068A: Organochlorine Pesticides (OC)								
Soil Glass Jar - Unpreserved (EP068) BH01_0.2, BH01_5.5	BH01_1.0,	08-Feb-2022	14-Feb-2022	22-Feb-2022	✓	15-Feb-2022	26-Mar-2022	✓
EP068B: Organophosphorus Pesticides (OP)								
Soil Glass Jar - Unpreserved (EP068) BH01_0.2, BH01_5.5	BH01_1.0,	08-Feb-2022	14-Feb-2022	22-Feb-2022	✓	15-Feb-2022	26-Mar-2022	✓



Matrix: SOIL

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

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP074A: Monocyclic Aromatic Hydrocarbons							
Soil Glass Jar - Unpreserved (EP074) BH01_0.2, BH01_1.0	08-Feb-2022	14-Feb-2022	15-Feb-2022	✓	14-Feb-2022	15-Feb-2022	✓
EP074B: Oxygenated Compounds							
Soil Glass Jar - Unpreserved (EP074) BH01_0.2, BH01_1.0	08-Feb-2022	14-Feb-2022	15-Feb-2022	✓	14-Feb-2022	15-Feb-2022	✓
EP074C: Sulfonated Compounds							
Soil Glass Jar - Unpreserved (EP074) BH01_0.2, BH01_1.0	08-Feb-2022	14-Feb-2022	15-Feb-2022	✓	14-Feb-2022	15-Feb-2022	✓
EP074D: Fumigants							
Soil Glass Jar - Unpreserved (EP074) BH01_0.2, BH01_1.0	08-Feb-2022	14-Feb-2022	15-Feb-2022	✓	14-Feb-2022	15-Feb-2022	✓
EP074E: Halogenated Aliphatic Compounds							
Soil Glass Jar - Unpreserved (EP074) BH01_0.2, BH01_1.0	08-Feb-2022	14-Feb-2022	15-Feb-2022	✓	14-Feb-2022	15-Feb-2022	✓
EP074F: Halogenated Aromatic Compounds							
Soil Glass Jar - Unpreserved (EP074) BH01_0.2, BH01_1.0	08-Feb-2022	14-Feb-2022	15-Feb-2022	✓	14-Feb-2022	15-Feb-2022	✓
EP074G: Trihalomethanes							
Soil Glass Jar - Unpreserved (EP074) BH01_0.2, BH01_1.0	08-Feb-2022	14-Feb-2022	15-Feb-2022	✓	14-Feb-2022	15-Feb-2022	✓
EP075(SIM)A: Phenolic Compounds							
Soil Glass Jar - Unpreserved (EP075(SIM)) BH01_0.2, BH01_5.5, BH01_1.0	08-Feb-2022	14-Feb-2022	22-Feb-2022	✓	15-Feb-2022	26-Mar-2022	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Soil Glass Jar - Unpreserved (EP075(SIM)) BH01_0.2, BH01_5.5, BH01_1.0	08-Feb-2022	14-Feb-2022	22-Feb-2022	✓	15-Feb-2022	26-Mar-2022	✓
EP075B: Polynuclear Aromatic Hydrocarbons							
Soil Glass Jar - Unpreserved (EP075) BH01_0.2, BH01_1.0	08-Feb-2022	14-Feb-2022	22-Feb-2022	✓	15-Feb-2022	26-Mar-2022	✓
EP075C: Phthalate Esters							
Soil Glass Jar - Unpreserved (EP075) BH01_0.2, BH01_1.0	08-Feb-2022	14-Feb-2022	22-Feb-2022	✓	15-Feb-2022	26-Mar-2022	✓
EP075D: Nitrosamines							
Soil Glass Jar - Unpreserved (EP075) BH01_0.2, BH01_1.0	08-Feb-2022	14-Feb-2022	22-Feb-2022	✓	15-Feb-2022	26-Mar-2022	✓
EP075E: Nitroaromatics and Ketones							
Soil Glass Jar - Unpreserved (EP075) BH01_0.2, BH01_1.0	08-Feb-2022	14-Feb-2022	22-Feb-2022	✓	15-Feb-2022	26-Mar-2022	✓



Matrix: SOIL

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

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP075F: Haloethers							
Soil Glass Jar - Unpreserved (EP075) BH01_0.2, BH01_1.0	08-Feb-2022	14-Feb-2022	22-Feb-2022	✓	15-Feb-2022	26-Mar-2022	✓
EP075G: Chlorinated Hydrocarbons							
Soil Glass Jar - Unpreserved (EP075) BH01_0.2, BH01_1.0	08-Feb-2022	14-Feb-2022	22-Feb-2022	✓	15-Feb-2022	26-Mar-2022	✓
EP075H: Anilines and Benzidines							
Soil Glass Jar - Unpreserved (EP075) BH01_0.2, BH01_1.0	08-Feb-2022	14-Feb-2022	22-Feb-2022	✓	15-Feb-2022	26-Mar-2022	✓
EP075I: Organochlorine Pesticides							
Soil Glass Jar - Unpreserved (EP075) BH01_0.2, BH01_1.0	08-Feb-2022	14-Feb-2022	22-Feb-2022	✓	15-Feb-2022	26-Mar-2022	✓
EP075J: Organophosphorus Pesticides							
Soil Glass Jar - Unpreserved (EP075) BH01_0.2, BH01_1.0	08-Feb-2022	14-Feb-2022	22-Feb-2022	✓	15-Feb-2022	26-Mar-2022	✓
EP080/071: Total Petroleum Hydrocarbons							
Soil Glass Jar - Unpreserved (EP080) BH01_0.2, BH01_1.0, BH01_5.5	08-Feb-2022	14-Feb-2022	22-Feb-2022	✓	14-Feb-2022	22-Feb-2022	✓
Soil Glass Jar - Unpreserved (EP071) BH01_0.2, BH01_1.0, BH01_5.5	08-Feb-2022	14-Feb-2022	22-Feb-2022	✓	15-Feb-2022	26-Mar-2022	✓
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions							
Soil Glass Jar - Unpreserved (EP080) BH01_0.2, BH01_1.0, BH01_5.5	08-Feb-2022	14-Feb-2022	22-Feb-2022	✓	14-Feb-2022	22-Feb-2022	✓
Soil Glass Jar - Unpreserved (EP071) BH01_0.2, BH01_1.0, BH01_5.5	08-Feb-2022	14-Feb-2022	22-Feb-2022	✓	15-Feb-2022	26-Mar-2022	✓
EP080: BTEXN							
Soil Glass Jar - Unpreserved (EP080) BH01_0.2, BH01_1.0, BH01_5.5	08-Feb-2022	14-Feb-2022	22-Feb-2022	✓	14-Feb-2022	22-Feb-2022	✓
EP231A: Perfluoroalkyl Sulfonic Acids							
HDPE Soil Jar (EP231X) BH01_0.2, BH01_2.0, BH01_5.5	08-Feb-2022	10-Feb-2022	07-Aug-2022	✓	11-Feb-2022	22-Mar-2022	✓
EP231B: Perfluoroalkyl Carboxylic Acids							
HDPE Soil Jar (EP231X) BH01_0.2, BH01_2.0, BH01_5.5	08-Feb-2022	10-Feb-2022	07-Aug-2022	✓	11-Feb-2022	22-Mar-2022	✓



Matrix: **SOIL**

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

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP231D: (n:2) Fluorotelomer Sulfonic Acids								
HDPE Soil Jar (EP231X) BH01_0.2, BH01_5.5	BH01_2.0,	08-Feb-2022	10-Feb-2022	07-Aug-2022	✓	11-Feb-2022	22-Mar-2022	✓
EP231P: PFAS Sums								
HDPE Soil Jar (EP231X) BH01_0.2, BH01_5.5	BH01_2.0,	08-Feb-2022	10-Feb-2022	07-Aug-2022	✓	11-Feb-2022	22-Mar-2022	✓



Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: * = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type	Method	Count		Rate (%)			Quality Control Specification
		QC	Reaular	Actual	Expected	Evaluation	
Analytical Methods							
Laboratory Duplicates (DUP)							
Moisture Content	EA055	4	38	10.53	10.00	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	1	3	33.33	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	20	10.00	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	3	33.33	10.00	✓	NEPM 2013 B3 & ALS QC Standard
pH field/fox	EA003	1	9	11.11	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	3	33.33	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Semivolatile Organic Compounds	EP075	1	2	50.00	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Suspension Peroxide Oxidation-Combined Acidity and Sulphate	EA029	1	10	10.00	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	2	20	10.00	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	2	20	10.00	10.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	3	33.33	10.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	4	39	10.26	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Volatile Organic Compounds	EP074	2	19	10.53	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
PAH/Phenols (SIM)	EP075(SIM)	1	3	33.33	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	3	33.33	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	3	33.33	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Semivolatile Organic Compounds	EP075	1	2	50.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Suspension Peroxide Oxidation-Combined Acidity and Sulphate	EA029	1	10	10.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	3	33.33	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	39	5.13	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Volatile Organic Compounds	EP074	1	19	5.26	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
PAH/Phenols (SIM)	EP075(SIM)	1	3	33.33	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	3	33.33	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	3	33.33	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Semivolatile Organic Compounds	EP075	1	2	50.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Suspension Peroxide Oxidation-Combined Acidity and Sulphate	EA029	1	10	10.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard



Matrix: **SOIL**

Evaluation: * = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type	Method	Count		Rate (%)			Quality Control Specification
		QC	Reaular	Actual	Expected	Evaluation	
Analytical Methods							
Method Blanks (MB) - Continued							
Total Metals by ICP-AES	EG005T	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	3	33.33	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	39	5.13	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Volatile Organic Compounds	EP074	1	19	5.26	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
PAH/Phenols (SIM)	EP075(SIM)	1	3	33.33	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	3	33.33	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	3	33.33	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Semivolatile Organic Compounds	EP075	1	2	50.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	3	33.33	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	39	5.13	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Volatile Organic Compounds	EP074	1	19	5.26	5.00	✓	NEPM 2013 B3 & ALS QC Standard



Brief Method Summaries

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

Analytical Methods	Method	Matrix	Method Descriptions
pH field/fox	EA003	SOIL	In house: Referenced to Ahern et al 1998 - determined on a 1:5 soil/water extract designed to simulate field measured pH and pH after the extract has been oxidised with peroxide.
Suspension Peroxide Oxidation-Combined Acidity and Sulphate	EA029	SOIL	In house: Referenced to Ahern et al 2004 - a suspension peroxide oxidation method following the 'sulfur trail' by determining the level of 1M KCL extractable sulfur and the sulfur level after oxidation of soil sulphides. The 'acidity trail' is followed by measurement of TAA, TPA and TSA. Liming Rate is based on results for samples as submitted and incorporates a minimum safety factor of 1.5.
Moisture Content	EA055	SOIL	In house: A gravimetric procedure based on weight loss over a 12 hour drying period at 105-110 degrees C. This method is compliant with NEPM Schedule B(3).
Asbestos Identification in Soils	EA200	SOIL	AS 4964 Method for the qualitative identification of asbestos in bulk samples Analysis by Polarised Light Microscopy including dispersion staining
Total Metals by ICP-AES	EG005T	SOIL	In house: Referenced to APHA 3120; USEPA SW 846 - 6010. Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM Schedule B(3)
Total Mercury by FIMS	EG035T	SOIL	In house: Referenced to APHA 3112 Hg - B (Flow-injection (SnCl ₂) (Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. Mercury in solids are determined following an appropriate acid digestion. Ionic mercury is reduced online to atomic mercury vapour by SnCl ₂ which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM Schedule B(3)
Polychlorinated Biphenyls (PCB)	EP066	SOIL	In house: Referenced to USEPA SW 846 - 8270 Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3).
Pesticides by GCMS	EP068	SOIL	In house: Referenced to USEPA SW 846 - 8270 Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This technique is compliant with NEPM Schedule B(3).
TRH - Semivolatile Fraction	EP071	SOIL	In house: Referenced to USEPA SW 846 - 8015 Sample extracts are analysed by Capillary GC/FID and quantified against alkane standards over the range C10 - C40. Compliant with NEPM Schedule B(3).
Volatile Organic Compounds	EP074	SOIL	In house: Referenced to USEPA SW 846 - 8260 Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3).
Semivolatile Organic Compounds	EP075	SOIL	In house: Referenced to USEPA SW 846 - 8270 Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This technique is compliant with NEPM Schedule B(3).
PAH/Phenols (SIM)	EP075(SIM)	SOIL	In house: Referenced to USEPA SW 846 - 8270. Extracts are analysed by Capillary GC/MS in Selective Ion Mode (SIM) and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)



Analytical Methods	Method	Matrix	Method Descriptions
TRH Volatiles/BTEX	EP080	SOIL	In house: Referenced to USEPA SW 846 - 8260. Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve. Compliant with NEPM Schedule B(3) amended.
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	SOIL	In-house: Analysis of soils by solvent extraction followed by LC-Electrospray-MS-MS, Negative Mode using MRM using internal standard quantitation. Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to a portion of soil which is then extracted with MTBE and an ion pairing reagent. A portion of extract is exchanged into the analytical solvent mixture, combined with an equal volume reagent water and filtered for analysis. Method procedures and data quality objectives conform to US DoD QSM 5.3, table B-15 requirements.

Preparation Methods	Method	Matrix	Method Descriptions
Drying only	EN020D	SOIL	In house
Drying at 85 degrees, bagging and labelling (ASS)	EN020PR	SOIL	In house
Hot Block Digest for metals in soils sediments and sludges	EN69	SOIL	In house: Referenced to USEPA 200.2. Hot Block Acid Digestion 1.0g of sample is heated with Nitric and Hydrochloric acids, then cooled. Peroxide is added and samples heated and cooled again before being filtered and bulked to volume for analysis. Digest is appropriate for determination of selected metals in sludge, sediments, and soils. This method is compliant with NEPM Schedule B(3).
Methanolic Extraction of Soils for Purge and Trap	ORG16	SOIL	In house: Referenced to USEPA SW 846 - 5030A. 5g of solid is shaken with surrogate and 10mL methanol prior to analysis by Purge and Trap - GC/MS.
Tumbler Extraction of Solids	ORG17	SOIL	In house: Mechanical agitation (tumbler). 10g of sample, Na2SO4 and surrogate are extracted with 30mL 1:1 DCM/Acetone by end over end tumble. The solvent is decanted, dehydrated and concentrated (by KD) to the desired volume for analysis.
QuEChERS Extraction of Solids	ORG71	SOIL	In house: Sequential extractions with Acetonitrile/Methanol by shaking. Extraction efficiency aided by the addition of salts under acidic conditions. Where relevant, interferences from co-extracted organics are removed with dispersive clean-up media (dSPE). The extract is either diluted or concentrated and exchanged into the analytical solvent.

