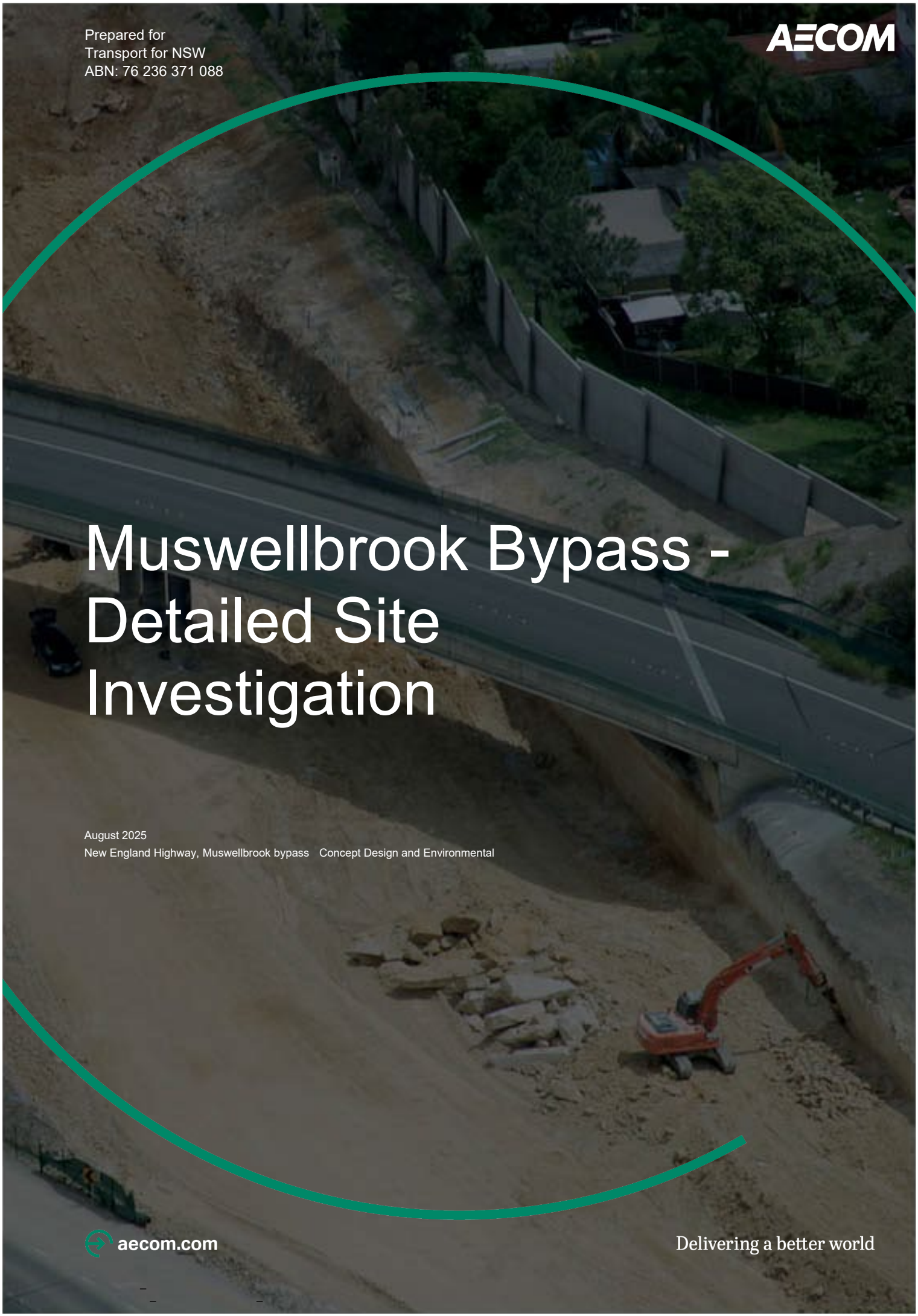
Prepared for
Transport for NSW
ABN: 76 236 371 088

AECOM



Muswellbrook Bypass - Detailed Site Investigation

August 2025
New England Highway, Muswellbrook bypass Concept Design and Environmental

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Muswellbrook Bypass - Detailed Site Investigation

Client: Transport for NSW

ABN: 76 236 371 088

Prepared by

AECOM Australia Pty Ltd
Awabakal and Worimi Country, Level 8, 6 Stewart Avenue, Newcastle West NSW 2302, PO Box 73, Hunter Region MC NSW 2310, Australia
T +61 2 4911 4900 F +61 2 4911 4999 www.aecom.com
ABN 20 093 846 925

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Executive Summary

AECOM Australia Pty Ltd (AECOM) was engaged by Transport for New South Wales (TfNSW) to complete a Detailed Site Investigation (DSI) within the footprint of the proposed Muswellbrook Bypass (the Site). The Site location is shown on **Figure F1**, **Appendix A**.

In order to inform potential environmental constraints to the development of the bypass, a Phase 1 Contamination Assessment (Ph1CA) was prepared by AECOM (AECOM, 2020) with the objective of identifying historical or current activities that pose a potential contamination risk within the Site area and the surrounding buffer area.

Following review of the Ph1CA, the NSW Environment Protection Authority (EPA) provided a submission to TfNSW on the review of environmental factors (REF) dated 17 December 2021 recommending a DSI be completed at the Site.

The objectives of the DSI are to:

- Assess potential soil contamination at locations targeting potential primary source areas of contamination associated with neighbouring land uses identified during the Ph1CA
- Evaluate whether there is a potential unacceptable risk of harm to human health and the environment from identified contamination at each targeted location for an ongoing commercial/industrial land use
- Determine the need for additional stages of investigation to characterise the likely nature and extent of contamination identified during this stage of assessment, together with the potential need for remedial works and/or management measures.

To achieve the above objectives, the following scope of works was undertaken:

- Excavation of 6 test pits to maximum 5.8 m below ground surface (bgs).
- Drilling of 4 boreholes to an approximate depth of 9.9 m bgs (depending on depth groundwater encountered) and conversion of boreholes to groundwater monitoring wells.
- Advancement of 25 boreholes via hand auger to a maximum depth of 1.5m bgs.
- The collection of 10 surface scrapes.
- Collection of two co-located surface water and sediment samples.
- Collection of groundwater samples from five monitoring wells.

Data collected throughout the assessment was considered suitably reliable and found:

- Concentrations for Contaminants of Potential Concern (CoPC) were below the adopted human health assessment criteria for all environmental media.
- Exceedances of Perfluorooctane sulfonic acid (PFOS) in soil and groundwater, copper and zinc in surface water, and cadmium, copper, nickel, and zinc in groundwater were above the adopted ecological assessment criteria in Area 3 and Area 4, associated with the former power station and switchyard. All other CoPC were below the adopted ecological assessment criteria.
- No asbestos was observed during field investigations or within analysed laboratory samples.

Based on the data obtained in the DSI, the preliminary Conceptual Site Model (CSM) was revised and it was considered:

- No complete Source-Pathway-Receptor (S-P-R) linkages were present, and therefore potential contamination impacts in soil, surface water and sediment are considered to pose a low risk to future site users and ecological receptors were low.
- No further investigation and remediation is considered required.

Construction works would be subject to implementation of a site-specific CEMP to further mitigate potential risks to construction workers and ecological receptors during construction works. As part of the CEMP, management of PFAS impacts in groundwater should be considered if dewatering activities take place in areas 3 and 4.

1.0 Introduction

AECOM Australia Pty Ltd (AECOM) was engaged by Transport for New South Wales (TfNSW) to complete a Detailed Site Investigation (DSI) at the footprint of the proposed Muswellbrook Bypass (the Site). The Site location is shown on **Figure F1**, **Appendix A**.

1.1 Background

TfNSW propose to build a New England Highway bypass of Muswellbrook. The New England Highway is part of the National Land Transport Network which passes through Muswellbrook and forms a major freight and commuter route through the town and to the town centre. Projected increases in population and subsequently future land developments and regional freight movement are expected to result in traffic growth in the Muswellbrook area and adjacent regions, increasing strain on the existing New England Highway infrastructure.

In order to inform potential environmental constraints to the development of the bypass, a Phase 1 Contamination Assessment (Ph1CA) was prepared by AECOM (AECOM, 2020) with the objective of identifying historical or current activities that pose a potential contamination risk within the Site area and the surrounding buffer area.

The Ph1CA identified evidence of potential contamination from various sources within the Site, and within a 500-metre buffer area around the Site. A Preliminary Conceptual Site Model (CSM) identified multiple potential pathways for contaminants to reach human and environmental receptors. On this basis AECOM recommended that further assessment (i.e. DSI) be considered to quantify the level of risk associated with potential contamination issues.

Following review of the Ph1CA, the NSW Environment Protection Authority (EPA) provided a submission to TfNSW on the review of environmental factors (REF) dated 17 December 2021 recommending a DSI be completed at the Site.

1.2 DSI Objectives

The objectives of the DSI were to:

- Assess potential soil contamination at locations targeting potential primary source areas of contamination associated with neighbouring land uses identified during the Ph1CA
- Evaluate whether there is a potential unacceptable risk of harm to human health and the environment from identified contamination at each targeted location for an ongoing commercial/industrial land use.
- Determine the need for additional stages of investigation to characterise the likely nature and extent of contamination identified during this stage of assessment, together with the potential need for remedial works and/or management measures.

1.3 Site Identification

The key site identification details are provided in **Table 1**.

Table 1 Site Identification Details

Item	Description
Locality	The bypass construction footprint extends from north of Muswellbrook (approximately 990 metres north of the junction of Koolbury Flats Row and the New England Highway), in a southern direction to re-join the current New England Highway alignment at Milpera Drive. The extent of the Site is shown in **Figure F1** of **Appendix A**.
Title Identification Details	• Lot 1A DP 16352 • Lot 101 DP559529 • Lot 400 DP 1034562 • Lot 302 DP715492 • Lot 1 DP 396313 • Lot 1 DP1135590 • Lot 101 DP 1167081 • Lot 56 DP 1025497 • Lot 1397 DP 590130 • Lot 12 DP 839233 • Lot 4 DP 1220491 • Lot 71 DP 629361 • Lot 5 DP26760 • Lot 6 DP26760 • Lot 101 DP 1148216 • Lot 5 DP 1134398 • Lot 40 DP 793463 • Lot 2 DP 241406 • Lot 1 DP249566 • Lot 7004 DP 1051571 • Lot 7 and Lot 8 of DP 243853 • Lot 7 DP 249566 • Lot 4 DP 249566 • Lot 40 DP 793463
Local Government Authority	Muswellbrook Shire Council
Current Zoning	• RU1 Primary Production • SP2 Infrastructure • E3 Environmental Management.
Current Land Use	• Residential: Agricultural pastoral land with some rural residential dwellings • Commercial/industrial: Restored mining land, road and rail infrastructure
Proposed Land Use	Road infrastructure (considered analogous to commercial/industrial land use scenario)
Site Area	Approximately 332 hectares

1.4 Previous Investigations

1.4.1 Phase 1 Contamination Assessment – AECOM (2020)

AECOM completed a desktop based Ph1CA for the proposal area and buffer area in October 2020. The objective of the investigation was to identify contamination constraints to the proposed works, and to assess if historical or current land uses in the proposal area may have the potential to cause contamination that presents a potential risk to human health or the environment during the proposed construction activities.

The assessment was completed in accordance with the 2013 revised (Assessment of Site Contamination) National Environmental Protection Measure (NEPM) and included a review of the following key public and private information sources:

- Council Local Environment Plans (LEP) and land zoning maps.
- Historical aerial photographs to assist in establishing the physical patterns of development over time and potentially contaminating land uses.
- New South Wales (NSW) Environment Protection Authority (EPA) *Contaminated Land Management Act 1997* (CLM Act) and *Protection of the Environment Operations Act 1997* (POEO Act) public registers.
- Published soil landscape, acid sulfate soil, geology, hydrogeology, hydrology and topographical records.

AECOM (2020) included a Tier 1 qualitative assessment involving a preliminary risk screening of existing environmental data and development of a preliminary CSM. The assessment identified multiple potential areas of environmental concern (AEC) associated with historical and current activities, and included:

- Market gardens.
- Pastoral lands.
- Existing New England Highway and associated connecting roads.
- Muswellbrook Waste Management facility.
- The Main North railway line and a former railway line.
- A former open cut coal mine and associated railway.
- A former power station.
- A former brickworks and associated buildings.

The potential AECs are outlined on **Figure F2**, **Appendix A**.

AECOM (2020) also identified the Main North Railway line which is currently managed by Australian Track and Railway Corporation (ARTC) as an additional potential AEC. However, it was noted that the infrastructure is controlled under ARTC Work Health and Safety Procedures, as such potential health hazards to ensure appropriate risk control measures are likely to be in place and effective. Further investigation assessment of the Main North railway line was therefore not considered warranted.

1.4.2 Preliminary Conceptual Site Model

AECOM (2020) presented a preliminary CSM for the Site to provide a qualitative description of the source(s) of contamination, the pathway(s) by which contaminants may migrate through the environmental media, and the populations (human or ecological) that may potentially be exposed. This relationship is commonly known as Source-Pathway-Receptor (SPR) linkage.

Where one or more elements of the SPR linkage are missing, the exposure pathway is considered to be incomplete and no further assessment is required. Equally, where a complete SPR linkage is identified for a particular source of contamination, further assessment of actual or potential risk is required to understand the need for remediation or management of unacceptable concentrations of contamination.

The preliminary CSM considered the Site in its proposed future public infrastructure land use. The 500m buffer area surrounding the Site was included in the assessment to ensure existing commercial and industrial uses which may have direct or indirect effects to the Site were duly considered.

The preliminary CSM identified multiple potential pathways for contaminants to reach human and environmental receptors were potentially present at four AECs, warranting further investigation. The AECs, and potential SPR linkages, are outlined in **Table 2**.

Table 2 Complete SPR Linkages

AEC	CoPC	Release and Transport Mechanisms	Receptors	Potential Pathways and Pollutant Linkages
Former Power Station (Area 3)	• Metals • Total Recoverable Hydrocarbons (TRH) • Benzene, Toluene, Ethylbenzene, Xylene, Naphthalene (BTEXN) • Polychlorinated Biphenyls (PCBs) • Polycyclic Aromatic Hydrocarbons (PAHs) • Organochlorine/ Organophosphate Pesticides (OCP/OPP) • Herbicides • Asbestos containing Material (ACM) • Per and Polyfluoroalkyl Substance (PFAS) • Volatile and Semi Volatile Organic Compounds (VOC/SVOC)	• Soil - Direct application (herbicides, pesticides or firefighting foam) - Accidental spills and leakages to ground - Friable asbestos and asbestos fibres in the soil in areas where former buildings were demolished or within fill materials or from historical use of asbestos for concrete products. Asbestos fibres in soils surrounding building footprints as a result of weathering of asbestos containing building materials • Surface Water - Migration of surface contaminants from the AEC to receiving environment (e.g. creeks and dams within the Site footprint) • Groundwater - Leaching and infiltration of contaminants into groundwater at the AEC, and migration towards the Site footprint	**Human Health** • Staff and visitors to the Site area, including construction workers and sub-surface maintenance workers, in a commercial/industrial scenario **Ecological** • Surface water, including Muscle Creek, Sandy Creek and unnamed creeks, swales and dams • Groundwater, which has variable depth beneath the buffered proposal area[1] • Native vegetation and wildlife • Agricultural land.	The following potential contamination migration pathways between sources and receptors are identified as: • Direct contact (dermal, oral ingestion or inhalation) of contaminated soil/soil dust particularly during maintenance or construction activities • Direct contact with shallow contaminated groundwater during maintenance and or construction activities • Surface water runoff, potentially mobilising any contaminants on the surface or in soil towards sensitive water bodies • Possible leaching and off-site migration of mobile contaminants from soils to groundwater beneath the buffered proposal area which may be encouraged by any disturbance of the surface of the proposal area during maintenance or construction activities • Vapour inhalation of volatile contaminants derived from impacted soil or groundwater media • Ingestion of potentially contaminated water for potable water users.
Former Brickwork (Area 4)	• Metals • TRH • BTEXN • PAH • OCP/ OPP • Herbicides • ACM • PFAS	• Soil - Direct application (herbicides, pesticides or firefighting foam) - Accidental spills and leakages to ground - Friable asbestos and asbestos fibres in the soil in areas where former buildings were demolished or within fill materials or from historical use of asbestos for concrete products. Asbestos fibres in soils surrounding building footprints as a result of weathering of asbestos containing building materials • Surface Water - Migration of contaminants in surface soils at the AEC to the tributary of Sandy Creek (south-west of the AEC), and deposition at the Site (e.g. low-lying areas, dams) • Groundwater - Leaching and infiltration of contaminant into groundwater at the AEC, and migration towards the Site.		
Muswellbrook Waste Management Facility (Area 6)	• Metals • TRH • BTEXN • PCB • PFAS • OCP/ OPP • Herbicides • Nutrients • ACM • VOC/SVOC	• Soil - Direct application (herbicides, pesticides or firefighting foam) - Accidental spills and leakages to ground - Friable asbestos and asbestos fibres within waste materials - CoPCs within waste materials • Surface Water - Transport of contaminants in surface soils via stormwater run-off towards the Site • Groundwater - Leaching and infiltration of contaminants from buried wastes into groundwater at the AEC and migration towards the Site		

[1] Available data from Water NSW indicates standing water depths of 4.3 metres to 15.0 metres below ground level

AEC	CoPC	Release and Transport Mechanisms	Receptors	Potential Pathways and Pollutant Linkages
Former Railway Line (Area 9)	• Metals • OCP • TRH • BTEXN • Phenols • Herbicides • ACM	• Soil - Direct application (herbicides and pesticides) - Accidental spills and leakages to ground - Potential ACM within uncontrolled fill • Surface Water - Stormwater run-off from the rail corridor to the AEC (surrounding soils, creeks and dams) • Groundwater - Leaching and infiltration of contaminant into groundwater at the AEC and migration to the Site footprint.		

Whilst potentially complete SPR linkages have been identified for ecological receptors a part of construction activities, it is noted that the risks associated with these SPR linkages will be managed as part of the Construction Environmental Management Plan (CEMP).

1.5 Preliminary Site Inspection

AECOM personnel completed an inspection of the proposed areas of investigation on 6 April 2022. The inspection was undertaken to:

- Validate the Preliminary CSM and rationale for selection of AECs for further investigation
- Inform the selection of environmental sampling locations
- Identify instances of obvious visual or olfactory signs of contamination (if any) within the AECs
- Identify safe vehicle access routes, access restrictions and agree sample locations with affected parties (where required).

A summary of the inspection is provided below.

Table 3 Site Inspection Summary

AEC	Findings
General	The Site footprint is set within a landscape of rolling hills, characterised by open native woodland and pastoral paddocks. The footprint traverses several hills and small gullies, with an overall increase in elevation from the south-east to the north-west. Open spaces are well vegetated with tall grass and mature trees. Several small to large farm dams were observed though no obvious signs of contamination were noted. One remnant farmhouse was observed within the northern portion of the Site footprint, located immediately south-east of the intersection with Sandy Creek Road. The property appeared abandoned and in a state of disrepair. Given the age and construction of the building, ACM and other hazardous building materials are likely to be present. No other obvious signs of contamination associated with potential AECs (as outlined on **Figure F2**, **Appendix A**) were identified. Additionally, no instances of fly tipping were observed along the length of the Site footprint.
Former Power Station (Area 3)	The AEC comprises an operational electrical switchyard in the north, bordered by a former Power station and Stackhouse to the south and south-east, respectively. The AEC was not available for access at the time of inspection. The AEC is located within an open, grassed area and is slightly elevated above surrounding ground. The local topography slopes from the electrical switchyard to a natural gully to the north and east. A small area of low-lying swampy ground is located north-east of the electrical switchyard. Stormwater runoff is expected to drain from the AEC towards this area. The Site footprint follows the slight natural gully north-west and intersects the swampy area.
Former Brickwork (Area 4)	The area was not accessed at the time of inspection. However, the local topography was confirmed to slope from the Former Brickworks area south-west towards the former Power Station area. Additionally, the tributary of Sandy Creek originating at the Former Brickworks (considered the main migration pathway from the AEC to the Site footprint), was confirmed to be present and flow north-west, the Former Power Station area.

AEC	Findings
Muswellbrook Waste Management Facility (Area 6)	The AEC comprises an operational municipal waste disposal facility and no inspection of on-site operations was undertaken. The facility is elevated and is bordered to the north-east by a steep embankment that slopes towards the Site footprint. The slope is well vegetated by grass and sparse trees. No signs of anthropogenic waste or gross contamination were observed, and vegetation appeared in good health. A large mine rehabilitation area was located beyond the slope to the north of the Waste Facility and is intersected by the Site footprint. AECOM understands the area was previously an open mine pit operated by Muswellbrook Coal Company and has since been backfilled with chitter as part of rehabilitation efforts. The area and was previously subject to geotechnical assessment and landfill gas investigation as part of the bypass construction detailed design process. No anthropogenic materials were observed during the geotechnical assessment (test pits). Slightly elevated levels of carbon dioxide were observed in the gas assessment, though only trace concentrations of other gases (methane and carbon monoxide) were observed. At the time of inspection, no obvious signs of gross contamination (e.g. odours, staining in soil) were observed during the geotechnical assessment. A small operational switchyard was identified north-east of the Muswellbrook Waste Management Facility. Infrastructure appeared in good repair and no signs of contamination (e.g. spills, anthropogenic waste) were observed.
Former Railway Line (Area 9)	The railway corridor alignment within the footprint of the Site comprised a ballast embankment running north to south within a slight natural gully. The corridor and surrounds were heavily vegetated and infrastructure including railway sleepers, fencing and signage were in a state of disrepair. No obvious signs of fly tipping or other anthropogenic waste were present. However, the vegetation cover limited visual inspection of the ballast and wider corridor. Vegetation appeared in healthy condition. Small volumes of free of standing water were observed in the natural gully alongside the ballast embankment. No obvious contamination (e.g. oily sheen) was observed on the water surface. Surface water at the area would be expected to migrate from the embankment to lower-lying areas within and surrounding the rail corridor. Three test pits were excavated at the AEC during previous geotechnical assessment. No signs of anthropogenic materials, or gross contamination, were identified.

1.6 Relevant Guidelines

The DSI works will be conducted in general accordance with the following key documents:

- National Environmental Protection Council (NEPC) (2013) Amended Assessment Site Contamination (ASC) National Environmental Protection Measure (ASC NEPM), April 2013
- New South Wales Environment Protection Authority (NSW EPA) (2020) Consultants reporting on contaminated land: Contaminated Land Guidelines
- NSW EPA (2017) Guidelines for the NSW Site Auditor Scheme, 3rd Edition
- NSW EPA (2022) Sampling Design Guidelines
- Cooperative Research Centre for Contamination Assessment and Remediation of the Environment (CRC CARE) (2013) Technical Report No.23 – Petroleum Hydrocarbon Vapour Intrusion Assessment Australian Guidance, July 2013.
- HEPA (2020) PFAS National Environmental Management Plan version 2.0/

In addition to the above guidelines, AECOM will also consider specific requirements for asbestos investigation outlined under:

- WA DoH (2021) Guidelines for the Assessment, Remediation and Management of Asbestos Contaminated Sites in Western Australia[2].

[2] However, screening assessment for asbestos in soil will also default to the WA (2009) guidance as adopted by ASC NEPM (2013)

2.0 Scope of Work

The following describes the scope of work to be completed in accordance with this SAQP:

- Preparation of a Safety, Health, and Environmental Management Plan (SHEMP) and Safe Work Method Statements (SWMS) for the works to be completed
- Obtain dial-before-you-dig service plans, site-specific service plans and completion of an underground service survey at the proposed sampling locations using an accredited service locator
- Completion of intrusive investigations, comprising:
  - Excavation of 6 test pits to maximum 5.8 m bgs.
  - Drilling of 4 boreholes to an approximate depth of 9.9 m bgs (depending on depth groundwater encountered) and conversion of boreholes to groundwater monitoring wells.
  - Advancement of 25 boreholes via hand auger to a maximum depth of 1.5m bgs.
  - 1The collection of 10 surface scrapes.
- Collection of representative soil samples, including fill materials and natural underlying materials, at regular intervals from each test pit and borehole, and 10 additional surface soil locations
- Field screening using a photoionisation detector (PID) to assess the presence of volatile organic compounds (VOC) within samples collected.
- Collection and analysis of 2 co-located surface water and sediment samples from accessible water bodies.
- Analysis of soil samples from each test pit and borehole, based on field observations, for a range of CoPC.
- Completion of a groundwater monitoring event including gauging, collection of field water quality parameters and collection of samples at 5 groundwater monitoring wells.
- Preparation of this DSI report detailing the works undertaken and the findings of the investigations in accordance with relevant NSW EPA endorsed guidelines.

A summary of the completed scope of work is provided in **Table 4**.

Table 4 Scope of Work

Area of Concern	Completed Locations	Rationale	Sampling and analysis	CoPC
Former Power Station and Transformer yard (Area 3) (1.6 ha) • Application of herbicides and pesticides • Spills associated with the maintenance and use of • mobile plant and machinery (lubricants and fuels) • Use of fire accelerants • Use of insulating oils • Uncontrolled by-products • Dumping of ash	**Soil** • 25 borehole locations to 1.5 m bgs • Extension of 3 boreholes to depths of 9.9 m bgs and conversion to groundwater monitoring wells	To assess the nature and extent of potential shallow soil contamination associated with the former power station, the transformer yard, and existing electrical sub-station in order to evaluate potential unacceptable risk of harm to human health and the environment. Sampling will be conducted on a systematic (grid) basis. The sample density is in general accordance with NSW EPA (2022).	Samples to be collected at surface, 0.5m and every metre thereafter, noting samples may be targeted based on observations of contamination. 2 samples per borehole to be scheduled for laboratory analysis (based on field observations). Typically, one shallow (<1m) and one deep (>1m) sample will be analysed.	• Metals • TRH • BTEXN • PAHs • PCBs • PFAS • VOC/SVOC • Asbestos[3] • OCP/OPP
	Sediment/ Surface water: No samples collected. Sediment/surface water not available at proposed locations	Sampling will be judgmental (i.e. targeted) to the swamp area downgradient of Area 3 to assess the nature of potential contamination and potential mobilisation of contaminants to receiving environments via surface water runoff.	4 sample locations within the low-lying marsh/ ephemeral creek to the north of Area 3. One co-located sediment and surface water (if available) sample to	• Metals • TRH • BTEXN • PAHs • PCBs • PFAS • VOC/SVOC • OCP/OPP

[3] Where uncontrolled fill or anthropogenic waste is identified during investigation.

Area of Concern	Completed Locations	Rationale	Sampling and analysis	CoPC
• Potential ACM within building materials • Potential use of fire suppressants containing PFAS			be collected and analysed per location. Samples to be collected from top 0.15m bgs.	
	Groundwater • 3 groundwater samples	To assess the potential for leaching and infiltration of contaminants into groundwater at the AEC, and migration towards the Site footprint.	Three groundwater samples at monitoring wells MW01, MW02, and MW03.	• Metals • TRH • BTEXN • PAHs • PCBs • PFAS • VOC/SVOC • OCP/OPP

Area of Concern	Completed Locations	Rationale	Sampling and analysis	CoPC
Former Brickworks (Area 4) (7.8 ha) • Application of herbicides and pesticides • Spills associated with the maintenance and use of mobile plant and machinery (lubricants and fuels) • Use of fire accelerants (kerosene) • Use of insulating oils • Uncontrolled by-products • Potential ACM within building materials Potential use of fire suppressants containing PFAS	**Sediment / Surface Water** • 2 sediment samples 2 co-located surface water samples (if water available)	To assess the extent and nature of potential contamination and potential mobilisation of contaminants to receiving environments via surface water runoff. Sampling will be Judgemental (i.e. targeted) to the tributary of Sandy Creek that drains from the former brickworks area, where it traverses the Site footprint. It is noted that the bypass footprint does not traverse the location of the former Muswellbrook Brickworks, though does receive surface water runoff from the area.	Two sediment sample locations within the low-lying marsh/ephemeral creek to the north west (downstream) of the former Brickworks. One co-located sediment and surface water (if available) sample to be collected and analysed per location. Samples to be collected from top 0.15m bgs.	• Metals • TRH • BTEXN • PAHs • PFAS • OCP/OPP • Asbestos

Area of Concern	Completed Locations	Rationale	Sampling and analysis	CoPC
	Groundwater • 1 groundwater sample	To assess the potential for leaching and infiltration of contaminants into groundwater at the AEC, and migration towards the Site.	One groundwater sample at monitoring well BR-245.	• Metals • TRH • BTEXN • PAHs • PFAS • OCP/OPP
Muswellbrook Waste Management Facility (Area 6) (19.5 ha) • Application of herbicides and pesticides • Spills associated with the maintenance and use of mobile plant and machinery (lubricants and fuels) • Uncontrolled burial and leaching of hazardous waste products including ACM	• 6 Test Pits to maximum 5.8 m bgs • Installation of one monitoring well (8.8 m bgs)	Judgemental (i.e. targeted) sampling to assess the nature and extent of potential shallow soil contamination associated with the Muswellbrook Waste Management Facility in order to evaluate potential unacceptable risk of harm to human health and the environment. Proposed sample locations are positioned downgradient of the current landfill site (in an area of potential historical filling) where the landfill intersects the Site footprint.	**Soil:** Samples to be collected at surface, 0.5m and every metre thereafter, noting samples may be targeted based on observations of contamination. 2 samples per test pit to be scheduled for laboratory analysis (based on field observations). Typically, one shallow (<1m) and one deep (>1m) sample will be analysed.	• Metals • TRH • BTEXN • PCB • OCP/OPP • ACM • Nutrients • VOC/SVOC • PFAS

Area of Concern	Completed Locations	Rationale	Sampling and analysis	CoPC
	Groundwater: • 1 groundwater sample	To assess the potential for leaching and infiltration of contaminants into groundwater at the AEC, and migration towards the Site.	One groundwater sample at monitoring well BR-225.	• Metals • TRH • BTEXN • PCB • OCP/OPP • Nutrients • VOC/SVOC • PFAS
Former Railway Line (Area 9) (0.3 ha) • Application of herbicides • Spills (lubricants and fuels) • Potential deposition of ACM from locomotive breaks and engine gaskets	• 10 surface soil samples • No co-located surface water/sediment samples collected due to lack of availability in vicinity of former railway	Systematic sampling to assess the nature and extent of potential soil contamination associated with a former railway line in order to evaluate potential unacceptable risk of harm to human health and the environment. Samples to be collected at regular intervals along the former railway alignment. The sample density is in general accordance with NSW EPA (1995).	**Soil:** 10 surface soil locations. Samples to be collected from top 0.15 m bgs. **Sediment/surface water:** 2 sample locations within dams located adjacent the railway alignment. One co-located sediment and surface water (if available) sample to be collected and analysed per location. Samples to be collected from top 0.15 m of sediment / surface water.	• Metals • TRH • BTEXN • Phenols • Pesticides • ACM

3.0 Data Quality Objectives

A seven-step Data Quality Objective (DQO) approach has been developed to set QA/QC parameters for the investigation and laboratory program to ensure data of appropriate reliability would be used for the purposes of the assessment. The design of the DQO approach was undertaken in accordance with Appendix IV of the NSW DEC Guidelines for the NSW Site Auditor Scheme (3rd Edition), 2017.

The process of establishing appropriate DQOs according to the seven steps is outlined in **Table 5**.

Table 5 The seven steps in defining DQOs

Step	Data Quality Objective
Step 1. State the problem – Define the problem that necessitates the study	TfNSW is currently undertaking design for construction of a New England Highway bypass of Muswellbrook. TfNSW wants to gain an understanding of potential legacy contamination issues within the Site and buffer area that have resulted from historical land use activities. The findings will inform the bypass design and any amelioration that may be required during construction of the bypass.
Step 2. Identify the goal of the study – State how environmental data will be used in meeting objectives and solving the problem, identify study questions, define alternative outcomes.	The objective of the investigation is to assess if potential contamination issues identified as part of the Ph1CA may present a risk to human health or the environment during construction activities. The inputs to the decisions required to meet the objective are discussed in Step 3. The key decisions to address the objectives of the investigation are: • What is the nature and extent of CoPCs in environmental media at the identified AECs? • Is groundwater present beneath the site at a depth that may be intersected during construction? • What is the nature and extent of CoPCs in groundwater beneath and down-gradient of the AECs? • Does the data set provide sufficient information to evaluate whether complete SPR linkages exist for CoPC? • Are there any complete or potentially complete exposure pathways? • Does contamination, if identified, require remediation in order for the site to be considered suitable for the proposed land use?
Step 3. Identify information inputs – Identify data and information needed to answer study questions.	The primary inputs to assessing the contamination status of site will be: • Review desktop based Ph1CA (AECOM 2020) • Review of available site historical information • Review of available geological, hydrogeological and soil data • Observations of site conditions, potentially contaminating activities and environmental media during site inspection • Collection of representative samples of environmental media including fill, underlying native soil, sediment, and surface and groundwater (if present) • Using appropriate sample collection techniques to obtain samples representative of conditions at the site • Using appropriate analytical methods (i.e. NATA endorsed) with quantitation limits below the adopted assessment criteria • Assessing for the presence of CoPC in the sampled media at concentrations above NSW EPA-endorsed and other suitable assessment criteria.

Step	Data Quality Objective
Step 4. Define the boundaries of the study – Specify the target population and characteristics of interest, define spatial and temporal limits, scale of inference.	**Lateral**: The study boundaries included the site boundaries as defined on **Figure F1**, **Appendix A**. **Vertical**: Intrusive investigations of soil and groundwater which extended up to an approximate depth of 9.9 m bgs **Temporal**: Data used for the assessment included: • data from historical documents reviewed in AECOM (2020) • data collected during this DSI, assessed against NSW EPA endorsed guidelines currently in place.
Step 5. Develop the analytic approach – Define the parameter of interest, specify the type of inference, and develop the logic for drawing conclusions from findings.	The decision rules for this investigation are as follows: 1. If it is determined that the data generated through this investigation are reliable and suitably characterise soil and groundwater contamination, the data will be compared against the adopted Soil Assessment Criteria (SAC) and Groundwater Assessment Criteria (GAC)[4] 2. If comparison of the data generated through this investigation meets the adopted SAC/GAC, then the site will be considered suitable for the proposed commercial/industrial land use. 3. If comparison of the data generated through this investigation does not meet the adopted SAC/ GAC, then further investigations, remediation and/or management will be recommended for specific AECs If it is determined that the data generated through this investigation are not reliable and/or do not suitably characterise soil and groundwater contamination as required for determining land use suitability, then further investigations may be recommended prior to comparison against the SAC/GAC.
Step 6. Specify performance or acceptance criteria – Develop performance criteria for new data being collected or acceptable criteria for existing data being considered for use.	The acceptable limits on decision errors applied for the project and the manner of addressing possible decision errors have been developed based on the Data Quality Indicators (DQIs) of sensitivity, precision, accuracy, representativeness, comparability, completeness (SPARCC) as described in **Appendix F**.
Step 7. Develop the plan for obtaining data – Select the resource-effective sampling and analysis plan that meets the performance criteria.	The collection of data will be optimised by the development of an appropriate sampling and analytical strategy based on an understanding of site history and identified contamination from the previous investigation, site layout, and historical records. Sampling locations for environmental media will also be positioned to provide appropriate coverage of the site in accordance with NSW EPA Sampling Design (part 1 – application) guidelines (2022).

[4] Due to the non-perennial and temporal nature of drainage lines where sediments may collect, those sediments be screened against SACs in the first instance. Surface water samples will be screened against the GAC and other relevant criteria as required

4.0 Site Assessment Criteria

Generic (tier 1) assessment criteria for the screening of environmental samples have been selected to provide assessment of potential contamination risks to human health and ecological receptors at the Site. Application of the assessment criteria was made on the basis of the proposed future land use (commercial/industrial).

Exceedance of a trigger value does not necessarily imply that there is an inherent risk, rather that further assessment and monitoring may be required prior to implementing appropriate management actions.

4.1 Soil Assessment Criteria

The following guidelines were be adopted for the evaluation of the soil and sediment analytical results:

- ASC NEPM (2013) *Soil Health Investigation Levels (HILs)* (for metals, PAHs) and HSLs (asbestos)
- Cooperative Research Centre for Contamination Assessment and Remediation of the Environment (CRC CARE) (2011a) *Technical Report No.10 - Health Screening Levels for Petroleum Hydrocarbons in Soil and Groundwater. September 2011.* (Friebel, E. and Nadebaum, P., 2011) – Soil HSLs(for TRH and BTEXN)
- CRC CARE (2011b) Technical Report No. 10, Part 2 - Intrusive Maintenance Worker (Shallow Trench) Health Screening Levels
- Heads of EPA (HEPA) (2020) *PFAS National Environmental Management Plan*, *Version 2.0*
- United States Environmental Protection Agency (US EPA, 2021). *Regional Screening Levels (RSLs) for Industrial Soil* (for SVOCs and VOCs only).

Soil samples will be assessed against the following Soil Assessment Criteria (SAC).

4.1.1 Human Health

Table 6 Soil Assessment Criteria - Human Health

Selected Assessment Criteria	CoPC	Rationale
ASC NEPM (2013): • Soil HSL D • HIL D	• TRH • BTEXN • PAH • Metals • PCBs • Phenols • OCP/OPP • ACM	The HSLs presented in the ASC NEPM (2013) and CRC CARE (2011) for petroleum hydrocarbons in soil were developed to be protective of human health by determining the reasonable maximum concentration from on-site sources for a range of situations commonly encountered on contaminated sites. The HILs are scientifically based, generic assessment criteria designed to be used in the first stage of an assessment of potential risks to human health from chronic exposure to contaminants. They are intentionally conservative and are based on a reasonable worst-case scenario for four generic land use settings:
CRC CARE (2011a)[5]: *Technical Report No.10 - Health Screening Levels for Petroleum Hydrocarbons in Soil and Groundwater*. September 2011. (Friebel, E. and Nadebaum, P., 2011): • HSL D	• TRH • BTEXN	

[5] Cooperative Research Centre for Contamination Assessment and Remediation of the Environment (CRC CARE) *Technical Report No.10 - Health Screening Levels for Petroleum Hydrocarbons in Soil and Groundwater*. September 2011. (Friebel, E. and Nadebaum, P., 2011)

Selected Assessment Criteria	CoPC	Rationale
CRC CARE (2011b)[6]: • HSL D		• HIL A - Residential with garden/ accessible soil • HIL B - Residential with minimal soil access (e.g. paved yards, high rise buildings) • HIL C - Public open space such as parks and playgrounds • HIL D - Commercial/industrial (e.g. factories, industrial sites)
PFAS NEMP (HEPA, 2020) • HIL D	PFAS	The HILs were derived using the methodology consistent with assumptions set out in the ASC NEPM (2013) for HIL D.
US EPA (2021)	• VOC • SVOC • PAH • Metals • PCBs • OCP/OPP	The RSL program was developed by the US EPA to provide a nationally consistent approach to the screening of a range of CoPC at Superfund sites. The RSLs provide comparison values for residential and commercial/industrial exposures to soil, air, and tap water (drinking water). The RSLs are continually updated using the latest toxicity values, default exposure assumptions and physical and chemical properties, which can be modified reflect site-specific risks. In the Australian context, RSLs can provide useful screening information for a range of CoPC that are not already covered by local guidance documents.

ASC NEPM (2013), CRC CARE (2011a and 2011b) and US EPA (2021) include limited criteria for Semi-Volatile Organic Compounds (SVOCs) and VOCs. Where no criteria are available, the laboratory limit of reporting (LOR) will be adopted as a screening concentration, above which, further assessment may be required.

4.1.2 Management Limits

Petroleum hydrocarbon management limits are screening levels from the ASC NEPM (2013) that are applicable following evaluation of human health and ecological risks. They are intended to assess other impacts that are not considered in the application of HSLs or ESLs, such as explosive or fire hazards, impacts to subsurface infrastructure and the formation of Light Non-Aqueous Phase Liquids (LNAPL).

They are applicable for operating sites where significant sub-surface leakage of petroleum compounds may have occurred, and when decommissioning industrial and commercial facilities. The management limits may have less relevance at operating industrial sites which have no or limited sensitive receptors in the area of potential impact. Exceedance of management limits does not imply that remediation is necessary, though may trigger further site-specific assessment to enable any identified risks to be addressed.

Soil and sediment analytical results for petroleum hydrocarbons will be screened against the management limits for commercial and industrial land use if petroleum-type contamination is detected at concentrations greater than the LOR, and if the criteria protective of Human Health and Ecological values are not exceeded.

[6] CRC CARE *Technical Report No. 10, Part 2 – Intrusive Maintenance Worker (Shallow Trench) Health Screening Levels*. September 2011

4.1.3 Aesthetic Assessment Criteria

In accordance with the ASC NEPM (2013), the following are the type of findings that would trigger the requirement for assessment of aesthetic considerations where further assessment hasn't already been triggered by an exceedance of an investigation or screening criteria:

- Highly odorous soil or groundwater
- Hydrocarbon sheens on groundwater
- Discoloured soil or chemical deposits
- Large monolithic deposits of otherwise low risk material
- Soils containing residue from animal or abattoir waste burial.

The above aesthetic conditions will be considered in the assessment of the Site.

4.2 Groundwater Assessment Criteria

The following Tier 1 guidelines were adopted for the assessment of groundwater and surface water:

- Amended ASC NEPM (NEPC, 2013).
- Heads of EPA (HEPA) (2020) *PFAS National Environmental Management Plan*, *Version 2.0*, January 2020
- NHMRC & NRMMC (2011) National water quality management strategy, Australian drinking water guidelines, National Health and Medical Research Council and National Resource Management Ministerial Council, Australia. Version 3.7 (updated January 2022)
- NHMRC (2008) Guidelines for Managing Risks in Recreational Water. Australian Government, National Health and Medical Research Council.

Application of these guidelines is summarised in **Table 7**.

Table 7 Groundwater Assessment Criteria

Guideline	CoPC	Rationale
Human Health Vapour Inhalation (groundwater only)		
ASC NEPM (2013)	• TRH • BTEXN	HSLs are provided in the ASC NEPM to assess the risk for vapour inhalation arising from petroleum hydrocarbon sources in groundwater. The HSLs are based on the same land use scenarios as for soil HSLs, as summarised in **Table 6**. The HSL D – Clay – 2 to <4m (commercial/industrial) will be adopted based on anticipated groundwater conditions at the Site.
Human Health Incidental Ingestion and Dermal Contact		
National Health and Medical Research Council (2008). *Australian Drinking Water Guidelines* (ADWG, 2021)*.	• TRH • BTEXN • PAH • Phenols • OCP/OPP • VOC/ SVOC • Metals	In accordance with the approach recommended by National Health and Medical Research Council (NHMRC) (2008) *Guidelines for Managing Risk in Recreational Waters*, the ADWG (2021) were increased by a factor of 10 in order to produce suitable recreational criteria. It is considered that recreational criteria are suitable for assessing the risk to intrusive maintenance workers during construction works where workers may come in contact with groundwater impacts

Guideline	CoPC	Rationale
HEPA (2020) *PFAS National Environmental Management Plan (NEMP 2.0)*	• PFAS	The values presented in the NEMP (2020) are from the Department of Health (2017), which published final health-based guidance values for PFAS for use in site investigations in Australia. The DoH utilised the Tolerable Daily Intake for PFOS and PFOA from Food Standards Australia New Zealand (2017) and utilised the methodology described in NHMRC (2008) (application of 10x drinking water concentration) to determine appropriate recreational criteria for each compound.
Ecological		
ANZG (2018) *Australia and New Zealand Guidelines for Fresh and Marine Water Quality*	• TRH • BTEXN • PAH • Phenols • OCP/OPP • VOC/ SVOC • Metals	The Australia and New Zealand Water Quality Guidelines (ANZG) (2018) provides default guideline values for protection of marine water species. ANZG (2018) Freshwater 95% Species Protection (slightly to moderately disturbed systems) has been adopted. Where a contaminant is known to bioaccumulate, 99% Species Protection has been used.
HEPA (2020) *PFAS National Environmental Management Plan (NEMP 2.0)*	• PFAS	Australian and New Zealand Guidelines for Fresh and Marine Water Quality - technical draft default guideline values for PFOS and PFOA are presented in the NEPM (2020). The 99% level of protection is to be used for slightly to moderately disturbed systems.

* Assessment of groundwater and surface water results against the ADWG (2021) is not proposed to be undertaken noting receptors of this nature (domestic consumers of groundwater) are not relevant to the proposed future land use (construction/operation of road infrastructure).

5.0 Fieldworks Summary and Methodology

Field activities were completed between 15 and 26 August 2022 for Area 6 and Area 9; and 22 to 26 August 2022 for Area 3 and Area 4. The groundwater monitoring event (GME) was completed on 23 November 2022. A summary of the sampling methodology is presented in **Section 5.1** to **Section 5.3**.

5.1 Soil Sampling Methodology

A brief overview of the soil sampling methodology is described in **Table 8**. Refer to **Figure F3** in **Appendix A** for sample locations.

Table 8 Soil Investigation Methodology Summary

Activity	Details
Service Location	All service locations were searched prior to intrusive works using AECOM's underground services clearance procedure as follows: • Review of "Dial Before You Dig" plans for the site as part of assessment of potential services in the vicinity of the investigation area • Review of site-specific plans where available from relevant site stakeholders • Clearing and marking of each sample location by an accredited service locator • Hand clearance (hand auger) of intrusive borehole locations as practicable prior to mechanical drilling.
Soil Sampling – Direct Push Sleeves	Soil bores were advanced using the direct push method following hand clearance of boreholes to 1.5 m bgs. Samples were collected from the soil profile in the following generalised intervals, and based on observations of potential contamination: • Surface. • 0.5 – 1.0 m bgs. • – 1.5 m bgs. • Every metre thereafter. Soil samples were collected from the recovered push tube sleeves, to minimise potential loss of VOCs. Samples were collected into laboratory-supplied glass jars, using a clean pair of disposable nitrile gloves per sample. Sample jars will be fitted with Teflon-lined lids and filled with zero headspace remaining to minimise the loss of VOCs.
Soil Sampling – Test Pits	A track-mounted excavator was utilised for sample collection as follows: • Excavation of 6 test pits at Area 6 (to maximum 5.8 m bgs). • Excavation of 10 surface scrape samples at Area 9 (to 0.1 m bgs). Test pit locations were first cleared of surface vegetation (e.g. grass) to allow inspection of the soil surface for signs of fill or anthropogenic materials. Test pits were then advanced to target depths by excavation of soil layers until target depth was achieved. Representative soil samples were collected directly from excavated material within the excavator's bucket. Samples were collected from the centre of the bucket to minimise potential for cross-contamination and minimise potential VOC loss from the sample. A new pair of nitrile gloves was worn for each sample collected. On completion, test pit locations were reinstated with excavated material in approximately the same geological sequence (i.e. topsoil, sub soil, regolith, and substrate layers) in which it was removed.
Soil Logging	The soil profile was logged during the course of the intrusive works in accordance with the Unified Soil Classification System (USCS).

Activity	Details
Soil Screening	Soil sub-samples were placed in snap-lock plastic bags and the vapour headspace screened in the field for VOCs using a calibrated photo-ionisation detector (PID) equipped with a 10.6 eV lamp. The headspace reading was taken at ambient temperature (not in sun) and approximately 5 minutes after collection of the sample.
Sample Coordinates	GPS coordinates were recorded at all sampling locations using a handheld GPS

5.2 Sediment / Surface water Sampling

A brief overview of the sediment and surface water sampling methodology is described in **Table 9**. Refer to **Figure F3** in **Appendix A** for sample locations.

Table 9 Sediment and Surface Water sampling methodology

Activity	Details
Sediment Sampling	Sediment samples were collected using a clean, stainless-steel trowel which was decontaminated between each sampling location. Samples were collected from the top 100mm of deposited sediment at safely accessible portions of waterbodies. Samples were collected directly into unpreserved laboratory bottles. A new pair of nitrile gloves was worn at each sample location. Non-dedicated equipment (e.g. trowel) was decontaminated between sample locations with a phosphate-free detergent. Observations of physical conditions including drainage line geomorphology and water quality parameters including odour, colour, turbidity and flow rate will be recorded at time of sampling.
Surface Water Sampling	Surface water samples were collected using a sampling pole with and transferred directly to laboratory supplied appropriately preserved sample bottles, then sealed and labelled. The sampling pole was decontaminated between each sampling location. Samples for dissolved metals analysis were filtered in the field using a new 0.45 µm filter for each sample. The following in-situ water quality parameters were recorded at approximately 0.1 m below the water body surface at each location: • temperature (˚C) • dissolved oxygen (mg/L) • electrical conductivity (µS/cm) • reduction-oxidation potential (Redox) (mV) • pH • turbidity (NTU) A description of the water quality (colour, odour, observed water clarity and high / low water levels) was recorded at each location at the time of sampling
Sample Coordinates	GPS coordinates were recorded at all sampling locations using a handheld GPS

5.3 Groundwater Sampling

A brief overview of the groundwater sampling methodology is described in **Table 10**. Refer to **Figure F3** in **Appendix A** for sample locations.

Table 10 Groundwater sampling methodology

Activity	Details
Groundwater Well Development	Groundwater monitoring wells were developed using a submersible pump. Groundwater was purged from the wells until the stabilisation of field parameters (minimum of three bore volumes). Post development, groundwater wells were left for a minimum of seven days to allow for appropriate hydraulic connection to the surrounding aquifer before sampling.
Groundwater Gauging	All monitoring wells were gauged with an interface meter prior to sampling. The interface meter was used to: • Measure the standing water level (SWL) • Detect the absence or presence, and thickness of non-aqueous phase liquid (NAPL) • Measure the total depth of the well No NAPL was detected with the interface meter in any of the wells gauged.
Groundwater Sample Collection	Low-flow groundwater sampling was undertaken to sample the groundwater monitoring wells. This methodology consisted of the following: • Groundwater monitoring wells were purged and sampled using a peristaltic pump and dedicated LDPE bio-tubing. • *Ex situ* measurements of water quality parameters including pH, dissolved oxygen (DO), redox potential (redox), temperature and electrical conductivity (EC) were recorded during sampling. These measurements were collected with a water quality meter calibrated prior to use. • Groundwater was purged until field parameters stabilised for three consecutive readings. • Parameters were considered stable when consecutive readings over four minutes are recorded within: - ± 10% for dissolved oxygen - ± 3% for electrical conductivity - ± 0.05 for pH - ± 10 mv for redox potential. • Other characteristics (e.g., colour, odour, turbidity) identified during sampling was recorded on the field sheets. • Groundwater samples were collected directly from the tubing into the appropriate laboratory supplied sampling containers. Samples were placed into an insulated rigid container with ice and transported to the analysing laboratory under chain of custody protocol. Transport was by the field representative and/or laboratory designated courier. Written confirmation of receipt of samples by the laboratories was obtained and assessed by field staff to ensure that samples were received chilled, intact and within appropriate holding times.

5.4 Sample Preservation, Handling and Transport

Samples were collected into laboratory-supplied sample containers and acid preserved (e.g. nitric acid for metals in groundwater etc.), as required. All samples were stored in a cooler with ice during transit to the laboratory.

6.0 Field Observations and Analytical Results

6.1 Soil

6.1.1 Soil Field Observations

Field observations from the intrusive soil investigations are summarised in **Section 6.1.1.1** to **Section 6.1.1.3.** Detailed lithological descriptions are presented on the bore logs in **Appendix B**. Sample locations are shown on **Figure F3-1** to **Figure F3-3, Appendix A**.

6.1.1.1 Area 3 and Area 4

Shallow soils (to depths of 1.5mbgs) typically comprised of varying alluvial intermixes of sands, clays, silts and gravels ranging from light brown to brown with low to medium plasticity clays. Gravels were typically natural (fragments of siltstone and ironstone) ranging from fine up to cobble size generally shaped as sub-angular to sub-rounded. Roots were observed in the surface soil profile at most locations corresponding to surface soils, no other inclusions were observed within the natural soils.

Fill was observed at the following locations:

- HA05 extending to depths of 1 m bgs comprised of black silty sand with coal fines.
- HA06 extending to depths of 0.5 m bgs comprised of reworked clay with sands and gravels.
- HA12 extending to depths of 0.3 m bgs comprised of roadbase with sands and gravels.
- HA16 extending to depths of 0.4 m bgs comprised of black to dark brown sands and gravels. Some scrap metal pieces (bolts) were identified within this lithology.
- HA21 extending to depths of 0.2 m bgs comprised of silty, gravelly, dark brown sand.
- HA25 extending to depths of 0.8 m bgs comprised of silty sand and brown, grey, silty, gravelly sand. Coal fines were observed in the top 0 – 0.2 m bgs and roadbase gravels overserved from 0.2 – 0.8 m bgs.

Boreholes HA02, HA11 and HA17 were extended to a depth of 9.9 m BGS. Deeper soils (depths greater than 1.5m bgs) were typically comprised of medium plasticity clay in HA02 and mottled white, mottled orange red and light brown sandy clays which were firm with low to medium plasticity in HA11 and HA17. Gravels were encountered within the soil profile in HA11 and HA17 from approximately 5 m bgs. Soil was typically moist to dry, with the saturated zone identified to range from 6.2 – 8.5 m bgs.

No olfactory or visual evidence of contamination was observed (i.e. obvious odours or staining). This is supported by the field PID readings for on-site VOC assessment which ranged from 0 – 0.2 ppm.

6.1.1.2 Area 6

Soils within Area 6 were typically comprised of fill extending to a maximum depth of 5.8 m bgs (TPEV03) which was observed to be reworked intermixes of sands, gravels and clays and topsoil which was generally intermixes of silt; sands and clays with road base gravels; and layers of gravel, rock and chitter. A layer of coal chitter and gravel was identified at 0.25 – 0.8 m bgs in TPEV04. Asphalt was observed at 1.1 – 1.2 m bgs. Concrete cobbles and boulders were identified in TPEV01 at a depth of 3.6 m bgs intermixes in the reworked clay material.

Test pits TPEV01 and TPEV03 were extended to a maximum depth of 8.5 m and 9.3 m bgs respectively. The deeper soil profile was considered to be silty, gravelly clays and sands, however due to poor recovery potentially due to large gravels or chitter in backfill material, a complete soil profile could not be determined.

No olfactory or visual evidence of contamination was observed (i.e. obvious odours or staining). This is supported by the field PID readings for on-site VOC assessment which ranged from 0 – 0.4 ppm.

6.1.1.3 Area 9

Surface soils (to maximum depths of 0.1m bgs) encountered in Area 9 were identified to be fill comprised of fine-grained sandy gravels, typically black in colour, ranging from sub-angular to sub-rounded grain shape. Trace roots and rootlets were observed in all samples from surface vegetation.

No olfactory or visual evidence of contamination was observed (i.e. obvious odours or staining). This is supported by the field PID readings for on-site VOC assessment which ranged from 0 – 0.4 ppm.

6.1.2 Soil Analytical Results

Soil analytical results are presented in **Table T1** and **Table T2, Appendix C** compared with the respective soil assessment criteria discussed in **Section 4.0**. Laboratory certificates of analysis are presented in **Appendix D**.

6.1.2.1 Area 3 and Area 4

The results of the soil sampling in Area 3 and Area 4 returned concentrations of CoPC below the LOR and or the adopted human health and ecological assessment criteria with the exception of PFOS which exceeded the ecological indirect assessment criteria at HA02 (0 – 0.2 m), HA04 (0.1 – 0.2 m), HA05 (0.1 – 0.2 m and 1.0 – 1.1 m) and HA25 (0.1 – 0.2 m and 0.4 – 0.5 m).

Additionally, no asbestos was confirmed to be present in any samples analysed.

6.1.2.2 Area 6

The results of the soil sampling identified all CoPC to be below the LOR and / or the adopted human health or ecological criteria. Additionally, no asbestos was confirmed to be present in any samples analysed.

6.1.2.3 Area 9

The results of the soil sampling identified all CoPC to be below the LOR and / or the adopted human health or ecological criteria. Additionally, no asbestos was confirmed to be present in any samples analysed.

6.2 Surface Water and Sediment

6.2.1 Surface water and Sediment Field Observations

Two co-located surface water and sediment samples were collected from a dam, downstream of Area 3 and Area 4. Detailed field observations are recorded on the field sheets presented in **Appendix E**. Collected surface water field parameters are tabulated in **Table T4, Appendix C**. Sample locations are shown on **Figure F3-2, Appendix A**.

Surface water at both locations was observed to be approximately 0.2 m deep, light brown in colour, clear with no odour and no sheen. Surface water field parameters indicated the following:

- The water was fresh with electrical conductivity ranging from 686 to 701 us/cm;
- Dissolved oxygen was generally low for a surface water environment ranging from 4.09 – 6.04 mg/L. The water body was observed to be still with no flow.
- Waters were slightly acid with pH ranging from 6.77 to 6.85.
- The water was in an oxidative state with redox potential ranging from 308 – 343 mv.

The sediments were observed to comprise of brown, clayey silt with trace roots and gravels. A faint organic odour was observed during the collection of SED02. The presence of biota and organic odour was noted in both sediment samples.

6.2.2 Sediment Analytical Results

Sediment analytical results are presented in **Table T1** and **Table T3, Appendix C** compared against the respective assessment criteria discussed in **Section 4.0**. The results of the sediment sampling identified all CoPC to be below the LOR and / or the adopted human health and ecological criteria.

6.2.3 Surface Water Analytical Results

Surface water analytical results are presented in **Table T4, Appendix B** compared against the respective assessment criteria discussed in **Section 4.0.** The following ecological exceedances were identified:

- Copper in SW02 which exceeded the ANZG (2018) Freshwater 95% Species Protection assessment criteria; and
- Zinc in SW01 and SW02 which exceeded the ANZG (2018) Freshwater 95% Species Protection assessment criteria.

All other CoPC analysed were below the LOR and / or the adopted human health and ecological assessment criteria.

6.3 Groundwater

6.3.1 Groundwater Field Observations

Five groundwater monitoring well locations (MW01, MW02, MW03, BR-245, and BR-225) were sampled during the GME undertaken on 23 November 2022. Groundwater samples were collected using a low-flow peristaltic pump and ex-situ measurement of groundwater geochemical parameter were recorded prior to sample collection.

Measured groundwater geochemical parameters at the time of sampling are presented in **Table T5** in **Appendix C** and are summarised below:

- pH: Ranged between 4.44 and 7.35, indicating acidic to neutral groundwater conditions.
- Dissolved Oxygen (DO): Ranged between 0.38 mg/L and 3.33 mg/L. This indicates anaerobic conditions.
- Redox (Eh): Ranged between 98.3 mV and 260.1 mV indicating reducing conditions, which is consistent with the DO measurements.
- Electrical Conductivity (EC): Ranged between 146 µS/cm and 17,749 µS/cm indicating fresh to brackish groundwater conditions.
- Temperature (˚C): Ranged between 17.9˚C and 19.3˚C.
- No odours or sheens were observed at any monitoring well locations. All water was observed to be clear in colour with very low turbidity.

Groundwater elevations on the Site ranged between 3.014 m BTOC and 5.785 m BTOC.

6.3.2 Groundwater Analytical Results

Analytical results for groundwater samples collected during the DSI are tabulated in **Table T6 and Table T7**, **Appendix C.** Laboratory certificates are provided in **Appendix D.** Groundwater analytical results were compared against the adopted assessment criteria outlined in **Section 4.0**. The following exceedances were identified:

- Cadmium, Copper, Nickel, and Zinc in BR225 within Area 6 exceeded the ANZG (2018) Freshwater 95% Species Protection assessment criteria;
- Nickel at BR245 within Area 4 exceeded the ANZG (2018) Freshwater 95% Species Protection assessment criteria; and
- Copper at MW03 within Area 3 exceeded the ANZG (2018) Freshwater 95% Species Protection assessment criteria.

All other CoPC analysed were below the LOR and / or the adopted human health and ecological assessment criteria.

Low levels of PFAS were reported in groundwater samples collected from MW01, MW02, and MW03 within Area 3, and BR245 within Area 4. Concentrations of PFOS exceeded the adopted ecological criteria at MW03.

6.4 Data Validation

An assessment of field and laboratory quality control and quality assurance (QAQC) data is presented in **Appendix F**. In summary no key issues were identified in the data set which may impact on the decision making of the project.

7.0 Discussion

7.1 Nature and Extent of Contamination

7.1.1 Soil

Soils were typically identified to be alluvial intermixes of varying quantities of clays, sands, silts and gravels. Fill material was identified at six boreholes (HA05, HA06, HA12, HA16, HA21 and HA25) within Area 3 and Area 4, extending to a maximum depth of 1.0 m. Fill material was also identified in all test pits in Area 6, extending to the deeper soil profile, to approximately 6.0 m.

Concentrations of COPC investigated in both natural soils and fill material were reported below the LOR and / or the adopted human health and ecological screening criteria at the sampled locations within Area 6 and Area 9.

Low concentrations of PFOS were identified in shallow surface soils of HA02 and HA04 and within fill materials at HA05 and HA25, within Area 3 and 4, down gradient of the switchyard and former power station footprint. Concentrations of PFOS in soils at these locations exceeded the ecological indirect criteria which is considered to be protective of a secondary consumer. Given the limited exceedances of PFOS above the ecological indirect criteria (limited to four boreholes), it is unlikely that PFOS poses an unacceptable risk to secondary consumers, as secondary consumers are generally considered to resource food from large areas. All other CoPC investigated in both natural soils and fill material were reported below the LOR and / or the adopted human health and ecological screening criteria.

Detectable concentrations of PFAS were identified in boreholes across Area 3 and Area 4, which is considered to be attributed to the former power station and switchyard; however, as these are below the adopted assessment criteria for both human health and ecological receptors, it is considered unlikely an unacceptable risk is present to these receptors from PFAS.

No asbestos was observed during field investigations at any soil location in fill and natural soils. Subsequent soil analytical testing for asbestos absence / presence and asbestos quantification, returned results that asbestos was not present in any sample analysed.

7.1.2 Surface water and sediment

Two co-located surface water and sediment samples were collected from a dam within Area 3 and Area 4, which was identified to receive run off from the former brickworks. All concentrations of CoPC investigated in both surface water and sediment were below the LOR and / or the adopted human health and ecological assessment criteria with the exception of copper in one surface water sample and zinc in both surface water samples, which exceeded the ANZG 2018 Freshwater Guideline Values for 95% species protection. Given these detections were marginally above the adopted assessment criteria it is considered unlikely that an unacceptable risk to ecological receptors is posed by these CoPC.

7.1.3 Groundwater

Five groundwater samples were collected from monitoring wells across Area 3, Area 4, and Area 6. All concentrations of CoPC investigated were below the LOR and / or the adopted human health criteria. Exceedances of Cadmium, Copper, Nickel, and Lead above the ANZG 2018 Freshwater Guideline Values for 95% species protection were noted within each Area. These detections were marginally above the adopted assessment criteria it is considered unlikely that an unacceptable risk to ecological receptors is posed by these CoPC.

Concentrations of PFAS were identified in monitoring wells within Area 3 and Area 4 above the LOR. Whilst such concentrations are not indicative of an unacceptable level of risk to future construction workers, further consideration of ecological risks is required should groundwater be extracted as part of dewatering activities in those areas.

7.2 Updated Conceptual Site Model

AECOM (2020) presented a preliminary CSM for the Site to provide a qualitative description of the source(s) of contamination, the pathway(s) by which contaminants may migrate through the environmental media, and the populations (human or ecological) that may potentially be exposed. The preliminary CSM has been updated based on the findings of the DSI and is presented in **Table 2**.

It is noted that S-P-R linkages for ecological receptors have been listed as not complete based on the discussion presented above on the limited ecological exceedances and that the risks associated with these SPR linkages will be managed as part of the Construction Environmental Management Plan (CEMP).

Table 11 Conceptual Site Model – Soil, Surface Water and Sediment

AEC	CoPC	Release and Transport Mechanisms	Receptors	S P R Linkages (soil, surface water and sediment only)	
Former Power Station (Area 3)	• Metals • TRH • BTEXN • PCBs • PAHs • OCP/OPP • Herbicides • ACM • PFAS • VOC/SVOC	• Soil - Direct application (herbicides, pesticides or firefighting foam) - Accidental spills and leakages to ground - Friable asbestos and asbestos fibres in the soil in areas where former buildings were demolished or within fill materials or from historical use of asbestos for concrete products. Asbestos fibres in soils surrounding building footprints as a result of weathering of asbestos containing building materials • Surface Water - Migration of surface contaminants from the AEC to receiving environment (e.g. creeks and dams within the Site footprint) • Groundwater - Leaching and infiltration of contaminants into groundwater at the AEC, and migration towards the Site footprint	**Human Health** Staff and visitors to the Site area, including construction workers and sub-surface maintenance workers, in a commercial/industrial scenario **Ecological** Surface water, including Muscle Creek, Sandy Creek and unnamed creeks, swales and dams Groundwater, which has variable depth beneath the buffered proposal area[7] Native vegetation and wildlife Agricultural land.	The following potential contamination migration pathways between sources and receptors are: Direct contact (dermal, oral ingestion or inhalation) of contaminated soil/soil dust particularly during maintenance or construction activities Surface water runoff, potentially mobilising any contaminants on the surface or in soil towards sensitive water bodies. Possible leaching and off-site migration of mobile contaminants from soils to groundwater beneath the buffered proposal area which may be encouraged by any disturbance of the surface of the proposal area during maintenance or construction activities Vapour inhalation of volatile contaminants derived from impacted soil or groundwater media	The following S-P-R assessment for each migration pathway between sources and receptors is as follows: **NOT COMPLETE –** concentrations of CoPC were below the LOR and / or adopted human health and ecological assessment criteria. **NOT COMPLETE –** concentrations of CoPC were below the LOR and / or adopted human health and ecological assessment criteria. **NOT COMPLETE –** concentrations of CoPC were below the adopted human health. Concentrations of Cadmium, Copper, Nickel, and Zinc marginally exceeded the ecological assessment criteria within Area 3, Area 4, and Area 6. **NOT COMPLETE –** concentrations of volatile CoPC were below the adopted human health assessment criteria
Former Brickwork (Area 4)	• Metals • TRH • BTEXN • PAH • OCP/ OPP • Herbicides • ACM • PFAS	• Soil - Direct application (herbicides, pesticides or firefighting foam) - Accidental spills and leakages to ground - Friable asbestos and asbestos fibres in the soil in areas where former buildings were demolished or within fill materials or from historical use of asbestos for concrete products. Asbestos fibres in soils surrounding building footprints as a result of weathering of asbestos containing building materials • Surface Water - Migration of contaminants in surface soils at the AEC to the tributary of Sandy Creek (south-west of the AEC), and deposition at the Site (e.g. low-lying areas, dams) • Groundwater - Leaching and infiltration of contaminant into groundwater at the AEC, and migration towards the Site.			

[7] Available data from Water NSW indicates standing water depths of 4.3 metres to 15.0 metres below ground level

AEC	CoPC	Release and Transport Mechanisms	Receptors	S P R Linkages (soil, surface water and sediment only)	
Muswellbrook Waste Management Facility (Area 6)	• Metals • TRH • BTEXN • PCB • PFAS • OCP/ OPP • Herbicides • Nutrients • ACM • VOC/SVOC	• Soil - Direct application (herbicides, pesticides or firefighting foam) - Accidental spills and leakages to ground - Friable asbestos and asbestos fibres within waste materials - CoPCs within waste materials • Surface Water - Transport of contaminants in surface soils via stormwater run-off towards the Site • Groundwater - Leaching and infiltration of contaminants from buried wastes into groundwater at the AEC and migration towards the Site			
Former Railway Line (Area 9)	• Metals • OCP • TRH • BTEXN • Phenols • Herbicides • ACM	• Soil - Direct application (herbicides and pesticides) - Accidental spills and leakages to ground - Potential ACM within uncontrolled fill • Surface Water - Stormwater run-off from the rail corridor to the AEC (surrounding soils, creeks and dams) • Groundwater - Leaching and infiltration of contaminant into groundwater at the AEC and migration to the Site footprint.			

It is noted that S-P-R linkages for ecological receptors have been listed as not complete based on the discussion presented above on the limited ecological exceedances and that the risks associated with these SPR linkages will be managed as part of the Construction Environmental Management Plan (CEMP).

7.3 S-P-R Linkage Summary and Considerations for Construction Works

Based on the result of this DSI no potentially complete S-P-R linkages have been identified for human health receptors as all CoPC were below the LOR and / or adopted human health in soil, sediment, surface water, and groundwater environmental media.

Where exceedances of ecological criteria were identified, it is considered unlikely that an unacceptable risk to ecological receptors is present based on the limited number and magnitude of exceedances observed within the Site area.

Overall, it is considered that no further investigation and no remediation is warranted within the Site area.

It is important to note that the condition of soil, surface water, sediment, and groundwater as reported in this DSI is considered a baseline of environmental conditions prior to commencement of bypass construction works.

Disturbance of soil, and subsequent impacts to surface water, groundwater and sediment are anticipated throughout construction works and will be mitigated via a site-specific CEMP. The CEMP shall:

- Outline appropriate procedures and control strategies to mitigate the liberation and migration of suspended solids and other potential CoPC from the construction footprint to surrounding ecological receptors.
- Additionally, the CEMP will outline appropriate occupational hygiene procedures and PPE to be adopted by construction workers who may be exposed to soil, groundwater, surface water and sediment during construction works.
- Include an Unexpected Finds Protocol (UFP) for handling and management of potential gross contamination impacts, such significant staining, odorous material or ACM, should they be identified during construction works.

8.0 Conclusions and Recommendations

AECOM conducted a DSI to assess the potential contamination present in environmental media (soil, sediment, surface water and groundwater) at locations targeting potential primary source areas of contamination associated with neighbouring land uses identified during the Ph1CA. Data collected throughout the assessment was considered suitably reliable and found:

- Concentrations of CoPC were below the adopted human health assessment criteria for all environmental media.
- Exceedances of PFOS in soil and groundwater, copper and zinc in surface water, and cadmium, copper, nickel and zinc in groundwater were above the adopted ecological assessment criteria in Area 3 and Area 4, probably associated with the former power station and switchyard. All other CoPC were below the adopted ecological assessment criteria.
- No asbestos was observed during field investigations or within analysed laboratory samples.

Based on the data obtained in the DSI, the preliminary CSM was revised and it was considered:

- No complete S-P-R linkages were present, and therefore potential contamination impacts in soil, surface water and sediment are considered to pose a low risk to future site users and ecological receptors were low.
- No further investigation and no remediation is considered to be required.

Construction works would be subject to implementation of a site-specific CEMP to further mitigate potential risks to construction workers and ecological receptors during construction works. As part of the CEMP, management of PFAS impacts in groundwater should be considered if dewatering activities take place in area 3 and 4.

Appendix A

Figures

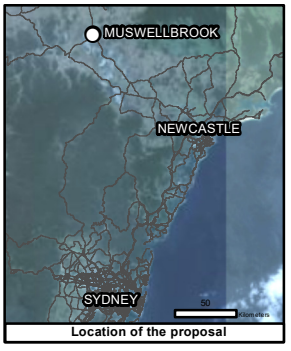
Figure F1 Site Location

Roads and rail

- Roads
- Railway
- Muswellbrook train station

Environment

- Watercourse
- Site Boundary



Imagery credit: Nearmap, 2020 and NSW DFSI, 2018

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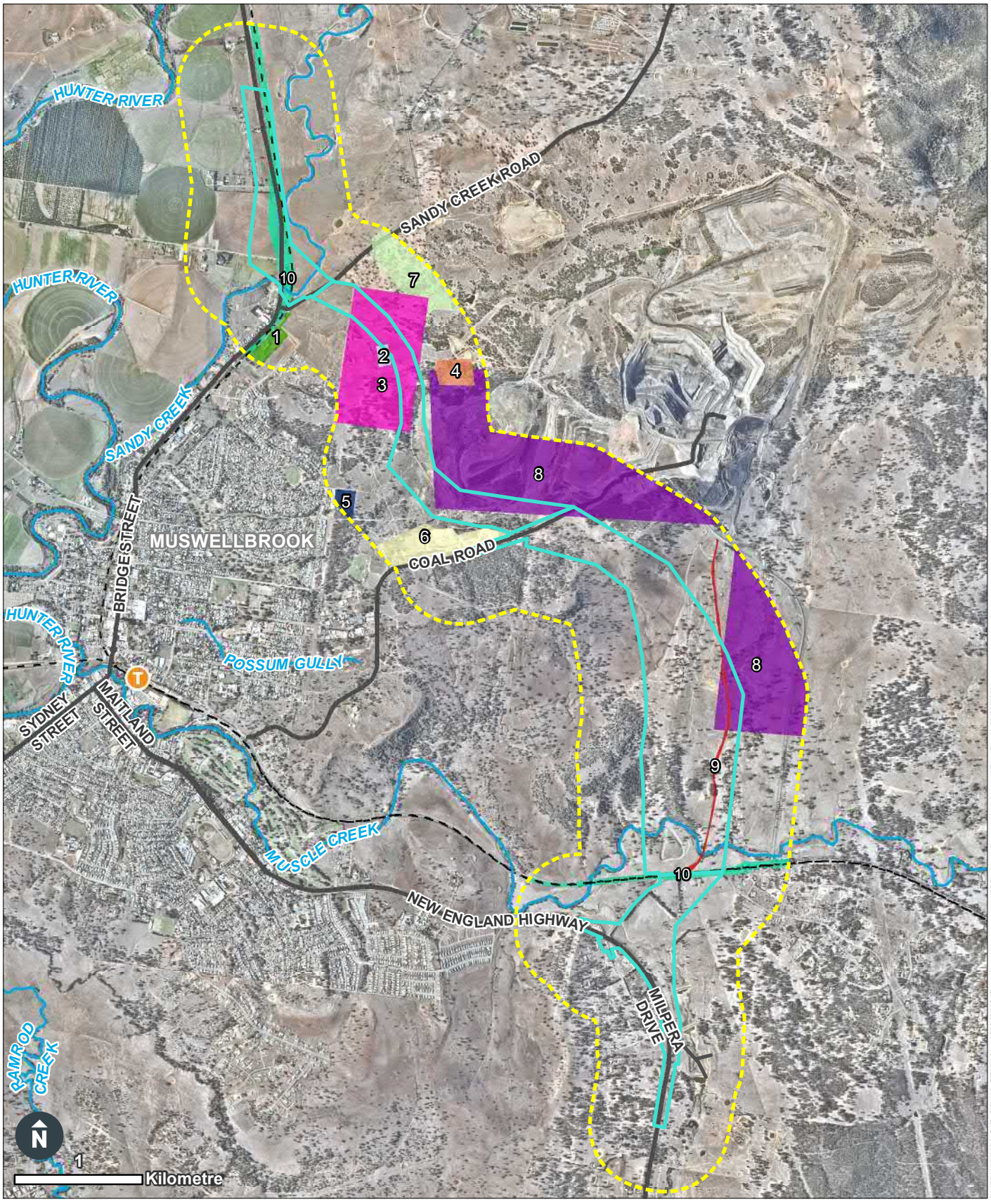

Figure F2 Potential sources of contamination

Site Boundaries

- Site Boundary
- Buffered Proposal Area

- Muswellbrook train station

Potentially contaminating activities

1. Former timber mill
2. Current Muswellbrook substation
3. Former power station
4. Former Muswellbrook brickworks
5. Potential former quarry and waste management facility
6. Muswellbrook Waste Management Facility (POEO licenced)
7. Quarry (POEO licenced)
8. Muswellbrook Coal Company Pty Ltd (POEO licenced)
9. Former railway line
10. Main North railway line

Imagery credit: Nearmap, 2020 and NSW DFSI, 2018

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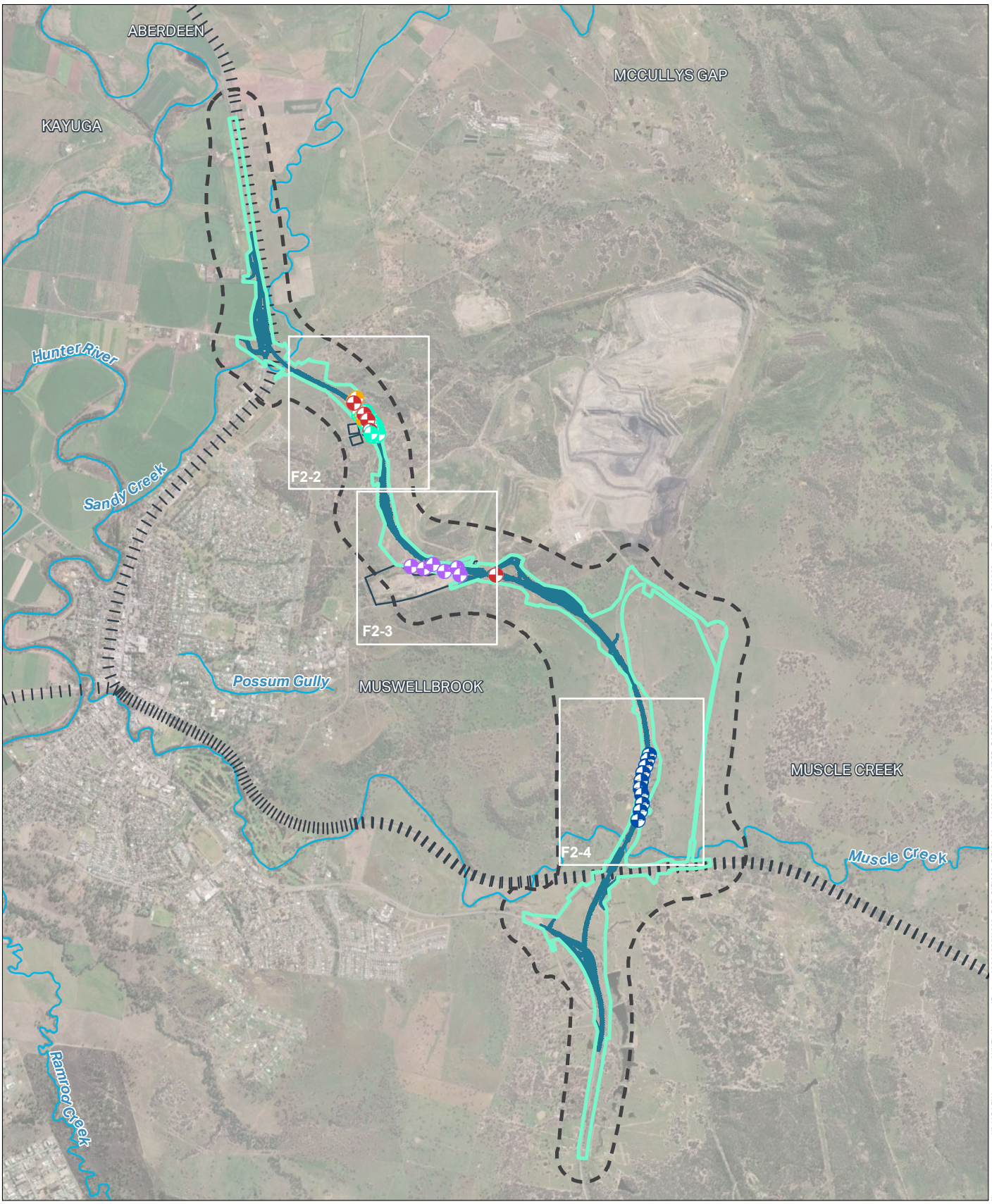

FIGURE F3-0: AREAS AND SAMPLING LOCATIONS

N

0 0.5 1 km

AECOM

Legend

- Buffered Area
- Proposal Area
- Concept Design Alignment
- Railway
- Watercourse
- Borehole (1.5m bgs)
- Borehole (5m bgs)
- Groundwater Well
- Sediment Sample
- Surface scrape (0.15 bgs)

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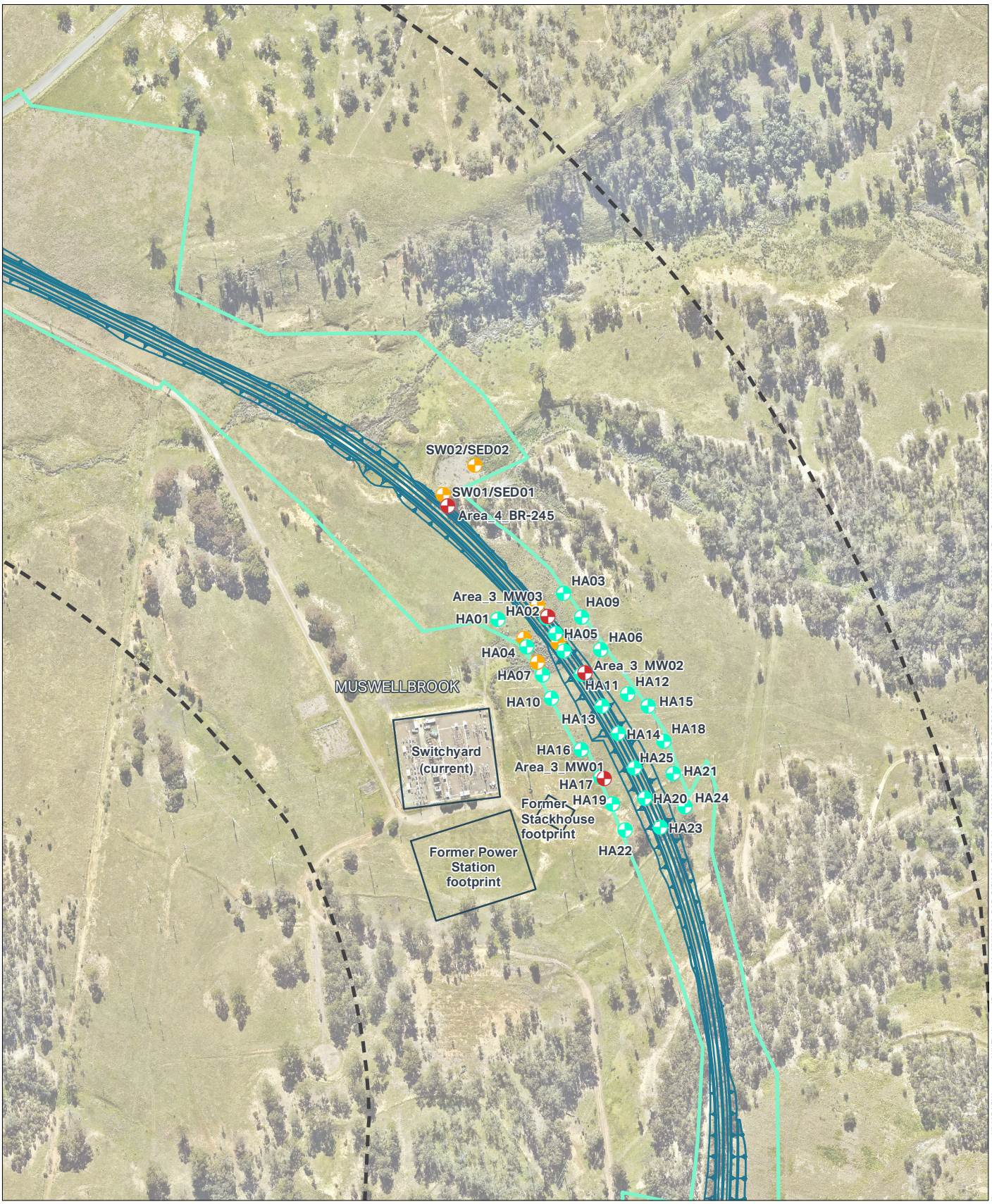

FIGURE F3-1: AREA 3 AND 4 SAMPLING LOCATIONS

N

0 0.05 0.1 km

AECOM

Legend

- Buffered Area
- Proposal Area
- Concept Design Alignment
- Borehole (1.5m bgs)
- Groundwater Well
- Sediment Sample

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FIGURE F3-2: AREA 6 SAMPLING LOCATIONS

N

0 0.05 0.1 km

AECOM

Legend

- Buffered Area
- Proposal Area
- Concept Design Alignment
- Borehole (5m bgs)
- Groundwater Well

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FIGURE F3-3: AREA 9 SAMPLING LOCATIONS

N

0 0.05 0.1 km

AECOM

Legend

- Buffered Area
- Proposal Area
- Concept Design Alignment
- Watercourse
- Surface scrape (0.15 bgs)

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Appendix B

Borelogs

AECOM

SOIL BOREHOLE HA01

Sheet: 1 of 1

Client:	TfNSW	**Project No:**	60619756	**Start Date:**	22/08/2022
Project:	Muswellbrook Bypass Detailed Design	**Logged by:**	PD	**End Date:**	22/08/2022
Location:	Muswellbrook	**Checked by:**			
Driller:		**Easting:**		**Top of Casing:**	
Drill Type:	hand auger	**Northing:**		**Ver. Datum:**	AHD
Drill Model:	Hand Auger	**Total Depth:**	1.50 m	**Hor. Proj/Dat:**	MGA94/GDA94-56M
Surface:	Grass	**Drill Fluid:**	-	**Bore Dia.:**	-
Permit No.:					

Drill Method	Casing	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	MATERIAL DESCRIPTION	Moisture	Consistency/ Relative Density	Sample Interval	PID (ppm)	Sample ID
HA	None		0			sandy CLAY: medium plasticity; mottled orange, medium-soft consistency. Trace fine gravel, sub-rounded, trace rootlets. No visual / olfactory evidence of contamination.	M			0.3	HA01_0.0_0.1_220822
						gravelly sandy CLAY: low plasticity; light brown orange, firm consistency, no inclusion, no visual / olfactory evidence of contamination.	M			0.2	HA01_0.5_0.6_220822
			1			at 0.80 m: Increase in sand content with ironstone gravels, fine to medium, sub-angular to sub-rounded.				0.0	HA01_1.1_1.2_220822
						HA01 terminated at 1.50 m. *Target depth reached*					

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SOIL BOREHOLE HA03

Sheet: 1 of 1

Client:	TfNSW	**Project No:**	60619756	**Start Date:**	22/08/2022
Project:	Muswellbrook Bypass Detailed Design	**Logged by:**	PD	**End Date:**	22/08/2022
Location:	Muswellbrook	**Checked by:**			
Driller:		**Easting:**		**Top of Casing:**	
Drill Type:	hand auger	**Northing:**		**Ver. Datum:**	AHD
Drill Model:	Hand Auger	**Total Depth:**	1.50 m	**Hor. Proj/Dat:**	MGA94/GDA94-56M
Surface:	Grass	**Drill Fluid:**	-	**Bore Dia.:**	-
Permit No.:					

Drill Method	Casing	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	MATERIAL DESCRIPTION	Moisture	Consistency/ Relative Density	Sample Interval	PID (ppm)	Sample ID
HA	None		0			gravelly sandy CLAY: medium plasticity; dark brown; soft consistency, trace fine gravels, sub-rounded. Trace rootlets, no visual or olfactory evidence of contamination.	M			0.1	HA03_0.0_0.1_220822
						sandy CLAY: low plasticity; pale brown; soft consistency, with fine gravels that are sub-rounded and poorly sorted. No visual or olfactory evidence of contamination.	M			0.2	HA03_0.5_0.6_220822
			1			gravelly sandy CLAY: non-plastic; fine to medium grained; sub-rounded to sub-angular; pale brown; loose, trace fine gravels sub-rounded. No inclusions and no visual or olfactory evidence of contamination.	D			0.0 0.1	HA03_1.0_1.1_220822
						clayey SAND: fine to medium grained; sub-rounded to sub-angular; pale brown; trace fine gravels, friable, with small pockets of soft clay. No visual or olfactory evidence of contamination.	D				HA03_1.4_1.5_220822
						HA03 terminated at 1.50 m. *Target depth*					

2018_ANZ_ENV_02. SOIL BORE LOG 60619756_MUSWELLBROOK_CONTAM.GPJ AECOM_5-00.GDT AECOM_5-00AA.GLB 7.10.2022

AECOM

SOIL BOREHOLE HA04

Sheet: 1 of 1

Client:	TfNSW	**Project No:**	60619756	**Start Date:**	22/08/2022
Project:	Muswellbrook Bypass Detailed Design	**Logged by:**	PD	**End Date:**	22/08/2022
Location:	Muswellbrook	**Checked by:**			
Driller:		**Easting:**		**Top of Casing:**	
Drill Type:	hand auger	**Northing:**		**Ver. Datum:**	AHD
Drill Model:	Hand Auger	**Total Depth:**	1.50 m	**Hor. Proj/Dat:**	MGA94/GDA94-56M
Surface:	Grass	**Drill Fluid:**	-	**Bore Dia.:**	-
Permit No.:					

Drill Method	Casing	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	MATERIAL DESCRIPTION	Moisture	Consistency/ Relative Density	Sample Interval	PID (ppm)	Sample ID
HA	None		0			silty SAND: fine grained; sub-rounded to sub-angular; bk; loose, poorly sorted, trace fine gravels, sub-rounded. Trace rootlets, no visual or olfactory evidence of contamination.	M			0.2	
						silty sandy CLAY: medium plasticity; br; firm consistency, trace fine gravels sub-rounded, appears to be reworked natural material. No visual or olfactory evidence of contamination.	M				
						sandy CLAY: medium plasticity; orange-brown; colour mottled, no inclusions and no visual or olfactory evidence of contamination.	M			0.0	
						at 0.90 m: becoming sandier with trace fine gravels, sub-rounded.					
			1							0.0	
										0.2	
						HA04 terminated at 1.50 m. *Target depth reached*					

2018_ANZ_ENV_02. SOIL BORE LOG 60619756_MUSWELLBROOK_CONTAM.GPJ AECOM_5-00.GDT AECOM_5-00AA.GLB 7.10.2022

AECOM

SOIL BOREHOLE HA05

Sheet: 1 of 1

Client:	TfNSW	**Project No:**	60619756	**Start Date:**	24/08/2022
Project:	Muswellbrook Bypass Detailed Design	**Logged by:**	PD	**End Date:**	24/08/2022
Location:	Muswellbrook	**Checked by:**			
Driller:		**Easting:**		**Top of Casing:**	
Drill Type:	hand auger	**Northing:**		**Ver. Datum:**	AHD
Drill Model:	Hand Auger	**Total Depth:**	1.50 m	**Hor. Proj/Dat:**	MGA94/GDA94-56M
Surface:	Grass	**Drill Fluid:**	-	**Bore Dia.:**	-
Permit No.:					

Drill Method	Casing	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	MATERIAL DESCRIPTION	Moisture	Consistency/ Relative Density	Sample Interval	PID (ppm)	Sample ID
HA	None		0			silty SAND: fine grained; sub-rounded; bk; material contains coal fines, rootlets. No other inclusions or visual or olfactory evidence of contamination.	M			0.0	HA05_0.0_0.1_220824 QC203 QC103
										0.0	HA05_0.5_0.6_220824
			1			silty sandy CLAY: medium plasticity; br; very moist at interface with fill, soft to firm consistency. Trace gravels, fine to medium, sub-angular to sub-rounded. No visual or olfactory evidence of contamination.	M			0.0	HA05_1.0_1.1_220824
						at 1.30 m: as above however now orange mottled brown.				0.0	HA05_1.4_1.5_220824
						HA05 terminated at 1.50 m. *Target depth reached*					

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SOIL BOREHOLE HA06

Sheet: 1 of 1

Client:	TfNSW	**Project No:**	60619756	**Start Date:**	23/08/2022
Project:	Muswellbrook Bypass Detailed Design	**Logged by:**	PD	**End Date:**	23/08/2022
Location:	Muswellbrook	**Checked by:**			
Driller:		**Easting:**		**Top of Casing:**	
Drill Type:	hand auger	**Northing:**		**Ver. Datum:**	AHD
Drill Model:	Hand Auger	**Total Depth:**	1.50 m	**Hor. Proj/Dat:**	MGA94/GDA94-56M
Surface:	Grass	**Drill Fluid:**	-	**Bore Dia.:**	-
Permit No.:					

Drill Method	Casing	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	MATERIAL DESCRIPTION	Moisture	Consistency/ Relative Density	Sample Interval	PID (ppm)	Sample ID
HA	None		0			gravelly sandy CLAY: medium plasticity; dark grey; soft-firm consistency, trace rootlets, no visual or olfactory evidence of contamination.	M			0.1	HA06_0.0_0.1_220823
						gravelly sandy CLAY: medium plasticity; pale brown; firm consistency, gravels fine and sub-rounded. Clay appears reworked. No visual or olfactory evidence of contamination.	M				
						sandy CLAY: medium plasticity; pale brown; firm consistency, no inclusions and no visual or olfactory evidence of contamination.	M			0.0	HA06_0.5_0.6_220823
			1			at 0.90 m: now less sandy, darker brown / orange colour				0.0	HA06_1.1_1.2_220823
						sandy CLAY: low plasticity; rd/br; firm consistence, trace fine gravel sub-rounded, no inclusions, no visual or olfactory evidence of contamination.	M				
						HA06 terminated at 1.50 m. *Target depth reached*					

AECOM

SOIL BOREHOLE HA07

Sheet: 1 of 1

Client:	TfNSW	**Project No:**	60619756	**Start Date:**	22/08/2022
Project:	Muswellbrook Bypass Detailed Design	**Logged by:**	PD	**End Date:**	22/08/2022
Location:	Muswellbrook	**Checked by:**			
Driller:		**Easting:**		**Top of Casing:**	
Drill Type:	hand auger	**Northing:**		**Ver. Datum:**	AHD
Drill Model:	Hand Auger	**Total Depth:**	1.50 m	**Hor. Proj/Dat:**	MGA94/GDA94-56M
Drill Fluid:	-	**Bore Dia.:**	-	**Surface:**	Grass
				Permit No.:	

Drill Method	Casing	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	MATERIAL DESCRIPTION	Moisture	Consistency/ Relative Density	Sample Interval	PID (ppm)	Sample ID
HA	None		0			sandy CLAY: low plasticity; pale brown; soft consistency, sands fine to medium, no inclusions, no visual or olfactory evidence of contamination.	M			0.0	HA07_0.05_0.15_220822
						sandy CLAY: medium plasticity; br; some red mottling, firm consistency, trace fine sub-rounded gravels. No visual or olfactory evidence of contamination.	M			0.0	HA07_0.4_0.5_2220822
			1			clayey SAND: fine grained; sub-rounded; br; with some silt, loose, trace fine gravels, no inclusions and no visual or olfactory evidence of contamination.	M			0.0	HA07_1.2_1.3_220822
						HA07 terminated at 1.50 m. *Target depth reached*					

AECOM

SOIL BOREHOLE HA08

Sheet: 1 of 1

Client:	TfNSW	**Project No:**	60619756	**Start Date:**	24/08/2022
Project:	Muswellbrook Bypass Detailed Design	**Logged by:**	PD	**End Date:**	24/08/2022
Location:	Muswellbrook	**Checked by:**			
Driller:		**Easting:**		**Top of Casing:**	
Drill Type:	hand auger	**Northing:**		**Ver. Datum:**	AHD
Drill Model:	Hand Auger	**Total Depth:**	1.30 m	**Hor. Proj/Dat:**	MGA94/GDA94-56M
Surface:	Grass	**Drill Fluid:**	-	**Bore Dia.:**	-
Permit No.:					

Drill Method	Casing	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	MATERIAL DESCRIPTION	Moisture	Consistency/ Relative Density	Sample Interval	PID (ppm)	Sample ID
HA	None		0			clayey SAND: fine to medium grained; sub-rounded to sub-angular; grey; soft pockets of low plasticity cay. Trace rootlets, no inclusions, no visual or olfactory evidence of contamination.	W			0.0	HA08_0.1_0.2_220824
						silty sandy CLAY: low to medium plasticity; br; with some silt, soft-firm consistency, trace fine gravels, sub-rounded, no visual or olfactory evidence of contamination.	M				
						at 0.50 m: as above by now with orange mottling				0.0	HA08_0.5_0.6_220824
			1			sandy CLAY: medium plasticity; pale brown; red/orange mottling, firm to stiff consistency, no inclusions and no visual and olfactory evidence of contamination.	M				
						at 1.20 m: as above with fine gravels, sub-angular to sub-rounded in cemented layer.				0.0	HA08_1.2_1.3_220824
						HA08 terminated at 1.30 m. *Hand auger refusal*					

2018_ANZ_ENV_02. SOIL BORE LOG 60619756_MUSWELLBROOK_CONTAM.GPJ AECOM_5-00.GDT AECOM_5-00AA.GLB 7.10.2022

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SOIL BOREHOLE HA09

Sheet: 1 of 1

Client:	TfNSW	**Project No:**	60619756	**Start Date:**	23/08/2022
Project:	Muswellbrook Bypass Detailed Design	**Logged by:**	PD	**End Date:**	23/08/2022
Location:	Muswellbrook	**Checked by:**			
Driller:		**Easting:**		**Top of Casing:**	
Drill Type:	hand auger	**Northing:**		**Ver. Datum:**	AHD
Drill Model:	Hand Auger	**Total Depth:**	1.20 m	**Hor. Proj/Dat:**	MGA94/GDA94-56M
Surface:	Grass	**Drill Fluid:**	-	**Bore Dia.:**	-
Permit No.:					

Drill Method	Casing	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	MATERIAL DESCRIPTION	Moisture	Consistency/ Relative Density	Sample Interval	PID (ppm)	Sample ID
HA	None		0			sandy CLAY: low plasticity; br; medium to soft consistency, trace rootlets, no visual or olfactory evidence of contamination.	M			0.2	HA09_0.0_0.1_220823
						sandy CLAY: low plasticity; orange-brown; soft to firm consistency. Trace fine to medium gravels sub-rounded. No visual or olfactory evidence of contamination. No other inclusions.	M				
						at 0.50 m: as above however, increase in sand with less gravels and no rootlets.				0.0	HA09_0.5_0.6_220823
			1			sandy CLAY: low plasticity; pale brown; friable, no visual or olfactory evidence of contamination.	D			0.0	HA09_1.0_1.2_220823
						HA09 terminated at 1.20 m. *Terminated, due to poor recovery*					

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SOIL BOREHOLE HA10

Sheet: 1 of 1

Client:	TfNSW	**Project No:**	60619756	**Start Date:**	24/08/2022
Project:	Muswellbrook Bypass Detailed Design	**Logged by:**	PD	**End Date:**	24/08/2022
Location:	Muswellbrook	**Checked by:**			
Driller:		**Easting:**		**Top of Casing:**	
Drill Type:	hand auger	**Northing:**		**Ver. Datum:**	AHD
Drill Model:	Hand Auger	**Total Depth:**	1.50 m	**Hor. Proj/Dat:**	MGA94/GDA94-56M
Surface:	Grass	**Drill Fluid:**	-	**Bore Dia.:**	-
Permit No.:					

Drill Method	Casing	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	MATERIAL DESCRIPTION	Moisture	Consistency/ Relative Density	Sample Interval	PID (ppm)	Sample ID
HA	None		0			silty sandy CLAY: low plasticity; dark brown; soft consistentcy, trace gravels fine, sub-angular. No visual or olfactory evidence of contamination. High humic / orgaic content.	M			0.1	HA10_0.1_0.2_220824
						sandy CLAY: low to medium plasticity; pale brown; soft to firm consistency, trace fine sub-rounded gravels. Trace rootlets. No visual or olfactory evidence of contamination.	M				
						sandy CLAY: medium plasticity; brown; orange mottling, soft to firm consistency, no inclusions and no visual to olfactory evidence of contamination.	M			0.3	HA10_0.5_0.6_220824
			1			as above with dark orange colouration, more friable and stifer.				0.2	HA10_1.2_1.3_220824
							W				
						HA10 terminated at 1.50 m. *Target depth reached*					

2018_ANZ_ENV_02. SOIL BORE LOG 60619756_MUSWELLBROOK_CONTAM.GPJ AECOM_5-00.GDT AECOM_5-00AA.GLB 7.10.2022

AECOM

SOIL BOREHOLE HA12

Sheet: 1 of 1

Client:	TfNSW	**Project No:**	60619756	**Start Date:**	23/08/2022
Project:	Muswellbrook Bypass Detailed Design	**Logged by:**	PD	**End Date:**	23/08/2022
Location:	Muswellbrook	**Checked by:**			
Driller:		**Easting:**		**Top of Casing:**	
Drill Type:	hand auger	**Northing:**		**Ver. Datum:**	AHD
Drill Model:	Hand Auger	**Total Depth:**	1.50 m	**Hor. Proj/Dat:**	MGA94/GDA94-56M
Surface:	
Drill Fluid:	-	**Bore Dia.:**	-	**Permit No.:**	

Drill Method	Casing	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	MATERIAL DESCRIPTION	Moisture	Consistency/ Relative Density	Sample Interval	PID (ppm)	Sample ID
HA	None		0			sandy GRAVEL: fine to medium grained; sub-rounded; brown-grey; Roadbase, trace rootlets, no inclusions, no visual or olfactory evidence of contamination.	M			0.4	HA12_0.1_0.2_220823 QC101 QC201
						sandy CLAY: low plasticity; or; medium soft consistency, trace fine gravels sub-rounded. No inclusions, no visual or olfactory evidence of contamination. at 0.50 m: less sandy, brown and medium plasticity	M			0.2	HA11_0.6_0.7_220823
			1			gravelly sandy CLAY: medium plasticity; rd; medium to firm consistency with fine gravels, sub-rounded (ironstone), no other inclusions. No visual or olfactory evidence of contamination.	W			0.2	HA11_1.3_1.4_220823
						HA12 terminated at 1.50 m. *Target depth reached*					

2018_ANZ_ENV_02. SOIL BORE LOG 60619756_MUSWELLBROOK_CONTAM.GPJ AECOM_5-00.GDT AECOM_5-00AA.GLB 7.10.2022

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SOIL BOREHOLE HA13

Sheet: 1 of 1

Client:	TfNSW	**Project No:**	60619756	**Start Date:**	22/08/2022
Project:	Muswellbrook Bypass Detailed Design	**Logged by:**	PD	**End Date:**	22/08/2022
Location:	Muswellbrook	**Checked by:**			
Driller:		**Easting:**		**Top of Casing:**	
Drill Type:	hand auger	**Northing:**		**Ver. Datum:**	AHD
Drill Model:	Hand Auger	**Total Depth:**	1.50 m	**Hor. Proj/Dat:**	MGA94/GDA94-56M
Surface:	Grass	**Drill Fluid:**	-	**Bore Dia.:**	-
Permit No.:					

Drill Method	Casing	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	MATERIAL DESCRIPTION	Moisture	Consistency/ Relative Density	Sample Interval	PID (ppm)	Sample ID
HA	None		0			sandy CLAY: low plasticity; pale brown; soft consistency, sands fine to medium, sub-angular to sub-rounded. Trace fine gravels sub-rounded. No inclusions. No visual or olfactory evidence of contamination. Trace rootlets.	M			0.1	
						sandy CLAY: medium plasticity; brown; soft to firm consistency, sands fine to medium, sub-angular to sub-rounded. No inclusions and no visual or olfactory evidence of contamination.	M			0.0	
			1			clayey SAND: fine to medium grained; sub-rounded to sub-angular; brown-grey; trace fine gravels, sub-rounded. No inclusions and no visual or olfactory evidence of contamination.	W			0.2	
						HA13 terminated at 1.50 m. *Target depth*					

AECOM

SOIL BOREHOLE HA14

Sheet: 1 of 1

Client:	TfNSW	**Project No:**	60619756	**Start Date:**	24/08/2022
Project:	Muswellbrook Bypass Detailed Design	**Logged by:**	PD	**End Date:**	24/08/2022
Location:	Muswellbrook	**Checked by:**			
Driller:		**Easting:**		**Top of Casing:**	
Drill Type:	hand auger	**Northing:**		**Ver. Datum:**	AHD
Drill Model:	Hand Auger	**Total Depth:**	1.00 m	**Hor. Proj/Dat:**	MGA94/GDA94-56M
Surface:	Grass	**Drill Fluid:**	-	**Bore Dia.:**	-
Permit No.:					

Drill Method	Casing	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	MATERIAL DESCRIPTION	Moisture	Consistency/ Relative Density	Sample Interval	PID (ppm)	Sample ID
HA	None		0			silty SAND: fine grained; sub-rounded; dark grey; some clay, trace fine gravels, sub-rounded. No inclusions, no visual or olfactory evidence of contamination. Trace rootlets.	M				
						gravelly sandy CLAY: low plasticity; pale brown; soft to firm consistency, fine to medium gravels, sub-angular to sub-rounded. No inclusions. No visual or olfactory evidence of contamination.	M			0.0	HA14_0.1_0.2_220824
						at 0.40 m: decreasing gravel content					
						sandy CLAY: low to medium plasticity; br; firm consistency, becoming friable.	M			0.0	HA14_0.6_0.7_220824
						at 0.80 m: friable and becoming very stiff.					
			1			*HA14 terminated at 1.00 m.* *Hand auger refusal*					

2018_ANZ_ENV_02. SOIL BORE LOG 60619756_MUSWELLBROOK_CONTAM.GPJ AECOM_5-00.GDT AECOM_5-00AA.GLB 7.10.2022

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SOIL BOREHOLE HA15

Sheet: 1 of 1

Client:	TfNSW	**Project No:**	60619756	**Start Date:**	23/08/2022
Project:	Muswellbrook Bypass Detailed Design	**Logged by:**	PD	**End Date:**	23/08/2022
Location:	Muswellbrook	**Checked by:**			
Driller:		**Easting:**		**Top of Casing:**	
Drill Type:	hand auger	**Northing:**		**Ver. Datum:**	AHD
Drill Model:	Hand Auger	**Total Depth:**	1.50 m	**Hor. Proj/Dat:**	MGA94/GDA94-56M
Drill Fluid:	-	**Bore Dia.:**	-	**Surface:**	Grass
				Permit No.:	

Drill Method	Casing	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	MATERIAL DESCRIPTION	Moisture	Consistency/ Relative Density	Sample Interval	PID (ppm)	Sample ID
HA	None		0			silty sandy CLAY: medium plasticity; brown-grey; soft to firm consistency, trace fine gravels sub-rounded. No visual or olfactory evidence of contamination. Trace rootlets.	M			0.1	HA15_0.0_0.1_220823
						sandy CLAY: medium plasticity; orange-brown; soft to firm consistency, sands fine and sub-rounded. No inclusions, no visual or olfactory evidence of contamination.	M			0.2	HA15_0.4_0.5_220823
						at 0.80 m: trace fine gravels sub-angular	W				
			1			at 1.00 m: now orange				0.0	HA15_1.1_1.2_220823
						HA15 terminated at 1.50 m. *Target depth*					

AECOM

SOIL BOREHOLE HA16

Sheet: 1 of 1

Client:	TfNSW	**Project No:**	60619756	**Start Date:**	24/08/2022
Project:	Muswellbrook Bypass Detailed Design	**Logged by:**	PD	**End Date:**	24/08/2022
Location:	Muswellbrook	**Checked by:**			
Driller:		**Easting:**		**Top of Casing:**	
Drill Type:	hand auger	**Northing:**		**Ver. Datum:**	AHD
Drill Model:	Hand Auger	**Total Depth:**	1.50 m	**Hor. Proj/Dat:**	MGA94/GDA94-56M
Surface:	
Drill Fluid:	-	**Bore Dia.:**	-	**Permit No.:**	

Drill Method	Casing	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	MATERIAL DESCRIPTION	Moisture	Consistency/ Relative Density	Sample Interval	PID (ppm)	Sample ID
HA	None		0			sandy GRAVEL: fine to medium grained; sub-rounded to sub-angular; bk; trace concrete cobbles, and scrap metal (bolts). No other visual or olfactory evidence of contamination.	M			0.0	HA16_0.0_0.1_220824
						sandy CLAY: low to medium plasticity; orange-brown; firm consistency, trace fine gravels (ironstone) sub-rounded. No inclusions and no visual or olfactory evidence of contamination.	M			0.0	HA16_0.5_0.6_220824
			1			at 0.90 m: low plasicitiy and firm				0.0	HA16_1.4_1.5_220824
						HA16 terminated at 1.50 m. *Target depth reached*					

2018_ANZ_ENV_02. SOIL BORE LOG 60619756_MUSWELLBROOK_CONTAM.GPJ AECOM_5-00.GDT AECOM_5-00AA.GLB 7.10.2022

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SOIL BOREHOLE HA18

Sheet: 1 of 1

Client:	TfNSW	**Project No:**	60619756	**Start Date:**	23/08/2022
Project:	Muswellbrook Bypass Detailed Design	**Logged by:**	PD	**End Date:**	23/08/2022
Location:	Muswellbrook	**Checked by:**			
Driller:		**Easting:**		**Top of Casing:**	
Drill Type:	hand auger	**Northing:**		**Ver. Datum:**	AHD
Drill Model:	Hand Auger	**Total Depth:**	1.50 m	**Hor. Proj/Dat:**	MGA94/GDA94-56M
Drill Fluid:	-	**Bore Dia.:**	-	**Surface:**	
				Permit No.:	

Drill Method	Casing	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	MATERIAL DESCRIPTION	Moisture	Consistency/ Relative Density	Sample Interval	PID (ppm)	Sample ID
HA	None		0			silty SAND: fine grained; sub-rounded to sub-angular; dark brown; rootlets, high organic content, water logged (swampy area). Trace fine gravel sub-rounded. No visual or olfactory evidence of contamination.	W			0.1	HA18_0.0_0.1_220823
						sandy CLAY: medium plasticity; pale brown; soft consistency, trace fine gravels sub-rounded. No visual or olfactory evidence of contamination. at 0.60 m: as above but with red mottling	W			0.1	HA18_0.4_0.5_220823
			1			sandy CLAY: medium plasticity; pale brown; soft to firm consistency, no inclusions and no visual or olfactory evidence of contamination.	W			0.1	HA18_1.4_1.5_220823
						HA18 terminated at 1.50 m. *Target depth*					

AECOM

SOIL BOREHOLE HA19

Sheet: 1 of 1

Client:	TfNSW	**Project No:**	60619756	**Start Date:**	23/08/2022
Project:	Muswellbrook Bypass Detailed Design	**Logged by:**	PD	**End Date:**	23/08/2022
Location:	Muswellbrook	**Checked by:**			
Driller:		**Easting:**		**Top of Casing:**	
Drill Type:	hand auger	**Northing:**		**Ver. Datum:**	AHD
Drill Model:	Hand Auger	**Total Depth:**	1.40 m	**Hor. Proj/Dat:**	MGA94/GDA94-56M
Surface:	Grass	**Drill Fluid:**	-	**Bore Dia.:**	-
Permit No.:					

Drill Method	Casing	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	MATERIAL DESCRIPTION	Moisture	Consistency/ Relative Density	Sample Interval	PID (ppm)	Sample ID
HA	None		0			silty sandy CLAY: medium plasticity; brown; soft to firm, trace gravels fine, sub-rounded, no visual or olfactory evdience of contamination. Trace rootlets.	M			0.2	HA19_0.0_0.1_220823
						sandy CLAY: medium plasticity; orange-brown; soft to firm with trace fine gravels sub-rounded. No visual or olfactory evidence of contamination.	M			0.1	HA19_0.4_0.5_220823
			1			sandy CLAY: medium plasticity; orange; firm consistency with trace fine to medium gravels, sub-angular to sub-rounded. No visual or olfactory evidence of contamination. at 1.00 m: becoming stiff	M			0.0	HA19_1.2_1.3_220823
						HA19 terminated at 1.40 m. *Hand auger refusal*					

AECOM

SOIL BOREHOLE HA20

Sheet: 1 of 1

Client:	TfNSW	**Project No:**	60619756	**Start Date:**	24/08/2022
Project:	Muswellbrook Bypass Detailed Design	**Logged by:**	PD	**End Date:**	24/08/2022
Location:	Muswellbrook	**Checked by:**			
Driller:		**Easting:**		**Top of Casing:**	
Drill Type:	hand auger	**Northing:**		**Ver. Datum:**	AHD
Drill Model:	Hand Auger	**Total Depth:**	1.50 m	**Hor. Proj/Dat:**	MGA94/GDA94-56M
Surface:	Grass	**Drill Fluid:**	-	**Bore Dia.:**	-
Permit No.:					

Drill Method	Casing	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	MATERIAL DESCRIPTION	Moisture	Consistency/ Relative Density	Sample Interval	PID (ppm)	Sample ID
HA	None		0			silty gravelly SAND: fine grained; sub-rounded; dark brown; Gravels fine and sub-rounded. Trace rootlets, no visual or olfactory evidence of contamination.	M			0.0	HA20_0.0_0.1_220824
						sandy CLAY: low to medium plasticity; gy; mottled brown, soft to firm consistency, no inclusions and no visual or olfactory evidence of contamination.	W				
						sandy CLAY: medium plasticity; pale brown; soft to firm consistency, trace fine gravels sub-rounded (ironstone). No inclusions and no visual or olfactory evidence of contamination.	M			0.0	HA20_0.5_0.6_220824
						at 0.80 m: orange, no gravel and becoming stuff.					
			1							0.0	HA20_1.2_1.3_220824
						HA20 terminated at 1.50 m. *Target depth*					

2018_ANZ_ENV_02. SOIL BORE LOG 60619756_MUSWELLBROOK_CONTAM.GPJ AECOM_5-00.GDT AECOM_5-00AA.GLB 7.10.2022

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SOIL BOREHOLE HA21

Sheet: 1 of 1

Client:	TfNSW	**Project No:**	60619756	**Start Date:**	23/08/2022
Project:	Muswellbrook Bypass Detailed Design	**Logged by:**	PD	**End Date:**	23/08/2022
Location:	Muswellbrook	**Checked by:**			
Driller:		**Easting:**		**Top of Casing:**	
Drill Type:	hand auger	**Northing:**		**Ver. Datum:**	AHD
Drill Model:	Hand Auger	**Total Depth:**	1.50 m	**Hor. Proj/Dat:**	MGA94/GDA94-56M
Surface:	Grass	**Drill Fluid:**	-	**Bore Dia.:**	-
Permit No.:					

Drill Method	Casing	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	MATERIAL DESCRIPTION	Moisture	Consistency/ Relative Density	Sample Interval	PID (ppm)	Sample ID
HA	None		0			silty gravelly SAND: fine to coarse grained; sub-rounded to sub-angular; dark brown; gravels fine to coarse, sub-angular (roadbase) with trace coarser gravels sub-angular. Pockets of soft, low plasicity clay. No visual or olfactory evidence of contamination.	M			0.2	HA21_0.0_0.1_220823
						silty SAND: fine to coarse grained; sub-angular; dark brown; with fine to coarse gravels, sub-angular. Trace rootlets.	M			0.1	HA21_0.5_0.6_220823
			1			silty sandy CLAY: medium plasticity; grey; mottled brown, soft to firm consistency, trace fine gravels sub-angular to sub-rounded.	M			0.0	HA21_1.0_1.1_220823
						silty SAND: fine grained; sub-rounded; grey; trace fine to medium gravels with sub-angular to sub-rounded and pockets of soft clay. No visual or olfactory evidence of contamination. becoming light brown	W			0.0	HA21_1.4_1.5_220823
						HA21 terminated at 1.50 m. *Target depth reached*					

AECOM

SOIL BOREHOLE HA22

Sheet: 1 of 1

Client:	TfNSW	**Project No:**	60619756	**Start Date:**	23/08/2022
Project:	Muswellbrook Bypass Detailed Design	**Logged by:**	PD	**End Date:**	23/08/2022
Location:	Muswellbrook	**Checked by:**			
Driller:		**Easting:**		**Top of Casing:**	
Drill Type:	hand auger	**Northing:**		**Ver. Datum:**	AHD
Drill Model:	Hand Auger	**Total Depth:**	1.50 m	**Hor. Proj/Dat:**	MGA94/GDA94-56M
Drill Fluid:	-	**Bore Dia.:**	-	**Surface:**	Grass
				Permit No.:	

Drill Method	Casing	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	MATERIAL DESCRIPTION	Moisture	Consistency/ Relative Density	Sample Interval	PID (ppm)	Sample ID
HA	None		0			silty gravelly SAND: fine to coarse grained; sub-rounded to sub-angular; brown; with well sorted fine to medium gravel, sub-angular to sub-rounded. Trace organic matter, rootlets. Potential fill material. No visual or olfactory evidence of contamination.	M			0.2	HA22_0.0_0.1_220823
						at 0.30 m: as above but with trace clay					
						gravelly sandy CLAY: medium plasticity; brown; firm consistency, trace gravels, fine, sub-rounded (ironstone). No visual or olfactory evidence of contamination.	M			0.1	HA22_0.5_0.6_220823
						at 0.70 m: as above but less gravel and sand					
						sandy CLAY: medium plasticity; brown; firm consistency, trace fine gravels (ironstone) sub-angular. No inclusions and no visual or olfactory evidence of contamination.	M				
			1			becoming stiff, crumbly and friable.				0.1	HA22_1.2_1.3_220823
						HA22 terminated at 1.50 m. *Target depth*					

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SOIL BOREHOLE HA23

Sheet: 1 of 1

Client:	TfNSW	**Project No:**	60619756	**Start Date:**	23/08/2022
Project:	Muswellbrook Bypass Detailed Design	**Logged by:**	PD	**End Date:**	23/08/2022
Location:	Muswellbrook	**Checked by:**			
Driller:		**Easting:**		**Top of Casing:**	
Drill Type:	hand auger	**Northing:**		**Ver. Datum:**	AHD
Drill Model:	Hand Auger	**Total Depth:**	1.10 m	**Hor. Proj/Dat:**	MGA94/GDA94-56M
Drill Fluid:	-	**Bore Dia.:**	-	**Surface:**	Grass
				Permit No.:	

Drill Method	Casing	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	MATERIAL DESCRIPTION	Moisture	Consistency/ Relative Density	Sample Interval	PID (ppm)	Sample ID
HA	None		0			clayey gravelly SAND: fine grained; sub-rounded; pale brown; gravels fine to medium, sub-angular to sub-rounded. Trace rootlets, no visual or olfactory evidence of contamination.	D			0.1	HA23_0.0_0.1_220823
						sandy CLAY: medium plasticity; orange; firm consistency, trace fine gravels (ironstone) sub-rounded.	M				
						at 0.50 m: becoming drier and more friable				0.0	HA23_0.5_0.6_220823
			1							0.0	HA23_1.0_1.1_220823
						HA23 terminated at 1.10 m. *Hand auger refusal*					

2018_ANZ_ENV_02. SOIL BORE LOG 60619756_MUSWELLBROOK_CONTAM.GPJ AECOM_5-00.GDT AECOM_5-00AA.GLB 7.10.2022

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SOIL BOREHOLE HA24

Sheet: 1 of 1

Client:	TfNSW	**Project No:**	60619756	**Start Date:**	23/08/2022
Project:	Muswellbrook Bypass Detailed Design	**Logged by:**	PD	**End Date:**	23/08/2022
Location:	Muswellbrook	**Checked by:**			
Driller:		**Easting:**		**Top of Casing:**	
Drill Type:	hand auger	**Northing:**		**Ver. Datum:**	AHD
Drill Model:	Hand Auger	**Total Depth:**	1.30 m	**Hor. Proj/Dat:**	MGA94/GDA94-56M
Surface:	Grass	**Drill Fluid:**	-	**Bore Dia.:**	-
Permit No.:					

Drill Method	Casing	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	MATERIAL DESCRIPTION	Moisture	Consistency/ Relative Density	Sample Interval	PID (ppm)	Sample ID
HA	None		0			silty SAND: fine grained; sub-rounded to sub-angular; dark brown; poorly sorted, high organic content. No visual or olfactory evidence of contamination.	M			0.3	HA24_0.0_0.1_220823
						silty sandy CLAY: low to medium plasticity; brown; soft to firm consistency, trace fine gravel, sub-rounded. Trace rootlets, no inclusions, no visual or olfactory evidence of contamination.	M				
										0.1	HA24_0.5_0.6_220823
						sandy CLAY: medium plasticity; pale brown; firm consistency, slighlty friable and crumbly, trace fine gravels sub-rounded (ironstone and siltstone). No inclusions, no visual or olfactory evidence of contamination.	M				
			1			sandy CLAY: medium plasticity; pale brown; friable, trace white siltstone gravels, fine and sub-angular.	D				
										0.2	HA24_1.1_1.2_220823
						HA24 terminated at 1.30 m. *Terminated, due to poor recovery*					

2018_ANZ_ENV_02. SOIL BORE LOG 60619756_MUSWELLBROOK_CONTAM.GPJ AECOM_5-00.GDT AECOM_5-00AA.GLB 7.10.2022

AECOM

SOIL BOREHOLE HA25

Sheet: 1 of 1

Client:	TfNSW	**Project No:**	60619756	**Start Date:**	24/08/2022
Project:	Muswellbrook Bypass Detailed Design	**Logged by:**	PD	**End Date:**	24/08/2022
Location:	Muswellbrook	**Checked by:**			
Driller:		**Easting:**		**Top of Casing:**	
Drill Type:	hand auger	**Northing:**		**Ver. Datum:**	AHD
Drill Model:	Hand Auger	**Total Depth:**	1.50 m	**Hor. Proj/Dat:**	MGA94/GDA94-56M
Drill Fluid:	-	**Bore Dia.:**	-	**Surface:**	Grass
				Permit No.:	

Drill Method	Casing	Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	MATERIAL DESCRIPTION	Moisture	Consistency/ Relative Density	Sample Interval	PID (ppm)	Sample ID
HA	None		0			silty SAND: Potential coal fines	M			0.1	HA25_0.1_0.2_220824
						silty gravelly SAND: fine to medium grained; sub-rounded; gy/br; roadbase gravels. No inclusions, no visual or olfactory evidence of contamination.					
						at 0.40 m: becoming clayey				0.3	HA25_0.4_0.5_220824
			1			silty sandy CLAY: medium plasticity; brown-grey; mottled orange, soft consistency. Trace fine gravels sub-rounded. No inclusions and no visual or olfactory evidence of contamination.	M				
						at 1.10 m: increasing orange colour and becoming stiff				0.1	HA25_1.1_1.2_220824
						HA25 terminated at 1.50 m. *Target depth reached*					

AECOM

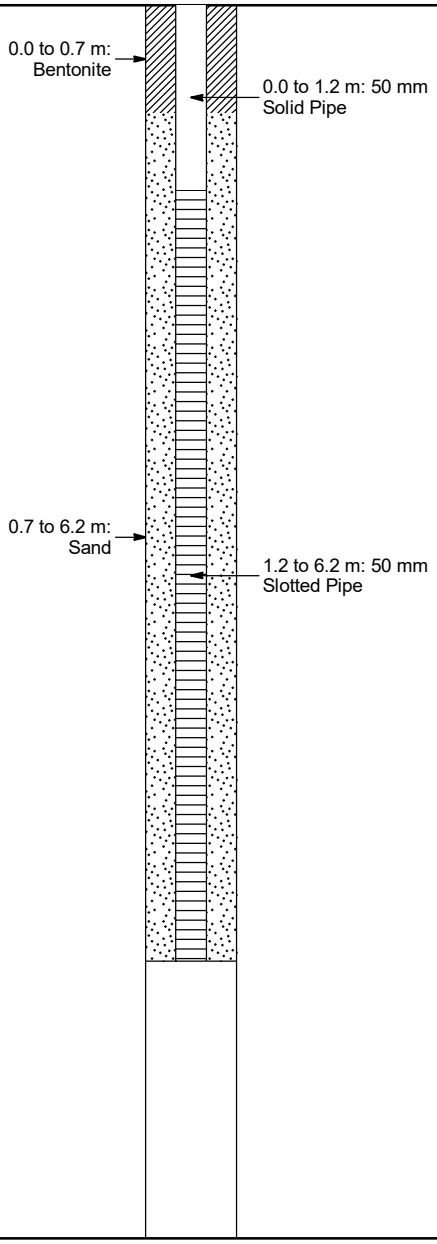
MONITORING WELL HA02/MW03

Sheet: 1 of 1

Client:	TfNSW	**Project No:**	60619756	**Start Date:**	22/08/2022
Project:	Muswellbrook Bypass Detailed Design	**Logged by:**	PD	**End Date:**	25/08/2022
Location:	Muswellbrook	**Checked by:**			
Driller:	Numac	**Easting:**		**Top of Casing:**	
Drill Type:	hand auger, auger drilling	**Northing:**		**Ver. Datum:**	AHD
Drill Model:	Geoprobe	**Total Depth:**	8.00 m	**Hor. Proj/Dat:**	MGA94/GDA94-56M
Drill Fluid:	-	**Bore Dia.:**	-	**Pipe Dia.:**	50 mm
Surface:	Grass	**Permit No.:**			

Drill Method	Sample Interval	PID (ppm)	Sample ID	Graphic Log	Classification	MATERIAL DESCRIPTION	Moisture	Depth (m)
HA		0.1	HA02_0.0_0.2_220822			sandy CLAY: medium plasticity; pale brown; medium soft consistency, trace fine gravels sub-rounded, trace rootlets. No visual or olfactory evidence of contamination.	M	0
		0.1	HA02_0.6_0.7_220822			sandy CLAY: medium plasticity; brown; decrease in sand content, sands fine and sub-rounded. No inclusions and no visual or olfactory evidence of contamination. at 0.50 m: As above, with trace fine to medium gravels, sub-angular to sub-rounded. No other inclusions.	M	
		0.1	HA02_1.0_1.1_220822				M	1
		0.0	HA02_1.4_1.5_220822			clayey SAND: medium to coarse grained; sub-rounded to sub-angular; pale brown; trace fine to medium gravels, sub-angular to sub-rounded. No visual or olfactory evidence of contamiation. No inclusions.	M	
AD		0.0	HA02_2.0_2.2_220822					2
		0.0	HA02_3.0_3.2_220822					3
		0.0	HA02_4.0_4.2_220822					4
		0.0	HA02_5.0_5.2_220822					5
		0.0	HA02_6.0_6.2_220822				W	6
		0.0	HA02_7.0_7.2_220822					7
		0.0	HA02_8.0_8.2_220822			CLAY: medium plasticity; Terminated in clay, firm consistency with no gravel or sand inclusions. *HA02/MW03 terminated at 8.00 m. Target depth reached*		8

WELL CONSTRUCTION DETAILS



2018_ANZ_ENV_01. WELL 60619756_MUSWELLBROOK_CONTAM.GPJ AECOM_5-00.GDT AECOM_5-00AA.GLB 7.10.2022

AECOM

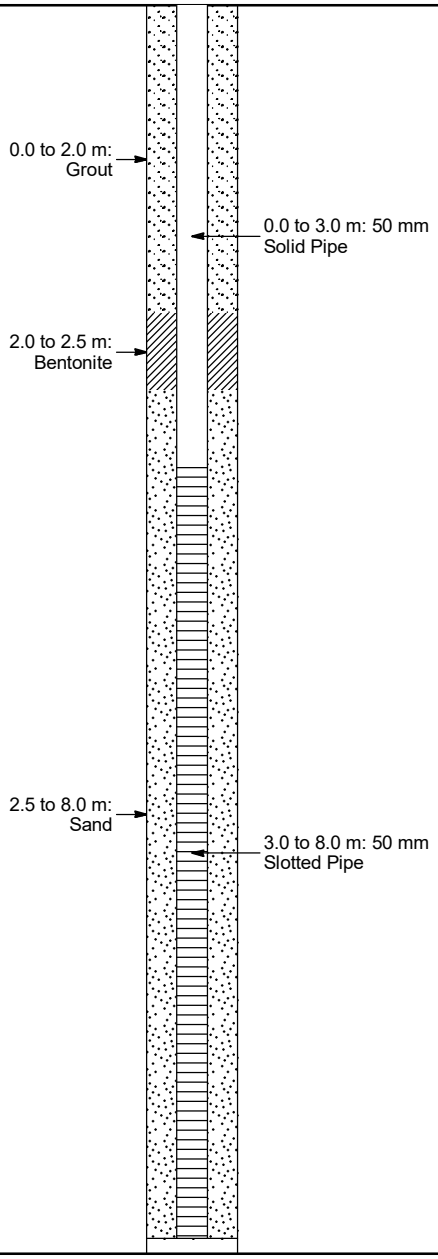
MONITORING WELL HA11/MW02

Sheet: 1 of 1

Client:	TfNSW	**Project No:**	60619756	**Start Date:**	24/08/2022
Project:	Muswellbrook Bypass Detailed Design	**Logged by:**	PD	**End Date:**	25/08/2022
Location:	Muswellbrook	**Checked by:**			
Driller:		**Easting:**		**Top of Casing:**	
Drill Type:	hand auger, auger drilling	**Northing:**		**Ver. Datum:**	AHD
Drill Model:	Geoprobe	**Total Depth:**	8.10 m	**Hor. Proj/Dat:**	MGA94/GDA94-56M
Drill Fluid:	-	**Bore Dia.:**	-	**Pipe Dia.:**	50 mm
Surface:	Grass	**Permit No.:**			

Drill Method	Sample Interval	PID (ppm)	Sample ID	Graphic Log	Classification	MATERIAL DESCRIPTION	Moisture	Depth (m)
HA		0.2	HA11_0.1_0.2_220824			silty sandy CLAY: low to medium plasticity; brown; soft consistency, trace fine gravels, sub-rounded. No visual or olfactory evidence of contamination.	M	0
		0.1	HA11_0.5_0.6_220824			sandy CLAY: low plasticity; orange-brown; firm consistency, no inclusions, no visual or olfactory evidence of contamination.	M	
		0.0	HA11_1.0_1.1_220824			sandy CLAY: low to medium plasticity; rd/br; firm consistency, trace fine gravels sub-rounded (ironstone). No inclusions and no visual or olfactory evidence of contamination.	M	1
AD		0.0	HA11_2.0_2.2_220825			silty sandy CLAY: brown; mottled orange, no inclusions, no visual or olfactory evidence of contamination.		2
		0.1	HA11_3.0_3.2_220825			sandy CLAY: br; mottled white, firm consistency with with patches of stiff clay, no inclusions and no visual or olfactory evidence of contamination.	M	3
		0.1	HA11_4.0_4.2_220825			sandy CLAY: medium plasticity; br; stiff consistency, no inclusions, no visual or olfactory evidence of contamination. Trace fine gravels sub-angular to sub-rounded with ironstone gravels.		4
						at 4.50 m: changed to light brown		
		0.1	HA11_5.0_5.2_220825			at 5.00 m: becoming softer		5
		0.0	HA11_6.0_6.2_220825			at 6.00 m: becoming firm and brown		6
		0.0	HA11_7.0_7.2_220825			at 7.00 m: firm and low plasticity		7
						HA11/MW02 terminated at 8.10 m. Refusal		8

WELL CONSTRUCTION DETAILS



2018_ANZ_ENV_01. WELL 60619756_MUSWELLBROOK_CONTAM.GPJ AECOM_5-00.GDT AECOM_5-00AA.GLB 7.10.2022

AECOM

MONITORING WELL HA17/MW01

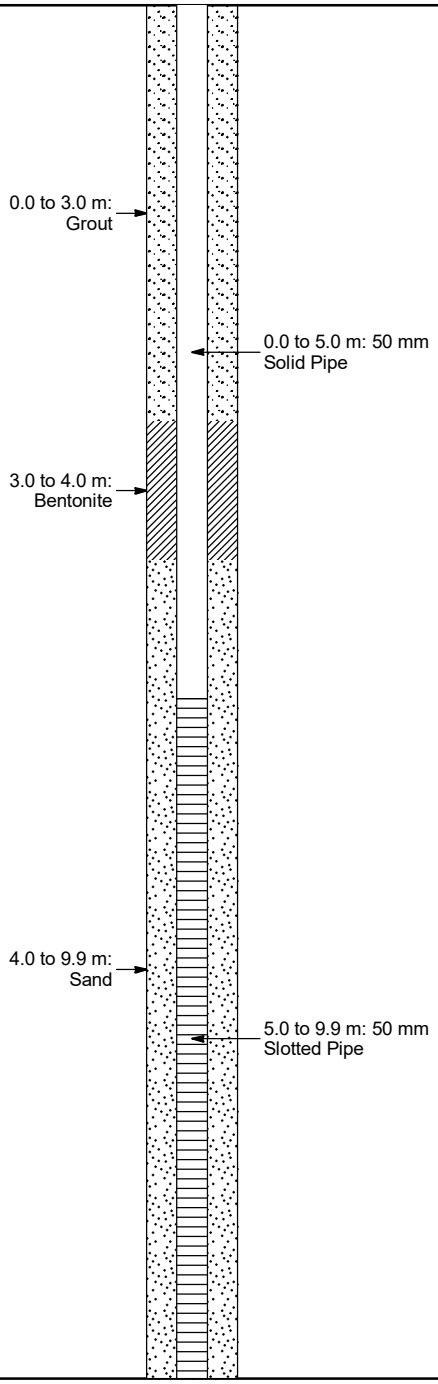
Sheet: 1 of 1

Client:	TfNSW	**Project No:**	60619756	**Start Date:**	24/08/2022
Project:	Muswellbrook Bypass Detailed Design	**Logged by:**	PD	**End Date:**	24/08/2022
Location:	Muswellbrook	**Checked by:**			
Driller:		**Easting:**		**Top of Casing:**	
Drill Type:	hand auger, auger drilling	**Northing:**		**Ver. Datum:**	AHD
Drill Model:	Hand Auger	**Total Depth:**	9.90 m	**Hor. Proj/Dat:**	MGA94/GDA94-56M
Drill Fluid:	-	**Bore Dia.:**	-	**Pipe Dia.:**	50 mm
Surface:	Grass	**Permit No.:**			

Drill Method	Sample Interval	PID (ppm)	Sample ID	Graphic Log	Classification	MATERIAL DESCRIPTION	Moisture	Depth (m)
HA		0.2	HA17_0.1_0.2_220824			silty SAND: fine grained; sub-rounded; grey; with some clay, meidum density, trace fine gravels sub-rounded. No inclusions, no visual or olfactory evidence of contamination.	M	0
		0.1	HA17_0.5_0.6_220824			gravelly sandy CLAY: low to medium plasticity; brown; firm consistency, trace fine gravels, sub-rounded. No inclusions, no visual or olfactory evidence of contamination. at 0.70 m: increasing gravel content		1
		0.2	HA17_1.4_1.5_220824			sandy CLAY: low plasticity; pale brown; stiff, friable, no inclusions, no visual or olfactory evidence of contamination.		
		0.1	HA17_2.0_2.2_220824					2
		0.0	HA17_3.0_3.2_220824					3
AD		0.2	HA17_4.0_4.2_220824			sandy CLAY: low to medium plasticity; brown; firm, no inclusions, no visual or olfactory evidence of contamination.		4
		0.0	HA17_5.0_5.2_220824			at 5.00 m: trace fine to medium gravels, sub-rounded		5
		0.0	HA17_6.0_6.2_220824			at 6.00 m: no gravels		6
		0.1	HA17_7.0_7.2_220824			at 7.00 m: now light brown		7
		0.1	HA17_8.0_8.2_220824			CLAY: low to medium plasticity; pale brown; soft consistency, no inclusions. No visual or olfactory evidence of contamination.		8
		0.0	HA17_9.0_9.2_220824					9
		0.0	HA17_9.8_9.9_220824					

HA17/MW01 terminated at 9.90 m.
Refusal

WELL CONSTRUCTION DETAILS



2018_ANZ_ENV_01. WELL 60619756_MUSWELLBROOK_CONTAM.GPJ AECOM_5-00.GDT AECOM_5-00AA.GLB 7.10.2022

AECOM

TEST PIT

TP-EV-01

Sheet: 1 of 1

Client:	TfNSW	**Project No:**	60619756	**Start Date:**	15/08/2022
Project:	Muswellbrook Bypass Detailed Design	**Logged by:**	PD	**End Date:**	15/08/2022
Location:	Muswellbrook	**Checked by:**			
Contractor:	Vision Excavations	**Pit Length**		**Easting:**	**Surface level:**
		Pit Width:		**Northing:**	**Ver. Datum:** AHD
Equipment:	CAT 324EL (24t, steeltracked)	**Orientation:**		**Hor. Proj/Dat:** MGA94/GDA94-56M	**Surface:** Grass
		Pit Depth:	5.2		

Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION	Moisture	Consistency/ Relative Density	Sample Interval	PID (ppm)	Sample ID
	0			silty CLAY: medium plasticity; dark brown; soft consistency, trace rootlets, trace gravels fine to medium, sub-angular to sub-rounded. No visual or olfactory evidence of contamination	M			0.1	TPEV01_0.0-0.2_220815
				sandy GRAVEL					
								0.2	TPEV01_0.5-0.6_220815
				CLAY: medium plasticity; rd/br; firm, no inclusions, appears reworked. No visual or olfactory evidence of contamination.					
	1			CLAY: medium plasticity; grey; with red mottling, firm, appears reworked. No visual or olfactory evidence of contamination.				0.0	TPEV01_1.0-1.2_220815
	2							0.0	TPEV01_2.0-2.2_220815
	3			sandy CLAY: medium plasticity; grey; with red mottling. No visual or olfactory evidence of contamination.				0.0	TPEV01_3.0-3.2_220815
				sandy CLAY: medium plasticity; grey; mottled brown, with concrete cobbles and boulders, trace stone cobbles. No visual and olfactory evidence of contamination.					
	4							0.0	TPEV01_4.0-4.2_220815
	5							0.0	TPEV01_5.0-5.2_220815
				TP-EV-01 terminated at 5.20 m. *Target depth reached*					
	6								

2018_ANZ_ENV_03. TEST PIT LOG 60619756_MUSWELLBROOK_CONTAM.GPJ AECOM_5-00.GDT AECOM_5-00AA.GLB 10.10.2022

AECOM

TEST PIT

TP-EV-02

Sheet: 1 of 1

Client:	TfNSW	**Project No:**	60619756	**Start Date:**	15/08/2022
Project:	Muswellbrook Bypass Detailed Design	**Logged by:**	PD	**End Date:**	15/08/2022
Location:	Muswellbrook	**Checked by:**			
Contractor:	Vision Excavations	**Pit Length**		**Easting:**	**Surface level:**
		Pit Width:		**Northing:**	**Ver. Datum:** AHD
Equipment:	CAT 324EL (24t, steeltracked)	**Orientation:**		**Hor. Proj/Dat:** MGA94/GDA94-56M	**Surface:** Grass
		Pit Depth:	5		

Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION	Moisture	Consistency/ Relative Density	Sample Interval	PID (ppm)	Sample ID
	0			TOPSOIL: silty SAND: fine to medium grained; dark brown; clay patches soft. trace rootlets, no visual or olfactory evidence of contamination.	M			0.0	TPEV02_0.0_0.2_220815
				clayey GRAVEL: fine to medium grained; sub-rounded; grey; with soft clay patches. Trace shale, concrete cobbles, bricks, glass. No visual or olfactory evidence of contamination.				0.1	TPEV02_0.5_0.6_220815
	1			ASPHALT: fine to medium grained; angular to sub-angular; bk; no oduor				0.1	TPEV02_1.0_1.2_220815
				sandy CLAY: medium plasticity; fine grained; orange-brown; with red mottling, medium firm consistency, with trace gravel inclusions, fine and sub-rounded. Trace fine to medium sands, white, sub-angular to sub-rounded. No visual or olfactory evidence of contamination.					
	2							0.1	TPEV02_2.0_2.2_220815
	3			at 3.00 m: As above with no inclusions, no visual or olfactory evidence of contamination.				0.0	TPEV02_3.0_3.2_220815
				at 3.70 m: As above with trace sandstone and siltstone cobbles, coarse (potentially weathered bedrock).					
	4							0.1	TPEV02_4.0_4.2_220815
								0.0	TPEV02_4.8_5.0_220815
	5			*TP-EV-02 terminated at 5.00 m.* *Target depth*					
	6								

2018_ANZ_ENV_03. TEST PIT LOG 60619756_MUSWELLBROOK_CONTAM.GPJ AECOM_5-00.GDT AECOM_5-00AA.GLB 10.10.2022

AECOM

TEST PIT

TP-EV-03

Sheet: 1 of 1

Client:	TfNSW	**Project No:**	60619756	**Start Date:**	15/08/2022
Project:	Muswellbrook Bypass Detailed Design	**Logged by:**	PD	**End Date:**	15/08/2022
Location:	Muswellbrook	**Checked by:**			
Contractor:	Vision Excavations	**Pit Length**		**Easting:**	**Surface level:**
		Pit Width:		**Northing:**	**Ver. Datum:** AHD
Equipment:	CAT 324EL (24t, steeltracked)	**Orientation:**		**Hor. Proj/Dat:** MGA94/GDA94-56M	**Surface:** Grass
		Pit Depth:	5.8		

Groundwater Data and Comments	Depth (m)	Graphic Log	Classification	LITHOLOGICAL DESCRIPTION	Moisture	Consistency/ Relative Density	Sample Interval	PID (ppm)	Sample ID
	0			silty CLAY: fine to medium grained; dark brown; trace rootlets, trace gravels, no visual or olfactory evidence of contamination.	M			0.2	TPEV03_0.0_0.2_220815
				sandy GRAVEL: fine to medium grained; sub-rounded to sub-angular; pale brown at 0.40 m: layer of black gravelly material <0.05m within roadbase. Potential asphalt.				0.1	TPEV03_0.5_0.7_220815
	1			silty sandy CLAY: medium grained; rd/br; firm consistency, trace gravel inclusions, no visual or olfactory evidence of contamination. at 1.00 m: As above, with no gravel inclusions and virbrant red colour.				0.0	TPEV03_1.0_1.2_220815
	2			at 2.00 m: Trace stone (siltstone, shale) fragments, gravel to cobble size.				0.1	TPEV03_2.0_2.2_220815
	3			at 3.20 m: increasing stone content.				0.2	TPEV03_3.0_3.2_220815
	4			GRAVEL: coarse grained; dark grey; trace boulders of siltstone and shale. Trace sandy clay pockets. No inclusions and no visual or olfactory evidence of contamination.				0.1	TPEV03_4.0_4.2_220815
	5							0.2	TPEV03_5.0_5.2_220815
	6			*TP-EV-03 terminated at 5.80 m.* *Target depth reached*					

Appendix C

Analytical Tables

Client Name: Transport for New South Wales (TfNSW)
Project Name: Muswellbrook Bypass - Detailed Site Investigation
Project No: 60619756

T1 - Soil Analytical Results - Human Health Criteria

AECOM

		Landfill Gas	Nutrients in Soil	Metals																					
		Sum of WA DWER PFAS (n=10)*	Description	NOx as N (1:5 soil:water)	Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Zinc	Perfluorooctanoic acid (PFOA)	Perfluorooctane sulfonic acid (PFOS)	Perfluorohexane sulfonic acid (PFHxS)	Sum (PFHxS + PFOS)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	Perfluorobutane sulfonic acid (PFBS)	Perfluorobutanoic acid (PFBA)	Perfluorodecane sulfonic acid (PFDS)	Perfluorodecanoic acid (PFDA)
		ug/kg	-	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
		0.2		0.1	5	1	2	5	5	0.1	2	5	0.0002	0.0002	0.0002	0.0002	0.0005	0.0005	0.0005	0.0005	0.0002	0.001	0.0002	0.0002
2011 Table B4 Com/Ind D Soil HSL Direct Contact																									
2011 Table B4 Soil HSL Direct Contact (Int. Main. Worker)																									
Table 1A(1) HILs Comm/Ind D Soil					3000	900		240000	1500	730	6000	400000													
Table 1B(7) Management Limits Comm / Ind, Coarse Soil																									
P 2020 Industrial/ commercial (HIL D)													50			20									
_s Industrial Soil THQ=1.0 (May 2020)																									
2011 Table B3 Soil HSL Int. Main. Worker (Shallow Trench), Sand																									
Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand																									

Field_ID	Location_Code	Sampled_Date_Time	Lab_Report_Number																						
HA01_0.0-0.1_220822	HA01_0.0-0.1_220822	22/08/2022	ES2230767	<0.2	-		<5	<1	19	<5	9	<0.1	10	15	<0.0001	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.001	<0.0002	<0.0002
HA01_1.1-1.2_220822	HA01_1.1-1.2_220822	22/08/2022	ES2230767	<0.2	-		7	<1	22	11	10	<0.1	17	29	<0.0001	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.001	<0.0002	<0.0002
HA02_0.0-0.2_220822	HA02_0.0-0.2_220822	22/08/2022	ES2230767	10.6	-		<5	<1	16	<5	8	<0.1	13	13	<0.0001	0.0103	0.0003	0.0106	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.001	<0.0002	<0.0002
HA02_1.4-1.5_220822	HA02_1.4-1.5_220822	22/08/2022	ES2230767	1.4	-		9	<1	30	8	12	<0.1	16	22	<0.0001	0.0014	<0.0002	0.0014	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.001	<0.0002	<0.0002
HA03_0.5-0.6_220822	HA03_0.5-0.6_220822	22/08/2022	ES2230767	2.3	-		8	<1	25	10	13	<0.1	18	25	<0.0001	<0.0002	0.0021	0.0021	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.001	<0.0002	<0.0002
HA03_1.4-1.5_220822	HA03_1.4-1.5_220822	22/08/2022	ES2230767	0.3	-		6	<1	24	9	10	<0.1	18	25	<0.0001	<0.0002	0.0003	0.0003	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.001	<0.0002	<0.0002
HA04_0.1-0.2_220822	HA04_0.1-0.2_220822	22/08/2022	ES2230767	91.7	1		60	<1	16	132	18	0.5	89	124	0.0005	0.0753	0.0145	0.0898	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.001	<0.0002	0.0004
HA04_1.0-1.1_220822	HA04_1.0-1.1_220822	22/08/2022	ES2230767	3.1	-		8	<1	26	11	12	<0.1	23	26	<0.0001	0.0006	0.0022	0.0028	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.001	<0.0002	<0.0002
HA05_0.1_0.2_220824	HA05_0.1_0.2_220824	24/08/2022	ES2230964	318	1		21	<1	24	148	26	0.6	154	193	0.0031	0.202	0.106	0.308	<0.0005	<0.0005	<0.0005	<0.0005	0.0008	<0.001	<0.0002	0.0008
QC103_220824	HA05_0.1_0.2_220824	24/08/2022	ES2230964	476	1		24	<1	32	359	33	0.5	144	288	0.0056	0.29	0.168	0.458	<0.0005	<0.0005	<0.0005	<0.0005	0.0014	<0.001	<0.0002	0.0014
HA05_1.0_1.1_220824	HA05_1.0_1.1_220824	24/08/2022	ES2230964	25.7	1		15	<1	23	49	12	<0.1	28	34	0.001	0.0123	0.01	0.0223	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.001	<0.0002	<0.0002
HA06_0.0-0.1_220822	HA06_0.0-0.1_220822	23/08/2022	ES2230767	0.6	1		6	<1	29	7	11	<0.1	14	15	<0.0001	0.0006	<0.0002	0.0006	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.001	<0.0002	<0.0002
HA06_1.1-1.2_220822	HA06_1.1-1.2_220822	23/08/2022	ES2230767	<0.2	-		7	<1	35	11	10	<0.1	19	23	<0.0001	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.001	<0.0002	<0.0002
HA07_0.05-0.15_220822		22/08/2022	ES2230767	1.8	-		6	<1	21	<5	10	<0.1	5	9	0.0002	0.0006	0.0007	0.0013	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.001	<0.0002	<0.0002
HA07_0.4-0.5_220822	HA07_0.4-0.5_220822	22/08/2022	ES2230767	2.2	-		8	<1	26	10	13	<0.1	17	27	<0.0001	<0.0002	0.0022	0.0022	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.001	<0.0002	<0.0002
HA08_0.1_0.2_220824	HA08_0.1_0.2_220824	24/08/2022	ES2230964	<0.2	-		<5	<1	17	<5	8	<0.1	4	8	<0.0001	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.001	<0.0002	<0.0002
HA08_1.2_1.3_220824	HA08_1.2_1.3_220824	24/08/2022	ES2230964	<0.2	-		8	<1	36	11	13	<0.1	34	27	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.001	<0.0002	<0.0002
HA09_0.0-0.1_220822	HA09_0.0-0.1_220822	23/08/2022	ES2230767	<0.2	1		5	<1	30	8	9	<0.1	10	14	<0.0001	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.001	<0.0002	<0.0002
HA09_1.0-1.2_220822	HA09_1.0-1.2_220822	23/08/2022	ES2230767	<0.2	-		7	<1	32	12	11	<0.1	29	26	<0.0001	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.001	<0.0002	<0.0002
HA10_0.1_0.2_220824	HA10_0.1_0.2_220824	24/08/2022	ES2230964	<0.2	-		6	<1	14	6	14	<0.1	8	18	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.001	<0.0002	<0.0002
HA10_0.5_0.6_220824	HA10_0.5_0.6_220824	24/08/2022	ES2230964	<0.2	-		8	<1	27	9	13	<0.1	14	31	<0.0001	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.001	<0.0002	<0.0002
HA11_0.0_0.1_220824	HA11_0.0_0.1_220824	24/08/2022	ES2230964	<0.2	1		8	<1	17	<5	17	<0.1	13	11	<0.0001	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.001	<0.0002	<0.0002
HA11_1.0_1.1_220824	HA11_1.0_1.1_220824	24/08/2022	ES2230964	<0.2	-		6	<1	31	10	10	<0.1	23	21	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.001	<0.0002	<0.0002
HA12_0.0-0.1_220822	HA12_0.0-0.1_220822	23/08/2022	ES2230767	<0.2	1		<5	<1	5	15	<5	<0.1	40	12	<0.0001	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.001	<0.0002	<0.0002
QC101_220823	HA12_0.0-0.1_220822	23/08/2022	ES2230767	<0.2	1		<5	<1	2	12	<5	<0.1	6	10	<0.0001	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.001	<0.0002	<0.0002
QC201_220823	HA12_0.0-0.1_220822	23/08/2022	ES2230767	<0.2	1		<5	<1	6	<5	<5	<0.1	8	10	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.001	<0.0002	<0.0002
HA12_0.6-0.7_220822	HA12_0.6-0.7_220822	23/08/2022	ES2230767	<0.2	-		6	<1	30	10	10	<0.1	23	21	<0.0001	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.001	<0.0002	<0.0002
HA13_0.0-0.2_220822	HA13_0.0-0.2_220822	22/08/2022	ES2230767	<0.2	-		6	<1	23	10	11	<0.1	18	26	<0.0001	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.001	<0.0002	<0.0002
HA13_0.5-0.6_220822	HA13_0.5-0.6_220822	22/08/2022	ES2230767	<0.2	-		6	<1	18	7	10	<0.1	9	16	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.001	<0.0002	<0.0002
HA14_0.1_0.2_220824	HA14_0.1_0.2_220824	24/08/2022	ES2230964	<0.2	1		6	<1	20	7	10	<0.1	20	21	<0.0001	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.001	<0.0002	<0.0002
HA14_0.6_0.7_220824	HA14_0.6_0.7_220824	24/08/2022	ES2230964	<0.2	-		6	<1	22	9	11	<0.1	30	28	<0.0001	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.001	<0.0002	<0.0002
QC102_220824	HA14_0.1_0.2_220824	24/08/2022	ES2230964	<0.2	1		6	<1	20	6	10	<0.1	13	16	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.001	<0.0002	<0.0002
HA15_0.0-0.1_220822	HA15_0.0-0.1_220822	23/08/2022	ES2230767	<0.2	1		<5	<1	12	<5	7	<0.1	6	6	<0.0001	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.001	<0.0002	<0.0002
HA15_1.1-1.2_220822	HA15_1.1-1.2_220822	23/08/2022	ES2230767	<0.2	-		6	<1	29	11	11	<0.1	26	22	<0.0001	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.001	<0.0002	<0.0002
HA16_0.0_0.1_220824	HA16_0.0_0.1_220824	24/08/2022	ES2230964	6.2	1		20	<1	124	40	22	0.2	44	120	0.0002	0.0058	0.0002	0.006	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.001	<0.0002	<0.0002
HA16_1.4_1.5_220824	HA16_1.4_1.5_220824	24/08/2022	ES2230964	0.7	-		9	<1	34	13	13	<0.1	24	32	<0.0001	0.0002	0.0005	0.0007	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.001	<0.0002	<0.0002

Client Name: Transport for New South Wales (TfNSW)
Project Name: Muswellbrook Bypass - Detailed Site Investigation
Project No: 60619756

T1 - Soil Analytical Results - Human Health Criteria

AECOM

		Landfill Gas	Nutrients in Soil	Metals																					
		Sum of WA DWER PFAS (n=10)*	Description	NOx as N (1:5 soil:water)	Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Zinc	Perfluorooctanoic acid (PFOA)	Perfluorooctane sulfonic acid (PFOS)	Perfluorohexane sulfonic acid (PFHxS)	Sum (PFHxS + PFOS)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	Perfluorobutane sulfonic acid (PFBS)	Perfluorobutanoic acid (PFBA)	Perfluorodecane sulfonic acid (PFDS)	Perfluorodecanoic acid (PFDA)
		ug/kg	-	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
		0.2		0.1	5	1	2	5	5	0.1	2	5	0.0002	0.0002	0.0002	0.0002	0.0005	0.0005	0.0005	0.0005	0.0002	0.001	0.0002	0.0002
2011 Table B4 Com/Ind D Soil HSL Direct Contact																									
2011 Table B4 Soil HSL Direct Contact (Int. Main. Worker)																									
Table 1A(1) HILs Comm/Ind D Soil					3000	900		240000	1500	730	6000	400000													
Table 1B(7) Management Limits Comm / Ind, Coarse Soil																									
P 2020 Industrial/ commercial (HIL D)													50			20									
_s Industrial Soil THQ=1.0 (May 2020)																									
2011 Table B3 Soil HSL Int. Main. Worker (Shallow Trench), Sand																									
Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand																									

Field_ID	Location_Code	Sampled_Date_Time	Lab_Report_Number																						
HA17_0.5_0.6_220824	HA17_0.5_0.6_220824	24/08/2022	ES2230964	<0.2	-		6	<1	25	8	10	<0.1	16	21	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.001	<0.0002	<0.0002
HA17_4.0_4.2_220824	HA17_4.0_4.2_220824	24/08/2022	ES2230964	<0.2	-		8	<1	17	10	10	<0.1	18	33	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.001	<0.0002	<0.0002
HA18_0.0-0.1_220823	HA18_0.0-0.1_220823	23/08/2022	ES2230767	<0.2	-		<5	<1	19	<5	12	<0.1	13	15	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.001	<0.0002	<0.0002
HA18_1.4-1.5_220823	HA18_1.4-1.5_220823	23/08/2022	ES2230767	<0.2	-		7	<1	28	10	14	<0.1	26	26	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.001	<0.0002	<0.0002
HA19_0.0-0.1_220823	HA19_0.0-0.1_220823	23/08/2022	ES2230767	<0.2	-		7	<1	22	9	10	<0.1	16	23	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.001	<0.0002	<0.0002
HA19_1.1-1.2_220823	HA19_1.1-1.2_220823	23/08/2022	ES2230767	<0.2	-		6	<1	32	7	10	<0.1	15	17	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.001	<0.0002	<0.0002
HA20_0.0_0.1_220824	HA20_0.0_0.1_220824	24/08/2022	ES2230964	<0.2	1		6	<1	18	6	27	<0.1	14	19	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.001	<0.0002	<0.0002
HA20_1.2_1.3_220824	HA20_1.2_1.3_220824	24/08/2022	ES2230964	<0.2	-		8	<1	35	10	11	<0.1	26	27	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.001	<0.0002	<0.0002
HA21_0.0-0.1_220823	HA21_0.0-0.1_220823	23/08/2022	ES2230767	<0.2	1		8	<1	34	10	13	<0.1	29	27	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.001	<0.0002	<0.0002
HA21_1.0-1.1_220823	HA21_1.0-1.1_220823	23/08/2022	ES2230767	<0.2	-		7	<1	21	10	12	<0.1	20	21	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.001	<0.0002	<0.0002
HA22_0.0-0.1_220823	HA22_0.0-0.1_220823	23/08/2022	ES2230767	0.6	1		8	<1	17	7	9	<0.1	12	19	<0.0002	0.0006	<0.0002	0.0006	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.001	<0.0002	<0.0002
HA22_0.5-0.6_220823	HA22_0.5-0.6_220823	23/08/2022	ES2230767	0.3	1		7	<1	23	10	12	<0.1	31	21	<0.0002	<0.0002	0.0003	0.0003	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.001	<0.0002	<0.0002
HA22_1.2-1.3_220823	HA22_1.2-1.3_220823	23/08/2022	ES2230767	-	1		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA23_0.0-0.1_220823	HA23_0.0-0.1_220823	23/08/2022	ES2230767	<0.2	-		10	<1	28	8	12	<0.1	27	23	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.001	<0.0002	<0.0002
HA23_0.5-0.6_220823	HA23_0.5-0.6_220823	23/08/2022	ES2230767	<0.2	-		10	<1	31	10	14	<0.1	23	24	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.001	<0.0002	<0.0002
HA24_0.0-0.1_220823	HA24_0.0-0.1_220823	23/08/2022	ES2230767	<0.2	1		10	<1	29	8	15	<0.1	37	28	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.001	<0.0002	<0.0002
HA24_1.1-1.2_220823	HA24_1.1-1.2_220823	23/08/2022	ES2230767	<0.2	-		14	<1	23	7	12	<0.1	23	40	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.001	<0.0002	<0.0002
HA25_0.1_0.2_220824	HA25_0.1_0.2_220824	24/08/2022	ES2230964	29.7	1		22	<1	16	41	13	0.1	70	28	0.0005	0.0223	0.0063	0.0286	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.001	<0.0002	0.0003
HA25_0.4_0.5_220824	HA25_0.4_0.5_220824	24/08/2022	ES2230964	48	1		8	<1	17	19	10	<0.1	28	31	0.0008	0.0344	0.012	0.0464	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.001	<0.0002	0.0003
SED01_220826	SED01_220826	26/08/2022	ES2230964	-	-		13	<1	30	10	12	<0.1	20	56	-	-	-	-	-	-	-	-	-	-	-	-
SED02_220826	SED02_220826	26/08/2022	ES2230964	-	-		8	<1	21	11	11	<0.1	19	31	-	-	-	-	-	-	-	-	-	-	-	-
TPEV01_0.0_0.21_220815	TPEV01	15/08/2022	ES2229963	<0.2	-	1.4	<5	<1	56	10	14	<0.1	26	29	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.001	<0.0002	<0.0002
TPEV01_4.0_4.2_220815	TPEV01	15/08/2022	ES2229963	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TPEV01_4.0_4.2_220815	TPEV01	15/08/2022	ES2229963	<0.2	1	-	11	<1	10	13	15	<0.1	31	113	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.001	<0.0002	<0.0002
TPEV02_0.5_0.7_220815	TPEV02	15/08/2022	ES2229963	<0.2	1	0.2	22	<1	11	21	47	<0.1	67	68	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.001	<0.0002	<0.0002
TPEV02_1.0_1.2_220815	TPEV02	15/08/2022	ES2229963	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TPEV02_1.0_1.2_220815	TPEV02	15/08/2022	ES2229963	<0.2	1	-	6	<1	52	6	10	0.1	20	26	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.001	<0.0002	<0.0002
TPEV03_0.5_0.7_220815	TPEV03	15/08/2022	ES2229963	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TPEV03_0.5_0.7_220815	TPEV03	15/08/2022	ES2229963	<0.2	1	3	8	<1	11	10	12	<0.1	13	37	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.001	<0.0002	<0.0002
TPEV03_1.0_1.2_220815	TPEV03	15/08/2022	ES2229963	<0.2	-	-	8	<1	46	11	14	<0.1	25	27	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.001	<0.0002	<0.0002
TPEV04_0.5_0.7_220815	TPEV04	15/08/2022	ES2229963	2.7	-	1.3	<5	<1	19	13	12	<0.1	20	28	<0.0002	0.0027	<0.0002	0.0027	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.001	<0.0002	<0.0002
TPEV04_2.0_2.2_220815	TPEV04	15/08/2022	ES2229963	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TPEV04_2.0_2.2_220815	TPEV04	15/08/2022	ES2229963	<0.2	1	0.4	<5	<1	34	9	25	<0.1	23	30	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.001	<0.0002	<0.0002
SS01_0.0-0.1	SS01_0.0-0.1	10/08/2022	ES2228696	-	1		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS01_220826	SS01_220826	26/08/2022	ES2230964	-	-		13	<1	8	66	85	0.2	28	81	-	-	-	-	-	-	-	-	-	-	-	-
QC105_220826	SS01_220826	26/08/2022	ES2230964	-	-		<5	<1	6	29	27	<0.1	20	28	-	-	-	-	-	-	-	-	-	-	-	-

Client Name: Transport for New South Wales (TfNSW)
Project Name: Muswellbrook Bypass - Detailed Site Investigation
Project No: 60619756

T1 - Soil Analytical Results - Human Health Criteria

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		Landfill Gas	Nutrients in Soil	Metals																					
	Sum of WA DWER PFAS (n=10)*	Description	NOx as N (1:5 soil:water)	Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Zinc	Perfluorooctanoic acid (PFOA)	Perfluorooctane sulfonic acid (PFOS)	Perfluorohexane sulfonic acid (PFHxS)	Sum (PFHxS + PFOS)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	Perfluorobutane sulfonic acid (PFBS)	Perfluorobutanoic acid (PFBA)	Perfluorodecane sulfonic acid (PFDS)	Perfluorodecanoic acid (PFDA)
	ug/kg	-	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
	0.2		0.1	5	1	2	5	5	0.1	2	5	0.0002	0.0002	0.0002	0.0002	0.0005	0.0005	0.0005	0.0005	0.0002	0.001	0.0002	0.0002
2011 Table B4 Com/Ind D Soil HSL Direct Contact																							
2011 Table B4 Soil HSL Direct Contact (Int. Main. Worker)																							
Table 1A(1) HILs Comm/Ind D Soil				3000	900		240000	1500	730	6000	400000												
Table 1B(7) Management Limits Comm / Ind, Coarse Soil																							
2020 Industrial/ commercial (HIL D)												50			20								
s Industrial Soil THQ=1.0 (May 2020)																							
2011 Table B3 Soil HSL Int. Main. Worker (Shallow Trench), Sand																							
Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand																							

Field_ID	Location_Code	Sampled_Date_Time	Lab_Report_Number																							
SS02_0.0-0.1	SS02_0.0-0.1	10/08/2022	ES2228696	-	1		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS02_220826	SS02_220826	26/08/2022	ES2230964	-	-		6	<1	12	30	10	<0.1	48	22	-	-	-	-	-	-	-	-	-	-	-	-
SS03_0.0-0.1	SS03_0.0-0.1	10/08/2022	ES2228696	-	1		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS03_220826	SS03_220826	26/08/2022	ES2230964	-	-		5	<1	9	26	14	<0.1	23	36	-	-	-	-	-	-	-	-	-	-	-	-
SS04_0.0-0.1	SS04_0.0-0.1	10/08/2022	ES2228696	-	1		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS04_220826	SS04_220826	26/08/2022	ES2230964	-	-		6	<1	13	30	11	<0.1	49	30	-	-	-	-	-	-	-	-	-	-	-	-
SS05_0.0-0.05	SS05_0.0-0.05	10/08/2022	ES2228696	-	1		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS05_220826	SS05_220826	26/08/2022	ES2230964	-	-		<5	<1	10	20	8	<0.1	28	26	-	-	-	-	-	-	-	-	-	-	-	-
SS06_0.0-0.05	SS06_0.0-0.05	10/08/2022	ES2228696	-	1		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS06_220826	SS06_220826	26/08/2022	ES2230964	-	-		6	<1	10	23	12	<0.1	32	18	-	-	-	-	-	-	-	-	-	-	-	-
SS07_0.0-0.05	SS07_0.0-0.05	10/08/2022	ES2228696	-	1		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS07_220826	SS07_220826	26/08/2022	ES2230964	-	-		17	<1	10	38	16	<0.1	34	18	-	-	-	-	-	-	-	-	-	-	-	-
SS08_0.0-0.05	SS08_0.0-0.05	10/08/2022	ES2228696	-	1		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS08_220826	SS08_220826	26/08/2022	ES2230964	-	-		<5	<1	7	18	10	<0.1	33	9	-	-	-	-	-	-	-	-	-	-	-	-
SS09_0.0-0.05	SS09_0.0-0.05	10/08/2022	ES2228696	-	1		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS09_220826	SS09_220826	26/08/2022	ES2230964	-	-		6	<1	9	32	11	<0.1	33	23	-	-	-	-	-	-	-	-	-	-	-	-
SS10_0.0-0.05	SS10_0.0-0.05	10/08/2022	ES2228696	-	1		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS10_220826	SS10_220826	26/08/2022	ES2230964	-	-		7	<1	8	24	9	<0.1	26	13	-	-	-	-	-	-	-	-	-	-	-	-

Client Name: Transport for New South Wales (TfNSW)
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T1 - Soil Analytical Results - Human Health Criteria

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				Per- and Poly-fluoroalkyl Substances																			Total Petroleum Hydrocarbons					Total Recoverable H			
				Perfluorododecanoic acid (PFDoDA)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluoroheptanoic acid (PFHpA)	Perfluorohexanoic acid (PFHxA)	Perfluorononanoic acid (PFNA)	Perfluorooctane sulfonamide (FOSA)	Perfluoropentane sulfonic acid (PFPeS)	Perfluoropentanoic acid (PFPeA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluoroundecanoic acid (PFUnDA)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	Sum of PFAS	C6-C9 fraction	C10-C14 fraction	C15-C28 fraction	C29-C36 fraction	C10-C36 fraction (sum)	C6-C10 fraction	C6-C10 fraction (minus BTEX)(F1)	>C10-C16 (minus Naphthalene)(F2)	>C10-C16 fraction	
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	
				0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0005	0.0002	0.0002	0.0005	0.0002	0.0005	0.0005	0.0002	0.0005	0.0002	10	50	100	100	50	10	10	50	50	
2011 Table B4 Com/Ind D Soil HSL Direct Contact																												26000	20000		
2011 Table B4 Soil HSL Direct Contact (Int. Main. Worker)																												82000	62000		
Table 1A(1) HILs Comm/Ind D Soil																															
Table 1B(7) Management Limits Comm / Ind, Coarse Soil																										700				1000	
P 2020 Industrial/ commercial (HIL D)																															
s Industrial Soil THQ=1.0 (May 2020)																															
2011 Table B3 Soil HSL Int. Main. Worker (Shallow Trench), Sand																															
																												NL	NL		
																												NL	NL		
																												NL	NL		
Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand																															
																												260	NL		
																												370	NL		
																												630	NL		
																												NL	NL		
Field_ID	**Location_Code**	**Sampled_Date_Time**	**Lab_Report_Number**																												
HA01_0.0-0.1_220822	HA01_0.0-0.1_220822	22/08/2022	ES2230767	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<10	<50	<100	<100	<50	<10	<10	<50	<50	
HA01_1.1-1.2_220822	HA01_1.1-1.2_220822	22/08/2022	ES2230767	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<10	<50	<100	<100	<50	<10	<10	<50	<50	
HA02_0.0-0.2_220822	HA02_0.0-0.2_220822	22/08/2022	ES2230767	<0.0002	<0.0002	<0.0002	<0.0002	0.0021	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0129	<10	<50	<100	<100	<50	<10	<10	<50	<50	
HA02_1.4-1.5_220822	HA02_1.4-1.5_220822	22/08/2022	ES2230767	<0.0002	<0.0002	<0.0002	<0.0002	0.0003	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0017	<10	<50	<100	<100	<50	<10	<10	<50	<50	
HA03_0.5-0.6_220822	HA03_0.5-0.6_220822	22/08/2022	ES2230767	<0.0002	<0.0002	<0.0002	0.0002	0.0006	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0029	<10	<50	<100	<100	<50	<10	<10	<50	<50	
HA03_1.4-1.5_220822	HA03_1.4-1.5_220822	22/08/2022	ES2230767	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0003	<10	<50	<100	<100	<50	<10	<10	<50	<50	
HA04_0.1-0.2_220822	HA04_0.1-0.2_220822	22/08/2022	ES2230767	<0.0002	0.001	0.0004	0.0006	0.0266	<0.0002	0.0003	0.0004	<0.0005	0.0002	0.0136	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.134	<10	<50	<100	<100	<50	<10	<10	<50	<50	
HA04_1.0-1.1_220822	HA04_1.0-1.1_220822	22/08/2022	ES2230767	<0.0002	<0.0002	<0.0002	0.0003	0.0006	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0037	<10	<50	<100	<100	<50	<10	<10	<50	<50	
HA05_0.1_0.2_220824	HA05_0.1_0.2_220824	24/08/2022	ES2230964	0.0004	0.0055	0.0008	0.0042	0.0499	<0.0002	0.0035	0.0008	<0.0005	0.0119	0.041	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.431	<10	<50	<100	<100	<50	<10	<10	<50	<50	
QC103_220824	HA05_0.1_0.2_220824	24/08/2022	ES2230964	0.0013	0.0089	0.0015	0.008	0.0744	<0.0002	0.0059	0.0014	<0.0005	0.0434	0.0825	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.694	<10	<50	<100	<100	<50	<10	<10	<50	<50	
HA05_1.0_1.1_220824	HA05_1.0_1.1_220824	24/08/2022	ES2230964	<0.0002	0.0004	0.0003	0.0017	0.014	<0.0002	0.0003	0.0004	<0.0005	<0.0002	0.0018	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0422	<10	<50	<100	<100	<50	<10	<10	<50	<50	
HA06_0.0-0.1_220822	HA06_0.0-0.1_220822	23/08/2022	ES2230767	<0.0002	<0.0002	<0.0002	<0.0002	0.0005	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0011	<10	<50	<100	<100	<50	<10	<10	<50	<50	
HA06_1.1-1.2_220822	HA06_1.1-1.2_220822	23/08/2022	ES2230767	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<10	<50	<100	<100	<50	<10	<10	<50	<50	
HA07_0.05-0.15_220822		22/08/2022	ES2230767	<0.0002	<0.0002	<0.0002	0.0003	0.0044	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0062	<10	<50	<100	<100	<50	<10	<10	<50	<50	
HA07_0.4-0.5_220822	HA07_0.4-0.5_220822	22/08/2022	ES2230767	<0.0002	<0.0002	<0.0002	<0.0002	0.0006	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0028	<10	<50	<100	<100	<50	<10	<10	<50	<50	
HA08_0.1_0.2_220824	HA08_0.1_0.2_220824	24/08/2022	ES2230964	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<10	<50	<100	<100	<50	<10	<10	<50	<50	
HA08_1.2_1.3_220824	HA08_1.2_1.3_220824	24/08/2022	ES2230964	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<10	<50	<100	<100	<50	<10	<10	<50	<50	
HA09_0.0-0.1_220822	HA09_0.0-0.1_220822	23/08/2022	ES2230767	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<10	<50	<100	<100	<50	<10	<10	<50	<50	
HA09_1.0-1.2_220822	HA09_1.0-1.2_220822	23/08/2022	ES2230767	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<10	<50	<100	<100	<50	<10	<10	<50	<50	
HA10_0.1_0.2_220824	HA10_0.1_0.2_220824	24/08/2022	ES2230964	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<10	<50	<100	<100	<50	<10	<10	<50	<50	
HA10_0.5_0.6_220824	HA10_0.5_0.6_220824	24/08/2022	ES2230964	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<10	<50	<100	<100	<50	<10	<10	<50	<50	
HA11_0.0_0.1_220824	HA11_0.0_0.1_220824	24/08/2022	ES2230964	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<10	<50	<100	<100	<50	<10	<10	<50	<50	
HA11_1.0_1.1_220824	HA11_1.0_1.1_220824	24/08/2022	ES2230964	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<10	<50	<100	<100	<50	<10	<10	<50	<50	
HA12_0.0-0.1_220822	HA12_0.0-0.1_220822	23/08/2022	ES2230767	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<10	<50	<100	<100	<50	<10	<10	<50	<50	
QC101_220823	HA12_0.0-0.1_220822	23/08/2022	ES2230767	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<10	<50	<100	<100	<50	<10	<10	<50	<50	
QC201_220823	HA12_0.0-0.1_220822	23/08/2022	ES2230767	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<10	<50	<100	<100	<50	<10	<10	<50	<50	
HA12_0.6-0.7_220822	HA12_0.6-0.7_220822	23/08/2022	ES2230767	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<10	<50	<100	<100	<50	<10	<10	<50	<50	
HA13_0.0-0.2_220822	HA13_0.0-0.2_220822	22/08/2022	ES2230767	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<10	<50	<100	<100	<50	<10	<10	<50	<50	
HA13_0.5-0.6_220822	HA13_0.5-0.6_220822	22/08/2022	ES2230767	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<10	<50	<100	<100	<50	<10	<10	<50	<50	
HA14_0.1_0.2_220824	HA14_0.1_0.2_220824	24/08/2022	ES2230964	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<10	<50	<100	<100	<50	<10	<10	<50	<50	
HA14_0.6_0.7_220824	HA14_0.6_0.7_220824	24/08/2022	ES2230964	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<10	<50	<100	<100	<50	<10	<10	<50	<50	
QC102_220824	HA14_0.1_0.2_220824	24/08/2022	ES2230964	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<10	<50	<100	<100	<50	<10	<10	<50	<50	
HA15_0.0-0.1_220822	HA15_0.0-0.1_220822	23/08/2022	ES2230767	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<10	<50	<100	<100	<50	<10	<10	<50	<50	
HA15_1.1-1.2_220822	HA15_1.1-1.2_220822	23/08/2022	ES2230767	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<10	<50	<100	<100	<50	<10	<10	<50	<50	
HA16_0.0_0.1_220824	HA16_0.0_0.1_220824	24/08/2022	ES2230964	<0.0002	<0.0002	<0.0002	<0.0002	0.0005	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	0.0003	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.007	<10	<50	<100	<100	<50	<10	<10	<50	<50	
HA16_1.4_1.5_220824	HA16_1.4_1.5_220824	24/08/2022	ES2230964	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0007	<10	<50	<100	<100	<50	<10	<10	<50	<50	

Client Name: Transport for New South Wales (TfNSW)
Project Name: Muswellbrook Bypass - Detailed Site Investigation
Project No: 60619756

T1 - Soil Analytical Results - Human Health Criteria

AECOM

				Per- and Poly-fluoroalkyl Substances																		Total Petroleum Hydrocarbons					Total Recoverable H			
				Perfluorododecanoic acid (PFDoDA)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluoroheptanoic acid (PFHpA)	Perfluorohexanoic acid (PFHxA)	Perfluorononanoic acid (PFNA)	Perfluorooctane sulfonamide (FOSA)	Perfluoropentane sulfonic acid (PFPeS)	Perfluoropentanoic acid (PFPeA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluoroundecanoic acid (PFUnDA)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	Sum of PFAS	C6-C9 fraction	C10-C14 fraction	C15-C28 fraction	C29-C36 fraction	C10-C36 fraction (sum)	C6-C10 fraction	C6-C10 fraction (minus BTEX)(F1)	>C10-C16 (minus Naphthalene)(F2)	>C10-C16 fraction	
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	
				0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0005	0.0002	0.0002	0.0005	0.0002	0.0005	0.0005	0.0002	0.0005	0.0002	10	50	100	100	50	10	10	50	50	
2011 Table B4 Com/Ind D Soil HSL Direct Contact																											26000	20000			
2011 Table B4 Soil HSL Direct Contact (Int. Main. Worker)																											82000	62000			
Table 1A(1) HILs Comm/Ind D Soil																															
Table 1B(7) Management Limits Comm / Ind, Coarse Soil																										700				1000	
P 2020 Industrial/ commercial (HIL D)																															
s Industrial Soil THQ=1.0 (May 2020)																															
2011 Table B3 Soil HSL Int. Main. Worker (Shallow Trench), Sand																															
																											NL	NL			
																											NL	NL			
																											NL	NL			
Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand																															
																											260	NL			
																											370	NL			
																											630	NL			
																											NL	NL			

Field_ID	Location_Code	Sampled_Date_Time	Lab_Report_Number																													
HA17_0.5_0.6_220824	HA17_0.5_0.6_220824	24/08/2022	ES2230964	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<10	<50	<100	<100	<50	<10	<10	<50	<50	
HA17_4.0_4.2_220824	HA17_4.0_4.2_220824	24/08/2022	ES2230964	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<10	<50	<100	<100	<50	<10	<10	<50	<50	
HA18_0.0-0.1_220823	HA18_0.0-0.1_220823	23/08/2022	ES2230767	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<10	<50	<100	<100	<50	<10	<10	<50	<50	
HA18_1.4-1.5_220823	HA18_1.4-1.5_220823	23/08/2022	ES2230767	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<10	<50	<100	<100	<50	<10	<10	<50	<50	
HA19_0.0-0.1_220823	HA19_0.0-0.1_220823	23/08/2022	ES2230767	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<10	<50	<100	<100	<50	<10	<10	<50	<50	
HA19_1.1-1.2_220823	HA19_1.1-1.2_220823	23/08/2022	ES2230767	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<10	<50	<100	<100	<50	<10	<10	<50	<50	
HA20_0.0_0.1_220824	HA20_0.0_0.1_220824	24/08/2022	ES2230964	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<10	<50	<100	<100	<50	<10	<10	<50	<50	
HA20_1.2_1.3_220824	HA20_1.2_1.3_220824	24/08/2022	ES2230964	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<10	<50	<100	<100	<50	<10	<10	<50	<50	
HA21_0.0-0.1_220823	HA21_0.0-0.1_220823	23/08/2022	ES2230767	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<10	<50	<100	<100	<50	<10	<10	<50	<50	
HA21_1.0-1.1_220823	HA21_1.0-1.1_220823	23/08/2022	ES2230767	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<10	<50	<100	<100	<50	<10	<10	<50	<50	
HA22_0.0-0.1_220823	HA22_0.0-0.1_220823	23/08/2022	ES2230767	<0.0002	<0.0002	<0.0002	<0.0002	0.0006	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0012	<10	<50	<100	<100	<50	<10	<10	<50	<50	
HA22_0.5-0.6_220823	HA22_0.5-0.6_220823	23/08/2022	ES2230767	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0003	<10	<50	<100	<100	<50	<10	<10	<50	<50	
HA22_1.2-1.3_220823	HA22_1.2-1.3_220823	23/08/2022	ES2230767	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
HA23_0.0-0.1_220823	HA23_0.0-0.1_220823	23/08/2022	ES2230767	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<10	<50	<100	<100	<50	<10	<10	<50	<50	
HA23_0.5-0.6_220823	HA23_0.5-0.6_220823	23/08/2022	ES2230767	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<10	<50	<100	<100	<50	<10	<10	<50	<50	
HA24_0.0-0.1_220823	HA24_0.0-0.1_220823	23/08/2022	ES2230767	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<10	<50	<100	<100	<50	<10	<10	<50	<50	
HA24_1.1-1.2_220823	HA24_1.1-1.2_220823	23/08/2022	ES2230767	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<10	<50	<100	<100	<50	<10	<10	<50	<50	
HA25_0.1_0.2_220824	HA25_0.1_0.2_220824	24/08/2022	ES2230964	<0.0002	0.0004	<0.0002	0.0004	0.0254	<0.0002	0.0002	0.0002	<0.0005	<0.0002	0.0024	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0584	<10	<50	<100	<100	<50	<10	<10	<50	<50	
HA25_0.4_0.5_220824	HA25_0.4_0.5_220824	24/08/2022	ES2230964	<0.0002	0.0007	<0.0002	0.0005	0.0308	<0.0002	0.0004	0.0003	<0.0005	<0.0002	0.0021	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0823	<10	<50	<100	<100	<50	<10	<10	<50	<50	
SED01_220826	SED01_220826	26/08/2022	ES2230964	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<10	<50	140	<100	140	<10	<10	<50	<50	
SED02_220826	SED02_220826	26/08/2022	ES2230964	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<10	<50	<100	<100	<50	<10	<10	<50	<50	
TPEV01_0.0_0.21_220815	TPEV01	15/08/2022	ES2229963	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<10	<50	<100	<100	<50	<10	<10	<50	<50	
TPEV01_4.0_4.2_220815	TPEV01	15/08/2022	ES2229963	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
TPEV01_4.0_4.2_220815	TPEV01	15/08/2022	ES2229963	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<10	<50	<100	<100	<50	<10	<10	<50	<50	
TPEV02_0.5_0.7_220815	TPEV02	15/08/2022	ES2229963	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<10	<50	<100	<100	<50	<10	<10	<50	<50	
TPEV02_1.0_1.2_220815	TPEV02	15/08/2022	ES2229963	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
TPEV02_1.0_1.2_220815	TPEV02	15/08/2022	ES2229963	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<10	<50	<100	<100	<50	<10	<10	<50	<50	
TPEV03_0.5_0.7_220815	TPEV03	15/08/2022	ES2229963	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
TPEV03_0.5_0.7_220815	TPEV03	15/08/2022	ES2229963	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<10	<50	110	<100	110	<10	<10	<50	<50	
TPEV03_1.0_1.2_220815	TPEV03	15/08/2022	ES2229963	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<10	<50	<100	<100	<50	<10	<10	<50	<50	
TPEV04_0.5_0.7_220815	TPEV04	15/08/2022	ES2229963	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0027	<10	<50	520	220	740	<10	<10	70	70	
TPEV04_2.0_2.2_220815	TPEV04	15/08/2022	ES2229963	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
TPEV04_2.0_2.2_220815	TPEV04	15/08/2022	ES2229963	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<10	<50	320	150	470	<10	<10	<50	<50	
SS01_0.0-0.1	SS01_0.0-0.1	10/08/2022	ES2228696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
SS01_220826	SS01_220826	26/08/2022	ES2230964	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<10	<50	250	140	390	<10	<10	50	50	
QC105_220826	SS01_220826	26/08/2022	ES2230964	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<10	<50	360	150	510	<10	<10	<50	<50	

Client Name: Transport for New South Wales (TfNSW)
Project Name: Muswellbrook Bypass - Detailed Site Investigation
Project No: 60619756

T1 - Soil Analytical Results - Human Health Criteria

AECOM

				Per- and Poly-fluoroalkyl Substances																		Total Petroleum Hydrocarbons					Total Recoverable H			
				Perfluorododecanoic acid (PFDoDA)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluoroheptanoic acid (PFHpA)	Perfluorohexanoic acid (PFHxA)	Perfluorononanoic acid (PFNA)	Perfluorooctane sulfonamide (FOSA)	Perfluoropentane sulfonic acid (PFPeS)	Perfluoropentanoic acid (PFPeA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluoroundecanoic acid (PFUnDA)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	Sum of PFAS	C6-C9 fraction	C10-C14 fraction	C15-C28 fraction	C29-C36 fraction	C10-C36 fraction (sum)	C6-C10 fraction	C6-C10 fraction (minus BTEX)(F1)	>C10-C16 (minus Naphthalene)(F2)	>C10-C16 fraction
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
				0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0005	0.0002	0.0002	0.0005	0.0002	0.0005	0.0005	0.0002	0.0005	0.0002	10	50	100	100	50	10	10	50	50
2011 Table B4 Com/Ind D Soil HSL Direct Contact																											26000	20000		
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																											630	NL		
																											NL	NL		
Field_ID	Location_Code	Sampled_Date_Time	Lab_Report_Number																											
SS02_0.0-0.1	SS02_0.0-0.1	10/08/2022	ES2228696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS02_220826	SS02_220826	26/08/2022	ES2230964	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<10	<50	290	150	440	<10	<10	<50	<50
SS03_0.0-0.1	SS03_0.0-0.1	10/08/2022	ES2228696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS03_220826	SS03_220826	26/08/2022	ES2230964	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<10	<50	340	160	500	<10	<10	80	80
SS04_0.0-0.1	SS04_0.0-0.1	10/08/2022	ES2228696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS04_220826	SS04_220826	26/08/2022	ES2230964	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<10	<50	340	170	510	<10	<10	<50	<50
SS05_0.0-0.05	SS05_0.0-0.05	10/08/2022	ES2228696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS05_220826	SS05_220826	26/08/2022	ES2230964	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<10	<50	300	160	460	<10	<10	50	50
SS06_0.0-0.05	SS06_0.0-0.05	10/08/2022	ES2228696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS06_220826	SS06_220826	26/08/2022	ES2230964	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<10	<50	290	140	430	<10	<10	60	60
SS07_0.0-0.05	SS07_0.0-0.05	10/08/2022	ES2228696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS07_220826	SS07_220826	26/08/2022	ES2230964	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<10	<50	290	140	430	<10	<10	60	60
SS08_0.0-0.05	SS08_0.0-0.05	10/08/2022	ES2228696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS08_220826	SS08_220826	26/08/2022	ES2230964	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<10	<50	520	210	730	<10	<10	100	100
SS09_0.0-0.05	SS09_0.0-0.05	10/08/2022	ES2228696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS09_220826	SS09_220826	26/08/2022	ES2230964	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<10	<50	200	<100	200	<10	<10	<50	<50
SS10_0.0-0.05	SS10_0.0-0.05	10/08/2022	ES2228696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS10_220826	SS10_220826	26/08/2022	ES2230964	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<10	<50	140	<100	140	<10	<10	<50	<50

Client Name: Transport for New South Wales (TfNSW)
Project Name: Muswellbrook Bypass - Detailed Site Investigation
Project No: 60619756

T1 - Soil Analytical Results - Human Health Criteria

AECOM

	/drocarbons			Monocyclic Aromatic Hydrocarbons																							
	>C16-C34 fraction	>C34-C40 fraction	>C10-C40 fraction (sum)	Benzene	Toluene	Ethylbenzene	m&p-Xylene	o-Xylene	Total Xylenes	Styrene	Isopropylbenzene	n-butylbenzene	n-propylbenzene	p-isopropyltoluene	sec-butylbenzene	tert-butylbenzene	1,2,4-trimethylbenzene	1,3,5-trimethylbenzene	Total BTEX	Benzo(a)pyrene TEQ calc (Half)	Benzo(a)pyrene TEQ calc (Zero)	Benzo(a)pyrene TEQ calc(PQL)	Naphthalene	2-Methylnaphthalene	2-Chloronaphthalene	Acenaphthylene	Acenaphthene
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
	100	100	50	0.2	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.2	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
2011 Table B4 Com/Ind D Soil HSL Direct Contact	27000	38000		430	99000	27000			81000																		
2011 Table B4 Soil HSL Direct Contact (Int. Main. Worker)	85000	120000		1100	120000	85000			130000																		
Table 1A(1) HILs Comm/Ind D Soil																				40	40	40					
Table 1B(7) Management Limits Comm / Ind, Coarse Soil	3500	10000																									
P 2020 Industrial/ commercial (HIL D)																											
s Industrial Soil THQ=1.0 (May 2020)										35000	9900	58000	24000		120000	120000	1800	1500					8.6	3000	60000		45000
2011 Table B3 Soil HSL Int. Main. Worker (Shallow Trench), Sand																											
				77	NL	NL			NL																		
				160	NL	NL			NL																		
				NL	NL	NL			NL																		
Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand																											
				3	NL	NL			230														NL				
				3	NL	NL			NL														NL				
				3	NL	NL			NL														NL				
				3	NL	NL			NL														NL				

Field_ID	Location_Code	Sampled_Date_Time	Lab_Report_Number																										
HA01_0.0-0.1_220822	HA01_0.0-0.1_220822	22/08/2022	ES2230767	<100	<100	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	0.6	<0.5	1.2	<0.5	<0.5	<0.5	<0.5	<0.5
HA01_1.1-1.2_220822	HA01_1.1-1.2_220822	22/08/2022	ES2230767	<100	<100	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	0.6	<0.5	1.2	<0.5	<0.5	<0.5	<0.5	<0.5
HA02_0.0-0.2_220822	HA02_0.0-0.2_220822	22/08/2022	ES2230767	<100	<100	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	0.6	<0.5	1.2	<0.5	<0.5	<0.5	<0.5	<0.5
HA02_1.4-1.5_220822	HA02_1.4-1.5_220822	22/08/2022	ES2230767	<100	<100	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	0.6	<0.5	1.2	<0.5	<0.5	<0.5	<0.5	<0.5
HA03_0.5-0.6_220822	HA03_0.5-0.6_220822	22/08/2022	ES2230767	<100	<100	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	0.6	<0.5	1.2	<0.5	<0.5	<0.5	<0.5	<0.5
HA03_1.4-1.5_220822	HA03_1.4-1.5_220822	22/08/2022	ES2230767	<100	<100	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	0.6	<0.5	1.2	<0.5	<0.5	<0.5	<0.5	<0.5
HA04_0.1-0.2_220822	HA04_0.1-0.2_220822	22/08/2022	ES2230767	<100	<100	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	0.6	<0.5	1.2	<0.5	<0.5	<0.5	<0.5	<0.5
HA04_1.0-1.1_220822	HA04_1.0-1.1_220822	22/08/2022	ES2230767	<100	<100	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	0.6	<0.5	1.2	<0.5	<0.5	<0.5	<0.5	<0.5
HA05_0.1_0.2_220824	HA05_0.1_0.2_220824	24/08/2022	ES2230964	<100	<100	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	0.6	<0.5	1.2	<0.5	<0.5	<0.5	<0.5	<0.5
QC103_220824	HA05_0.1_0.2_220824	24/08/2022	ES2230964	<100	<100	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	1	<0.5	1.9	<0.8	<0.6	<0.6	<0.8	<0.8
HA05_1.0_1.1_220824	HA05_1.0_1.1_220824	24/08/2022	ES2230964	<100	<100	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	0.6	<0.5	1.2	<0.5	<0.5	<0.5	<0.5	<0.5
HA06_0.0-0.1_220822	HA06_0.0-0.1_220822	23/08/2022	ES2230767	<100	<100	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	0.6	<0.5	1.2	<0.5	<0.5	<0.5	<0.5	<0.5
HA06_1.1-1.2_220822	HA06_1.1-1.2_220822	23/08/2022	ES2230767	<100	<100	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	0.6	<0.5	1.2	<0.5	<0.5	<0.5	<0.5	<0.5
HA07_0.05-0.15_220822		22/08/2022	ES2230767	<100	<100	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	0.6	<0.5	1.2	<0.5	<0.5	<0.5	<0.5	<0.5
HA07_0.4-0.5_220822	HA07_0.4-0.5_220822	22/08/2022	ES2230767	<100	<100	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	0.6	<0.5	1.2	<0.5	<0.5	<0.5	<0.5	<0.5
HA08_0.1_0.2_220824	HA08_0.1_0.2_220824	24/08/2022	ES2230964	<100	<100	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	0.6	<0.5	1.2	<0.5	<0.5	<0.5	<0.5	<0.5
HA08_1.2_1.3_220824	HA08_1.2_1.3_220824	24/08/2022	ES2230964	<100	<100	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	0.6	<0.5	1.2	<0.5	<0.5	<0.5	<0.5	<0.5
HA09_0.0-0.1_220822	HA09_0.0-0.1_220822	23/08/2022	ES2230767	<100	<100	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	0.6	<0.5	1.2	<0.5	<0.5	<0.5	<0.5	<0.5
HA09_1.0-1.2_220822	HA09_1.0-1.2_220822	23/08/2022	ES2230767	<100	<100	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	0.6	<0.5	1.2	<0.5	<0.5	<0.5	<0.5	<0.5
HA10_0.1_0.2_220824	HA10_0.1_0.2_220824	24/08/2022	ES2230964	<100	<100	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	0.6	<0.5	1.2	<0.5	<0.5	<0.5	<0.5	<0.5
HA10_0.5_0.6_220824	HA10_0.5_0.6_220824	24/08/2022	ES2230964	<100	<100	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	0.6	<0.5	1.2	<0.5	<0.5	<0.5	<0.5	<0.5
HA11_0.0_0.1_220824	HA11_0.0_0.1_220824	24/08/2022	ES2230964	<100	<100	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	0.6	<0.5	1.2	<0.5	<0.5	<0.5	<0.5	<0.5
HA11_1.0_1.1_220824	HA11_1.0_1.1_220824	24/08/2022	ES2230964	<100	<100	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	0.6	<0.5	1.2	<0.5	<0.5	<0.5	<0.5	<0.5
HA12_0.0-0.1_220822	HA12_0.0-0.1_220822	23/08/2022	ES2230767	<100	<100	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	0.6	<0.5	1.2	<0.5	<0.5	<0.5	<0.5	<0.5
QC101_220823	HA12_0.0-0.1_220822	23/08/2022	ES2230767	<100	<100	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	0.6	<0.5	1.2	<0.5	<0.5	<0.5	<0.5	<0.5
QC201_220823	HA12_0.0-0.1_220822	23/08/2022	ES2230767	<100	<100	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	0.6	<0.5	1.2	<0.5	<0.5	<0.5	<0.5	<0.5
HA12_0.6-0.7_220822	HA12_0.6-0.7_220822	23/08/2022	ES2230767	<100	<100	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	0.6	<0.5	1.2	<0.5	<0.5	<0.5	<0.5	<0.5
HA13_0.0-0.2_220822	HA13_0.0-0.2_220822	22/08/2022	ES2230767	<100	<100	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	0.6	<0.5	1.2	<0.5	<0.5	<0.5	<0.5	<0.5
HA13_0.5-0.6_220822	HA13_0.5-0.6_220822	22/08/2022	ES2230767	<100	<100	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	0.6	<0.5	1.2	<0.5	<0.5	<0.5	<0.5	<0.5
HA14_0.1_0.2_220824	HA14_0.1_0.2_220824	24/08/2022	ES2230964	<100	<100	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	0.6	<0.5	1.2	<0.5	<0.5	<0.5	<0.5	<0.5
HA14_0.6_0.7_220824	HA14_0.6_0.7_220824	24/08/2022	ES2230964	<100	<100	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	0.6	<0.5	1.2	<0.5	<0.5	<0.5	<0.5	<0.5
QC102_220824	HA14_0.1_0.2_220824	24/08/2022	ES2230964	<100	<100	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	0.6	<0.5	1.2	<0.5	<0.5	<0.5	<0.5	<0.5
HA15_0.0-0.1_220822	HA15_0.0-0.1_220822	23/08/2022	ES2230767	<100	<100	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	0.6	<0.5	1.2	<0.5	<0.5	<0.5	<0.5	<0.5
HA15_1.1-1.2_220822	HA15_1.1-1.2_220822	23/08/2022	ES2230767	<100	<100	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	0.6	<0.5	1.2	<0.5	<0.5	<0.5	<0.5	<0.5
HA16_0.0_0.1_220824	HA16_0.0_0.1_220824	24/08/2022	ES2230964	<100	<100	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	1	0.7	1.4	<0.5	<0.5	<0.5	<0.5	<0.5
HA16_1.4_1.5_220824	HA16_1.4_1.5_220824	24/08/2022	ES2230964	<100	<100	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	0.6	<0.5	1.2	<0.5	<0.5	<0.5	<0.5	<0.5

Client Name: Transport for New South Wales (TfNSW)
Project Name: Muswellbrook Bypass - Detailed Site Investigation
Project No: 60619756

T1 - Soil Analytical Results - Human Health Criteria

AECOM

	/drocarbons			Monocyclic Aromatic Hydrocarbons																							
	>C16-C34 fraction	>C34-C40 fraction	>C10-C40 fraction (sum)	Benzene	Toluene	Ethylbenzene	m&p-Xylene	o-Xylene	Total Xylenes	Styrene	Isopropylbenzene	n-butylbenzene	n-propylbenzene	p-isopropyltoluene	sec-butylbenzene	tert-butylbenzene	1,2,4-trimethylbenzene	1,3,5-trimethylbenzene	Total BTEX	Benzo(a)pyrene TEQ calc (Half)	Benzo(a)pyrene TEQ calc (Zero)	Benzo(a)pyrene TEQ calc(PQL)	Naphthalene	2-Methylnaphthalene	2-Chloronaphthalene	Acenaphthylene	Acenaphthene
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
	100	100	50	0.2	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.2	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
2011 Table B4 Com/Ind D Soil HSL Direct Contact	27000	38000		430	99000	27000			81000																		
2011 Table B4 Soil HSL Direct Contact (Int. Main. Worker)	85000	120000		1100	120000	85000			130000																		
Table 1A(1) HILs Comm/Ind D Soil																				40	40	40					
Table 1B(7) Management Limits Comm / Ind, Coarse Soil	3500	10000																									
P 2020 Industrial/ commercial (HIL D)																											
s Industrial Soil THQ=1.0 (May 2020)										35000	9900	58000	24000		120000	120000	1800	1500					8.6	3000	60000		45000
2011 Table B3 Soil HSL Int. Main. Worker (Shallow Trench), Sand																											
				77	NL	NL			NL																		
				160	NL	NL			NL																		
				NL	NL	NL			NL																		
Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand																											
				3	NL	NL			230														NL				
				3	NL	NL			NL														NL				
				3	NL	NL			NL														NL				
				3	NL	NL			NL														NL				

Field_ID	Location_Code	Sampled_Date_Time	Lab_Report_Number																									
HA17_0.5_0.6_220824	HA17_0.5_0.6_220824	24/08/2022	ES2230964	<100	<100	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	0.6	<0.5	1.2	<0.5	<0.5	<0.5	<0.5	<0.5
HA17_4.0_4.2_220824	HA17_4.0_4.2_220824	24/08/2022	ES2230964	<100	<100	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	0.6	<0.5	1.2	<0.5	<0.5	<0.5	<0.5	<0.5
HA18_0.0-0.1_220823	HA18_0.0-0.1_220823	23/08/2022	ES2230767	<100	<100	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	0.6	<0.5	1.2	<0.5	<0.5	<0.5	<0.5	<0.5
HA18_1.4-1.5_220823	HA18_1.4-1.5_220823	23/08/2022	ES2230767	<100	<100	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	0.6	<0.5	1.2	<0.5	<0.5	<0.5	<0.5	<0.5
HA19_0.0-0.1_220823	HA19_0.0-0.1_220823	23/08/2022	ES2230767	<100	<100	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	0.6	<0.5	1.2	<0.5	<0.5	<0.5	<0.5	<0.5
HA19_1.1-1.2_220823	HA19_1.1-1.2_220823	23/08/2022	ES2230767	<100	<100	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	0.6	<0.5	1.2	<0.5	<0.5	<0.5	<0.5	<0.5
HA20_0.0_0.1_220824	HA20_0.0_0.1_220824	24/08/2022	ES2230964	<100	<100	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	0.6	<0.5	1.2	<0.5	<0.5	<0.5	<0.5	<0.5
HA20_1.2_1.3_220824	HA20_1.2_1.3_220824	24/08/2022	ES2230964	<100	<100	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	0.6	<0.5	1.2	<0.5	<0.5	<0.5	<0.5	<0.5
HA21_0.0-0.1_220823	HA21_0.0-0.1_220823	23/08/2022	ES2230767	<100	<100	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	0.6	<0.5	1.2	<0.5	<0.5	<0.5	<0.5	<0.5
HA21_1.0-1.1_220823	HA21_1.0-1.1_220823	23/08/2022	ES2230767	<100	<100	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	0.6	<0.5	1.2	<0.5	<0.5	<0.5	<0.5	<0.5
HA22_0.0-0.1_220823	HA22_0.0-0.1_220823	23/08/2022	ES2230767	<100	<100	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	0.6	<0.5	1.2	<0.5	<0.5	<0.5	<0.5	<0.5
HA22_0.5-0.6_220823	HA22_0.5-0.6_220823	23/08/2022	ES2230767	<100	<100	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	0.6	<0.5	1.2	<0.5	<0.5	<0.5	<0.5	<0.5
HA22_1.2-1.3_220823	HA22_1.2-1.3_220823	23/08/2022	ES2230767	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA23_0.0-0.1_220823	HA23_0.0-0.1_220823	23/08/2022	ES2230767	<100	<100	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	0.6	<0.5	1.2	<0.5	<0.5	<0.5	<0.5	<0.5
HA23_0.5-0.6_220823	HA23_0.5-0.6_220823	23/08/2022	ES2230767	<100	<100	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	0.6	<0.5	1.2	<0.5	<0.5	<0.5	<0.5	<0.5
HA24_0.0-0.1_220823	HA24_0.0-0.1_220823	23/08/2022	ES2230767	<100	<100	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	0.6	<0.5	1.2	<0.5	<0.5	<0.5	<0.5	<0.5
HA24_1.1-1.2_220823	HA24_1.1-1.2_220823	23/08/2022	ES2230767	<100	<100	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	0.6	<0.5	1.2	<0.5	<0.5	<0.5	<0.5	<0.5
HA25_0.1_0.2_220824	HA25_0.1_0.2_220824	24/08/2022	ES2230964	<100	<100	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	0.6	<0.5	1.2	<0.5	<0.5	<0.5	<0.5	<0.5
HA25_0.4_0.5_220824	HA25_0.4_0.5_220824	24/08/2022	ES2230964	<100	<100	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	0.6	<0.5	1.2	<0.5	<0.5	<0.5	<0.5	<0.5
SED01_220826	SED01_220826	26/08/2022	ES2230964	190	<100	190	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	0.6	<0.5	1.2	<0.5	<0.5	<0.5	<0.5	<0.5
SED02_220826	SED02_220826	26/08/2022	ES2230964	<100	<100	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	0.6	<0.5	1.2	<0.5	<0.5	<0.5	<0.5	<0.5
TPEV01_0.0_0.21_220815	TPEV01	15/08/2022	ES2229963	<100	<100	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	<0.2	0.6	<0.5	1.2	<0.5	-	-	<0.5	<0.5
TPEV01_4.0_4.2_220815	TPEV01	15/08/2022	ES2229963	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TPEV01_4.0_4.2_220815	TPEV01	15/08/2022	ES2229963	<100	<100	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	<0.2	0.6	<0.5	1.2	<0.5	-	-	<0.5	<0.5
TPEV02_0.5_0.7_220815	TPEV02	15/08/2022	ES2229963	<100	<100	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	<0.2	0.6	<0.5	1.2	<0.5	-	-	<0.5	<0.5
TPEV02_1.0_1.2_220815	TPEV02	15/08/2022	ES2229963	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TPEV02_1.0_1.2_220815	TPEV02	15/08/2022	ES2229963	100	<100	100	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	<0.2	0.6	<0.5	1.2	<0.5	-	-	<0.5	<0.5
TPEV03_0.5_0.7_220815	TPEV03	15/08/2022	ES2229963	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TPEV03_0.5_0.7_220815	TPEV03	15/08/2022	ES2229963	140	<100	140	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	<0.2	0.6	<0.5	1.2	<0.5	-	-	<0.5	<0.5
TPEV03_1.0_1.2_220815	TPEV03	15/08/2022	ES2229963	<100	<100	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	<0.2	0.6	<0.5	1.2	<0.5	-	-	<0.5	<0.5
TPEV04_0.5_0.7_220815	TPEV04	15/08/2022	ES2229963	640	110	820	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	<0.2	9	9	9	<1 - 0.5	-	-	0.6	0.8
TPEV04_2.0_2.2_220815	TPEV04	15/08/2022	ES2229963	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TPEV04_2.0_2.2_220815	TPEV04	15/08/2022	ES2229963	410	<100	410	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	<0.2	5.6	5.4	5.9	<1 - 0.5	-	-	<0.5	<0.5
SS01_0.0-0.1	SS01_0.0-0.1	10/08/2022	ES2228696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS01_220826	SS01_220826	26/08/2022	ES2230964	320	<100	370	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	<0.2	0.6	<0.5	1.2	<0.5	-	-	<0.5	<0.5
QC105_220826	SS01_220826	26/08/2022	ES2230964	450	<100	450	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	<0.2	0.6	<0.5	1.2	<0.5	-	-	<0.5	<0.5

Client Name: Transport for New South Wales (TfNSW)
Project Name: Muswellbrook Bypass - Detailed Site Investigation
Project No: 60619756

T1 - Soil Analytical Results - Human Health Criteria

AECOM

	/drocarbons			Monocyclic Aromatic Hydrocarbons																								
	>C16-C34 fraction	>C34-C40 fraction	>C10-C40 fraction (sum)	Benzene	Toluene	Ethylbenzene	m&p-Xylene	o-Xylene	Total Xylenes	Styrene	Isopropylbenzene	n-butylbenzene	n-propylbenzene	p-isopropyltoluene	sec-butylbenzene	tert-butylbenzene	1,2,4-trimethylbenzene	1,3,5-trimethylbenzene	Total BTEX	Benzo(a)pyrene TEQ calc (Half)	Benzo(a)pyrene TEQ calc (Zero)	Benzo(a)pyrene TEQ calc(PQL)	Naphthalene	2-Methylnaphthalene	2-Chloronaphthalene	Acenaphthylene	Acenaphthene
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
	100	100	50	0.2	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.2	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
2011 Table B4 Com/Ind D Soil HSL Direct Contact	27000	38000		430	99000	27000			81000																		
2011 Table B4 Soil HSL Direct Contact (Int. Main. Worker)	85000	120000		1100	120000	85000			130000																		
Table 1A(1) HILs Comm/Ind D Soil																				40	40	40					
Table 1B(7) Management Limits Comm / Ind, Coarse Soil	3500	10000																									
P 2020 Industrial/ commercial (HIL D)																											
s Industrial Soil THQ=1.0 (May 2020)										35000	9900	58000	24000		120000	120000	1800	1500					8.6	3000	60000		45000
2011 Table B3 Soil HSL Int. Main. Worker (Shallow Trench), Sand																											
				77	NL	NL			NL																		
				160	NL	NL			NL																		
				NL	NL	NL			NL																		
Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand																											
				3	NL	NL			230														NL				
				3	NL	NL			NL														NL				
				3	NL	NL			NL														NL				
				3	NL	NL			NL														NL				

Field_ID	Location_Code	Sampled_Date_Time	Lab_Report_Number																											
SS02_0.0-0.1	SS02_0.0-0.1	10/08/2022	ES2228696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS02_220826	SS02_220826	26/08/2022	ES2230964	380	<100	380	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	<0.2	0.6	<0.5	1.2	<0.5	-	-	<0.5	<0.5
SS03_0.0-0.1	SS03_0.0-0.1	10/08/2022	ES2228696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS03_220826	SS03_220826	26/08/2022	ES2230964	400	110	590	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	<0.2	0.6	<0.5	1.2	<0.5	-	-	<0.5	<0.5
SS04_0.0-0.1	SS04_0.0-0.1	10/08/2022	ES2228696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS04_220826	SS04_220826	26/08/2022	ES2230964	440	<100	440	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	<0.2	0.6	<0.5	1.2	<0.5	-	-	<0.5	<0.5
SS05_0.0-0.05	SS05_0.0-0.05	10/08/2022	ES2228696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS05_220826	SS05_220826	26/08/2022	ES2230964	380	110	540	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	<0.2	0.6	<0.5	1.2	<0.5	-	-	<0.5	<0.5
SS06_0.0-0.05	SS06_0.0-0.05	10/08/2022	ES2228696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS06_220826	SS06_220826	26/08/2022	ES2230964	380	<100	440	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	<0.2	0.6	<0.5	1.2	<0.5	-	-	<0.5	<0.5
SS07_0.0-0.05	SS07_0.0-0.05	10/08/2022	ES2228696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS07_220826	SS07_220826	26/08/2022	ES2230964	350	<100	410	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	<0.2	0.6	<0.5	1.2	<0.5	-	-	<0.5	<0.5
SS08_0.0-0.05	SS08_0.0-0.05	10/08/2022	ES2228696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS08_220826	SS08_220826	26/08/2022	ES2230964	640	110	850	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	<0.2	0.6	<0.5	1.2	<0.5	-	-	<0.5	<0.5
SS09_0.0-0.05	SS09_0.0-0.05	10/08/2022	ES2228696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS09_220826	SS09_220826	26/08/2022	ES2230964	260	<100	260	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	<0.2	0.6	<0.5	1.2	<0.5	-	-	<0.5	<0.5
SS10_0.0-0.05	SS10_0.0-0.05	10/08/2022	ES2228696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS10_220826	SS10_220826	26/08/2022	ES2230964	180	<100	180	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	<0.2	0.6	<0.5	1.2	<0.5	-	-	<0.5	<0.5

Client Name: Transport for New South Wales (TfNSW)
Project Name: Muswellbrook Bypass - Detailed Site Investigation
Project No: 60619756

T1 - Soil Analytical Results - Human Health Criteria

AECOM

					Polynuclear Aromatic Hydrocarbons																		Phenolic Compounds								
					Anthracene	Fluorene	Phenanthrene	Fluoranthene	Benz(a)anthracene	Benzo(k)fluoranthene	Benzo(b&j)fluoranthene	Benzo(b+j) & Benzo(k)fluoranthene	N-2-Fluorenyl Acetamide	7,12-Dimethylbenz(a)anthracene	Benzo(a)pyrene	Chrysene	Pyrene	3-Methylcholanthrene	Benzo(g,h,i)perylene	Dibenz(a,h)anthracene	Indeno(1,2,3-cd)pyrene	Sum of PAHs	Polychlorinated Biphenyls	3/4-Methylphenol (m/p-cresol)	Phenol	2-Chlorophenol	2-Methylphenol (o-Cresol)	2-Nitrophenol	2,4-Dichlorophenol	2,4-Dimethylphenol	2,6-Dichlorophenol
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
					0.5	0.5	0.5	0.5	0.5	0.5	0.5	1	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.1	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
2011 Table B4 Com/Ind D Soil HSL Direct Contact																														
2011 Table B4 Soil HSL Direct Contact (Int. Main. Worker)																														
Table 1A(1) HILs Comm/Ind D Soil																					4000			240000						
Table 1B(7) Management Limits Comm / Ind, Coarse Soil																														
P 2020 Industrial/ commercial (HIL D)																														
s Industrial Soil THQ=1.0 (May 2020)	230000	30000		30000	21	210			0.6	0.0084	2.1	2100	23000	0.1		2.1	21						250000	5800	41000		2500	16000		
2011 Table B3 Soil HSL Int. Main. Worker (Shallow Trench), Sand																														
Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand																														

Field_ID	Location_Code	Sampled_Date_Time	Lab_Report_Number																												
HA01_0.0-0.1_220822	HA01_0.0-0.1_220822	22/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
HA01_1.1-1.2_220822	HA01_1.1-1.2_220822	22/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
HA02_0.0-0.2_220822	HA02_0.0-0.2_220822	22/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
HA02_1.4-1.5_220822	HA02_1.4-1.5_220822	22/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
HA03_0.5-0.6_220822	HA03_0.5-0.6_220822	22/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
HA03_1.4-1.5_220822	HA03_1.4-1.5_220822	22/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
HA04_0.1-0.2_220822	HA04_0.1-0.2_220822	22/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
HA04_1.0-1.1_220822	HA04_1.0-1.1_220822	22/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
HA05_0.1_0.2_220824	HA05_0.1_0.2_220824	24/08/2022	ES2230964	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
QC103_220824	HA05_0.1_0.2_220824	24/08/2022	ES2230964	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	-	<0.6	<0.6	<0.8	<0.8	<0.8	<0.6	<0.8	<0.8	<0.8	<0.5	-	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
HA05_1.0_1.1_220824	HA05_1.0_1.1_220824	24/08/2022	ES2230964	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
HA06_0.0-0.1_220822	HA06_0.0-0.1_220822	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
HA06_1.1-1.2_220822	HA06_1.1-1.2_220822	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
HA07_0.05-0.15_220822		22/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
HA07_0.4-0.5_220822	HA07_0.4-0.5_220822	22/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
HA08_0.1_0.2_220824	HA08_0.1_0.2_220824	24/08/2022	ES2230964	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
HA08_1.2_1.3_220824	HA08_1.2_1.3_220824	24/08/2022	ES2230964	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
HA09_0.0-0.1_220822	HA09_0.0-0.1_220822	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
HA09_1.0-1.2_220822	HA09_1.0-1.2_220822	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
HA10_0.1_0.2_220824	HA10_0.1_0.2_220824	24/08/2022	ES2230964	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
HA10_0.5_0.6_220824	HA10_0.5_0.6_220824	24/08/2022	ES2230964	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
HA11_0.0_0.1_220824	HA11_0.0_0.1_220824	24/08/2022	ES2230964	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
HA11_1.0_1.1_220824	HA11_1.0_1.1_220824	24/08/2022	ES2230964	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
HA12_0.0-0.1_220822	HA12_0.0-0.1_220822	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
QC101_220823	HA12_0.0-0.1_220822	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
QC201_220823	HA12_0.0-0.1_220822	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
HA12_0.6-0.7_220822	HA12_0.6-0.7_220822	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
HA13_0.0-0.2_220822	HA13_0.0-0.2_220822	22/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
HA13_0.5-0.6_220822	HA13_0.5-0.6_220822	22/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
HA14_0.1_0.2_220824	HA14_0.1_0.2_220824	24/08/2022	ES2230964	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
HA14_0.6_0.7_220824	HA14_0.6_0.7_220824	24/08/2022	ES2230964	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
QC102_220824	HA14_0.1_0.2_220824	24/08/2022	ES2230964	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
HA15_0.0-0.1_220822	HA15_0.0-0.1_220822	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
HA15_1.1-1.2_220822	HA15_1.1-1.2_220822	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
HA16_0.0_0.1_220824	HA16_0.0_0.1_220824	24/08/2022	ES2230964	<0.5	<0.5	0.7	1.4	0.6	<0.5	<0.5	0.8	-	<0.5	<0.5	0.6	0.5	1.2	<0.5	<0.5	<0.5	<0.5	5.8	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
HA16_1.4_1.5_220824	HA16_1.4_1.5_220824	24/08/2022	ES2230964	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5

Client Name: Transport for New South Wales (TfNSW)
Project Name: Muswellbrook Bypass - Detailed Site Investigation
Project No: 60619756

T1 - Soil Analytical Results - Human Health Criteria

AECOM

				Polynuclear Aromatic Hydrocarbons																			Phenolic Compounds								
				Anthracene	Fluorene	Phenanthrene	Fluoranthene	Benz(a)anthracene	Benzo(k)fluoranthene	Benzo(b&j)fluoranthene	Benzo(b+j) & Benzo(k)fluoranthene	N-2-Fluorenyl Acetamide	7,12-Dimethylbenz(a)anthracene	Benzo(a)pyrene	Chrysene	Pyrene	3-Methylcholanthrene	Benzo(g,h,i)perylene	Dibenz(a,h)anthracene	Indeno(1,2,3-cd)pyrene	Sum of PAHs	Polychlorinated Biphenyls	3/4-Methylphenol (m/p-cresol)	Phenol	2-Chlorophenol	2-Methylphenol (o-Cresol)	2-Nitrophenol	2,4-Dichlorophenol	2,4-Dimethylphenol	2,6-Dichlorophenol
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
				0.5	0.5	0.5	0.5	0.5	0.5	0.5	1	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.1	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
2011 Table B4 Com/Ind D Soil HSL Direct Contact																														
2011 Table B4 Soil HSL Direct Contact (Int. Main. Worker)																														
Table 1A(1) HILs Comm/Ind D Soil																				4000			240000							
Table 1B(7) Management Limits Comm / Ind, Coarse Soil																														
P 2020 Industrial/ commercial (HIL D)																														
s Industrial Soil THQ=1.0 (May 2020)				230000	30000		30000	21	210			0.6	0.0084	2.1	2100	23000	0.1		2.1	21				250000	5800	41000		2500	16000	
2011 Table B3 Soil HSL Int. Main. Worker (Shallow Trench), Sand																														
Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand																														
Field_ID	**Location_Code**	**Sampled_Date_Time**	**Lab_Report_Number**																											
HA17_0.5_0.6_220824	HA17_0.5_0.6_220824	24/08/2022	ES2230964	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
HA17_4.0_4.2_220824	HA17_4.0_4.2_220824	24/08/2022	ES2230964	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
HA18_0.0-0.1_220823	HA18_0.0-0.1_220823	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
HA18_1.4-1.5_220823	HA18_1.4-1.5_220823	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
HA19_0.0-0.1_220823	HA19_0.0-0.1_220823	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
HA19_1.1-1.2_220823	HA19_1.1-1.2_220823	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
HA20_0.0_0.1_220824	HA20_0.0_0.1_220824	24/08/2022	ES2230964	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
HA20_1.2_1.3_220824	HA20_1.2_1.3_220824	24/08/2022	ES2230964	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
HA21_0.0-0.1_220823	HA21_0.0-0.1_220823	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
HA21_1.0-1.1_220823	HA21_1.0-1.1_220823	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
HA22_0.0-0.1_220823	HA22_0.0-0.1_220823	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
HA22_0.5-0.6_220823	HA22_0.5-0.6_220823	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
HA22_1.2-1.3_220823	HA22_1.2-1.3_220823	23/08/2022	ES2230767	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA23_0.0-0.1_220823	HA23_0.0-0.1_220823	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
HA23_0.5-0.6_220823	HA23_0.5-0.6_220823	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
HA24_0.0-0.1_220823	HA24_0.0-0.1_220823	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
HA24_1.1-1.2_220823	HA24_1.1-1.2_220823	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
HA25_0.1_0.2_220824	HA25_0.1_0.2_220824	24/08/2022	ES2230964	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
HA25_0.4_0.5_220824	HA25_0.4_0.5_220824	24/08/2022	ES2230964	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
SED01_220826	SED01_220826	26/08/2022	ES2230964	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	1.4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
SED02_220826	SED02_220826	26/08/2022	ES2230964	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TPEV01_0.0_0.21_220815	TPEV01	15/08/2022	ES2229963	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.1	-	-	-	-	-	-	-	-
TPEV01_4.0_4.2_220815	TPEV01	15/08/2022	ES2229963	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TPEV01_4.0_4.2_220815	TPEV01	15/08/2022	ES2229963	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.1	-	-	-	-	-	-	-	-
TPEV02_0.5_0.7_220815	TPEV02	15/08/2022	ES2229963	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.1	-	-	-	-	-	-	-	-
TPEV02_1.0_1.2_220815	TPEV02	15/08/2022	ES2229963	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TPEV02_1.0_1.2_220815	TPEV02	15/08/2022	ES2229963	<0.5	<0.5	1.1	0.9	<0.5	<0.5	<0.5	-	-	-	<0.5	<0.5	0.7	-	<0.5	<0.5	<0.5	2.7	<0.1	-	-	-	-	-	-	-	-
TPEV03_0.5_0.7_220815	TPEV03	15/08/2022	ES2229963	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TPEV03_0.5_0.7_220815	TPEV03	15/08/2022	ES2229963	<0.5	<0.5	1.1	0.8	<0.5	<0.5	<0.5	-	-	-	<0.5	<0.5	0.6	-	<0.5	<0.5	<0.5	2.5	<0.1	-	-	-	-	-	-	-	-
TPEV03_1.0_1.2_220815	TPEV03	15/08/2022	ES2229963	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.1	-	-	-	-	-	-	-	-
TPEV04_0.5_0.7_220815	TPEV04	15/08/2022	ES2229963	2.9	0.6	13.7	19.2	7	2.9	7.6	-	-	-	6.1	6.4	16.2	-	3.4	0.8	3.1	91.8	<0.1	-	-	-	-	-	-	-	-
TPEV04_2.0_2.2_220815	TPEV04	15/08/2022	ES2229963	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TPEV04_2.0_2.2_220815	TPEV04	15/08/2022	ES2229963	1.4	<0.5	7.5	11.4	4.2	1.8	5	-	-	-	4	3.9	9.7	-	2.2	<0.5	2	54.8	<0.1	-	-	-	-	-	-	-	-
SS01_0.0-0.1	SS01_0.0-0.1	10/08/2022	ES2228696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS01_220826	SS01_220826	26/08/2022	ES2230964	<0.5	<0.5	1.5	1.1	<0.5	<0.5	<0.5	-	-	-	<0.5	0.5	0.9	-	<0.5	<0.5	<0.5	4	-	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
QC105_220826	SS01_220826	26/08/2022	ES2230964	<0.5	<0.5	2.7	1.5	0.5	<0.5	<0.5	-	-	-	<0.5	0.6	1	-	<0.5	<0.5	<0.5	6.3	-	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5

Client Name: Transport for New South Wales (TfNSW)
Project Name: Muswellbrook Bypass - Detailed Site Investigation
Project No: 60619756

T1 - Soil Analytical Results - Human Health Criteria

AECOM

				Polynuclear Aromatic Hydrocarbons																			Phenolic Compounds								
				Anthracene	Fluorene	Phenanthrene	Fluoranthene	Benz(a)anthracene	Benzo(k)fluoranthene	Benzo(b&j)fluoranthene	Benzo(b+j) & Benzo(k)fluoranthene	N-2-Fluorenyl Acetamide	7,12-Dimethylbenz(a)anthracene	Benzo(a)pyrene	Chrysene	Pyrene	3-Methylcholanthrene	Benzo(g,h,i)perylene	Dibenz(a,h)anthracene	Indeno(1,2,3-cd)pyrene	Sum of PAHs	Polychlorinated Biphenyls	3/4-Methylphenol (m/p-cresol)	Phenol	2-Chlorophenol	2-Methylphenol (o-Cresol)	2-Nitrophenol	2,4-Dichlorophenol	2,4-Dimethylphenol	2,6-Dichlorophenol
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
				0.5	0.5	0.5	0.5	0.5	0.5	0.5	1	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.1	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
2011 Table B4 Com/Ind D Soil HSL Direct Contact																														
2011 Table B4 Soil HSL Direct Contact (Int. Main. Worker)																														
Table 1A(1) HILs Comm/Ind D Soil																				4000			240000							
Table 1B(7) Management Limits Comm / Ind, Coarse Soil																														
P 2020 Industrial/ commercial (HIL D)																														
s Industrial Soil THQ=1.0 (May 2020)				230000	30000		30000	21	210			0.6	0.0084	2.1	2100	23000	0.1		2.1	21				250000	5800	41000		2500	16000	
2011 Table B3 Soil HSL Int. Main. Worker (Shallow Trench), Sand																														
Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand																														
Field_ID	Location_Code	Sampled_Date_Time	Lab_Report_Number																											
SS02_0.0-0.1	SS02_0.0-0.1	10/08/2022	ES2228696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS02_220826	SS02_220826	26/08/2022	ES2230964	<0.5	<0.5	1.8	1.3	<0.5	<0.5	<0.5	-	-	-	<0.5	<0.5	0.9	-	<0.5	<0.5	<0.5	4	-	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
SS03_0.0-0.1	SS03_0.0-0.1	10/08/2022	ES2228696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS03_220826	SS03_220826	26/08/2022	ES2230964	<0.5	<0.5	2.6	1.4	<0.5	<0.5	<0.5	-	-	-	<0.5	<0.5	1	-	<0.5	<0.5	<0.5	5	-	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
SS04_0.0-0.1	SS04_0.0-0.1	10/08/2022	ES2228696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS04_220826	SS04_220826	26/08/2022	ES2230964	<0.5	<0.5	1.9	1.2	<0.5	<0.5	<0.5	-	-	-	<0.5	<0.5	0.9	-	<0.5	<0.5	<0.5	4	-	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
SS05_0.0-0.05	SS05_0.0-0.05	10/08/2022	ES2228696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS05_220826	SS05_220826	26/08/2022	ES2230964	<0.5	<0.5	1.5	0.9	<0.5	<0.5	<0.5	-	-	-	<0.5	<0.5	0.6	-	<0.5	<0.5	<0.5	3	-	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
SS06_0.0-0.05	SS06_0.0-0.05	10/08/2022	ES2228696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS06_220826	SS06_220826	26/08/2022	ES2230964	<0.5	<0.5	1.7	1	<0.5	<0.5	<0.5	-	-	-	<0.5	<0.5	0.6	-	<0.5	<0.5	<0.5	3.3	-	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
SS07_0.0-0.05	SS07_0.0-0.05	10/08/2022	ES2228696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS07_220826	SS07_220826	26/08/2022	ES2230964	<0.5	<0.5	2.8	1.4	0.5	<0.5	<0.5	-	-	-	<0.5	0.6	1	-	<0.5	<0.5	<0.5	6.3	-	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
SS08_0.0-0.05	SS08_0.0-0.05	10/08/2022	ES2228696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS08_220826	SS08_220826	26/08/2022	ES2230964	<0.5	<0.5	3	1.7	0.6	<0.5	<0.5	-	-	-	<0.5	0.6	1.2	-	<0.5	<0.5	<0.5	7.1	-	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
SS09_0.0-0.05	SS09_0.0-0.05	10/08/2022	ES2228696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS09_220826	SS09_220826	26/08/2022	ES2230964	<0.5	<0.5	1	0.6	<0.5	<0.5	<0.5	-	-	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	1.6	-	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
SS10_0.0-0.05	SS10_0.0-0.05	10/08/2022	ES2228696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS10_220826	SS10_220826	26/08/2022	ES2230964	<0.5	<0.5	1	0.5	<0.5	<0.5	<0.5	-	-	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	1.5	-	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5

Client Name: Transport for New South Wales (TfNSW)
Project Name: Muswellbrook Bypass - Detailed Site Investigation
Project No: 60619756

T1 - Soil Analytical Results - Human Health Criteria

AECOM

					Fumigants					Halogenated Aromatic Compounds																				
	4-Chloro-3-methylphenol	2,4,6-Trichlorophenol	2,4,5-Trichlorophenol	Pentachlorophenol	1,2-Dibromoethane (EDB)	1,2-Dichloropropane	2,2-Dichloropropane	cis-1,3-Dichloropropene	trans-1,3-Dichloropropene	Bromobenzene	Chlorobenzene	2-Chlorotoluene	4-Chlorotoluene	1,2-Dichlorobenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	1,2,3-Trichlorobenzene	1,2,4-Trichlorobenzene	Dichlorodifluoromethane (Freon 12)	Chloromethane	Vinyl chloride	Bromomethane	Chloroethane	Trichlorofluoromethane (Freon 11)	1,1-Dichloroethene	Iodomethane	1,1-Dichloroethane
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
	0.5	0.5	0.5	1	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	5	5	5	5	5	5	0.5	0.5	0.5
2011 Table B4 Com/Ind D Soil HSL Direct Contact																														
2011 Table B4 Soil HSL Direct Contact (Int. Main. Worker)																														
Table 1A(1) HILs Comm/Ind D Soil				660																										
Table 1B(7) Management Limits Comm / Ind, Coarse Soil																														
2020 Industrial/ commercial (HIL D)																														
s Industrial Soil THQ=1.0 (May 2020)	82000	210	82000		0.16	11				1800	1300	23000	23000	9300		11	930	110	370	460	1.7	30	57000	350000	1000		16
2011 Table B3 Soil HSL Int. Main. Worker (Shallow Trench), Sand																														
Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand																														

Field_ID	Location_Code	Sampled_Date_Time	Lab_Report_Number																													
HA01_0.0-0.1_220822	HA01_0.0-0.1_220822	22/08/2022	ES2230767	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<5	<5	<0.5	<0.5	<0.5
HA01_1.1-1.2_220822	HA01_1.1-1.2_220822	22/08/2022	ES2230767	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<5	<5	<0.5	<0.5	<0.5
HA02_0.0-0.2_220822	HA02_0.0-0.2_220822	22/08/2022	ES2230767	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<5	<5	<0.5	<0.5	<0.5
HA02_1.4-1.5_220822	HA02_1.4-1.5_220822	22/08/2022	ES2230767	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<5	<5	<0.5	<0.5	<0.5
HA03_0.5-0.6_220822	HA03_0.5-0.6_220822	22/08/2022	ES2230767	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<5	<5	<0.5	<0.5	<0.5
HA03_1.4-1.5_220822	HA03_1.4-1.5_220822	22/08/2022	ES2230767	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<5	<5	<0.5	<0.5	<0.5
HA04_0.1-0.2_220822	HA04_0.1-0.2_220822	22/08/2022	ES2230767	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<5	<5	<0.5	<0.5	<0.5
HA04_1.0-1.1_220822	HA04_1.0-1.1_220822	22/08/2022	ES2230767	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<5	<5	<0.5	<0.5	<0.5
HA05_0.1_0.2_220824	HA05_0.1_0.2_220824	24/08/2022	ES2230964	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<5	<5	<0.5	<0.5	<0.5
QC103_220824	HA05_0.1_0.2_220824	24/08/2022	ES2230964	<0.6	<0.6	<0.6	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.6	<0.6	<0.6	<0.5	<0.6	<5	<5	<5	<5	<5	<5	<5	<0.5	<0.5	<0.5
HA05_1.0_1.1_220824	HA05_1.0_1.1_220824	24/08/2022	ES2230964	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<5	<5	<0.5	<0.5	<0.5
HA06_0.0-0.1_220822	HA06_0.0-0.1_220822	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<5	<5	<0.5	<0.5	<0.5
HA06_1.1-1.2_220822	HA06_1.1-1.2_220822	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<5	<5	<0.5	<0.5	<0.5
HA07_0.05-0.15_220822		22/08/2022	ES2230767	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<5	<5	<0.5	<0.5	<0.5
HA07_0.4-0.5_220822	HA07_0.4-0.5_220822	22/08/2022	ES2230767	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<5	<5	<0.5	<0.5	<0.5
HA08_0.1_0.2_220824	HA08_0.1_0.2_220824	24/08/2022	ES2230964	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<5	<5	<0.5	<0.5	<0.5
HA08_1.2_1.3_220824	HA08_1.2_1.3_220824	24/08/2022	ES2230964	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<5	<5	<0.5	<0.5	<0.5
HA09_0.0-0.1_220822	HA09_0.0-0.1_220822	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<5	<5	<0.5	<0.5	<0.5
HA09_1.0-1.2_220822	HA09_1.0-1.2_220822	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<5	<5	<0.5	<0.5	<0.5
HA10_0.1_0.2_220824	HA10_0.1_0.2_220824	24/08/2022	ES2230964	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<5	<5	<0.5	<0.5	<0.5
HA10_0.5_0.6_220824	HA10_0.5_0.6_220824	24/08/2022	ES2230964	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<5	<5	<0.5	<0.5	<0.5
HA11_0.0_0.1_220824	HA11_0.0_0.1_220824	24/08/2022	ES2230964	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<5	<5	<0.5	<0.5	<0.5
HA11_1.0_1.1_220824	HA11_1.0_1.1_220824	24/08/2022	ES2230964	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<5	<5	<0.5	<0.5	<0.5
HA12_0.0-0.1_220822	HA12_0.0-0.1_220822	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<5	<5	<0.5	<0.5	<0.5
QC101_220823	HA12_0.0-0.1_220822	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<5	<5	<0.5	<0.5	<0.5
QC201_220823	HA12_0.0-0.1_220822	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<5	<5	<0.5	<0.5	<0.5
HA12_0.6-0.7_220822	HA12_0.6-0.7_220822	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<5	<5	<0.5	<0.5	<0.5
HA13_0.0-0.2_220822	HA13_0.0-0.2_220822	22/08/2022	ES2230767	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<5	<5	<0.5	<0.5	<0.5
HA13_0.5-0.6_220822	HA13_0.5-0.6_220822	22/08/2022	ES2230767	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<5	<5	<0.5	<0.5	<0.5
HA14_0.1_0.2_220824	HA14_0.1_0.2_220824	24/08/2022	ES2230964	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<5	<5	<0.5	<0.5	<0.5
HA14_0.6_0.7_220824	HA14_0.6_0.7_220824	24/08/2022	ES2230964	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<5	<5	<0.5	<0.5	<0.5
QC102_220824	HA14_0.1_0.2_220824	24/08/2022	ES2230964	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<5	<5	<0.5	<0.5	<0.5
HA15_0.0-0.1_220822	HA15_0.0-0.1_220822	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<5	<5	<0.5	<0.5	<0.5
HA15_1.1-1.2_220822	HA15_1.1-1.2_220822	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<5	<5	<0.5	<0.5	<0.5
HA16_0.0_0.1_220824	HA16_0.0_0.1_220824	24/08/2022	ES2230964	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<5	<5	<0.5	<0.5	<0.5
HA16_1.4_1.5_220824	HA16_1.4_1.5_220824	24/08/2022	ES2230964	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<5	<5	<0.5	<0.5	<0.5

Client Name: Transport for New South Wales (TfNSW)
Project Name: Muswellbrook Bypass - Detailed Site Investigation
Project No: 60619756

T1 - Soil Analytical Results - Human Health Criteria

AECOM

					Fumigants					Halogenated Aromatic Compounds																				
					4-Chloro-3-methylphenol	2,4,6-Trichlorophenol	2,4,5-Trichlorophenol	Pentachlorophenol	1,2-Dibromoethane (EDB)	1,2-Dichloropropane	2,2-Dichloropropane	cis-1,3-Dichloropropene	trans-1,3-Dichloropropene	Bromobenzene	Chlorobenzene	2-Chlorotoluene	4-Chlorotoluene	1,2-Dichlorobenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	1,2,3-Trichlorobenzene	1,2,4-Trichlorobenzene	Dichlorodifluoromethane (Freon 12)	Chloromethane	Vinyl chloride	Bromomethane	Chloroethane	Trichlorofluoromethane (Freon 11)	1,1-Dichloroethene	Iodomethane	1,1-Dichloroethane
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
					0.5	0.5	0.5	1	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	5	5	5	5	5	5	0.5	0.5	0.5
2011 Table B4 Com/Ind D Soil HSL Direct Contact																														
2011 Table B4 Soil HSL Direct Contact (Int. Main. Worker)																														
Table 1A(1) HILs Comm/Ind D Soil				660																										
Table 1B(7) Management Limits Comm / Ind, Coarse Soil																														
P 2020 Industrial/ commercial (HIL D)																														
s Industrial Soil THQ=1.0 (May 2020)	82000	210	82000		0.16	11				1800	1300	23000	23000	9300		11	930	110	370	460	1.7	30	57000	350000	1000		16			
2011 Table B3 Soil HSL Int. Main. Worker (Shallow Trench), Sand																														
Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand																														

Field_ID	Location_Code	Sampled_Date_Time	Lab_Report_Number																												
HA17_0.5_0.6_220824	HA17_0.5_0.6_220824	24/08/2022	ES2230964	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<5	<5	<0.5	<0.5	<0.5
HA17_4.0_4.2_220824	HA17_4.0_4.2_220824	24/08/2022	ES2230964	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<5	<5	<0.5	<0.5	<0.5
HA18_0.0-0.1_220823	HA18_0.0-0.1_220823	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<5	<5	<0.5	<0.5	<0.5
HA18_1.4-1.5_220823	HA18_1.4-1.5_220823	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<5	<5	<0.5	<0.5	<0.5
HA19_0.0-0.1_220823	HA19_0.0-0.1_220823	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<5	<5	<0.5	<0.5	<0.5
HA19_1.1-1.2_220823	HA19_1.1-1.2_220823	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<5	<5	<0.5	<0.5	<0.5
HA20_0.0_0.1_220824	HA20_0.0_0.1_220824	24/08/2022	ES2230964	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<5	<5	<0.5	<0.5	<0.5
HA20_1.2_1.3_220824	HA20_1.2_1.3_220824	24/08/2022	ES2230964	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<5	<5	<0.5	<0.5	<0.5
HA21_0.0-0.1_220823	HA21_0.0-0.1_220823	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<5	<5	<0.5	<0.5	<0.5
HA21_1.0-1.1_220823	HA21_1.0-1.1_220823	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<5	<5	<0.5	<0.5	<0.5
HA22_0.0-0.1_220823	HA22_0.0-0.1_220823	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<5	<5	<0.5	<0.5	<0.5
HA22_0.5-0.6_220823	HA22_0.5-0.6_220823	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<5	<5	<0.5	<0.5	<0.5
HA22_1.2-1.3_220823	HA22_1.2-1.3_220823	23/08/2022	ES2230767	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA23_0.0-0.1_220823	HA23_0.0-0.1_220823	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<5	<5	<0.5	<0.5	<0.5
HA23_0.5-0.6_220823	HA23_0.5-0.6_220823	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<5	<5	<0.5	<0.5	<0.5
HA24_0.0-0.1_220823	HA24_0.0-0.1_220823	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<5	<5	<0.5	<0.5	<0.5
HA24_1.1-1.2_220823	HA24_1.1-1.2_220823	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<5	<5	<0.5	<0.5	<0.5
HA25_0.1_0.2_220824	HA25_0.1_0.2_220824	24/08/2022	ES2230964	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<5	<5	<0.5	<0.5	<0.5
HA25_0.4_0.5_220824	HA25_0.4_0.5_220824	24/08/2022	ES2230964	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<5	<5	<0.5	<0.5	<0.5
SED01_220826	SED01_220826	26/08/2022	ES2230964	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<5	<5	<0.5	<0.5	<0.5
SED02_220826	SED02_220826	26/08/2022	ES2230964	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<5	<5	<0.5	<0.5	<0.5
TPEV01_0.0_0.21_220815	TPEV01	15/08/2022	ES2229963	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TPEV01_4.0_4.2_220815	TPEV01	15/08/2022	ES2229963	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TPEV01_4.0_4.2_220815	TPEV01	15/08/2022	ES2229963	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TPEV02_0.5_0.7_220815	TPEV02	15/08/2022	ES2229963	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TPEV02_1.0_1.2_220815	TPEV02	15/08/2022	ES2229963	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TPEV02_1.0_1.2_220815	TPEV02	15/08/2022	ES2229963	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TPEV03_0.5_0.7_220815	TPEV03	15/08/2022	ES2229963	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TPEV03_0.5_0.7_220815	TPEV03	15/08/2022	ES2229963	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TPEV03_1.0_1.2_220815	TPEV03	15/08/2022	ES2229963	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TPEV04_0.5_0.7_220815	TPEV04	15/08/2022	ES2229963	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TPEV04_2.0_2.2_220815	TPEV04	15/08/2022	ES2229963	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TPEV04_2.0_2.2_220815	TPEV04	15/08/2022	ES2229963	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS01_0.0-0.1	SS01_0.0-0.1	10/08/2022	ES2228696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS01_220826	SS01_220826	26/08/2022	ES2230964	<0.5	<0.5	<0.5	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QC105_220826	SS01_220826	26/08/2022	ES2230964	<0.5	<0.5	<0.5	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Client Name: Transport for New South Wales (TfNSW)
Project Name: Muswellbrook Bypass - Detailed Site Investigation
Project No: 60619756

T1 - Soil Analytical Results - Human Health Criteria

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					Fumigants					Halogenated Aromatic Compounds																				
	4-Chloro-3-methylphenol	2,4,6-Trichlorophenol	2,4,5-Trichlorophenol	Pentachlorophenol	1,2-Dibromoethane (EDB)	1,2-Dichloropropane	2,2-Dichloropropane	cis-1,3-Dichloropropene	trans-1,3-Dichloropropene	Bromobenzene	Chlorobenzene	2-Chlorotoluene	4-Chlorotoluene	1,2-Dichlorobenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	1,2,3-Trichlorobenzene	1,2,4-Trichlorobenzene	Dichlorodifluoromethane (Freon 12)	Chloromethane	Vinyl chloride	Bromomethane	Chloroethane	Trichlorofluoromethane (Freon 11)	1,1-Dichloroethene	Iodomethane	1,1-Dichloroethane
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
	0.5	0.5	0.5	1	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	5	5	5	5	5	5	0.5	0.5	0.5
2011 Table B4 Com/Ind D Soil HSL Direct Contact																														
2011 Table B4 Soil HSL Direct Contact (Int. Main. Worker)																														
Table 1A(1) HILs Comm/Ind D Soil				660																										
Table 1B(7) Management Limits Comm / Ind, Coarse Soil																														
2020 Industrial/ commercial (HIL D)																														
s Industrial Soil THQ=1.0 (May 2020)	82000	210	82000		0.16	11				1800	1300	23000	23000	9300		11	930	110	370	460	1.7	30	57000	350000	1000		16
2011 Table B3 Soil HSL Int. Main. Worker (Shallow Trench), Sand																														
Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand																														

Field_ID	Location_Code	Sampled_Date_Time	Lab_Report_Number																													
SS02_0.0-0.1	SS02_0.0-0.1	10/08/2022	ES2228696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS02_220826	SS02_220826	26/08/2022	ES2230964	<0.5	<0.5	<0.5	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS03_0.0-0.1	SS03_0.0-0.1	10/08/2022	ES2228696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS03_220826	SS03_220826	26/08/2022	ES2230964	<0.5	<0.5	<0.5	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS04_0.0-0.1	SS04_0.0-0.1	10/08/2022	ES2228696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS04_220826	SS04_220826	26/08/2022	ES2230964	<0.5	<0.5	<0.5	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS05_0.0-0.05	SS05_0.0-0.05	10/08/2022	ES2228696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS05_220826	SS05_220826	26/08/2022	ES2230964	<0.5	<0.5	<0.5	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS06_0.0-0.05	SS06_0.0-0.05	10/08/2022	ES2228696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS06_220826	SS06_220826	26/08/2022	ES2230964	<0.5	<0.5	<0.5	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS07_0.0-0.05	SS07_0.0-0.05	10/08/2022	ES2228696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS07_220826	SS07_220826	26/08/2022	ES2230964	<0.5	<0.5	<0.5	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS08_0.0-0.05	SS08_0.0-0.05	10/08/2022	ES2228696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS08_220826	SS08_220826	26/08/2022	ES2230964	<0.5	<0.5	<0.5	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS09_0.0-0.05	SS09_0.0-0.05	10/08/2022	ES2228696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS09_220826	SS09_220826	26/08/2022	ES2230964	<0.5	<0.5	<0.5	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS10_0.0-0.05	SS10_0.0-0.05	10/08/2022	ES2228696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS10_220826	SS10_220826	26/08/2022	ES2230964	<0.5	<0.5	<0.5	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Client Name: Transport for New South Wales (TfNSW)
Project Name: Muswellbrook Bypass - Detailed Site Investigation
Project No: 60619756

T1 - Soil Analytical Results - Human Health Criteria

AECOM

				Halogenated Aliphatic Compounds																				Trihalomethanes				Physico-Chemical Parameters	
				cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	1,1,1-Trichloroethane	1,1-Dichloropropene	Carbon Tetrachloride	1,2-Dichloroethane	Trichloroethene	Dibromomethane	1,1,2-Trichloroethane	1,3-Dichloropropane	Tetrachloroethene	1,1,1,2-Tetrachloroethane	trans-1,4-Dichloro-2-butene	cis-1,4-Dichloro-2-butene	1,1,2,2-Tetrachloroethane	1,2,3-Trichloropropane	Pentachloroethane	1,2-Dibromo-3-chloropropane	Hexachlorobutadiene	Bromodichloromethane	Bromoform	Chloroform	Dibromochloromethane	Moisture Content	weight of sample
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	%	g
				0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	1	0.01
2011 Table B4 Com/Ind D Soil HSL Direct Contact																													
2011 Table B4 Soil HSL Direct Contact (Int. Main. Worker)																													
Table 1A(1) HILs Comm/Ind D Soil																													
Table 1B(7) Management Limits Comm / Ind, Coarse Soil																													
P 2020 Industrial/ commercial (HIL D)																													
s Industrial Soil THQ=1.0 (May 2020)				2300	23000	36000		2.9	2	6	99	5	23000	100	8.8	0.032	0.032	2.7	0.11	36	0.064	5.3	1.3	86	1.4	39		
2011 Table B3 Soil HSL Int. Main. Worker (Shallow Trench), Sand																													
Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand																													
Field_ID	Location_Code	Sampled_Date_Time	Lab_Report_Number																										
HA01_0.0-0.1_220822	HA01_0.0-0.1_220822	22/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-
HA01_1.1-1.2_220822	HA01_1.1-1.2_220822	22/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-
HA02_0.0-0.2_220822	HA02_0.0-0.2_220822	22/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-
HA02_1.4-1.5_220822	HA02_1.4-1.5_220822	22/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-
HA03_0.5-0.6_220822	HA03_0.5-0.6_220822	22/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-
HA03_1.4-1.5_220822	HA03_1.4-1.5_220822	22/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-
HA04_0.1-0.2_220822	HA04_0.1-0.2_220822	22/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	118
HA04_1.0-1.1_220822	HA04_1.0-1.1_220822	22/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-
HA05_0.1_0.2_220824	HA05_0.1_0.2_220824	24/08/2022	ES2230964	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	46.6	226
QC103_220824	HA05_0.1_0.2_220824	24/08/2022	ES2230964	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.9	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	56.7	70.3
HA05_1.0_1.1_220824	HA05_1.0_1.1_220824	24/08/2022	ES2230964	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	29	164
HA06_0.0-0.1_220822	HA06_0.0-0.1_220822	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	244
HA06_1.1-1.2_220822	HA06_1.1-1.2_220822	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-
HA07_0.05-0.15_220822		22/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-
HA07_0.4-0.5_220822	HA07_0.4-0.5_220822	22/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-
HA08_0.1_0.2_220824	HA08_0.1_0.2_220824	24/08/2022	ES2230964	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	16.9	-
HA08_1.2_1.3_220824	HA08_1.2_1.3_220824	24/08/2022	ES2230964	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	17.9	-
HA09_0.0-0.1_220822	HA09_0.0-0.1_220822	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	180
HA09_1.0-1.2_220822	HA09_1.0-1.2_220822	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-
HA10_0.1_0.2_220824	HA10_0.1_0.2_220824	24/08/2022	ES2230964	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	20.5	-
HA10_0.5_0.6_220824	HA10_0.5_0.6_220824	24/08/2022	ES2230964	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	14.7	-
HA11_0.0_0.1_220824	HA11_0.0_0.1_220824	24/08/2022	ES2230964	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	15.8	246
HA11_1.0_1.1_220824	HA11_1.0_1.1_220824	24/08/2022	ES2230964	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	29.3	-
HA12_0.0-0.1_220822	HA12_0.0-0.1_220822	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	262
QC101_220823	HA12_0.0-0.1_220822	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	254
QC201_220823	HA12_0.0-0.1_220822	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	298
HA12_0.6-0.7_220822	HA12_0.6-0.7_220822	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-
HA13_0.0-0.2_220822	HA13_0.0-0.2_220822	22/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-
HA13_0.5-0.6_220822	HA13_0.5-0.6_220822	22/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-
HA14_0.1_0.2_220824	HA14_0.1_0.2_220824	24/08/2022	ES2230964	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	11.5	136
HA14_0.6_0.7_220824	HA14_0.6_0.7_220824	24/08/2022	ES2230964	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	10.7	-
QC102_220824	HA14_0.1_0.2_220824	24/08/2022	ES2230964	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	13	148
HA15_0.0-0.1_220822	HA15_0.0-0.1_220822	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	171
HA15_1.1-1.2_220822	HA15_1.1-1.2_220822	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-
HA16_0.0_0.1_220824	HA16_0.0_0.1_220824	24/08/2022	ES2230964	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	24.2	153
HA16_1.4_1.5_220824	HA16_1.4_1.5_220824	24/08/2022	ES2230964	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	23.5	-

Client Name: Transport for New South Wales (TfNSW)
Project Name: Muswellbrook Bypass - Detailed Site Investigation
Project No: 60619756

T1 - Soil Analytical Results - Human Health Criteria

AECOM

				Halogenated Aliphatic Compounds																			Trihalomethanes				Physico-Chemical Parameters	
				cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	1,1,1-Trichloroethane	1,1-Dichloropropene	Carbon Tetrachloride	1,2-Dichloroethane	Trichloroethene	Dibromomethane	1,1,2-Trichloroethane	1,3-Dichloropropane	Tetrachloroethene	1,1,1,2-Tetrachloroethane	trans-1,4-Dichloro-2-butene	cis-1,4-Dichloro-2-butene	1,1,2,2-Tetrachloroethane	1,2,3-Trichloropropane	Pentachloroethane	1,2-Dibromo-3-chloropropane	Hexachlorobutadiene	Bromodichloromethane	Bromoform	Chloroform	Dibromochloromethane	Moisture Content	weight of sample
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	%	g
				0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	1	0.01
2011 Table B4 Com/Ind D Soil HSL Direct Contact																												
2011 Table B4 Soil HSL Direct Contact (Int. Main. Worker)																												
Table 1A(1) HILs Comm/Ind D Soil																												
Table 1B(7) Management Limits Comm / Ind, Coarse Soil																												
2020 Industrial/ commercial (HIL D)																												
s Industrial Soil THQ=1.0 (May 2020)				2300	23000	36000		2.9	2	6	99	5	23000	100	8.8	0.032	0.032	2.7	0.11	36	0.064	5.3	1.3	86	1.4	39		
2011 Table B3 Soil HSL Int. Main. Worker (Shallow Trench), Sand																												
Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand																												
Field_ID	**Location_Code**	**Sampled_Date_Time**	**Lab_Report_Number**																									
HA17_0.5_0.6_220824	HA17_0.5_0.6_220824	24/08/2022	ES2230964	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	20.3	-
HA17_4.0_4.2_220824	HA17_4.0_4.2_220824	24/08/2022	ES2230964	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	13.6	-
HA18_0.0-0.1_220823	HA18_0.0-0.1_220823	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-
HA18_1.4-1.5_220823	HA18_1.4-1.5_220823	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-
HA19_0.0-0.1_220823	HA19_0.0-0.1_220823	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-
HA19_1.1-1.2_220823	HA19_1.1-1.2_220823	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-
HA20_0.0_0.1_220824	HA20_0.0_0.1_220824	24/08/2022	ES2230964	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	19.2	160
HA20_1.2_1.3_220824	HA20_1.2_1.3_220824	24/08/2022	ES2230964	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	17.7	-
HA21_0.0-0.1_220823	HA21_0.0-0.1_220823	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	179
HA21_1.0-1.1_220823	HA21_1.0-1.1_220823	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-
HA22_0.0-0.1_220823	HA22_0.0-0.1_220823	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	207
HA22_0.5-0.6_220823	HA22_0.5-0.6_220823	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	168
HA22_1.2-1.3_220823	HA22_1.2-1.3_220823	23/08/2022	ES2230767	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	164
HA23_0.0-0.1_220823	HA23_0.0-0.1_220823	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-
HA23_0.5-0.6_220823	HA23_0.5-0.6_220823	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-
HA24_0.0-0.1_220823	HA24_0.0-0.1_220823	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	170
HA24_1.1-1.2_220823	HA24_1.1-1.2_220823	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-
HA25_0.1_0.2_220824	HA25_0.1_0.2_220824	24/08/2022	ES2230964	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	24.9	353
HA25_0.4_0.5_220824	HA25_0.4_0.5_220824	24/08/2022	ES2230964	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	13.1	94.8
SED01_220826	SED01_220826	26/08/2022	ES2230964	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	33.2	-
SED02_220826	SED02_220826	26/08/2022	ES2230964	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	32	-
TPEV01_0.0_0.21_220815	TPEV01	15/08/2022	ES2229963	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TPEV01_4.0_4.2_220815	TPEV01	15/08/2022	ES2229963	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TPEV01_4.0_4.2_220815	TPEV01	15/08/2022	ES2229963	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TPEV02_0.5_0.7_220815	TPEV02	15/08/2022	ES2229963	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TPEV02_1.0_1.2_220815	TPEV02	15/08/2022	ES2229963	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TPEV02_1.0_1.2_220815	TPEV02	15/08/2022	ES2229963	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TPEV03_0.5_0.7_220815	TPEV03	15/08/2022	ES2229963	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TPEV03_0.5_0.7_220815	TPEV03	15/08/2022	ES2229963	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TPEV03_1.0_1.2_220815	TPEV03	15/08/2022	ES2229963	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TPEV04_0.5_0.7_220815	TPEV04	15/08/2022	ES2229963	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TPEV04_2.0_2.2_220815	TPEV04	15/08/2022	ES2229963	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TPEV04_2.0_2.2_220815	TPEV04	15/08/2022	ES2229963	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS01_0.0-0.1	SS01_0.0-0.1	10/08/2022	ES2228696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	455
SS01_220826	SS01_220826	26/08/2022	ES2230964	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20.7	-
QC105_220826	SS01_220826	26/08/2022	ES2230964	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	32.6	-

Client Name: Transport for New South Wales (TfNSW)
Project Name: Muswellbrook Bypass - Detailed Site Investigation
Project No: 60619756

T1 - Soil Analytical Results - Human Health Criteria

AECOM

				Halogenated Aliphatic Compounds																			Trihalomethanes				Physico-Chemical Parameters	
				cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	1,1,1-Trichloroethane	1,1-Dichloropropene	Carbon Tetrachloride	1,2-Dichloroethane	Trichloroethene	Dibromomethane	1,1,2-Trichloroethane	1,3-Dichloropropane	Tetrachloroethene	1,1,1,2-Tetrachloroethane	trans-1,4-Dichloro-2-butene	cis-1,4-Dichloro-2-butene	1,1,2,2-Tetrachloroethane	1,2,3-Trichloropropane	Pentachloroethane	1,2-Dibromo-3-chloropropane	Hexachlorobutadiene	Bromodichloromethane	Bromoform	Chloroform	Dibromochloromethane	Moisture Content	weight of sample
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	%	g
				0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	1	0.01
2011 Table B4 Com/Ind D Soil HSL Direct Contact																												
2011 Table B4 Soil HSL Direct Contact (Int. Main. Worker)																												
Table 1A(1) HILs Comm/Ind D Soil																												
Table 1B(7) Management Limits Comm / Ind, Coarse Soil																												
2020 Industrial/ commercial (HIL D)																												
s Industrial Soil THQ=1.0 (May 2020)				2300	23000	36000		2.9	2	6	99	5	23000	100	8.8	0.032	0.032	2.7	0.11	36	0.064	5.3	1.3	86	1.4	39		
2011 Table B3 Soil HSL Int. Main. Worker (Shallow Trench), Sand																												
Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand																												
Field_ID	Location_Code	Sampled_Date_Time	Lab_Report_Number																									
SS02_0.0-0.1	SS02_0.0-0.1	10/08/2022	ES2228696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	732
SS02_220826	SS02_220826	26/08/2022	ES2230964	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	23.3	-
SS03_0.0-0.1	SS03_0.0-0.1	10/08/2022	ES2228696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	853
SS03_220826	SS03_220826	26/08/2022	ES2230964	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10.7	-
SS04_0.0-0.1	SS04_0.0-0.1	10/08/2022	ES2228696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	698
SS04_220826	SS04_220826	26/08/2022	ES2230964	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	23.3	-
SS05_0.0-0.05	SS05_0.0-0.05	10/08/2022	ES2228696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	542
SS05_220826	SS05_220826	26/08/2022	ES2230964	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10.3	-
SS06_0.0-0.05	SS06_0.0-0.05	10/08/2022	ES2228696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	523
SS06_220826	SS06_220826	26/08/2022	ES2230964	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15.1	-
SS07_0.0-0.05	SS07_0.0-0.05	10/08/2022	ES2228696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	437
SS07_220826	SS07_220826	26/08/2022	ES2230964	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	22.2	-
SS08_0.0-0.05	SS08_0.0-0.05	10/08/2022	ES2228696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	508
SS08_220826	SS08_220826	26/08/2022	ES2230964	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	26.5	-
SS09_0.0-0.05	SS09_0.0-0.05	10/08/2022	ES2228696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	383
SS09_220826	SS09_220826	26/08/2022	ES2230964	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	45.2	-
SS10_0.0-0.05	SS10_0.0-0.05	10/08/2022	ES2228696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	541
SS10_220826	SS10_220826	26/08/2022	ES2230964	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20.6	-

Client Name: Transport for New South Wales (TfNSW)
Project Name: Muswellbrook Bypass - Detailed Site Investigation
Project No: 60619756

T1 - Soil Analytical Results - Human Health Criteria

AECOM

		Polychlorinated Biphenyls	Oxygenated Compounds				Sulfonated Compounds	Phthalate Esters						Nitrosamines								
		Polychlorinated Biphenyls	Vinyl acetate	2-Butanone (MEK)	2-hexanone (MBK)	4-Methyl-2-pentanone (MIBK)	Carbon disulfide	Butyl benzyl phthalate	Diethyl phthalate	Dimethyl phthalate	Di-n-butyl phthalate	Di-n-octyl phthalate	Bis(2-ethylhexyl)phthalate	Methapyrilene	N-Nitrosodibutylamine	N-Nitrosodiethylamine	N-Nitrosodiphenyl & Diphenylamine	N-Nitrosodipropylamine	N-Nitrosomethylethylamine	N-Nitrosomorpholine	N-Nitrosopiperidine	N-Nitrosopyrrolidine
		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
		0.1	5	5	5	5	0.5	0.5	0.5	0.5	0.5	0.5	5	0.5	0.5	0.5	1	0.5	0.5	0.5	0.5	1
2011 Table B4 Com/Ind D Soil HSL Direct Contact																						
2011 Table B4 Soil HSL Direct Contact (Int. Main. Worker)																						
Table 1A(1) HILs Comm/Ind D Soil		7																				
Table 1B(7) Management Limits Comm / Ind, Coarse Soil																						
P 2020 Industrial/ commercial (HIL D)																						
s Industrial Soil THQ=1.0 (May 2020)			3800	190000	1300	140000	3500	1200	660000		82000	8200	160		0.46	0.015		0.33	0.091	0.34	0.24	1.1
2011 Table B3 Soil HSL Int. Main. Worker (Shallow Trench), Sand																						
Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand																						
Field_ID	Location_Code	Sampled_Date_Time	Lab_Report_Number																			
HA01_0.0-0.1_220822	HA01_0.0-0.1_220822	22/08/2022	ES2230767	<0.1	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1
HA01_1.1-1.2_220822	HA01_1.1-1.2_220822	22/08/2022	ES2230767	<0.1	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1
HA02_0.0-0.2_220822	HA02_0.0-0.2_220822	22/08/2022	ES2230767	<0.1	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1
HA02_1.4-1.5_220822	HA02_1.4-1.5_220822	22/08/2022	ES2230767	<0.1	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1
HA03_0.5-0.6_220822	HA03_0.5-0.6_220822	22/08/2022	ES2230767	<0.1	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1
HA03_1.4-1.5_220822	HA03_1.4-1.5_220822	22/08/2022	ES2230767	<0.1	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1
HA04_0.1-0.2_220822	HA04_0.1-0.2_220822	22/08/2022	ES2230767	<0.1	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1
HA04_1.0-1.1_220822	HA04_1.0-1.1_220822	22/08/2022	ES2230767	<0.1	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1
HA05_0.1_0.2_220824	HA05_0.1_0.2_220824	24/08/2022	ES2230964	<0.1	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1
QC103_220824	HA05_0.1_0.2_220824	24/08/2022	ES2230964	<0.1	<5	<5	<5	<5	<0.5	<0.6	<0.6	<0.6	<0.6	<0.6	<5	<0.6	<0.6	<0.6	<1.2	<0.6	<0.6	<0.6	<0.6	<1
HA05_1.0_1.1_220824	HA05_1.0_1.1_220824	24/08/2022	ES2230964	<0.1	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1
HA06_0.0-0.1_220822	HA06_0.0-0.1_220822	23/08/2022	ES2230767	<0.1	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1
HA06_1.1-1.2_220822	HA06_1.1-1.2_220822	23/08/2022	ES2230767	<0.1	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1
HA07_0.05-0.15_220822		22/08/2022	ES2230767	<0.1	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1
HA07_0.4-0.5_220822	HA07_0.4-0.5_220822	22/08/2022	ES2230767	<0.1	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1
HA08_0.1_0.2_220824	HA08_0.1_0.2_220824	24/08/2022	ES2230964	<0.1	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1
HA08_1.2_1.3_220824	HA08_1.2_1.3_220824	24/08/2022	ES2230964	<0.1	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1
HA09_0.0-0.1_220822	HA09_0.0-0.1_220822	23/08/2022	ES2230767	<0.1	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1
HA09_1.0-1.2_220822	HA09_1.0-1.2_220822	23/08/2022	ES2230767	<0.1	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1
HA10_0.1_0.2_220824	HA10_0.1_0.2_220824	24/08/2022	ES2230964	<0.1	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1
HA10_0.5_0.6_220824	HA10_0.5_0.6_220824	24/08/2022	ES2230964	<0.1	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1
HA11_0.0_0.1_220824	HA11_0.0_0.1_220824	24/08/2022	ES2230964	<0.1	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1
HA11_1.0_1.1_220824	HA11_1.0_1.1_220824	24/08/2022	ES2230964	<0.1	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1
HA12_0.0-0.1_220822	HA12_0.0-0.1_220822	23/08/2022	ES2230767	<0.1	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1
QC101_220823	HA12_0.0-0.1_220822	23/08/2022	ES2230767	<0.1	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1
QC201_220823	HA12_0.0-0.1_220822	23/08/2022	ES2230767	<0.1	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1
HA12_0.6-0.7_220822	HA12_0.6-0.7_220822	23/08/2022	ES2230767	<0.1	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1
HA13_0.0-0.2_220822	HA13_0.0-0.2_220822	22/08/2022	ES2230767	<0.1	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1
HA13_0.5-0.6_220822	HA13_0.5-0.6_220822	22/08/2022	ES2230767	<0.1	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1
HA14_0.1_0.2_220824	HA14_0.1_0.2_220824	24/08/2022	ES2230964	<0.1	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1
HA14_0.6_0.7_220824	HA14_0.6_0.7_220824	24/08/2022	ES2230964	<0.1	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1
QC102_220824	HA14_0.1_0.2_220824	24/08/2022	ES2230964	<0.1	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1
HA15_0.0-0.1_220822	HA15_0.0-0.1_220822	23/08/2022	ES2230767	<0.1	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1
HA15_1.1-1.2_220822	HA15_1.1-1.2_220822	23/08/2022	ES2230767	<0.1	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1
HA16_0.0_0.1_220824	HA16_0.0_0.1_220824	24/08/2022	ES2230964	<0.1	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1
HA16_1.4_1.5_220824	HA16_1.4_1.5_220824	24/08/2022	ES2230964	<0.1	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1

Client Name: Transport for New South Wales (TfNSW)
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T1 - Soil Analytical Results - Human Health Criteria

AECOM

		Polychlorinated Biphenyls	Oxygenated Compounds				Sulfonated Compounds	Phthalate Esters						Nitrosamines								
		Polychlorinated Biphenyls	Vinyl acetate	2-Butanone (MEK)	2-hexanone (MBK)	4-Methyl-2-pentanone (MIBK)	Carbon disulfide	Butyl benzyl phthalate	Diethyl phthalate	Dimethyl phthalate	Di-n-butyl phthalate	Di-n-octyl phthalate	Bis(2-ethylhexyl)phthalate	Methapyrilene	N-Nitrosodibutylamine	N-Nitrosodiethylamine	N-Nitrosodiphenyl & Diphenylamine	N-Nitrosodipropylamine	N-Nitrosomethylethylamine	N-Nitrosomorpholine	N-Nitrosopiperidine	N-Nitrosopyrrolidine
		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
		0.1	5	5	5	5	0.5	0.5	0.5	0.5	0.5	0.5	5	0.5	0.5	0.5	1	0.5	0.5	0.5	0.5	1
2011 Table B4 Com/Ind D Soil HSL Direct Contact																						
2011 Table B4 Soil HSL Direct Contact (Int. Main. Worker)																						
Table 1A(1) HILs Comm/Ind D Soil		7																				
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P 2020 Industrial/ commercial (HIL D)																						
s Industrial Soil THQ=1.0 (May 2020)			3800	190000	1300	140000	3500	1200	660000		82000	8200	160		0.46	0.015		0.33	0.091	0.34	0.24	1.1
2011 Table B3 Soil HSL Int. Main. Worker (Shallow Trench), Sand																						
Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand																						
Field_ID	Location_Code	Sampled_Date_Time	Lab_Report_Number																			
HA17_0.5_0.6_220824	HA17_0.5_0.6_220824	24/08/2022	ES2230964	<0.1	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1
HA17_4.0_4.2_220824	HA17_4.0_4.2_220824	24/08/2022	ES2230964	<0.1	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1
HA18_0.0-0.1_220823	HA18_0.0-0.1_220823	23/08/2022	ES2230767	<0.1	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1
HA18_1.4-1.5_220823	HA18_1.4-1.5_220823	23/08/2022	ES2230767	<0.1	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1
HA19_0.0-0.1_220823	HA19_0.0-0.1_220823	23/08/2022	ES2230767	<0.1	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1
HA19_1.1-1.2_220823	HA19_1.1-1.2_220823	23/08/2022	ES2230767	<0.1	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1
HA20_0.0_0.1_220824	HA20_0.0_0.1_220824	24/08/2022	ES2230964	<0.1	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1
HA20_1.2_1.3_220824	HA20_1.2_1.3_220824	24/08/2022	ES2230964	<0.1	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1
HA21_0.0-0.1_220823	HA21_0.0-0.1_220823	23/08/2022	ES2230767	<0.1	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1
HA21_1.0-1.1_220823	HA21_1.0-1.1_220823	23/08/2022	ES2230767	<0.1	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1
HA22_0.0-0.1_220823	HA22_0.0-0.1_220823	23/08/2022	ES2230767	<0.1	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1
HA22_0.5-0.6_220823	HA22_0.5-0.6_220823	23/08/2022	ES2230767	<0.1	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1
HA22_1.2-1.3_220823	HA22_1.2-1.3_220823	23/08/2022	ES2230767	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA23_0.0-0.1_220823	HA23_0.0-0.1_220823	23/08/2022	ES2230767	<0.1	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1
HA23_0.5-0.6_220823	HA23_0.5-0.6_220823	23/08/2022	ES2230767	<0.1	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1
HA24_0.0-0.1_220823	HA24_0.0-0.1_220823	23/08/2022	ES2230767	<0.1	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1
HA24_1.1-1.2_220823	HA24_1.1-1.2_220823	23/08/2022	ES2230767	<0.1	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1
HA25_0.1_0.2_220824	HA25_0.1_0.2_220824	24/08/2022	ES2230964	<0.1	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1
HA25_0.4_0.5_220824	HA25_0.4_0.5_220824	24/08/2022	ES2230964	<0.1	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1
SED01_220826	SED01_220826	26/08/2022	ES2230964	<0.1	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1
SED02_220826	SED02_220826	26/08/2022	ES2230964	<0.1	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1
TPEV01_0.0_0.21_220815	TPEV01	15/08/2022	ES2229963	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TPEV01_4.0_4.2_220815	TPEV01	15/08/2022	ES2229963	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TPEV01_4.0_4.2_220815	TPEV01	15/08/2022	ES2229963	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TPEV02_0.5_0.7_220815	TPEV02	15/08/2022	ES2229963	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TPEV02_1.0_1.2_220815	TPEV02	15/08/2022	ES2229963	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TPEV02_1.0_1.2_220815	TPEV02	15/08/2022	ES2229963	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TPEV03_0.5_0.7_220815	TPEV03	15/08/2022	ES2229963	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TPEV03_0.5_0.7_220815	TPEV03	15/08/2022	ES2229963	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TPEV03_1.0_1.2_220815	TPEV03	15/08/2022	ES2229963	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TPEV04_0.5_0.7_220815	TPEV04	15/08/2022	ES2229963	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TPEV04_2.0_2.2_220815	TPEV04	15/08/2022	ES2229963	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TPEV04_2.0_2.2_220815	TPEV04	15/08/2022	ES2229963	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS01_0.0-0.1	SS01_0.0-0.1	10/08/2022	ES2228696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS01_220826	SS01_220826	26/08/2022	ES2230964	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QC105_220826	SS01_220826	26/08/2022	ES2230964	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Client Name: Transport for New South Wales (TfNSW)
Project Name: Muswellbrook Bypass - Detailed Site Investigation
Project No: 60619756

T1 - Soil Analytical Results - Human Health Criteria

AECOM

		Polychlorinated Biphenyls	Oxygenated Compounds				Sulfonated Compounds	Phthalate Esters						Nitrosamines								
		Polychlorinated Biphenyls	Vinyl acetate	2-Butanone (MEK)	2-hexanone (MBK)	4-Methyl-2-pentanone (MIBK)	Carbon disulfide	Butyl benzyl phthalate	Diethyl phthalate	Dimethyl phthalate	Di-n-butyl phthalate	Di-n-octyl phthalate	Bis(2-ethylhexyl)phthalate	Methapyrilene	N-Nitrosodibutylamine	N-Nitrosodiethylamine	N-Nitrosodiphenyl & Diphenylamine	N-Nitrosodipropylamine	N-Nitrosomethylethylamine	N-Nitrosomorpholine	N-Nitrosopiperidine	N-Nitrosopyrrolidine
		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
		0.1	5	5	5	5	0.5	0.5	0.5	0.5	0.5	0.5	5	0.5	0.5	0.5	1	0.5	0.5	0.5	0.5	1
2011 Table B4 Com/Ind D Soil HSL Direct Contact																						
2011 Table B4 Soil HSL Direct Contact (Int. Main. Worker)																						
Table 1A(1) HILs Comm/Ind D Soil		7																				
Table 1B(7) Management Limits Comm / Ind, Coarse Soil																						
P 2020 Industrial/ commercial (HIL D)																						
s Industrial Soil THQ=1.0 (May 2020)			3800	190000	1300	140000	3500	1200	660000		82000	8200	160		0.46	0.015		0.33	0.091	0.34	0.24	1.1
2011 Table B3 Soil HSL Int. Main. Worker (Shallow Trench), Sand																						
Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand																						
Field_ID	Location_Code	Sampled_Date_Time	Lab_Report_Number																			
SS02_0.0-0.1	SS02_0.0-0.1	10/08/2022	ES2228696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS02_220826	SS02_220826	26/08/2022	ES2230964	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS03_0.0-0.1	SS03_0.0-0.1	10/08/2022	ES2228696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS03_220826	SS03_220826	26/08/2022	ES2230964	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS04_0.0-0.1	SS04_0.0-0.1	10/08/2022	ES2228696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS04_220826	SS04_220826	26/08/2022	ES2230964	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS05_0.0-0.05	SS05_0.0-0.05	10/08/2022	ES2228696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS05_220826	SS05_220826	26/08/2022	ES2230964	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS06_0.0-0.05	SS06_0.0-0.05	10/08/2022	ES2228696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS06_220826	SS06_220826	26/08/2022	ES2230964	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS07_0.0-0.05	SS07_0.0-0.05	10/08/2022	ES2228696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS07_220826	SS07_220826	26/08/2022	ES2230964	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS08_0.0-0.05	SS08_0.0-0.05	10/08/2022	ES2228696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS08_220826	SS08_220826	26/08/2022	ES2230964	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS09_0.0-0.05	SS09_0.0-0.05	10/08/2022	ES2228696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS09_220826	SS09_220826	26/08/2022	ES2230964	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS10_0.0-0.05	SS10_0.0-0.05	10/08/2022	ES2228696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS10_220826	SS10_220826	26/08/2022	ES2230964	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Client Name: Transport for New South Wales (TfNSW)
Project Name: Muswellbrook Bypass - Detailed Site Investigation
Project No: 60619756

T1 - Soil Analytical Results - Human Health Criteria

AECOM

				Nitroaromatics and Ketones																		Haloethers				Chlorinated Hydrocarbons					
				1,3,5-Trinitrobenzene	1-Naphthylamine	2,4-Dinitrotoluene	2,6-Dinitrotoluene	2-Picoline	4-Aminobiphenyl	4-Nitroquinoline-N-oxide	5-Nitro-o-toluidine	Acetophenone	Azobenzene	Chlorobenzilate	Dimethylaminoazobenzene	Isophorone	Nitrobenzene	Pentachloronitrobenzene	Phenacetin	Pronamide	4-Bromophenyl phenyl ether	Bis(2-chloroethyl) ether	Bis(2-chloroethoxy) methane	4-Chlorophenyl phenyl ether	Hexachlorocyclopentadiene	Hexachloroethane	Hexachloropropene	Pentachlorobenzene	Azinphos Methyl	Bromophos-ethyl
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
				0.5	0.5	1	1	0.5	0.5	0.5	0.5	0.5	1	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	2.5	0.5	0.5	0.5	0.05	0.05
2011 Table B4 Com/Ind D Soil HSL Direct Contact																														
2011 Table B4 Soil HSL Direct Contact (Int. Main. Worker)																														
Table 1A(1) HILs Comm/Ind D Soil																														
Table 1B(7) Management Limits Comm / Ind, Coarse Soil																														
2020 Industrial/ commercial (HIL D)																														
s Industrial Soil THQ=1.0 (May 2020)				32000		7.4	1.5		0.11		260	120000	26	21	0.5	2400	22	13	1000	62000		1	2500		7.5	8		930	2500	
2011 Table B3 Soil HSL Int. Main. Worker (Shallow Trench), Sand																														
Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand																														
Field_ID	**Location_Code**	**Sampled_Date_Time**	**Lab_Report_Number**																												
HA01_0.0-0.1_220822	HA01_0.0-0.1_220822	22/08/2022	ES2230767	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.05	<0.05
HA01_1.1-1.2_220822	HA01_1.1-1.2_220822	22/08/2022	ES2230767	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.05	<0.05
HA02_0.0-0.2_220822	HA02_0.0-0.2_220822	22/08/2022	ES2230767	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.05	<0.05
HA02_1.4-1.5_220822	HA02_1.4-1.5_220822	22/08/2022	ES2230767	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.05	<0.05
HA03_0.5-0.6_220822	HA03_0.5-0.6_220822	22/08/2022	ES2230767	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.05	<0.05
HA03_1.4-1.5_220822	HA03_1.4-1.5_220822	22/08/2022	ES2230767	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.05	<0.05
HA04_0.1-0.2_220822	HA04_0.1-0.2_220822	22/08/2022	ES2230767	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.05	<0.05
HA04_1.0-1.1_220822	HA04_1.0-1.1_220822	22/08/2022	ES2230767	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.05	<0.05
HA05_0.1_0.2_220824	HA05_0.1_0.2_220824	24/08/2022	ES2230964	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.05	<0.05
QC103_220824	HA05_0.1_0.2_220824	24/08/2022	ES2230964	<0.6	<0.6	<1	<1	<0.6	<0.6	<0.6	<0.6	<0.6	<1	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<2.5	<0.6	<0.6	<0.6	<0.05	<0.05
HA05_1.0_1.1_220824	HA05_1.0_1.1_220824	24/08/2022	ES2230964	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.05	<0.05
HA06_0.0-0.1_220822	HA06_0.0-0.1_220822	23/08/2022	ES2230767	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.05	<0.05
HA06_1.1-1.2_220822	HA06_1.1-1.2_220822	23/08/2022	ES2230767	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.05	<0.05
HA07_0.05-0.15_220822		22/08/2022	ES2230767	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.05	<0.05
HA07_0.4-0.5_220822	HA07_0.4-0.5_220822	22/08/2022	ES2230767	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.05	<0.05
HA08_0.1_0.2_220824	HA08_0.1_0.2_220824	24/08/2022	ES2230964	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.05	<0.05
HA08_1.2_1.3_220824	HA08_1.2_1.3_220824	24/08/2022	ES2230964	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.05	<0.05
HA09_0.0-0.1_220822	HA09_0.0-0.1_220822	23/08/2022	ES2230767	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.05	<0.05
HA09_1.0-1.2_220822	HA09_1.0-1.2_220822	23/08/2022	ES2230767	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.05	<0.05
HA10_0.1_0.2_220824	HA10_0.1_0.2_220824	24/08/2022	ES2230964	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.05	<0.05
HA10_0.5_0.6_220824	HA10_0.5_0.6_220824	24/08/2022	ES2230964	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.05	<0.05
HA11_0.0_0.1_220824	HA11_0.0_0.1_220824	24/08/2022	ES2230964	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.05	<0.05
HA11_1.0_1.1_220824	HA11_1.0_1.1_220824	24/08/2022	ES2230964	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.05	<0.05
HA12_0.0-0.1_220822	HA12_0.0-0.1_220822	23/08/2022	ES2230767	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.05	<0.05
QC101_220823	HA12_0.0-0.1_220822	23/08/2022	ES2230767	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.05	<0.05
QC201_220823	HA12_0.0-0.1_220822	23/08/2022	ES2230767	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.05	<0.05
HA12_0.6-0.7_220822	HA12_0.6-0.7_220822	23/08/2022	ES2230767	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.05	<0.05
HA13_0.0-0.2_220822	HA13_0.0-0.2_220822	22/08/2022	ES2230767	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.05	<0.05
HA13_0.5-0.6_220822	HA13_0.5-0.6_220822	22/08/2022	ES2230767	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.05	<0.05
HA14_0.1_0.2_220824	HA14_0.1_0.2_220824	24/08/2022	ES2230964	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.05	<0.05
HA14_0.6_0.7_220824	HA14_0.6_0.7_220824	24/08/2022	ES2230964	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.05	<0.05
QC102_220824	HA14_0.1_0.2_220824	24/08/2022	ES2230964	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.05	<0.05
HA15_0.0-0.1_220822	HA15_0.0-0.1_220822	23/08/2022	ES2230767	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.05	<0.05
HA15_1.1-1.2_220822	HA15_1.1-1.2_220822	23/08/2022	ES2230767	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.05	<0.05
HA16_0.0_0.1_220824	HA16_0.0_0.1_220824	24/08/2022	ES2230964	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.05	<0.05
HA16_1.4_1.5_220824	HA16_1.4_1.5_220824	24/08/2022	ES2230964	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.05	<0.05

Client Name: Transport for New South Wales (TfNSW)
Project Name: Muswellbrook Bypass - Detailed Site Investigation
Project No: 60619756

T1 - Soil Analytical Results - Human Health Criteria

AECOM

				Nitroaromatics and Ketones																		Haloethers				Chlorinated Hydrocarbons					
				1,3,5-Trinitrobenzene	1-Naphthylamine	2,4-Dinitrotoluene	2,6-Dinitrotoluene	2-Picoline	4-Aminobiphenyl	4-Nitroquinoline-N-oxide	5-Nitro-o-toluidine	Acetophenone	Azobenzene	Chlorobenzilate	Dimethylaminoazobenzene	Isophorone	Nitrobenzene	Pentachloronitrobenzene	Phenacetin	Pronamide	4-Bromophenyl phenyl ether	Bis(2-chloroethyl) ether	Bis(2-chloroethoxy) methane	4-Chlorophenyl phenyl ether	Hexachlorocyclopentadiene	Hexachloroethane	Hexachloropropene	Pentachlorobenzene	Azinphos Methyl	Bromophos-ethyl
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
				0.5	0.5	1	1	0.5	0.5	0.5	0.5	0.5	1	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	2.5	0.5	0.5	0.5	0.05	0.05
2011 Table B4 Com/Ind D Soil HSL Direct Contact																														
2011 Table B4 Soil HSL Direct Contact (Int. Main. Worker)																														
Table 1A(1) HILs Comm/Ind D Soil																														
Table 1B(7) Management Limits Comm / Ind, Coarse Soil																														
2020 Industrial/ commercial (HIL D)																														
s Industrial Soil THQ=1.0 (May 2020)				32000		7.4	1.5		0.11		260	120000	26	21	0.5	2400	22	13	1000	62000		1	2500		7.5	8		930	2500	
2011 Table B3 Soil HSL Int. Main. Worker (Shallow Trench), Sand																														
Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand																														

Field_ID	Location_Code	Sampled_Date_Time	Lab_Report_Number																												
HA17_0.5_0.6_220824	HA17_0.5_0.6_220824	24/08/2022	ES2230964	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.05	<0.05
HA17_4.0_4.2_220824	HA17_4.0_4.2_220824	24/08/2022	ES2230964	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.05	<0.05
HA18_0.0-0.1_220823	HA18_0.0-0.1_220823	23/08/2022	ES2230767	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.05	<0.05
HA18_1.4-1.5_220823	HA18_1.4-1.5_220823	23/08/2022	ES2230767	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.05	<0.05
HA19_0.0-0.1_220823	HA19_0.0-0.1_220823	23/08/2022	ES2230767	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.05	<0.05
HA19_1.1-1.2_220823	HA19_1.1-1.2_220823	23/08/2022	ES2230767	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.05	<0.05
HA20_0.0_0.1_220824	HA20_0.0_0.1_220824	24/08/2022	ES2230964	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.05	<0.05
HA20_1.2_1.3_220824	HA20_1.2_1.3_220824	24/08/2022	ES2230964	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.05	<0.05
HA21_0.0-0.1_220823	HA21_0.0-0.1_220823	23/08/2022	ES2230767	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.05	<0.05
HA21_1.0-1.1_220823	HA21_1.0-1.1_220823	23/08/2022	ES2230767	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.05	<0.05
HA22_0.0-0.1_220823	HA22_0.0-0.1_220823	23/08/2022	ES2230767	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.05	<0.05
HA22_0.5-0.6_220823	HA22_0.5-0.6_220823	23/08/2022	ES2230767	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.05	<0.05
HA22_1.2-1.3_220823	HA22_1.2-1.3_220823	23/08/2022	ES2230767	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA23_0.0-0.1_220823	HA23_0.0-0.1_220823	23/08/2022	ES2230767	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.05	<0.05
HA23_0.5-0.6_220823	HA23_0.5-0.6_220823	23/08/2022	ES2230767	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.05	<0.05
HA24_0.0-0.1_220823	HA24_0.0-0.1_220823	23/08/2022	ES2230767	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.05	<0.05
HA24_1.1-1.2_220823	HA24_1.1-1.2_220823	23/08/2022	ES2230767	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.05	<0.05
HA25_0.1_0.2_220824	HA25_0.1_0.2_220824	24/08/2022	ES2230964	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.05	<0.05
HA25_0.4_0.5_220824	HA25_0.4_0.5_220824	24/08/2022	ES2230964	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.05	<0.05
SED01_220826	SED01_220826	26/08/2022	ES2230964	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.05	<0.05
SED02_220826	SED02_220826	26/08/2022	ES2230964	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.05	<0.05
TPEV01_0.0_0.21_220815	TPEV01	15/08/2022	ES2229963	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	<0.05
TPEV01_4.0_4.2_220815	TPEV01	15/08/2022	ES2229963	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TPEV01_4.0_4.2_220815	TPEV01	15/08/2022	ES2229963	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	<0.05
TPEV02_0.5_0.7_220815	TPEV02	15/08/2022	ES2229963	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	<0.05
TPEV02_1.0_1.2_220815	TPEV02	15/08/2022	ES2229963	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TPEV02_1.0_1.2_220815	TPEV02	15/08/2022	ES2229963	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	<0.05
TPEV03_0.5_0.7_220815	TPEV03	15/08/2022	ES2229963	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TPEV03_0.5_0.7_220815	TPEV03	15/08/2022	ES2229963	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	<0.05
TPEV03_1.0_1.2_220815	TPEV03	15/08/2022	ES2229963	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	<0.05
TPEV04_0.5_0.7_220815	TPEV04	15/08/2022	ES2229963	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	<0.05
TPEV04_2.0_2.2_220815	TPEV04	15/08/2022	ES2229963	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TPEV04_2.0_2.2_220815	TPEV04	15/08/2022	ES2229963	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	<0.05
SS01_0.0-0.1	SS01_0.0-0.1	10/08/2022	ES2228696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS01_220826	SS01_220826	26/08/2022	ES2230964	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	<0.05
QC105_220826	SS01_220826	26/08/2022	ES2230964	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	<0.05

Client Name: Transport for New South Wales (TfNSW)
Project Name: Muswellbrook Bypass - Detailed Site Investigation
Project No: 60619756

T1 - Soil Analytical Results - Human Health Criteria

AECOM

				Nitroaromatics and Ketones																	Haloethers				Chlorinated Hydrocarbons					
				1,3,5-Trinitrobenzene	1-Naphthylamine	2,4-Dinitrotoluene	2,6-Dinitrotoluene	2-Picoline	4-Aminobiphenyl	4-Nitroquinoline-N-oxide	5-Nitro-o-toluidine	Acetophenone	Azobenzene	Chlorobenzilate	Dimethylaminoazobenzene	Isophorone	Nitrobenzene	Pentachloronitrobenzene	Phenacetin	Pronamide	4-Bromophenyl phenyl ether	Bis(2-chloroethyl) ether	Bis(2-chloroethoxy) methane	4-Chlorophenyl phenyl ether	Hexachlorocyclopentadiene	Hexachloroethane	Hexachloropropene	Pentachlorobenzene	Azinphos Methyl	Bromophos-ethyl
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
				0.5	0.5	1	1	0.5	0.5	0.5	0.5	0.5	1	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	2.5	0.5	0.5	0.5	0.05	0.05
2011 Table B4 Com/Ind D Soil HSL Direct Contact																														
2011 Table B4 Soil HSL Direct Contact (Int. Main. Worker)																														
Table 1A(1) HILs Comm/Ind D Soil																														
Table 1B(7) Management Limits Comm / Ind, Coarse Soil																														
2020 Industrial/ commercial (HIL D)																														
s Industrial Soil THQ=1.0 (May 2020)				32000		7.4	1.5		0.11		260	120000	26	21	0.5	2400	22	13	1000	62000		1	2500		7.5	8		930	2500	
2011 Table B3 Soil HSL Int. Main. Worker (Shallow Trench), Sand																														
Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand																														
Field_ID	**Location_Code**	**Sampled_Date_Time**	**Lab_Report_Number**																												
SS02_0.0-0.1	SS02_0.0-0.1	10/08/2022	ES2228696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS02_220826	SS02_220826	26/08/2022	ES2230964	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	<0.05
SS03_0.0-0.1	SS03_0.0-0.1	10/08/2022	ES2228696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS03_220826	SS03_220826	26/08/2022	ES2230964	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	<0.05
SS04_0.0-0.1	SS04_0.0-0.1	10/08/2022	ES2228696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS04_220826	SS04_220826	26/08/2022	ES2230964	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	<0.05
SS05_0.0-0.05	SS05_0.0-0.05	10/08/2022	ES2228696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS05_220826	SS05_220826	26/08/2022	ES2230964	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	<0.05
SS06_0.0-0.05	SS06_0.0-0.05	10/08/2022	ES2228696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS06_220826	SS06_220826	26/08/2022	ES2230964	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	<0.05
SS07_0.0-0.05	SS07_0.0-0.05	10/08/2022	ES2228696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS07_220826	SS07_220826	26/08/2022	ES2230964	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	<0.05
SS08_0.0-0.05	SS08_0.0-0.05	10/08/2022	ES2228696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS08_220826	SS08_220826	26/08/2022	ES2230964	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	<0.05
SS09_0.0-0.05	SS09_0.0-0.05	10/08/2022	ES2228696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS09_220826	SS09_220826	26/08/2022	ES2230964	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	<0.05
SS10_0.0-0.05	SS10_0.0-0.05	10/08/2022	ES2228696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS10_220826	SS10_220826	26/08/2022	ES2230964	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	<0.05

Client Name: Transport for New South Wales (TfNSW)
Project Name: Muswellbrook Bypass - Detailed Site Investigation
Project No: 60619756

T1 - Soil Analytical Results - Human Health Criteria

AECOM

													Organophosphorus Pesticides (OP)																			
													Carbophenothion	Chlorfenvinphos	Chlorpyrifos	Chlorpyrifos-methyl	Demeton-S-methyl	Diazinon	Dichlorvos	Dimethoate	Ethion	Fenamiphos	Fenthion	Malathion	Monocrotophos	Parathion	Parathion-methyl	Pirimphos-ethyl	Prothiofos	Aldrin	Dieldrin	Aldrin + Dieldrin	a-BHC	b-BHC	d-BHC	g-BHC (Lindane)	cis-Chlordane	trans-Chlordane	Chlordane
													mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
													0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.2	0.2	0.2	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
2011 Table B4 Com/Ind D Soil HSL Direct Contact																																						
2011 Table B4 Soil HSL Direct Contact (Int. Main. Worker)																																						
Table 1A(1) HILs Comm/Ind D Soil															2000																45							530
Table 1B(7) Management Limits Comm / Ind, Coarse Soil																																						
P 2020 Industrial/ commercial (HIL D)																																						
s Industrial Soil THQ=1.0 (May 2020)														570		8200		570	7.9	1800	410	210		16000		4900	210			0.18	0.14		0.36	1.3		2.5			
2011 Table B3 Soil HSL Int. Main. Worker (Shallow Trench), Sand																																						
Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand																																						
Field_ID	**Location_Code**	**Sampled_Date_Time**	**Lab_Report_Number**																																				
HA01_0.0-0.1_220822	HA01_0.0-0.1_220822	22/08/2022	ES2230767	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
HA01_1.1-1.2_220822	HA01_1.1-1.2_220822	22/08/2022	ES2230767	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
HA02_0.0-0.2_220822	HA02_0.0-0.2_220822	22/08/2022	ES2230767	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
HA02_1.4-1.5_220822	HA02_1.4-1.5_220822	22/08/2022	ES2230767	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
HA03_0.5-0.6_220822	HA03_0.5-0.6_220822	22/08/2022	ES2230767	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
HA03_1.4-1.5_220822	HA03_1.4-1.5_220822	22/08/2022	ES2230767	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
HA04_0.1-0.2_220822	HA04_0.1-0.2_220822	22/08/2022	ES2230767	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
HA04_1.0-1.1_220822	HA04_1.0-1.1_220822	22/08/2022	ES2230767	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
HA05_0.1_0.2_220824	HA05_0.1_0.2_220824	24/08/2022	ES2230964	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
QC103_220824	HA05_0.1_0.2_220824	24/08/2022	ES2230964	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
HA05_1.0_1.1_220824	HA05_1.0_1.1_220824	24/08/2022	ES2230964	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
HA06_0.0-0.1_220822	HA06_0.0-0.1_220822	23/08/2022	ES2230767	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
HA06_1.1-1.2_220822	HA06_1.1-1.2_220822	23/08/2022	ES2230767	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
HA07_0.05-0.15_220822		22/08/2022	ES2230767	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
HA07_0.4-0.5_220822	HA07_0.4-0.5_220822	22/08/2022	ES2230767	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
HA08_0.1_0.2_220824	HA08_0.1_0.2_220824	24/08/2022	ES2230964	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
HA08_1.2_1.3_220824	HA08_1.2_1.3_220824	24/08/2022	ES2230964	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
HA09_0.0-0.1_220822	HA09_0.0-0.1_220822	23/08/2022	ES2230767	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
HA09_1.0-1.2_220822	HA09_1.0-1.2_220822	23/08/2022	ES2230767	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
HA10_0.1_0.2_220824	HA10_0.1_0.2_220824	24/08/2022	ES2230964	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
HA10_0.5_0.6_220824	HA10_0.5_0.6_220824	24/08/2022	ES2230964	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
HA11_0.0_0.1_220824	HA11_0.0_0.1_220824	24/08/2022	ES2230964	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
HA11_1.0_1.1_220824	HA11_1.0_1.1_220824	24/08/2022	ES2230964	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
HA12_0.0-0.1_220822	HA12_0.0-0.1_220822	23/08/2022	ES2230767	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
QC101_220823	HA12_0.0-0.1_220822	23/08/2022	ES2230767	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
QC201_220823	HA12_0.0-0.1_220822	23/08/2022	ES2230767	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
HA12_0.6-0.7_220822	HA12_0.6-0.7_220822	23/08/2022	ES2230767	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
HA13_0.0-0.2_220822	HA13_0.0-0.2_220822	22/08/2022	ES2230767	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
HA13_0.5-0.6_220822	HA13_0.5-0.6_220822	22/08/2022	ES2230767	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
HA14_0.1_0.2_220824	HA14_0.1_0.2_220824	24/08/2022	ES2230964	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
HA14_0.6_0.7_220824	HA14_0.6_0.7_220824	24/08/2022	ES2230964	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
QC102_220824	HA14_0.1_0.2_220824	24/08/2022	ES2230964	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
HA15_0.0-0.1_220822	HA15_0.0-0.1_220822	23/08/2022	ES2230767	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
HA15_1.1-1.2_220822	HA15_1.1-1.2_220822	23/08/2022	ES2230767	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
HA16_0.0_0.1_220824	HA16_0.0_0.1_220824	24/08/2022	ES2230964	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
HA16_1.4_1.5_220824	HA16_1.4_1.5_220824	24/08/2022	ES2230964	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05

Client Name: Transport for New South Wales (TfNSW)
Project Name: Muswellbrook Bypass - Detailed Site Investigation
Project No: 60619756

T1 - Soil Analytical Results - Human Health Criteria

AECOM

													Organophosphorus Pesticides (OP)																			
													Carbophenothion	Chlorfenvinphos	Chlorpyrifos	Chlorpyrifos-methyl	Demeton-S-methyl	Diazinon	Dichlorvos	Dimethoate	Ethion	Fenamiphos	Fenthion	Malathion	Monocrotophos	Parathion	Parathion-methyl	Pirimphos-ethyl	Prothiofos	Aldrin	Dieldrin	Aldrin + Dieldrin	a-BHC	b-BHC	d-BHC	g-BHC (Lindane)	cis-Chlordane	trans-Chlordane	Chlordane
													mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
													0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.2	0.2	0.2	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
2011 Table B4 Com/Ind D Soil HSL Direct Contact																																						
2011 Table B4 Soil HSL Direct Contact (Int. Main. Worker)																																						
Table 1A(1) HILs Comm/Ind D Soil															2000																45							530
Table 1B(7) Management Limits Comm / Ind, Coarse Soil																																						
P 2020 Industrial/ commercial (HIL D)																																						
s Industrial Soil THQ=1.0 (May 2020)														570		8200		570	7.9	1800	410	210		16000		4900	210			0.18	0.14		0.36	1.3		2.5			
2011 Table B3 Soil HSL Int. Main. Worker (Shallow Trench), Sand																																						
Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand																																						
Field_ID	**Location_Code**	**Sampled_Date_Time**	**Lab_Report_Number**																																			
HA17_0.5_0.6_220824	HA17_0.5_0.6_220824	24/08/2022	ES2230964	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
HA17_4.0_4.2_220824	HA17_4.0_4.2_220824	24/08/2022	ES2230964	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
HA18_0.0-0.1_220823	HA18_0.0-0.1_220823	23/08/2022	ES2230767	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
HA18_1.4-1.5_220823	HA18_1.4-1.5_220823	23/08/2022	ES2230767	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
HA19_0.0-0.1_220823	HA19_0.0-0.1_220823	23/08/2022	ES2230767	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
HA19_1.1-1.2_220823	HA19_1.1-1.2_220823	23/08/2022	ES2230767	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
HA20_0.0_0.1_220824	HA20_0.0_0.1_220824	24/08/2022	ES2230964	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
HA20_1.2_1.3_220824	HA20_1.2_1.3_220824	24/08/2022	ES2230964	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
HA21_0.0-0.1_220823	HA21_0.0-0.1_220823	23/08/2022	ES2230767	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
HA21_1.0-1.1_220823	HA21_1.0-1.1_220823	23/08/2022	ES2230767	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
HA22_0.0-0.1_220823	HA22_0.0-0.1_220823	23/08/2022	ES2230767	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
HA22_0.5-0.6_220823	HA22_0.5-0.6_220823	23/08/2022	ES2230767	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
HA22_1.2-1.3_220823	HA22_1.2-1.3_220823	23/08/2022	ES2230767	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA23_0.0-0.1_220823	HA23_0.0-0.1_220823	23/08/2022	ES2230767	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
HA23_0.5-0.6_220823	HA23_0.5-0.6_220823	23/08/2022	ES2230767	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
HA24_0.0-0.1_220823	HA24_0.0-0.1_220823	23/08/2022	ES2230767	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
HA24_1.1-1.2_220823	HA24_1.1-1.2_220823	23/08/2022	ES2230767	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
HA25_0.1_0.2_220824	HA25_0.1_0.2_220824	24/08/2022	ES2230964	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
HA25_0.4_0.5_220824	HA25_0.4_0.5_220824	24/08/2022	ES2230964	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
SED01_220826	SED01_220826	26/08/2022	ES2230964	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
SED02_220826	SED02_220826	26/08/2022	ES2230964	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
TPEV01_0.0_0.21_220815	TPEV01	15/08/2022	ES2229963	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
TPEV01_4.0_4.2_220815	TPEV01	15/08/2022	ES2229963	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TPEV01_4.0_4.2_220815	TPEV01	15/08/2022	ES2229963	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
TPEV02_0.5_0.7_220815	TPEV02	15/08/2022	ES2229963	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
TPEV02_1.0_1.2_220815	TPEV02	15/08/2022	ES2229963	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TPEV02_1.0_1.2_220815	TPEV02	15/08/2022	ES2229963	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
TPEV03_0.5_0.7_220815	TPEV03	15/08/2022	ES2229963	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TPEV03_0.5_0.7_220815	TPEV03	15/08/2022	ES2229963	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
TPEV03_1.0_1.2_220815	TPEV03	15/08/2022	ES2229963	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
TPEV04_0.5_0.7_220815	TPEV04	15/08/2022	ES2229963	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
TPEV04_2.0_2.2_220815	TPEV04	15/08/2022	ES2229963	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TPEV04_2.0_2.2_220815	TPEV04	15/08/2022	ES2229963	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
SS01_0.0-0.1	SS01_0.0-0.1	10/08/2022	ES2228696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS01_220826	SS01_220826	26/08/2022	ES2230964	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
QC105_220826	SS01_220826	26/08/2022	ES2230964	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05

Client Name: Transport for New South Wales (TfNSW)
Project Name: Muswellbrook Bypass - Detailed Site Investigation
Project No: 60619756

T1 - Soil Analytical Results - Human Health Criteria

AECOM

				Organophosphorus Pesticides (OP)																											
				Carbophenothion	Chlorfenvinphos	Chlorpyrifos	Chlorpyrifos-methyl	Demeton-S-methyl	Diazinon	Dichlorvos	Dimethoate	Ethion	Fenamiphos	Fenthion	Malathion	Monocrotophos	Parathion	Parathion-methyl	Pirimphos-ethyl	Prothiofos	Aldrin	Dieldrin	Aldrin + Dieldrin	a-BHC	b-BHC	d-BHC	g-BHC (Lindane)	cis-Chlordane	trans-Chlordane	Chlordane
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
				0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.2	0.2	0.2	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
2011 Table B4 Com/Ind D Soil HSL Direct Contact																															
2011 Table B4 Soil HSL Direct Contact (Int. Main. Worker)																															
Table 1A(1) HILs Comm/Ind D Soil						2000																45								530
Table 1B(7) Management Limits Comm / Ind, Coarse Soil																															
2020 Industrial/ commercial (HIL D)																															
s Industrial Soil THQ=1.0 (May 2020)					570		8200		570	7.9	1800	410	210		16000		4900	210			0.18	0.14		0.36	1.3		2.5			
2011 Table B3 Soil HSL Int. Main. Worker (Shallow Trench), Sand																															
Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand																															

Field_ID	Location_Code	Sampled_Date_Time	Lab_Report_Number																												
SS02_0.0-0.1	SS02_0.0-0.1	10/08/2022	ES2228696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS02_220826	SS02_220826	26/08/2022	ES2230964	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
SS03_0.0-0.1	SS03_0.0-0.1	10/08/2022	ES2228696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS03_220826	SS03_220826	26/08/2022	ES2230964	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
SS04_0.0-0.1	SS04_0.0-0.1	10/08/2022	ES2228696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS04_220826	SS04_220826	26/08/2022	ES2230964	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
SS05_0.0-0.05	SS05_0.0-0.05	10/08/2022	ES2228696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS05_220826	SS05_220826	26/08/2022	ES2230964	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
SS06_0.0-0.05	SS06_0.0-0.05	10/08/2022	ES2228696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS06_220826	SS06_220826	26/08/2022	ES2230964	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
SS07_0.0-0.05	SS07_0.0-0.05	10/08/2022	ES2228696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS07_220826	SS07_220826	26/08/2022	ES2230964	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
SS08_0.0-0.05	SS08_0.0-0.05	10/08/2022	ES2228696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS08_220826	SS08_220826	26/08/2022	ES2230964	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
SS09_0.0-0.05	SS09_0.0-0.05	10/08/2022	ES2228696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS09_220826	SS09_220826	26/08/2022	ES2230964	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
SS10_0.0-0.05	SS10_0.0-0.05	10/08/2022	ES2228696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS10_220826	SS10_220826	26/08/2022	ES2230964	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05

Client Name: Transport for New South Wales (TfNSW)
Project Name: Muswellbrook Bypass - Detailed Site Investigation
Project No: 60619756

T1 - Soil Analytical Results - Human Health Criteria

AECOM

	Organochlorine Pesticides (OC)															Phenoxyacetic Acid Herbicides								Benzidine		
	DDD	DDE	DDT	DDT+DDE+DDD	Endosulfan	Endosulfan 1	Endosulfan 2	Endosulfan sulfate	Endrin	Endrin aldehyde	Endrin ketone	Heptachlor	Heptachlor epoxide	Hexachlorobenzene (HCB)	Methoxychlor	2,4,5-TP (Silvex)	4-Chlorophenoxy acetic acid	Clopyralid	Dicamba	Fluroxypyr	Mecoprop	Picloram	Triclopyr	3,3-Dichlorobenzidine	APPROVED IDENTIFIER:	Asbestos fibres
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	-	-
	0.05	0.05	0.2	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.2	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.5		0.1
2011 Table B4 Com/Ind D Soil HSL Direct Contact																										
2011 Table B4 Soil HSL Direct Contact (Int. Main. Worker)																										
Table 1A(1) HILs Comm/Ind D Soil				3600	2000				100			50		80	2500						5000	35000				
Table 1B(7) Management Limits Comm / Ind, Coarse Soil																										
P 2020 Industrial/ commercial (HIL D)																										
s Industrial Soil THQ=1.0 (May 2020)	9.6	9.3	8.5|3300					4900					0.33			6600			25000					5.1		
2011 Table B3 Soil HSL Int. Main. Worker (Shallow Trench), Sand																										
Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand																										

Field_ID	Location_Code	Sampled_Date_Time	Lab_Report_Number																									
HA01_0.0-0.1_220822	HA01_0.0-0.1_220822	22/08/2022	ES2230767	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	-	-	-	-	-	-	-	-	-
HA01_1.1-1.2_220822	HA01_1.1-1.2_220822	22/08/2022	ES2230767	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	-	-	-	-	-	-	-	<0.5	-	-
HA02_0.0-0.2_220822	HA02_0.0-0.2_220822	22/08/2022	ES2230767	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	-	-	-	-	-	-	-	<0.5	-	-
HA02_1.4-1.5_220822	HA02_1.4-1.5_220822	22/08/2022	ES2230767	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	-	-	-	-	-	-	-	<0.5	-	-
HA03_0.5-0.6_220822	HA03_0.5-0.6_220822	22/08/2022	ES2230767	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	-	-	-	-	-	-	-	<0.5	-	-
HA03_1.4-1.5_220822	HA03_1.4-1.5_220822	22/08/2022	ES2230767	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	-	-	-	-	-	-	-	<0.5	-	-
HA04_0.1-0.2_220822	HA04_0.1-0.2_220822	22/08/2022	ES2230767	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	-	-	-	-	-	-	-	<0.5	1	0
HA04_1.0-1.1_220822	HA04_1.0-1.1_220822	22/08/2022	ES2230767	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	-	-	-	-	-	-	-	<0.5	-	-
HA05_0.1_0.2_220824	HA05_0.1_0.2_220824	24/08/2022	ES2230964	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.5	1	0
QC103_220824	HA05_0.1_0.2_220824	24/08/2022	ES2230964	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.6	1	0
HA05_1.0_1.1_220824	HA05_1.0_1.1_220824	24/08/2022	ES2230964	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.5	1	0
HA06_0.0-0.1_220822	HA06_0.0-0.1_220822	23/08/2022	ES2230767	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	-	-	-	-	-	-	-	<0.5	1	0
HA06_1.1-1.2_220822	HA06_1.1-1.2_220822	23/08/2022	ES2230767	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	-	-	-	-	-	-	-	<0.5	-	-
HA07_0.05-0.15_220822		22/08/2022	ES2230767	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	-	-	-	-	-	-	-	<0.5	-	-
HA07_0.4-0.5_220822	HA07_0.4-0.5_220822	22/08/2022	ES2230767	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	-	-	-	-	-	-	-	<0.5	-	-
HA08_0.1_0.2_220824	HA08_0.1_0.2_220824	24/08/2022	ES2230964	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.5	-	-
HA08_1.2_1.3_220824	HA08_1.2_1.3_220824	24/08/2022	ES2230964	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.5	-	-
HA09_0.0-0.1_220822	HA09_0.0-0.1_220822	23/08/2022	ES2230767	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	-	-	-	-	-	-	-	<0.5	1	0
HA09_1.0-1.2_220822	HA09_1.0-1.2_220822	23/08/2022	ES2230767	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	-	-	-	-	-	-	-	<0.5	-	-
HA10_0.1_0.2_220824	HA10_0.1_0.2_220824	24/08/2022	ES2230964	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.5	-	-
HA10_0.5_0.6_220824	HA10_0.5_0.6_220824	24/08/2022	ES2230964	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.5	-	-
HA11_0.0_0.1_220824	HA11_0.0_0.1_220824	24/08/2022	ES2230964	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.5	1	0
HA11_1.0_1.1_220824	HA11_1.0_1.1_220824	24/08/2022	ES2230964	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.5	-	-
HA12_0.0-0.1_220822	HA12_0.0-0.1_220822	23/08/2022	ES2230767	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	-	-	-	-	-	-	-	<0.5	1	0
QC101_220823	HA12_0.0-0.1_220822	23/08/2022	ES2230767	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	-	-	-	-	-	-	-	<0.5	1	0
QC201_220823	HA12_0.0-0.1_220822	23/08/2022	ES2230767	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	-	-	-	-	-	-	-	<0.5	1	0
HA12_0.6-0.7_220822	HA12_0.6-0.7_220822	23/08/2022	ES2230767	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	-	-	-	-	-	-	-	<0.5	-	-
HA13_0.0-0.2_220822	HA13_0.0-0.2_220822	22/08/2022	ES2230767	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	-	-	-	-	-	-	-	<0.5	-	-
HA13_0.5-0.6_220822	HA13_0.5-0.6_220822	22/08/2022	ES2230767	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	-	-	-	-	-	-	-	<0.5	-	-
HA14_0.1_0.2_220824	HA14_0.1_0.2_220824	24/08/2022	ES2230964	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.5	1	0
HA14_0.6_0.7_220824	HA14_0.6_0.7_220824	24/08/2022	ES2230964	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.5	-	-
QC102_220824	HA14_0.1_0.2_220824	24/08/2022	ES2230964	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.5	1	0
HA15_0.0-0.1_220822	HA15_0.0-0.1_220822	23/08/2022	ES2230767	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	-	-	-	-	-	-	-	<0.5	1	0
HA15_1.1-1.2_220822	HA15_1.1-1.2_220822	23/08/2022	ES2230767	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	-	-	-	-	-	-	-	<0.5	-	-
HA16_0.0_0.1_220824	HA16_0.0_0.1_220824	24/08/2022	ES2230964	<0.05	0.21	<0.2	0.21	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.5	1	0
HA16_1.4_1.5_220824	HA16_1.4_1.5_220824	24/08/2022	ES2230964	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.5	-	-

Client Name: Transport for New South Wales (TfNSW)
Project Name: Muswellbrook Bypass - Detailed Site Investigation
Project No: 60619756

T1 - Soil Analytical Results - Human Health Criteria

AECOM

				Organochlorine Pesticides (OC)															Phenoxyacetic Acid Herbicides								Benzidine		
				DDD	DDE	DDT	DDT+DDE+DDD	Endosulfan	Endosulfan 1	Endosulfan 2	Endosulfan sulfate	Endrin	Endrin aldehyde	Endrin ketone	Heptachlor	Heptachlor epoxide	Hexachlorobenzene (HCB)	Methoxychlor	2,4,5-TP (Silvex)	4-Chlorophenoxy acetic acid	Clopyralid	Dicamba	Fluroxypyr	Mecoprop	Picloram	Triclopyr	3,3-Dichlorobenzidine	APPROVED IDENTIFIER:	Asbestos fibres
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	-	-
				0.05	0.05	0.2	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.2	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.5		0.1
2011 Table B4 Com/Ind D Soil HSL Direct Contact																													
2011 Table B4 Soil HSL Direct Contact (Int. Main. Worker)																													
Table 1A(1) HILs Comm/Ind D Soil					3600	2000						100			50		80	2500						5000	35000				
Table 1B(7) Management Limits Comm / Ind, Coarse Soil																													
P 2020 Industrial/ commercial (HIL D)																													
s Industrial Soil THQ=1.0 (May 2020)		9.6	9.3	8.5|3300					4900							0.33			6600			25000					5.1		
2011 Table B3 Soil HSL Int. Main. Worker (Shallow Trench), Sand																													
Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand																													

Field_ID	Location_Code	Sampled_Date_Time	Lab_Report_Number																											
HA17_0.5_0.6_220824	HA17_0.5_0.6_220824	24/08/2022	ES2230964	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.5	-	-
HA17_4.0_4.2_220824	HA17_4.0_4.2_220824	24/08/2022	ES2230964	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.5	-	-
HA18_0.0-0.1_220823	HA18_0.0-0.1_220823	23/08/2022	ES2230767	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	-	-	-	-	-	-	-	<0.5	-	-
HA18_1.4-1.5_220823	HA18_1.4-1.5_220823	23/08/2022	ES2230767	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	-	-	-	-	-	-	-	<0.5	-	-
HA19_0.0-0.1_220823	HA19_0.0-0.1_220823	23/08/2022	ES2230767	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	-	-	-	-	-	-	-	<0.5	-	-
HA19_1.1-1.2_220823	HA19_1.1-1.2_220823	23/08/2022	ES2230767	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	-	-	-	-	-	-	-	<0.5	-	-
HA20_0.0_0.1_220824	HA20_0.0_0.1_220824	24/08/2022	ES2230964	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.5	1	0
HA20_1.2_1.3_220824	HA20_1.2_1.3_220824	24/08/2022	ES2230964	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.5	-	-
HA21_0.0-0.1_220823	HA21_0.0-0.1_220823	23/08/2022	ES2230767	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	-	-	-	-	-	-	-	<0.5	1	0
HA21_1.0-1.1_220823	HA21_1.0-1.1_220823	23/08/2022	ES2230767	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	-	-	-	-	-	-	-	<0.5	-	-
HA22_0.0-0.1_220823	HA22_0.0-0.1_220823	23/08/2022	ES2230767	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	-	-	-	-	-	-	-	<0.5	1	0
HA22_0.5-0.6_220823	HA22_0.5-0.6_220823	23/08/2022	ES2230767	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	-	-	-	-	-	-	-	<0.5	1	0
HA22_1.2-1.3_220823	HA22_1.2-1.3_220823	23/08/2022	ES2230767	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	0
HA23_0.0-0.1_220823	HA23_0.0-0.1_220823	23/08/2022	ES2230767	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	-	-	-	-	-	-	-	<0.5	-	-
HA23_0.5-0.6_220823	HA23_0.5-0.6_220823	23/08/2022	ES2230767	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	-	-	-	-	-	-	-	<0.5	-	-
HA24_0.0-0.1_220823	HA24_0.0-0.1_220823	23/08/2022	ES2230767	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	-	-	-	-	-	-	-	<0.5	1	0
HA24_1.1-1.2_220823	HA24_1.1-1.2_220823	23/08/2022	ES2230767	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	-	-	-	-	-	-	-	<0.5	-	-
HA25_0.1_0.2_220824	HA25_0.1_0.2_220824	24/08/2022	ES2230964	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.5	1	0
HA25_0.4_0.5_220824	HA25_0.4_0.5_220824	24/08/2022	ES2230964	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.5	1	0
SED01_220826	SED01_220826	26/08/2022	ES2230964	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.5	-	-
SED02_220826	SED02_220826	26/08/2022	ES2230964	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.5	-	-
TPEV01_0.0_0.21_220815	TPEV01	15/08/2022	ES2229963	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	-	-	-	-	-	-	-	-	-	-
TPEV01_4.0_4.2_220815	TPEV01	15/08/2022	ES2229963	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	0
TPEV01_4.0_4.2_220815	TPEV01	15/08/2022	ES2229963	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	-	-	-	-	-	-	-	-	1	0
TPEV02_0.5_0.7_220815	TPEV02	15/08/2022	ES2229963	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	-	-	-	-	-	-	-	-	1	0
TPEV02_1.0_1.2_220815	TPEV02	15/08/2022	ES2229963	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	0
TPEV02_1.0_1.2_220815	TPEV02	15/08/2022	ES2229963	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	-	-	-	-	-	-	-	-	1	0
TPEV03_0.5_0.7_220815	TPEV03	15/08/2022	ES2229963	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	0
TPEV03_0.5_0.7_220815	TPEV03	15/08/2022	ES2229963	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	-	-	-	-	-	-	-	-	1	0
TPEV03_1.0_1.2_220815	TPEV03	15/08/2022	ES2229963	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	-	-	-	-	-	-	-	-	-	-
TPEV04_0.5_0.7_220815	TPEV04	15/08/2022	ES2229963	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	-	-	-	-	-	-	-	-	-	-
TPEV04_2.0_2.2_220815	TPEV04	15/08/2022	ES2229963	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	0
TPEV04_2.0_2.2_220815	TPEV04	15/08/2022	ES2229963	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	-	-	-	-	-	-	-	-	1	0
SS01_0.0-0.1	SS01_0.0-0.1	10/08/2022	ES2228696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	0
SS01_220826	SS01_220826	26/08/2022	ES2230964	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	-	-	-
QC105_220826	SS01_220826	26/08/2022	ES2230964	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	-	-	-

Client Name: Transport for New South Wales (TfNSW)
Project Name: Muswellbrook Bypass - Detailed Site Investigation
Project No: 60619756

T1 - Soil Analytical Results - Human Health Criteria

AECOM

				Organochlorine Pesticides (OC)																Phenoxyacetic Acid Herbicides								Benzidine		
				DDD	DDE	DDT	DDT+DDE+DDD	Endosulfan	Endosulfan 1	Endosulfan 2	Endosulfan sulfate	Endrin	Endrin aldehyde	Endrin ketone	Heptachlor	Heptachlor epoxide	Hexachlorobenzene (HCB)	Methoxychlor	2,4,5-TP (Silvex)	4-Chlorophenoxy acetic acid	Clopyralid	Dicamba	Fluroxypyr	Mecoprop	Picloram	Triclopyr	3,3-Dichlorobenzidine	APPROVED IDENTIFIER:	Asbestos fibres
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	-	-
				0.05	0.05	0.2	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.2	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.5		0.1
2011 Table B4 Com/Ind D Soil HSL Direct Contact																														
2011 Table B4 Soil HSL Direct Contact (Int. Main. Worker)																														
Table 1A(1) HILs Comm/Ind D Soil					3600	2000						100			50		80	2500						5000	35000				
Table 1B(7) Management Limits Comm / Ind, Coarse Soil																														
P 2020 Industrial/ commercial (HIL D)																														
s Industrial Soil THQ=1.0 (May 2020)		9.6	9.3	8.5|3300					4900							0.33			6600			25000					5.1		
2011 Table B3 Soil HSL Int. Main. Worker (Shallow Trench), Sand																														
Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand																														

Field_ID	Location_Code	Sampled_Date_Time	Lab_Report_Number																											
SS02_0.0-0.1	SS02_0.0-0.1	10/08/2022	ES2228696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	0
SS02_220826	SS02_220826	26/08/2022	ES2230964	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	-	-	-
SS03_0.0-0.1	SS03_0.0-0.1	10/08/2022	ES2228696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	0
SS03_220826	SS03_220826	26/08/2022	ES2230964	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	-	-	-
SS04_0.0-0.1	SS04_0.0-0.1	10/08/2022	ES2228696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	0
SS04_220826	SS04_220826	26/08/2022	ES2230964	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	-	-	-
SS05_0.0-0.05	SS05_0.0-0.05	10/08/2022	ES2228696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	0
SS05_220826	SS05_220826	26/08/2022	ES2230964	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	-	-	-
SS06_0.0-0.05	SS06_0.0-0.05	10/08/2022	ES2228696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	0
SS06_220826	SS06_220826	26/08/2022	ES2230964	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	-	-	-
SS07_0.0-0.05	SS07_0.0-0.05	10/08/2022	ES2228696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	0
SS07_220826	SS07_220826	26/08/2022	ES2230964	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	-	-	-
SS08_0.0-0.05	SS08_0.0-0.05	10/08/2022	ES2228696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	0
SS08_220826	SS08_220826	26/08/2022	ES2230964	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	-	-	-
SS09_0.0-0.05	SS09_0.0-0.05	10/08/2022	ES2228696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	0
SS09_220826	SS09_220826	26/08/2022	ES2230964	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	-	-	-
SS10_0.0-0.05	SS10_0.0-0.05	10/08/2022	ES2228696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	0
SS10_220826	SS10_220826	26/08/2022	ES2230964	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	-	-	-

Client Name: Transport for New South Wales (TfNSW)
Project Name: Muswellbrook Bypass - Detailed Site Investigation
Project No: 60619756

T1 - Soil Analytical Results - Human Health Criteria

AECOM

		Asbestos									Herbicides						Anilines								
		Asbestos Type	Organic Fibre	Asbestos (Trace)	Synthetic Mineral Fibre	Asbestos Containing Material	Asbestos (Fines and Fibrous <7mm)	Asbestos (Trace)	Asbestos Containing Material (as 15% Asbestos in A	Weight Used for % Calculation	2,4,5-Trichlorophenoxy acetic acid	2,4-Dichlorprop	2,4-Dichlorophenoxy acetic acid	4-(2,4-Dichlorophenoxy)butyric Acid (2,4-DB)	2-Methyl-4-chlorophenoxyacetic acid	2-Methyl-4-Chlorophenoxy Butanoic Acid	2-Nitroaniline	3-Nitroaniline	4-Chloroaniline	4-Nitroaniline	Aniline	Carbazole	Dibenzofuran	Ammonia (as N)	Nitrate (as N)
		-	g/kg	Fibres	g/kg	g	g	Fibres	%	kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
			0.1	5	0.1	0.1	0.0004	5	0.01	0.0001	0.02	0.02	0.02	0.02	0.02	0.02	1	1	0.5	0.5	0.5	0.5	0.5	20	0.1
2011 Table B4 Com/Ind D Soil HSL Direct Contact																									
2011 Table B4 Soil HSL Direct Contact (Int. Main. Worker)																									
Table 1A(1) HILs Comm/Ind D Soil											5000		9000		5000	5000									
Table 1B(7) Management Limits Comm / Ind, Coarse Soil																									
P 2020 Industrial/ commercial (HIL D)																									
s Industrial Soil THQ=1.0 (May 2020)														25000			8000		11	110	400		1200		
2011 Table B3 Soil HSL Int. Main. Worker (Shallow Trench), Sand																									
Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand																									

Field_ID	Location_Code	Sampled_Date_Time	Lab_Report_Number																								
HA01_0.0-0.1_220822	HA01_0.0-0.1_220822	22/08/2022	ES2230767	-	-	-	-						-	-	-	-	-	-	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	-	-
HA01_1.1-1.2_220822	HA01_1.1-1.2_220822	22/08/2022	ES2230767	-	-	-	-						-	-	-	-	-	-	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	-	-
HA02_0.0-0.2_220822	HA02_0.0-0.2_220822	22/08/2022	ES2230767	-	-	-	-						-	-	-	-	-	-	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	-	-
HA02_1.4-1.5_220822	HA02_1.4-1.5_220822	22/08/2022	ES2230767	-	-	-	-						-	-	-	-	-	-	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	-	-
HA03_0.5-0.6_220822	HA03_0.5-0.6_220822	22/08/2022	ES2230767	-	-	-	-						-	-	-	-	-	-	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	-	-
HA03_1.4-1.5_220822	HA03_1.4-1.5_220822	22/08/2022	ES2230767	-	-	-	-						-	-	-	-	-	-	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	-	-
HA04_0.1-0.2_220822	HA04_0.1-0.2_220822	22/08/2022	ES2230767	-	0	0	0						-	-	-	-	-	-	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	-	-
HA04_1.0-1.1_220822	HA04_1.0-1.1_220822	22/08/2022	ES2230767	-	-	-	-						-	-	-	-	-	-	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	-	-
HA05_0.1_0.2_220824	HA05_0.1_0.2_220824	24/08/2022	ES2230964	1	0	0	0						<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	-	-
QC103_220824	HA05_0.1_0.2_220824	24/08/2022	ES2230964	1	0	0	0						<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<1	<1	<0.6	<0.6	<0.6	<0.6	<0.6	-	-
HA05_1.0_1.1_220824	HA05_1.0_1.1_220824	24/08/2022	ES2230964	1	0	0	0						<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	-	-
HA06_0.0-0.1_220822	HA06_0.0-0.1_220822	23/08/2022	ES2230767	-	0	0	0						-	-	-	-	-	-	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	-	-
HA06_1.1-1.2_220822	HA06_1.1-1.2_220822	23/08/2022	ES2230767	-	-	-	-						-	-	-	-	-	-	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	-	-
HA07_0.05-0.15_220822		22/08/2022	ES2230767	-	-	-	-						-	-	-	-	-	-	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	-	-
HA07_0.4-0.5_220822	HA07_0.4-0.5_220822	22/08/2022	ES2230767	-	-	-	-						-	-	-	-	-	-	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	-	-
HA08_0.1_0.2_220824	HA08_0.1_0.2_220824	24/08/2022	ES2230964	-	-	-	-						<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	-	-
HA08_1.2_1.3_220824	HA08_1.2_1.3_220824	24/08/2022	ES2230964	-	-	-	-						<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	-	-
HA09_0.0-0.1_220822	HA09_0.0-0.1_220822	23/08/2022	ES2230767	-	0	0	0						-	-	-	-	-	-	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	-	-
HA09_1.0-1.2_220822	HA09_1.0-1.2_220822	23/08/2022	ES2230767	-	-	-	-						-	-	-	-	-	-	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	-	-
HA10_0.1_0.2_220824	HA10_0.1_0.2_220824	24/08/2022	ES2230964	-	-	-	-						<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	-	-
HA10_0.5_0.6_220824	HA10_0.5_0.6_220824	24/08/2022	ES2230964	-	-	-	-						<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	-	-
HA11_0.0_0.1_220824	HA11_0.0_0.1_220824	24/08/2022	ES2230964	1	0	0	0						<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	-	-
HA11_1.0_1.1_220824	HA11_1.0_1.1_220824	24/08/2022	ES2230964	-	-	-	-						<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	-	-
HA12_0.0-0.1_220822	HA12_0.0-0.1_220822	23/08/2022	ES2230767	-	0	0	0						-	-	-	-	-	-	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	-	-
QC101_220823	HA12_0.0-0.1_220822	23/08/2022	ES2230767	-	0	0	0						-	-	-	-	-	-	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	-	-
QC201_220823	HA12_0.0-0.1_220822	23/08/2022	ES2230767	-	0	0	0						-	-	-	-	-	-	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	-	-
HA12_0.6-0.7_220822	HA12_0.6-0.7_220822	23/08/2022	ES2230767	-	-	-	-						-	-	-	-	-	-	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	-	-
HA13_0.0-0.2_220822	HA13_0.0-0.2_220822	22/08/2022	ES2230767	-	-	-	-						-	-	-	-	-	-	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	-	-
HA13_0.5-0.6_220822	HA13_0.5-0.6_220822	22/08/2022	ES2230767	-	-	-	-						-	-	-	-	-	-	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	-	-
HA14_0.1_0.2_220824	HA14_0.1_0.2_220824	24/08/2022	ES2230964	1	0	0	0						<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	-	-
HA14_0.6_0.7_220824	HA14_0.6_0.7_220824	24/08/2022	ES2230964	-	-	-	-						<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	-	-
QC102_220824	HA14_0.1_0.2_220824	24/08/2022	ES2230964	1	0	0	0						<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	-	-
HA15_0.0-0.1_220822	HA15_0.0-0.1_220822	23/08/2022	ES2230767	-	0	0	0						-	-	-	-	-	-	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	-	-
HA15_1.1-1.2_220822	HA15_1.1-1.2_220822	23/08/2022	ES2230767	-	-	-	-						-	-	-	-	-	-	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	-	-
HA16_0.0_0.1_220824	HA16_0.0_0.1_220824	24/08/2022	ES2230964	1	0	0	0						<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	-	-
HA16_1.4_1.5_220824	HA16_1.4_1.5_220824	24/08/2022	ES2230964	-	-	-	-						<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	-	-

Client Name: Transport for New South Wales (TfNSW)
Project Name: Muswellbrook Bypass - Detailed Site Investigation
Project No: 60619756

T1 - Soil Analytical Results - Human Health Criteria

AECOM

										Asbestos									Herbicides						Anilines																		

Client Name: Transport for New South Wales (TfNSW)
Project Name: Muswellbrook Bypass - Detailed Site Investigation
Project No: 60619756

T1 - Soil Analytical Results - Human Health Criteria

AECOM

	Asbestos									Herbicides						Anilines								
	Asbestos Type	Organic Fibre	Asbestos (Trace)	Synthetic Mineral Fibre	Asbestos Containing Material	Asbestos (Fines and Fibrous <7mm)	Asbestos (Trace)	Asbestos Containing Material (as 15% Asbestos in A	Weight Used for % Calculation	2,4,5-Trichlorophenoxy acetic acid	2,4-Dichlorprop	2,4-Dichlorophenoxy acetic acid	4-(2,4-Dichlorophenoxy)butyric Acid (2,4-DB)	2-Methyl-4-chlorophenoxyacetic acid	2-Methyl-4-Chlorophenoxy Butanoic Acid	2-Nitroaniline	3-Nitroaniline	4-Chloroaniline	4-Nitroaniline	Aniline	Carbazole	Dibenzofuran	Ammonia (as N)	Nitrate (as N)
	-	g/kg	Fibres	g/kg	g	g	Fibres	%	kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
		0.1	5	0.1	0.1	0.0004	5	0.01	0.0001	0.02	0.02	0.02	0.02	0.02	0.02	1	1	0.5	0.5	0.5	0.5	0.5	20	0.1
2011 Table B4 Com/Ind D Soil HSL Direct Contact																								
2011 Table B4 Soil HSL Direct Contact (Int. Main. Worker)																								
Table 1A(1) HILs Comm/Ind D Soil										5000		9000		5000	5000									
Table 1B(7) Management Limits Comm / Ind, Coarse Soil																								
P 2020 Industrial/ commercial (HIL D)																								
s Industrial Soil THQ=1.0 (May 2020)													25000			8000		11	110	400		1200		
2011 Table B3 Soil HSL Int. Main. Worker (Shallow Trench), Sand																								
Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand																								

Field_ID	Location_Code	Sampled_Date_Time	Lab_Report_Number																							
SS02_0.0-0.1	SS02_0.0-0.1	10/08/2022	ES2228696	1	0	0	0						-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS02_220826	SS02_220826	26/08/2022	ES2230964	-	-	-	-						<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	-	-	-	-	-	-	-	-	-
SS03_0.0-0.1	SS03_0.0-0.1	10/08/2022	ES2228696	1	0	0	0						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS03_220826	SS03_220826	26/08/2022	ES2230964	-	-	-	-						<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	-	-	-	-	-	-	-	-	-
SS04_0.0-0.1	SS04_0.0-0.1	10/08/2022	ES2228696	1	0	0	0						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS04_220826	SS04_220826	26/08/2022	ES2230964	-	-	-	-						<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	-	-	-	-	-	-	-	-	-
SS05_0.0-0.05	SS05_0.0-0.05	10/08/2022	ES2228696	1	0	0	0						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS05_220826	SS05_220826	26/08/2022	ES2230964	-	-	-	-						<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	-	-	-	-	-	-	-	-	-
SS06_0.0-0.05	SS06_0.0-0.05	10/08/2022	ES2228696	1	0	0	0						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS06_220826	SS06_220826	26/08/2022	ES2230964	-	-	-	-						<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	-	-	-	-	-	-	-	-	-
SS07_0.0-0.05	SS07_0.0-0.05	10/08/2022	ES2228696	1	0	0	0						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS07_220826	SS07_220826	26/08/2022	ES2230964	-	-	-	-						<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	-	-	-	-	-	-	-	-	-
SS08_0.0-0.05	SS08_0.0-0.05	10/08/2022	ES2228696	1	0	0	0						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS08_220826	SS08_220826	26/08/2022	ES2230964	-	-	-	-						<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	-	-	-	-	-	-	-	-	-
SS09_0.0-0.05	SS09_0.0-0.05	10/08/2022	ES2228696	1	0	0	0						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS09_220826	SS09_220826	26/08/2022	ES2230964	-	-	-	-						<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	-	-	-	-	-	-	-	-	-
SS10_0.0-0.05	SS10_0.0-0.05	10/08/2022	ES2228696	1	0	0	0						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS10_220826	SS10_220826	26/08/2022	ES2230964	-	-	-	-						<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	-	-	-	-	-	-	-	-	-

Client Name: Transport for New South Wales (TfNSW)
Project Name: Muswellbrook Bypass - Detailed Site Investigation
Project No: 60619756

T2- Soil Analytical Results - Ecological Criteria

AECOM

				Landfill Gas	Metals								Per- and Poly-fluo															

Client Name: Transport for New South Wales (TfNSW)
Project Name: Muswellbrook Bypass - Detailed Site Investigation
Project No: 60619756

T2- Soil Analytical Results - Ecological Criteria

AECOM

						Landfill Gas	Metals								Per- and Poly-fluo															
					Sum of WA DWER PFAS (n=10)*	Description	Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Zinc	Perfluorooctanoic acid (PFOA)	Perfluorooctane sulfonic acid (PFOS)	Perfluorohexane sulfonic acid (PFHxS)	Sum (PFHxS + PFOS)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	Perfluorobutane sulfonic acid (PFBS)	Perfluorobutanoic acid (PFBA)	Perfluorodecane sulfonic acid (PFDS)	Perfluorodecanoic acid (PFDA)	Perfluorododecanoic acid (PFDoDA)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluoroheptanoic acid (PFHpA)
					ug/kg	-	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL					0.2		5	1	2	5	5	0.1	2	5	0.0002	0.0002	0.0002	0.0002	0.0005	0.0005	0.0005	0.0005	0.0002	0.001	0.0002	0.0002	0.0002	0.0002	0.0002
NEPM 2013 Table 1B(5) Generic EIL - Comm/Ind							160																							
PFAS NEMP 2020 Ecological direct exposure															10	1														
PFAS NEMP 2020 Ecological indirect exposure																0.01														
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Coarse Soil																														
0-2m																														
	HA21_1.0-1.1_220823	HA21_1.0-1.1_220823	23/08/2022	ES2230767	<0.2	-	7	<1	21	10	12	<0.1	20	21	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
	HA22_0.0-0.1_220823	HA22_0.0-0.1_220823	23/08/2022	ES2230767	0.6	1	8	<1	17	7	9	<0.1	12	19	<0.0002	0.0006	<0.0002	0.0006	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
	HA22_0.5-0.6_220823	HA22_0.5-0.6_220823	23/08/2022	ES2230767	0.3	1	7	<1	23	10	12	<0.1	31	21	<0.0002	<0.0002	0.0003	0.0003	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
	HA22_1.2-1.3_220823	HA22_1.2-1.3_220823	23/08/2022	ES2230767	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	HA23_0.0-0.1_220823	HA23_0.0-0.1_220823	23/08/2022	ES2230767	<0.2	-	10	<1	28	8	12	<0.1	27	23	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
	HA23_0.5-0.6_220823	HA23_0.5-0.6_220823	23/08/2022	ES2230767	<0.2	-	10	<1	31	10	14	<0.1	23	24	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
	HA24_0.0-0.1_220823	HA24_0.0-0.1_220823	23/08/2022	ES2230767	<0.2	1	10	<1	29	8	15	<0.1	37	28	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
	HA24_1.1-1.2_220823	HA24_1.1-1.2_220823	23/08/2022	ES2230767	<0.2	-	14	<1	23	7	12	<0.1	23	40	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
	HA25_0.1_0.2_220824	HA25_0.1_0.2_220824	24/08/2022	ES2230964	29.7	1	22	<1	16	41	13	0.1	70	28	0.0005	0.0223	0.0063	0.0286	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.001	<0.0002	0.0003	<0.0002	0.0004	<0.0002
	HA25_0.4_0.5_220824	HA25_0.4_0.5_220824	24/08/2022	ES2230964	48	1	8	<1	17	19	10	<0.1	28	31	0.0008	0.0344	0.012	0.0464	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.001	<0.0002	0.0003	<0.0002	0.0007	<0.0002
Area 9	SS01_0.0-0.1	SS01_0.0-0.1	10/08/2022	ES2228696	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SS01_220826	SS01_220826	26/08/2022	ES2230964	-	-	13	<1	8	66	85	0.2	28	81	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QC105_220826	SS01_220826	26/08/2022	ES2230964	-	-	<5	<1	6	29	27	<0.1	20	28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SS02_0.0-0.1	SS02_0.0-0.1	10/08/2022	ES2228696	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SS02_220826	SS02_220826	26/08/2022	ES2230964	-	-	6	<1	12	30	10	<0.1	48	22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SS03_0.0-0.1	SS03_0.0-0.1	10/08/2022	ES2228696	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SS03_220826	SS03_220826	26/08/2022	ES2230964	-	-	5	<1	9	26	14	<0.1	23	36	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SS04_0.0-0.1	SS04_0.0-0.1	10/08/2022	ES2228696	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SS04_220826	SS04_220826	26/08/2022	ES2230964	-	-	6	<1	13	30	11	<0.1	49	30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SS05_0.0-0.05	SS05_0.0-0.05	10/08/2022	ES2228696	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SS05_220826	SS05_220826	26/08/2022	ES2230964	-	-	<5	<1	10	20	8	<0.1	28	26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SS06_0.0-0.05	SS06_0.0-0.05	10/08/2022	ES2228696	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SS06_220826	SS06_220826	26/08/2022	ES2230964	-	-	6	<1	10	23	12	<0.1	32	18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SS07_0.0-0.05	SS07_0.0-0.05	10/08/2022	ES2228696	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SS07_220826	SS07_220826	26/08/2022	ES2230964	-	-	17	<1	10	38	16	<0.1	34	18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SS08_0.0-0.05	SS08_0.0-0.05	10/08/2022	ES2228696	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SS08_220826	SS08_220826	26/08/2022	ES2230964	-	-	<5	<1	7	18	10	<0.1	33	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SS09_0.0-0.05	SS09_0.0-0.05	10/08/2022	ES2228696	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SS09_220826	SS09_220826	26/08/2022	ES2230964	-	-	6	<1	9	32	11	<0.1	33	23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SS10_0.0-0.05	SS10_0.0-0.05	10/08/2022	ES2228696	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SS10_220826	SS10_220826	26/08/2022	ES2230964	-	-	7	<1	8	24	9	<0.1	26	13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Client Name: Transport for New South Wales (TfNSW)
Project Name: Muswellbrook Bypass - Detailed Site Investigation
Project No: 60619756

T2- Soil Analytical Results - Ecological Criteria

AECOM

					roalkyl Substances																	Total Petroleum Hydrocarbons					Total Recoverable Hydrocarbons							
					Perfluorohexanoic acid (PFHxA)	Perfluorononanoic acid (PFNA)	Perfluorooctane sulfonamide (FOSA)	Perfluoropentane sulfonic acid (PFPeS)	Perfluoropentanoic acid (PFPeA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluoroundecanoic acid (PFUnDA)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	Sum of PFAS	C6-C9 fraction	C10-C14 fraction	C15-C28 fraction	C29-C36 fraction	C10-C36 fraction (sum)	C6-C10 fraction	C6-C10 fraction (minus BTEX)(F1)	>C10-C16 (minus Naphthalene)(F2)	>C10-C16 fraction	>C16-C34 fraction	>C34-C40 fraction
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL					0.0002	0.0002	0.0002	0.0002	0.0002	0.0005	0.0002	0.0002	0.0005	0.0002	0.0005	0.0005	0.0002	0.0005	0.0002	10	50	100	100	50	10	10	50	50	100	100
NEPM 2013 Table 1B(5) Generic EIL - Comm/Ind																																		
PFAS NEMP 2020 Ecological direct exposure																																		
PFAS NEMP 2020 Ecological indirect exposure																																		
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Coarse Soil																																		
0-2m																															215	170	170	1700	3300
Area	**Field_ID**	**Location_Code**	**Sampled_Date_Time**	**Lab_Report_Number**																														
Area 3 and Area 4	HA01_0.0-0.1_220822	HA01_0.0-0.1_220822	22/08/2022	ES2230767	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<10	<50	<100	<100	<50	<10	<10	<50	<50	<100	<100
	HA01_1.1-1.2_220822	HA01_1.1-1.2_220822	22/08/2022	ES2230767	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<10	<50	<100	<100	<50	<10	<10	<50	<50	<100	<100
	HA02_0.0-0.2_220822	HA02_0.0-0.2_220822	22/08/2022	ES2230767	<0.0002	0.0021	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0129	<10	<50	<100	<100	<50	<10	<10	<50	<50	<100	<100
	HA02_1.4-1.5_220822	HA02_1.4-1.5_220822	22/08/2022	ES2230767	<0.0002	0.0003	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0017	<10	<50	<100	<100	<50	<10	<10	<50	<50	<100	<100
	HA03_0.5-0.6_220822	HA03_0.5-0.6_220822	22/08/2022	ES2230767	0.0002	0.0006	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0029	<10	<50	<100	<100	<50	<10	<10	<50	<50	<100	<100
	HA03_1.4-1.5_220822	HA03_1.4-1.5_220822	22/08/2022	ES2230767	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0003	<10	<50	<100	<100	<50	<10	<10	<50	<50	<100	<100
	HA04_0.1-0.2_220822	HA04_0.1-0.2_220822	22/08/2022	ES2230767	0.0006	0.0266	<0.0002	0.0003	0.0004	<0.0005	0.0002	0.0136	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.134	<10	<50	<100	<100	<50	<10	<10	<50	<50	<100	<100
	HA04_1.0-1.1_220822	HA04_1.0-1.1_220822	22/08/2022	ES2230767	0.0003	0.0006	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0037	<10	<50	<100	<100	<50	<10	<10	<50	<50	<100	<100
	HA05_0.1_0.2_220824	HA05_0.1_0.2_220824	24/08/2022	ES2230964	0.0042	0.0499	<0.0002	0.0035	0.0008	<0.0005	0.0119	0.041	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.431	<10	<50	<100	<100	<50	<10	<10	<50	<50	<100	<100
	QC103_220824	HA05_0.1_0.2_220824	24/08/2022	ES2230964	0.008	0.0744	<0.0002	0.0059	0.0014	<0.0005	0.0434	0.0825	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.694	<10	<50	<100	<100	<50	<10	<10	<50	<50	<100	<100
	HA05_1.0_1.1_220824	HA05_1.0_1.1_220824	24/08/2022	ES2230964	0.0017	0.014	<0.0002	0.0003	0.0004	<0.0005	<0.0002	0.0018	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0422	<10	<50	<100	<100	<50	<10	<10	<50	<50	<100	<100
	HA06_0.0-0.1_220822	HA06_0.0-0.1_220822	23/08/2022	ES2230767	<0.0002	0.0005	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0011	<10	<50	<100	<100	<50	<10	<10	<50	<50	<100	<100
	HA06_1.1-1.2_220822	HA06_1.1-1.2_220822	23/08/2022	ES2230767	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<10	<50	<100	<100	<50	<10	<10	<50	<50	<100	<100
	HA07_0.05-0.15_220822		22/08/2022	ES2230767	0.0003	0.0044	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0062	<10	<50	<100	<100	<50	<10	<10	<50	<50	<100	<100
	HA07_0.4-0.5_220822	HA07_0.4-0.5_220822	22/08/2022	ES2230767	<0.0002	0.0006	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0028	<10	<50	<100	<100	<50	<10	<10	<50	<50	<100	<100
	HA08_0.1_0.2_220824	HA08_0.1_0.2_220824	24/08/2022	ES2230964	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<10	<50	<100	<100	<50	<10	<10	<50	<50	<100	<100
	HA08_1.2_1.3_220824	HA08_1.2_1.3_220824	24/08/2022	ES2230964	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<10	<50	<100	<100	<50	<10	<10	<50	<50	<100	<100
	HA09_0.0-0.1_220822	HA09_0.0-0.1_220822	23/08/2022	ES2230767	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<10	<50	<100	<100	<50	<10	<10	<50	<50	<100	<100
	HA09_1.0-1.2_220822	HA09_1.0-1.2_220822	23/08/2022	ES2230767	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<10	<50	<100	<100	<50	<10	<10	<50	<50	<100	<100
	HA10_0.1_0.2_220824	HA10_0.1_0.2_220824	24/08/2022	ES2230964	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<10	<50	<100	<100	<50	<10	<10	<50	<50	<100	<100
	HA10_0.5_0.6_220824	HA10_0.5_0.6_220824	24/08/2022	ES2230964	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<10	<50	<100	<100	<50	<10	<10	<50	<50	<100	<100
	HA11_0.0_0.1_220824	HA11_0.0_0.1_220824	24/08/2022	ES2230964	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<10	<50	<100	<100	<50	<10	<10	<50	<50	<100	<100
	HA11_1.0_1.1_220824	HA11_1.0_1.1_220824	24/08/2022	ES2230964	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<10	<50	<100	<100	<50	<10	<10	<50	<50	<100	<100
	HA12_0.0-0.1_220822	HA12_0.0-0.1_220822	23/08/2022	ES2230767	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<10	<50	<100	<100	<50	<10	<10	<50	<50	<100	<100
	QC101_220823	HA12_0.0-0.1_220822	23/08/2022	ES2230767	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<10	<50	<100	<100	<50	<10	<10	<50	<50	<100	<100
	QC201_220823	HA12_0.0-0.1_220822	23/08/2022	ES2230767	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<10	<50	<100	<100	<50	<10	<10	<50	<50	<100	<100
	HA12_0.6-0.7_220822	HA12_0.6-0.7_220822	23/08/2022	ES2230767	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<10	<50	<100	<100	<50	<10	<10	<50	<50	<100	<100
	HA13_0.0-0.2_220822	HA13_0.0-0.2_220822	22/08/2022	ES2230767	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<10	<50	<100	<100	<50	<10	<10	<50	<50	<100	<100
	HA13_0.5-0.6_220822	HA13_0.5-0.6_220822	22/08/2022	ES2230767	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<10	<50	<100	<100	<50	<10	<10	<50	<50	<100	<100
	HA14_0.1_0.2_220824	HA14_0.1_0.2_220824	24/08/2022	ES2230964	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<10	<50	<100	<100	<50	<10	<10	<50	<50	<100	<100
	QC102_220824	HA14_0.1_0.2_220824	24/08/2022	ES2230964	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<10	<50	<100	<100	<50	<10	<10	<50	<50	<100	<100
	HA14_0.6_0.7_220824	HA14_0.6_0.7_220824	24/08/2022	ES2230964	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<10	<50	<100	<100	<50	<10	<10	<50	<50	<100	<100
	HA15_0.0-0.1_220822	HA15_0.0-0.1_220822	23/08/2022	ES2230767	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<10	<50	<100	<100	<50	<10	<10	<50	<50	<100	<100
	HA15_1.1-1.2_220822	HA15_1.1-1.2_220822	23/08/2022	ES2230767	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<10	<50	<100	<100	<50	<10	<10	<50	<50	<100	<100
	HA16_0.0_0.1_220824	HA16_0.0_0.1_220824	24/08/2022	ES2230964	<0.0002	0.0005	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	0.0003	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.007	<10	<50	<100	<100	<50	<10	<10	<50	<50	<100	<100
	HA16_1.4_1.5_220824	HA16_1.4_1.5_220824	24/08/2022	ES2230964	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0007	<10	<50	<100	<100	<50	<10	<10	<50	<50	<100	<100
	HA17_0.5_0.6_220824	HA17_0.5_0.6_220824	24/08/2022	ES2230964	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<10	<50	<100	<100	<50	<10	<10	<50	<50	<100	<100
	HA17_4.0_4.2_220824	HA17_4.0_4.2_220824	24/08/2022	ES2230964	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<10	<50	<100	<100	<50	<10	<10	<50	<50	<100	<100
	HA18_0.0-0.1_220823	HA18_0.0-0.1_220823	23/08/2022	ES2230767	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<10	<50	<100	<100	<50	<10	<10	<50	<50	<100	<100
	HA18_1.4-1.5_220823	HA18_1.4-1.5_220823	23/08/2022	ES2230767	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<10	<50	<100	<100	<50	<10	<10	<50	<50	<100	<100
	HA19_0.0-0.1_220823	HA19_0.0-0.1_220823	23/08/2022	ES2230767	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<10	<50	<100	<100	<50	<10	<10	<50	<50	<100	<100
	HA19_1.1-1.2_220823	HA19_1.1-1.2_220823	23/08/2022	ES2230767	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<10	<50	<100	<100	<50	<10	<10	<50	<50	<100	<100
	HA20_0.0_0.1_220824	HA20_0.0_0.1_220824	24/08/2022	ES2230964	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<10	<50	<100	<100	<50	<10	<10	<50	<50	<100	<100
	HA20_1.2_1.3_220824	HA20_1.2_1.3_220824	24/08/2022	ES2230964	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<10	<50	<100	<100	<50	<10	<10	<50	<50	<100	<100
	HA21_0.0-0.1_220823	HA21_0.0-0.1_220823	23/08/2022	ES2230767	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<10	<50	<100	<100	<50	<10	<10	<50	<50	<100	<100

Client Name: Transport for New South Wales (TfNSW)
Project Name: Muswellbrook Bypass - Detailed Site Investigation
Project No: 60619756

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					roalkyl Substances															Total Petroleum Hydrocarbons					Total Recoverable Hydrocarbons					
					Perfluorohexanoic acid (PFHxA)	Perfluorononanoic acid (PFNA)	Perfluorooctane sulfonamide (FOSA)	Perfluoropentane sulfonic acid (PFPeS)	Perfluoropentanoic acid (PFPeA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluoroundecanoic acid (PFUnDA)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	Sum of PFAS	C6-C9 fraction	C10-C14 fraction	C15-C28 fraction	C29-C36 fraction	C10-C36 fraction (sum)	C6-C10 fraction	C6-C10 fraction (minus BTEX)(F1)	>C10-C16 (minus Naphthalene)(F2)	>C10-C16 fraction	>C16-C34 fraction	>C34-C40 fraction
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL					0.0002	0.0002	0.0002	0.0002	0.0002	0.0005	0.0002	0.0002	0.0005	0.0002	0.0005	0.0005	0.0002	0.0005	0.0002	10	50	100	100	50	10	10	50	50	100	100
NEPM 2013 Table 1B(5) Generic EIL - Comm/Ind																														
PFAS NEMP 2020 Ecological direct exposure																														
PFAS NEMP 2020 Ecological indirect exposure																														
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Coarse Soil																														
0-2m																										215	170	170	1700	3300
	HA21_1.0-1.1_220823	HA21_1.0-1.1_220823	23/08/2022	ES2230767	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<10	<50	<100	<100	<50	<10	<10	<50	<50	<100	<100
	HA22_0.0-0.1_220823	HA22_0.0-0.1_220823	23/08/2022	ES2230767	<0.0002	0.0006	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0012	<10	<50	<100	<100	<50	<10	<10	<50	<50	<100	<100
	HA22_0.5-0.6_220823	HA22_0.5-0.6_220823	23/08/2022	ES2230767	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0003	<10	<50	<100	<100	<50	<10	<10	<50	<50	<100	<100
	HA22_1.2-1.3_220823	HA22_1.2-1.3_220823	23/08/2022	ES2230767	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	HA23_0.0-0.1_220823	HA23_0.0-0.1_220823	23/08/2022	ES2230767	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<10	<50	<100	<100	<50	<10	<10	<50	<50	<100	<100
	HA23_0.5-0.6_220823	HA23_0.5-0.6_220823	23/08/2022	ES2230767	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<10	<50	<100	<100	<50	<10	<10	<50	<50	<100	<100
	HA24_0.0-0.1_220823	HA24_0.0-0.1_220823	23/08/2022	ES2230767	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<10	<50	<100	<100	<50	<10	<10	<50	<50	<100	<100
	HA24_1.1-1.2_220823	HA24_1.1-1.2_220823	23/08/2022	ES2230767	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<10	<50	<100	<100	<50	<10	<10	<50	<50	<100	<100
	HA25_0.1_0.2_220824	HA25_0.1_0.2_220824	24/08/2022	ES2230964	0.0004	0.0254	<0.0002	0.0002	0.0002	<0.0005	<0.0002	0.0024	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0584	<10	<50	<100	<100	<50	<10	<10	<50	<50	<100	<100
	HA25_0.4_0.5_220824	HA25_0.4_0.5_220824	24/08/2022	ES2230964	0.0005	0.0308	<0.0002	0.0004	0.0003	<0.0005	<0.0002	0.0021	<0.0005	<0.0002	<0.0005	<0.0005	<0.0002	<0.0005	0.0823	<10	<50	<100	<100	<50	<10	<10	<50	<50	<100	<100
Area 9	SS01_0.0-0.1	SS01_0.0-0.1	10/08/2022	ES2228696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SS01_220826	SS01_220826	26/08/2022	ES2230964	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<10	<50	250	140	390	<10	<10	50	50	320	<100
	QC105_220826	SS01_220826	26/08/2022	ES2230964	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<10	<50	360	150	510	<10	<10	<50	<50	450	<100
	SS02_0.0-0.1	SS02_0.0-0.1	10/08/2022	ES2228696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SS02_220826	SS02_220826	26/08/2022	ES2230964	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<10	<50	290	150	440	<10	<10	<50	<50	380	<100
	SS03_0.0-0.1	SS03_0.0-0.1	10/08/2022	ES2228696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SS03_220826	SS03_220826	26/08/2022	ES2230964	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<10	<50	340	160	500	<10	<10	80	80	400	110
	SS04_0.0-0.1	SS04_0.0-0.1	10/08/2022	ES2228696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SS04_220826	SS04_220826	26/08/2022	ES2230964	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<10	<50	340	170	510	<10	<10	<50	<50	440	<100
	SS05_0.0-0.05	SS05_0.0-0.05	10/08/2022	ES2228696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SS05_220826	SS05_220826	26/08/2022	ES2230964	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<10	<50	300	160	460	<10	<10	50	50	380	110
	SS06_0.0-0.05	SS06_0.0-0.05	10/08/2022	ES2228696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SS06_220826	SS06_220826	26/08/2022	ES2230964	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<10	<50	290	140	430	<10	<10	60	60	380	<100
	SS07_0.0-0.05	SS07_0.0-0.05	10/08/2022	ES2228696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SS07_220826	SS07_220826	26/08/2022	ES2230964	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<10	<50	290	140	430	<10	<10	60	60	350	<100
	SS08_0.0-0.05	SS08_0.0-0.05	10/08/2022	ES2228696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SS08_220826	SS08_220826	26/08/2022	ES2230964	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<10	<50	520	210	730	<10	<10	100	100	640	110
	SS09_0.0-0.05	SS09_0.0-0.05	10/08/2022	ES2228696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SS09_220826	SS09_220826	26/08/2022	ES2230964	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<10	<50	200	<100	200	<10	<10	<50	<50	260	<100
	SS10_0.0-0.05	SS10_0.0-0.05	10/08/2022	ES2228696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SS10_220826	SS10_220826	26/08/2022	ES2230964	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<10	<50	140	<100	140	<10	<10	<50	<50	180	<100

Client Name: Transport for New South Wales (TfNSW)
Project Name: Muswellbrook Bypass - Detailed Site Investigation
Project No: 60619756

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								Monocyclic Aromatic Hydrocarbons														Polynuclear Arom											
								>C10-C40 fraction (sum)	Benzene	Toluene	Ethylbenzene	m&p-Xylene	o-Xylene	Total Xylenes	Styrene	Isopropylbenzene	n-butylbenzene	n-propylbenzene	p-isopropyltoluene	sec-butylbenzene	tert-butylbenzene	1,2,4-trimethylbenzene	1,3,5-trimethylbenzene	Total BTEX	Benzo(a)pyrene TEQ calc (Half)	Benzo(a)pyrene TEQ calc (Zero)	Benzo(a)pyrene TEQ calc(PQL)	Naphthalene	2-Methylnaphthalene	2-Chloronaphthalene	Acenaphthylene	Acenaphthene	Anthracene	Fluorene	Phenanthrene	Fluoranthene	Benz(a)anthracene
								mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL								50	0.2	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.2	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
NEPM 2013 Table 1B(5) Generic EIL - Comm/Ind																												370								
PFAS NEMP 2020 Ecological direct exposure																																				
PFAS NEMP 2020 Ecological indirect exposure																																				
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Coarse Soil																																				
0-2m									75	135	165			180																							
Area	**Field_ID**	**Location_Code**	**Sampled_Date_Time**	**Lab_Report_Number**																																
Area 3 and Area 4	HA01_0.0-0.1_220822	HA01_0.0-0.1_220822	22/08/2022	ES2230767	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	0.6	<0.5	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	HA01_1.1-1.2_220822	HA01_1.1-1.2_220822	22/08/2022	ES2230767	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	0.6	<0.5	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	HA02_0.0-0.2_220822	HA02_0.0-0.2_220822	22/08/2022	ES2230767	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	0.6	<0.5	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	HA02_1.4-1.5_220822	HA02_1.4-1.5_220822	22/08/2022	ES2230767	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	0.6	<0.5	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	HA03_0.5-0.6_220822	HA03_0.5-0.6_220822	22/08/2022	ES2230767	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	0.6	<0.5	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	HA03_1.4-1.5_220822	HA03_1.4-1.5_220822	22/08/2022	ES2230767	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	0.6	<0.5	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	HA04_0.1-0.2_220822	HA04_0.1-0.2_220822	22/08/2022	ES2230767	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	0.6	<0.5	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	HA04_1.0-1.1_220822	HA04_1.0-1.1_220822	22/08/2022	ES2230767	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	0.6	<0.5	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	HA05_0.1_0.2_220824	HA05_0.1_0.2_220824	24/08/2022	ES2230964	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	0.6	<0.5	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	QC103_220824	HA05_0.1_0.2_220824	24/08/2022	ES2230964	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	1	<0.5	1.9	<0.8	<0.6	<0.6	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
	HA05_1.0_1.1_220824	HA05_1.0_1.1_220824	24/08/2022	ES2230964	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	0.6	<0.5	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	HA06_0.0-0.1_220822	HA06_0.0-0.1_220822	23/08/2022	ES2230767	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	0.6	<0.5	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	HA06_1.1-1.2_220822	HA06_1.1-1.2_220822	23/08/2022	ES2230767	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	0.6	<0.5	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	HA07_0.05-0.15_220822		22/08/2022	ES2230767	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	0.6	<0.5	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	HA07_0.4-0.5_220822	HA07_0.4-0.5_220822	22/08/2022	ES2230767	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	0.6	<0.5	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	HA08_0.1_0.2_220824	HA08_0.1_0.2_220824	24/08/2022	ES2230964	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	0.6	<0.5	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	HA08_1.2_1.3_220824	HA08_1.2_1.3_220824	24/08/2022	ES2230964	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	0.6	<0.5	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	HA09_0.0-0.1_220822	HA09_0.0-0.1_220822	23/08/2022	ES2230767	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	0.6	<0.5	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	HA09_1.0-1.2_220822	HA09_1.0-1.2_220822	23/08/2022	ES2230767	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	0.6	<0.5	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	HA10_0.1_0.2_220824	HA10_0.1_0.2_220824	24/08/2022	ES2230964	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	0.6	<0.5	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	HA10_0.5_0.6_220824	HA10_0.5_0.6_220824	24/08/2022	ES2230964	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	0.6	<0.5	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	HA11_0.0_0.1_220824	HA11_0.0_0.1_220824	24/08/2022	ES2230964	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	0.6	<0.5	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	HA11_1.0_1.1_220824	HA11_1.0_1.1_220824	24/08/2022	ES2230964	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	0.6	<0.5	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	HA12_0.0-0.1_220822	HA12_0.0-0.1_220822	23/08/2022	ES2230767	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	0.6	<0.5	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	QC101_220823	HA12_0.0-0.1_220822	23/08/2022	ES2230767	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	0.6	<0.5	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	QC201_220823	HA12_0.0-0.1_220822	23/08/2022	ES2230767	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	0.6	<0.5	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	HA12_0.6-0.7_220822	HA12_0.6-0.7_220822	23/08/2022	ES2230767	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	0.6	<0.5	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	HA13_0.0-0.2_220822	HA13_0.0-0.2_220822	22/08/2022	ES2230767	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	0.6	<0.5	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	HA13_0.5-0.6_220822	HA13_0.5-0.6_220822	22/08/2022	ES2230767	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	0.6	<0.5	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	HA14_0.1_0.2_220824	HA14_0.1_0.2_220824	24/08/2022	ES2230964	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	0.6	<0.5	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	QC102_220824	HA14_0.1_0.2_220824	24/08/2022	ES2230964	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	0.6	<0.5	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	HA14_0.6_0.7_220824	HA14_0.6_0.7_220824	24/08/2022	ES2230964	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	0.6	<0.5	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	HA15_0.0-0.1_220822	HA15_0.0-0.1_220822	23/08/2022	ES2230767	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	0.6	<0.5	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	HA15_1.1-1.2_220822	HA15_1.1-1.2_220822	23/08/2022	ES2230767	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	0.6	<0.5	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	HA16_0.0_0.1_220824	HA16_0.0_0.1_220824	24/08/2022	ES2230964	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	1	0.7	1.4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.7	1.4	0.6
	HA16_1.4_1.5_220824	HA16_1.4_1.5_220824	24/08/2022	ES2230964	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	0.6	<0.5	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	HA17_0.5_0.6_220824	HA17_0.5_0.6_220824	24/08/2022	ES2230964	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	0.6	<0.5	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	HA17_4.0_4.2_220824	HA17_4.0_4.2_220824	24/08/2022	ES2230964	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	0.6	<0.5	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	HA18_0.0-0.1_220823	HA18_0.0-0.1_220823	23/08/2022	ES2230767	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	0.6	<0.5	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	HA18_1.4-1.5_220823	HA18_1.4-1.5_220823	23/08/2022	ES2230767	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	0.6	<0.5	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	HA19_0.0-0.1_220823	HA19_0.0-0.1_220823	23/08/2022	ES2230767	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	0.6	<0.5	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	HA19_1.1-1.2_220823	HA19_1.1-1.2_220823	23/08/2022	ES2230767	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	0.6	<0.5	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	HA20_0.0_0.1_220824	HA20_0.0_0.1_220824	24/08/2022	ES2230964	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	0.6	<0.5	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	HA20_1.2_1.3_220824	HA20_1.2_1.3_220824	24/08/2022	ES2230964	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	0.6	<0.5	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	HA21_0.0-0.1_220823	HA21_0.0-0.1_220823	23/08/2022	ES2230767	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	0.6	<0.5	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5

Client Name: Transport for New South Wales (TfNSW)
Project Name: Muswellbrook Bypass - Detailed Site Investigation
Project No: 60619756

T2- Soil Analytical Results - Ecological Criteria

AECOM

						Monocyclic Aromatic Hydrocarbons																Polynuclear Arom											
						>C10-C40 fraction (sum)	Benzene	Toluene	Ethylbenzene	m&p-Xylene	o-Xylene	Total Xylenes	Styrene	Isopropylbenzene	n-butylbenzene	n-propylbenzene	p-isopropyltoluene	sec-butylbenzene	tert-butylbenzene	1,2,4-trimethylbenzene	1,3,5-trimethylbenzene	Total BTEX	Benzo(a)pyrene TEQ calc (Half)	Benzo(a)pyrene TEQ calc (Zero)	Benzo(a)pyrene TEQ calc(PQL)	Naphthalene	2-Methylnaphthalene	2-Chloronaphthalene	Acenaphthylene	Acenaphthene	Anthracene	Fluorene	Phenanthrene	Fluoranthene	Benz(a)anthracene
						mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL						50	0.2	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.2	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
NEPM 2013 Table 1B(5) Generic EIL - Comm/Ind																										370							
PFAS NEMP 2020 Ecological direct exposure																																	
PFAS NEMP 2020 Ecological indirect exposure																																	
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Coarse Soil																																	
0-2m							75	135	165			180																					
	HA21_1.0-1.1_220823	HA21_1.0-1.1_220823	23/08/2022	ES2230767		<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	0.6	<0.5	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	HA22_0.0-0.1_220823	HA22_0.0-0.1_220823	23/08/2022	ES2230767		<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	0.6	<0.5	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	HA22_0.5-0.6_220823	HA22_0.5-0.6_220823	23/08/2022	ES2230767		<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	0.6	<0.5	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	HA22_1.2-1.3_220823	HA22_1.2-1.3_220823	23/08/2022	ES2230767		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	HA23_0.0-0.1_220823	HA23_0.0-0.1_220823	23/08/2022	ES2230767		<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	0.6	<0.5	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	HA23_0.5-0.6_220823	HA23_0.5-0.6_220823	23/08/2022	ES2230767		<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	0.6	<0.5	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	HA24_0.0-0.1_220823	HA24_0.0-0.1_220823	23/08/2022	ES2230767		<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	0.6	<0.5	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	HA24_1.1-1.2_220823	HA24_1.1-1.2_220823	23/08/2022	ES2230767		<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	0.6	<0.5	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	HA25_0.1_0.2_220824	HA25_0.1_0.2_220824	24/08/2022	ES2230964		<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	0.6	<0.5	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	HA25_0.4_0.5_220824	HA25_0.4_0.5_220824	24/08/2022	ES2230964		<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	0.6	<0.5	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Area 9	SS01_0.0-0.1	SS01_0.0-0.1	10/08/2022	ES2228696		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SS01_220826	SS01_220826	26/08/2022	ES2230964		370	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	<0.2	0.6	<0.5	1.2	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	1.5	1.1	<0.5
	QC105_220826	SS01_220826	26/08/2022	ES2230964		450	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	<0.2	0.6	<0.5	1.2	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	2.7	1.5	0.5
	SS02_0.0-0.1	SS02_0.0-0.1	10/08/2022	ES2228696		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SS02_220826	SS02_220826	26/08/2022	ES2230964		380	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	<0.2	0.6	<0.5	1.2	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	1.8	1.3	<0.5
	SS03_0.0-0.1	SS03_0.0-0.1	10/08/2022	ES2228696		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SS03_220826	SS03_220826	26/08/2022	ES2230964		590	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	<0.2	0.6	<0.5	1.2	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	2.6	1.4	<0.5
	SS04_0.0-0.1	SS04_0.0-0.1	10/08/2022	ES2228696		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SS04_220826	SS04_220826	26/08/2022	ES2230964		440	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	<0.2	0.6	<0.5	1.2	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	1.9	1.2	<0.5
	SS05_0.0-0.05	SS05_0.0-0.05	10/08/2022	ES2228696		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SS05_220826	SS05_220826	26/08/2022	ES2230964		540	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	<0.2	0.6	<0.5	1.2	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	1.5	0.9	<0.5
	SS06_0.0-0.05	SS06_0.0-0.05	10/08/2022	ES2228696		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SS06_220826	SS06_220826	26/08/2022	ES2230964		440	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	<0.2	0.6	<0.5	1.2	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	1.7	1	<0.5
	SS07_0.0-0.05	SS07_0.0-0.05	10/08/2022	ES2228696		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SS07_220826	SS07_220826	26/08/2022	ES2230964		410	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	<0.2	0.6	<0.5	1.2	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	2.8	1.4	0.5
	SS08_0.0-0.05	SS08_0.0-0.05	10/08/2022	ES2228696		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SS08_220826	SS08_220826	26/08/2022	ES2230964		850	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	<0.2	0.6	<0.5	1.2	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	3	1.7	0.6
	SS09_0.0-0.05	SS09_0.0-0.05	10/08/2022	ES2228696		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SS09_220826	SS09_220826	26/08/2022	ES2230964		260	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	<0.2	0.6	<0.5	1.2	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	1	0.6	<0.5
	SS10_0.0-0.05	SS10_0.0-0.05	10/08/2022	ES2228696		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SS10_220826	SS10_220826	26/08/2022	ES2230964		180	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	<0.2	0.6	<0.5	1.2	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	1	0.5	<0.5

Client Name: Transport for New South Wales (TfNSW)
Project Name: Muswellbrook Bypass - Detailed Site Investigation
Project No: 60619756

T2- Soil Analytical Results - Ecological Criteria

AECOM

						atic Hydrocarbons												Phenolic Compounds													Fumigan		
						Benzo(k)fluoranthene	Benzo(b&j)fluoranthene	Benzo(b+j) & Benzo(k)fluoranthene	N-2-Fluorenyl Acetamide	7,12-Dimethylbenz(a)anthracene	Benzo(a)pyrene	Chrysene	Pyrene	3-Methylcholanthrene	Benzo(g,h,i)perylene	Dibenz(a,h)anthracene	Indeno(1,2,3-cd)pyrene	Sum of PAHs	3/4-Methylphenol (m/p-cresol)	Phenol	2-Chlorophenol	2-Methylphenol (o-Cresol)	2-Nitrophenol	2,4-Dichlorophenol	2,4-Dimethylphenol	2,6-Dichlorophenol	4-Chloro-3-methylphenol	2,4,6-Trichlorophenol	2,4,5-Trichlorophenol	Pentachlorophenol	1,2-Dibromoethane (EDB)	1,2-Dichloropropane	2,2-Dichloropropane
						mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL						0.5	0.5	1	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	1	0.5	0.5	0.5
NEPM 2013 Table 1B(5) Generic EIL - Comm/Ind																																	
PFAS NEMP 2020 Ecological direct exposure																																	
PFAS NEMP 2020 Ecological indirect exposure																																	
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Coarse Soil																																	
0-2m											1.4																						
Area	**Field_ID**	**Location_Code**	**Sampled_Date_Time**	**Lab_Report_Number**																														
Area 3 and Area 4	HA01_0.0-0.1_220822	HA01_0.0-0.1_220822	22/08/2022	ES2230767	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5
	HA01_1.1-1.2_220822	HA01_1.1-1.2_220822	22/08/2022	ES2230767	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5
	HA02_0.0-0.2_220822	HA02_0.0-0.2_220822	22/08/2022	ES2230767	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5
	HA02_1.4-1.5_220822	HA02_1.4-1.5_220822	22/08/2022	ES2230767	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5
	HA03_0.5-0.6_220822	HA03_0.5-0.6_220822	22/08/2022	ES2230767	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5
	HA03_1.4-1.5_220822	HA03_1.4-1.5_220822	22/08/2022	ES2230767	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5
	HA04_0.1-0.2_220822	HA04_0.1-0.2_220822	22/08/2022	ES2230767	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5
	HA04_1.0-1.1_220822	HA04_1.0-1.1_220822	22/08/2022	ES2230767	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5
	HA05_0.1_0.2_220824	HA05_0.1_0.2_220824	24/08/2022	ES2230964	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5
	QC103_220824	HA05_0.1_0.2_220824	24/08/2022	ES2230964	<0.8	<0.8	-	<0.6	<0.6	<0.8	<0.8	<0.8	<0.6	<0.8	<0.8	<0.8	<0.5	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<1	<0.5	<0.5	<0.5
	HA05_1.0_1.1_220824	HA05_1.0_1.1_220824	24/08/2022	ES2230964	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5
	HA06_0.0-0.1_220822	HA06_0.0-0.1_220822	23/08/2022	ES2230767	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5
	HA06_1.1-1.2_220822	HA06_1.1-1.2_220822	23/08/2022	ES2230767	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5
	HA07_0.05-0.15_220822		22/08/2022	ES2230767	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5
	HA07_0.4-0.5_220822	HA07_0.4-0.5_220822	22/08/2022	ES2230767	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5
	HA08_0.1_0.2_220824	HA08_0.1_0.2_220824	24/08/2022	ES2230964	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5
	HA08_1.2_1.3_220824	HA08_1.2_1.3_220824	24/08/2022	ES2230964	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5
	HA09_0.0-0.1_220822	HA09_0.0-0.1_220822	23/08/2022	ES2230767	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5
	HA09_1.0-1.2_220822	HA09_1.0-1.2_220822	23/08/2022	ES2230767	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5
	HA10_0.1_0.2_220824	HA10_0.1_0.2_220824	24/08/2022	ES2230964	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5
	HA10_0.5_0.6_220824	HA10_0.5_0.6_220824	24/08/2022	ES2230964	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5
	HA11_0.0_0.1_220824	HA11_0.0_0.1_220824	24/08/2022	ES2230964	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5
	HA11_1.0_1.1_220824	HA11_1.0_1.1_220824	24/08/2022	ES2230964	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5
	HA12_0.0-0.1_220822	HA12_0.0-0.1_220822	23/08/2022	ES2230767	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5
	QC101_220823	HA12_0.0-0.1_220822	23/08/2022	ES2230767	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5
	QC201_220823	HA12_0.0-0.1_220822	23/08/2022	ES2230767	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5
	HA12_0.6-0.7_220822	HA12_0.6-0.7_220822	23/08/2022	ES2230767	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5
	HA13_0.0-0.2_220822	HA13_0.0-0.2_220822	22/08/2022	ES2230767	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5
	HA13_0.5-0.6_220822	HA13_0.5-0.6_220822	22/08/2022	ES2230767	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5
	HA14_0.1_0.2_220824	HA14_0.1_0.2_220824	24/08/2022	ES2230964	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5
	QC102_220824	HA14_0.1_0.2_220824	24/08/2022	ES2230964	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5
	HA14_0.6_0.7_220824	HA14_0.6_0.7_220824	24/08/2022	ES2230964	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5
	HA15_0.0-0.1_220822	HA15_0.0-0.1_220822	23/08/2022	ES2230767	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5
	HA15_1.1-1.2_220822	HA15_1.1-1.2_220822	23/08/2022	ES2230767	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5
	HA16_0.0_0.1_220824	HA16_0.0_0.1_220824	24/08/2022	ES2230964	<0.5	0.8	-	<0.5	<0.5	0.6	0.5	1.2	<0.5	<0.5	<0.5	<0.5	5.8	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5
	HA16_1.4_1.5_220824	HA16_1.4_1.5_220824	24/08/2022	ES2230964	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5
	HA17_0.5_0.6_220824	HA17_0.5_0.6_220824	24/08/2022	ES2230964	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5
	HA17_4.0_4.2_220824	HA17_4.0_4.2_220824	24/08/2022	ES2230964	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5
	HA18_0.0-0.1_220823	HA18_0.0-0.1_220823	23/08/2022	ES2230767	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5
	HA18_1.4-1.5_220823	HA18_1.4-1.5_220823	23/08/2022	ES2230767	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5
	HA19_0.0-0.1_220823	HA19_0.0-0.1_220823	23/08/2022	ES2230767	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5
	HA19_1.1-1.2_220823	HA19_1.1-1.2_220823	23/08/2022	ES2230767	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5
	HA20_0.0_0.1_220824	HA20_0.0_0.1_220824	24/08/2022	ES2230964	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5
	HA20_1.2_1.3_220824	HA20_1.2_1.3_220824	24/08/2022	ES2230964	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5
	HA21_0.0-0.1_220823	HA21_0.0-0.1_220823	23/08/2022	ES2230767	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5

Client Name: Transport for New South Wales (TfNSW)
Project Name: Muswellbrook Bypass - Detailed Site Investigation
Project No: 60619756

T2- Soil Analytical Results - Ecological Criteria

AECOM

					atic Hydrocarbons													Phenolic Compounds												Fumigan		
					Benzo(k)fluoranthene	Benzo(b&j)fluoranthene	Benzo(b+j) & Benzo(k)fluoranthene	N-2-Fluorenyl Acetamide	7,12-Dimethylbenz(a)anthracene	Benzo(a)pyrene	Chrysene	Pyrene	3-Methylcholanthrene	Benzo(g,h,i)perylene	Dibenz(a,h)anthracene	Indeno(1,2,3-cd)pyrene	Sum of PAHs	3/4-Methylphenol (m/p-cresol)	Phenol	2-Chlorophenol	2-Methylphenol (o-Cresol)	2-Nitrophenol	2,4-Dichlorophenol	2,4-Dimethylphenol	2,6-Dichlorophenol	4-Chloro-3-methylphenol	2,4,6-Trichlorophenol	2,4,5-Trichlorophenol	Pentachlorophenol	1,2-Dibromoethane (EDB)	1,2-Dichloropropane	2,2-Dichloropropane
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL					0.5	0.5	1	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	1	0.5	0.5	0.5
NEPM 2013 Table 1B(5) Generic EIL - Comm/Ind																																
PFAS NEMP 2020 Ecological direct exposure																																
PFAS NEMP 2020 Ecological indirect exposure																																
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Coarse Soil																																
0-2m										1.4																						
	HA21_1.0-1.1_220823	HA21_1.0-1.1_220823	23/08/2022	ES2230767	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5
	HA22_0.0-0.1_220823	HA22_0.0-0.1_220823	23/08/2022	ES2230767	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5
	HA22_0.5-0.6_220823	HA22_0.5-0.6_220823	23/08/2022	ES2230767	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5
	HA22_1.2-1.3_220823	HA22_1.2-1.3_220823	23/08/2022	ES2230767	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	HA23_0.0-0.1_220823	HA23_0.0-0.1_220823	23/08/2022	ES2230767	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5
	HA23_0.5-0.6_220823	HA23_0.5-0.6_220823	23/08/2022	ES2230767	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5
	HA24_0.0-0.1_220823	HA24_0.0-0.1_220823	23/08/2022	ES2230767	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5
	HA24_1.1-1.2_220823	HA24_1.1-1.2_220823	23/08/2022	ES2230767	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5
	HA25_0.1_0.2_220824	HA25_0.1_0.2_220824	24/08/2022	ES2230964	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5
	HA25_0.4_0.5_220824	HA25_0.4_0.5_220824	24/08/2022	ES2230964	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5
Area 9	SS01_0.0-0.1	SS01_0.0-0.1	10/08/2022	ES2228696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SS01_220826	SS01_220826	26/08/2022	ES2230964	<0.5	<0.5	-	-	-	<0.5	0.5	0.9	-	<0.5	<0.5	<0.5	4	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	-	-	-
	QC105_220826	SS01_220826	26/08/2022	ES2230964	<0.5	<0.5	-	-	-	<0.5	0.6	1	-	<0.5	<0.5	<0.5	6.3	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	-	-	-
	SS02_0.0-0.1	SS02_0.0-0.1	10/08/2022	ES2228696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SS02_220826	SS02_220826	26/08/2022	ES2230964	<0.5	<0.5	-	-	-	<0.5	<0.5	0.9	-	<0.5	<0.5	<0.5	4	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	-	-	-
	SS03_0.0-0.1	SS03_0.0-0.1	10/08/2022	ES2228696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SS03_220826	SS03_220826	26/08/2022	ES2230964	<0.5	<0.5	-	-	-	<0.5	<0.5	1	-	<0.5	<0.5	<0.5	5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	-	-	-
	SS04_0.0-0.1	SS04_0.0-0.1	10/08/2022	ES2228696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SS04_220826	SS04_220826	26/08/2022	ES2230964	<0.5	<0.5	-	-	-	<0.5	<0.5	0.9	-	<0.5	<0.5	<0.5	4	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	-	-	-
	SS05_0.0-0.05	SS05_0.0-0.05	10/08/2022	ES2228696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SS05_220826	SS05_220826	26/08/2022	ES2230964	<0.5	<0.5	-	-	-	<0.5	<0.5	0.6	-	<0.5	<0.5	<0.5	3	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	-	-	-
	SS06_0.0-0.05	SS06_0.0-0.05	10/08/2022	ES2228696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SS06_220826	SS06_220826	26/08/2022	ES2230964	<0.5	<0.5	-	-	-	<0.5	<0.5	0.6	-	<0.5	<0.5	<0.5	3.3	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	-	-	-
	SS07_0.0-0.05	SS07_0.0-0.05	10/08/2022	ES2228696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SS07_220826	SS07_220826	26/08/2022	ES2230964	<0.5	<0.5	-	-	-	<0.5	0.6	1	-	<0.5	<0.5	<0.5	6.3	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	-	-	-
	SS08_0.0-0.05	SS08_0.0-0.05	10/08/2022	ES2228696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SS08_220826	SS08_220826	26/08/2022	ES2230964	<0.5	<0.5	-	-	-	<0.5	0.6	1.2	-	<0.5	<0.5	<0.5	7.1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	-	-	-
	SS09_0.0-0.05	SS09_0.0-0.05	10/08/2022	ES2228696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SS09_220826	SS09_220826	26/08/2022	ES2230964	<0.5	<0.5	-	-	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	1.6	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	-	-	-
	SS10_0.0-0.05	SS10_0.0-0.05	10/08/2022	ES2228696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SS10_220826	SS10_220826	26/08/2022	ES2230964	<0.5	<0.5	-	-	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	1.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	-	-	-

Client Name: Transport for New South Wales (TfNSW)
Project Name: Muswellbrook Bypass - Detailed Site Investigation
Project No: 60619756

T2- Soil Analytical Results - Ecological Criteria

AECOM

					ts		Halogenated Aromatic Compounds									Halogenated Aliphatic Compounds																	
					cis-1,3-Dichloropropene	trans-1,3-Dichloropropene	Bromobenzene	Chlorobenzene	2-Chlorotoluene	4-Chlorotoluene	1,2-Dichlorobenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	1,2,3-Trichlorobenzene	1,2,4-Trichlorobenzene	Dichlorodifluoromethane (Freon 12)	Chloromethane	Vinyl chloride	Bromomethane	Chloroethane	Trichlorofluoromethane (Freon 11)	1,1-Dichloroethene	Iodomethane	1,1-Dichloroethane	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	1,1,1-Trichloroethane	1,1-Dichloropropene	Carbon Tetrachloride	1,2-Dichloroethane	Trichloroethene	Dibromomethane	1,1,2-Trichloroethane
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL					0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	5	5	5	5	5	5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
NEPM 2013 Table 1B(5) Generic EIL - Comm/Ind																																	
PFAS NEMP 2020 Ecological direct exposure																																	
PFAS NEMP 2020 Ecological indirect exposure																																	
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Coarse Soil																																	
0-2m																																	
Area	**Field_ID**	**Location_Code**	**Sampled_Date_Time**	**Lab_Report_Number**																													
Area 3 and Area 4	HA01_0.0-0.1_220822	HA01_0.0-0.1_220822	22/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	HA01_1.1-1.2_220822	HA01_1.1-1.2_220822	22/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	HA02_0.0-0.2_220822	HA02_0.0-0.2_220822	22/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	HA02_1.4-1.5_220822	HA02_1.4-1.5_220822	22/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	HA03_0.5-0.6_220822	HA03_0.5-0.6_220822	22/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	HA03_1.4-1.5_220822	HA03_1.4-1.5_220822	22/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	HA04_0.1-0.2_220822	HA04_0.1-0.2_220822	22/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	HA04_1.0-1.1_220822	HA04_1.0-1.1_220822	22/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	HA05_0.1_0.2_220824	HA05_0.1_0.2_220824	24/08/2022	ES2230964	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	QC103_220824	HA05_0.1_0.2_220824	24/08/2022	ES2230964	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.6	<0.6	<0.6	<0.5	<0.6	<5	<5	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	HA05_1.0_1.1_220824	HA05_1.0_1.1_220824	24/08/2022	ES2230964	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	HA06_0.0-0.1_220822	HA06_0.0-0.1_220822	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	HA06_1.1-1.2_220822	HA06_1.1-1.2_220822	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	HA07_0.05-0.15_220822		22/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	HA07_0.4-0.5_220822	HA07_0.4-0.5_220822	22/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	HA08_0.1_0.2_220824	HA08_0.1_0.2_220824	24/08/2022	ES2230964	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	HA08_1.2_1.3_220824	HA08_1.2_1.3_220824	24/08/2022	ES2230964	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	HA09_0.0-0.1_220822	HA09_0.0-0.1_220822	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	HA09_1.0-1.2_220822	HA09_1.0-1.2_220822	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	HA10_0.1_0.2_220824	HA10_0.1_0.2_220824	24/08/2022	ES2230964	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	HA10_0.5_0.6_220824	HA10_0.5_0.6_220824	24/08/2022	ES2230964	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	HA11_0.0_0.1_220824	HA11_0.0_0.1_220824	24/08/2022	ES2230964	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	HA11_1.0_1.1_220824	HA11_1.0_1.1_220824	24/08/2022	ES2230964	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	HA12_0.0-0.1_220822	HA12_0.0-0.1_220822	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	QC101_220823	HA12_0.0-0.1_220822	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	QC201_220823	HA12_0.0-0.1_220822	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	HA12_0.6-0.7_220822	HA12_0.6-0.7_220822	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	HA13_0.0-0.2_220822	HA13_0.0-0.2_220822	22/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	HA13_0.5-0.6_220822	HA13_0.5-0.6_220822	22/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	HA14_0.1_0.2_220824	HA14_0.1_0.2_220824	24/08/2022	ES2230964	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	QC102_220824	HA14_0.1_0.2_220824	24/08/2022	ES2230964	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	HA14_0.6_0.7_220824	HA14_0.6_0.7_220824	24/08/2022	ES2230964	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	HA15_0.0-0.1_220822	HA15_0.0-0.1_220822	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	HA15_1.1-1.2_220822	HA15_1.1-1.2_220822	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	HA16_0.0_0.1_220824	HA16_0.0_0.1_220824	24/08/2022	ES2230964	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	HA16_1.4_1.5_220824	HA16_1.4_1.5_220824	24/08/2022	ES2230964	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	HA17_0.5_0.6_220824	HA17_0.5_0.6_220824	24/08/2022	ES2230964	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	HA17_4.0_4.2_220824	HA17_4.0_4.2_220824	24/08/2022	ES2230964	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	HA18_0.0-0.1_220823	HA18_0.0-0.1_220823	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	HA18_1.4-1.5_220823	HA18_1.4-1.5_220823	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	HA19_0.0-0.1_220823	HA19_0.0-0.1_220823	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	HA19_1.1-1.2_220823	HA19_1.1-1.2_220823	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	HA20_0.0_0.1_220824	HA20_0.0_0.1_220824	24/08/2022	ES2230964	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	HA20_1.2_1.3_220824	HA20_1.2_1.3_220824	24/08/2022	ES2230964	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	HA21_0.0-0.1_220823	HA21_0.0-0.1_220823	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5

Client Name: Transport for New South Wales (TfNSW)
Project Name: Muswellbrook Bypass - Detailed Site Investigation
Project No: 60619756

T2- Soil Analytical Results - Ecological Criteria

AECOM

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Client Name: Transport for New South Wales (TfNSW)
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T2- Soil Analytical Results - Ecological Criteria

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													Trihalomethanes				Chemical Pa		Polychlorinated Biphenyls	Oxygenated Compounds				Sulfonated Compounds										
			1,3-Dichloropropane	Tetrachloroethene	1,1,1,2-Tetrachloroethane	trans-1,4-Dichloro-2-butene	cis-1,4-Dichloro-2-butene	1,1,2,2-Tetrachloroethane	1,2,3-Trichloropropane	Pentachloroethane	1,2-Dibromo-3-chloropropane	Hexachlorobutadiene	Bromodichloromethane	Bromoform	Chloroform	Dibromochloromethane	Moisture Content	weight of sample	Polychlorinated Biphenyls	Vinyl acetate	2-Butanone (MEK)	2-hexanone (MBK)	4-Methyl-2-pentanone (MIBK)	Carbon disulfide	Butyl benzyl phthalate	Diethyl phthalate								
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	%	g	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg								
EQL			0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	1	0.01	0.1	5	5	5	5	0.5	0.5	0.5								
NEPM 2013 Table 1B(5) Generic EIL - Comm/Ind																																	
PFAS NEMP 2020 Ecological direct exposure																																	
PFAS NEMP 2020 Ecological indirect exposure																																	
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Coarse Soil																																	
0-2m																																	
Area	**Field_ID**	**Location_Code**	**Sampled_Date_Time**	**Lab_Report_Number**																													
Area 3 and Area 4	HA01_0.0-0.1_220822	HA01_0.0-0.1_220822	22/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	<0.1	<5	<5	<5	<5	<0.5	<0.5	<0.5						
	HA01_1.1-1.2_220822	HA01_1.1-1.2_220822	22/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	<0.1	<5	<5	<5	<5	<0.5	<0.5	<0.5						
	HA02_0.0-0.2_220822	HA02_0.0-0.2_220822	22/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	<0.1	<5	<5	<5	<5	<0.5	<0.5	<0.5						
	HA02_1.4-1.5_220822	HA02_1.4-1.5_220822	22/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	<0.1	<5	<5	<5	<5	<0.5	<0.5	<0.5						
	HA03_0.5-0.6_220822	HA03_0.5-0.6_220822	22/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	<0.1	<5	<5	<5	<5	<0.5	<0.5	<0.5						
	HA03_1.4-1.5_220822	HA03_1.4-1.5_220822	22/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	<0.1	<5	<5	<5	<5	<0.5	<0.5	<0.5						
	HA04_0.1-0.2_220822	HA04_0.1-0.2_220822	22/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	118	<0.1	<5	<5	<5	<5	<0.5	<0.5	<0.5						
	HA04_1.0-1.1_220822	HA04_1.0-1.1_220822	22/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	<0.1	<5	<5	<5	<5	<0.5	<0.5	<0.5						
	HA05_0.1_0.2_220824	HA05_0.1_0.2_220824	24/08/2022	ES2230964	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	46.6	226	<0.1	<5	<5	<5	<5	<0.5	<0.5	<0.5						
	QC103_220824	HA05_0.1_0.2_220824	24/08/2022	ES2230964	<0.5	0.9	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.6	<0.5	<0.5	<0.5	<0.5	56.7	70.3	<0.1	<5	<5	<5	<5	<0.5	<0.6	<0.6						
	HA05_1.0_1.1_220824	HA05_1.0_1.1_220824	24/08/2022	ES2230964	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	29	164	<0.1	<5	<5	<5	<5	<0.5	<0.5	<0.5						
	HA06_0.0-0.1_220822	HA06_0.0-0.1_220822	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	244	<0.1	<5	<5	<5	<5	<0.5	<0.5	<0.5						
	HA06_1.1-1.2_220822	HA06_1.1-1.2_220822	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	<0.1	<5	<5	<5	<5	<0.5	<0.5	<0.5						
	HA07_0.05-0.15_220822		22/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	<0.1	<5	<5	<5	<5	<0.5	<0.5	<0.5						
	HA07_0.4-0.5_220822	HA07_0.4-0.5_220822	22/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	<0.1	<5	<5	<5	<5	<0.5	<0.5	<0.5						
	HA08_0.1_0.2_220824	HA08_0.1_0.2_220824	24/08/2022	ES2230964	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	16.9	-	<0.1	<5	<5	<5	<5	<0.5	<0.5	<0.5						
	HA08_1.2_1.3_220824	HA08_1.2_1.3_220824	24/08/2022	ES2230964	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	17.9	-	<0.1	<5	<5	<5	<5	<0.5	<0.5	<0.5						
	HA09_0.0-0.1_220822	HA09_0.0-0.1_220822	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	180	<0.1	<5	<5	<5	<5	<0.5	<0.5	<0.5						
	HA09_1.0-1.2_220822	HA09_1.0-1.2_220822	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	<0.1	<5	<5	<5	<5	<0.5	<0.5	<0.5						
	HA10_0.1_0.2_220824	HA10_0.1_0.2_220824	24/08/2022	ES2230964	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	20.5	-	<0.1	<5	<5	<5	<5	<0.5	<0.5	<0.5						
	HA10_0.5_0.6_220824	HA10_0.5_0.6_220824	24/08/2022	ES2230964	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	14.7	-	<0.1	<5	<5	<5	<5	<0.5	<0.5	<0.5						
	HA11_0.0_0.1_220824	HA11_0.0_0.1_220824	24/08/2022	ES2230964	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	15.8	246	<0.1	<5	<5	<5	<5	<0.5	<0.5	<0.5						
	HA11_1.0_1.1_220824	HA11_1.0_1.1_220824	24/08/2022	ES2230964	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	29.3	-	<0.1	<5	<5	<5	<5	<0.5	<0.5	<0.5						
	HA12_0.0-0.1_220822	HA12_0.0-0.1_220822	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	262	<0.1	<5	<5	<5	<5	<0.5	<0.5	<0.5						
	QC101_220823	HA12_0.0-0.1_220822	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	254	<0.1	<5	<5	<5	<5	<0.5	<0.5	<0.5						
	QC201_220823	HA12_0.0-0.1_220822	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	298	<0.1	<5	<5	<5	<5	<0.5	<0.5	<0.5						
	HA12_0.6-0.7_220822	HA12_0.6-0.7_220822	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	<0.1	<5	<5	<5	<5	<0.5	<0.5	<0.5						
	HA13_0.0-0.2_220822	HA13_0.0-0.2_220822	22/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	<0.1	<5	<5	<5	<5	<0.5	<0.5	<0.5						
	HA13_0.5-0.6_220822	HA13_0.5-0.6_220822	22/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	<0.1	<5	<5	<5	<5	<0.5	<0.5	<0.5						
	HA14_0.1_0.2_220824	HA14_0.1_0.2_220824	24/08/2022	ES2230964	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	11.5	136	<0.1	<5	<5	<5	<5	<0.5	<0.5	<0.5						
	QC102_220824	HA14_0.1_0.2_220824	24/08/2022	ES2230964	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	13	148	<0.1	<5	<5	<5	<5	<0.5	<0.5	<0.5						
	HA14_0.6_0.7_220824	HA14_0.6_0.7_220824	24/08/2022	ES2230964	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	10.7	-	<0.1	<5	<5	<5	<5	<0.5	<0.5	<0.5						
	HA15_0.0-0.1_220822	HA15_0.0-0.1_220822	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	171	<0.1	<5	<5	<5	<5	<0.5	<0.5	<0.5						
	HA15_1.1-1.2_220822	HA15_1.1-1.2_220822	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	<0.1	<5	<5	<5	<5	<0.5	<0.5	<0.5						
	HA16_0.0_0.1_220824	HA16_0.0_0.1_220824	24/08/2022	ES2230964	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	24.2	153	<0.1	<5	<5	<5	<5	<0.5	<0.5	<0.5						
	HA16_1.4_1.5_220824	HA16_1.4_1.5_220824	24/08/2022	ES2230964	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	23.5	-	<0.1	<5	<5	<5	<5	<0.5	<0.5	<0.5						
	HA17_0.5_0.6_220824	HA17_0.5_0.6_220824	24/08/2022	ES2230964	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	20.3	-	<0.1	<5	<5	<5	<5	<0.5	<0.5	<0.5						
	HA17_4.0_4.2_220824	HA17_4.0_4.2_220824	24/08/2022	ES2230964	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	13.6	-	<0.1	<5	<5	<5	<5	<0.5	<0.5	<0.5						
	HA18_0.0-0.1_220823	HA18_0.0-0.1_220823	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	<0.1	<5	<5	<5	<5	<0.5	<0.5	<0.5						
	HA18_1.4-1.5_220823	HA18_1.4-1.5_220823	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	<0.1	<5	<5	<5	<5	<0.5	<0.5	<0.5						
	HA19_0.0-0.1_220823	HA19_0.0-0.1_220823	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	<0.1	<5	<5	<5	<5	<0.5	<0.5	<0.5						
	HA19_1.1-1.2_220823	HA19_1.1-1.2_220823	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	<0.1	<5	<5	<5	<5	<0.5	<0.5	<0.5						
	HA20_0.0_0.1_220824	HA20_0.0_0.1_220824	24/08/2022	ES2230964	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	19.2	160	<0.1	<5	<5	<5	<5	<0.5	<0.5	<0.5						
	HA20_1.2_1.3_220824	HA20_1.2_1.3_220824	24/08/2022	ES2230964	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	17.7	-	<0.1	<5	<5	<5	<5	<0.5	<0.5	<0.5						
	HA21_0.0-0.1_220823	HA21_0.0-0.1_220823	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	179	<0.1	<5	<5	<5	<5	<0.5	<0.5	<0.5						

Client Name: Transport for New South Wales (TfNSW)
Project Name: Muswellbrook Bypass - Detailed Site Investigation
Project No: 60619756

T2- Soil Analytical Results - Ecological Criteria

AECOM

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Client Name: Transport for New South Wales (TfNSW)
Project Name: Muswellbrook Bypass - Detailed Site Investigation
Project No: 60619756

T2- Soil Analytical Results - Ecological Criteria

AECOM

					Phthalate Esters				Nitrosamines									Nitroaromatics and Ketones													
					Dimethyl phthalate	Di-n-butyl phthalate	Di-n-octyl phthalate	Bis(2-ethylhexyl)phthalate	Methapyrilene	N-Nitrosodibutylamine	N-Nitrosodiethylamine	N-Nitrosodiphenyl & Diphenylamine	N-Nitrosodipropylamine	N-Nitrosomethylethylamine	N-Nitrosomorpholine	N-Nitrosopiperidine	N-Nitrosopyrrolidine	1,3,5-Trinitrobenzene	1-Naphthylamine	2,4-Dinitrotoluene	2,6-Dinitrotoluene	2-Picoline	4-Aminobiphenyl	4-Nitroquinoline-N-oxide	5-Nitro-o-toluidine	Acetophenone	Azobenzene	Chlorobenzilate	Dimethylaminoazobenzene	Isophorone	Nitrobenzene
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL					0.5	0.5	0.5	5	0.5	0.5	0.5	1	0.5	0.5	0.5	0.5	1	0.5	0.5	1	1	0.5	0.5	0.5	0.5	0.5	1	0.5	0.5	0.5	0.5
NEPM 2013 Table 1B(5) Generic EIL - Comm/Ind																															
PFAS NEMP 2020 Ecological direct exposure																															
PFAS NEMP 2020 Ecological indirect exposure																															
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Coarse Soil																															
0-2m																															
Area	**Field_ID**	**Location_Code**	**Sampled_Date_Time**	**Lab_Report_Number**																											
Area 3 and Area 4	HA01_0.0-0.1_220822	HA01_0.0-0.1_220822	22/08/2022	ES2230767	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5
	HA01_1.1-1.2_220822	HA01_1.1-1.2_220822	22/08/2022	ES2230767	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5
	HA02_0.0-0.2_220822	HA02_0.0-0.2_220822	22/08/2022	ES2230767	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5
	HA02_1.4-1.5_220822	HA02_1.4-1.5_220822	22/08/2022	ES2230767	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5
	HA03_0.5-0.6_220822	HA03_0.5-0.6_220822	22/08/2022	ES2230767	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5
	HA03_1.4-1.5_220822	HA03_1.4-1.5_220822	22/08/2022	ES2230767	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5
	HA04_0.1-0.2_220822	HA04_0.1-0.2_220822	22/08/2022	ES2230767	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5
	HA04_1.0-1.1_220822	HA04_1.0-1.1_220822	22/08/2022	ES2230767	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5
	HA05_0.1_0.2_220824	HA05_0.1_0.2_220824	24/08/2022	ES2230964	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5
	QC103_220824	HA05_0.1_0.2_220824	24/08/2022	ES2230964	<0.6	<0.6	<0.6	<5	<0.6	<0.6	<0.6	<1.2	<0.6	<0.6	<0.6	<0.6	<1	<0.6	<0.6	<1	<1	<0.6	<0.6	<0.6	<0.6	<0.6	<1	<0.6	<0.6	<0.6	<0.6
	HA05_1.0_1.1_220824	HA05_1.0_1.1_220824	24/08/2022	ES2230964	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5
	HA06_0.0-0.1_220822	HA06_0.0-0.1_220822	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5
	HA06_1.1-1.2_220822	HA06_1.1-1.2_220822	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5
	HA07_0.05-0.15_220822		22/08/2022	ES2230767	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5
	HA07_0.4-0.5_220822	HA07_0.4-0.5_220822	22/08/2022	ES2230767	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5
	HA08_0.1_0.2_220824	HA08_0.1_0.2_220824	24/08/2022	ES2230964	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5
	HA08_1.2_1.3_220824	HA08_1.2_1.3_220824	24/08/2022	ES2230964	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5
	HA09_0.0-0.1_220822	HA09_0.0-0.1_220822	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5
	HA09_1.0-1.2_220822	HA09_1.0-1.2_220822	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5
	HA10_0.1_0.2_220824	HA10_0.1_0.2_220824	24/08/2022	ES2230964	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5
	HA10_0.5_0.6_220824	HA10_0.5_0.6_220824	24/08/2022	ES2230964	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5
	HA11_0.0_0.1_220824	HA11_0.0_0.1_220824	24/08/2022	ES2230964	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5
	HA11_1.0_1.1_220824	HA11_1.0_1.1_220824	24/08/2022	ES2230964	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5
	HA12_0.0-0.1_220822	HA12_0.0-0.1_220822	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5
	QC101_220823	HA12_0.0-0.1_220822	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5
	QC201_220823	HA12_0.0-0.1_220822	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5
	HA12_0.6-0.7_220822	HA12_0.6-0.7_220822	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5
	HA13_0.0-0.2_220822	HA13_0.0-0.2_220822	22/08/2022	ES2230767	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5
	HA13_0.5-0.6_220822	HA13_0.5-0.6_220822	22/08/2022	ES2230767	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5
	HA14_0.1_0.2_220824	HA14_0.1_0.2_220824	24/08/2022	ES2230964	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5
	QC102_220824	HA14_0.1_0.2_220824	24/08/2022	ES2230964	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5
	HA14_0.6_0.7_220824	HA14_0.6_0.7_220824	24/08/2022	ES2230964	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5
	HA15_0.0-0.1_220822	HA15_0.0-0.1_220822	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5
	HA15_1.1-1.2_220822	HA15_1.1-1.2_220822	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5
	HA16_0.0_0.1_220824	HA16_0.0_0.1_220824	24/08/2022	ES2230964	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5
	HA16_1.4_1.5_220824	HA16_1.4_1.5_220824	24/08/2022	ES2230964	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5
	HA17_0.5_0.6_220824	HA17_0.5_0.6_220824	24/08/2022	ES2230964	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5
	HA17_4.0_4.2_220824	HA17_4.0_4.2_220824	24/08/2022	ES2230964	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5
	HA18_0.0-0.1_220823	HA18_0.0-0.1_220823	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5
	HA18_1.4-1.5_220823	HA18_1.4-1.5_220823	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5
	HA19_0.0-0.1_220823	HA19_0.0-0.1_220823	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5
	HA19_1.1-1.2_220823	HA19_1.1-1.2_220823	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5
	HA20_0.0_0.1_220824	HA20_0.0_0.1_220824	24/08/2022	ES2230964	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5
	HA20_1.2_1.3_220824	HA20_1.2_1.3_220824	24/08/2022	ES2230964	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5
	HA21_0.0-0.1_220823	HA21_0.0-0.1_220823	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5

Client Name: Transport for New South Wales (TfNSW)
Project Name: Muswellbrook Bypass - Detailed Site Investigation
Project No: 60619756

T2- Soil Analytical Results - Ecological Criteria

AECOM

					Phthalate Esters				Nitrosamines									Nitroaromatics and Ketones													
					Dimethyl phthalate	Di-n-butyl phthalate	Di-n-octyl phthalate	Bis(2-ethylhexyl)phthalate	Methapyrilene	N-Nitrosodibutylamine	N-Nitrosodiethylamine	N-Nitrosodiphenyl & Diphenylamine	N-Nitrosodipropylamine	N-Nitrosomethylethylamine	N-Nitrosomorpholine	N-Nitrosopiperidine	N-Nitrosopyrrolidine	1,3,5-Trinitrobenzene	1-Naphthylamine	2,4-Dinitrotoluene	2,6-Dinitrotoluene	2-Picoline	4-Aminobiphenyl	4-Nitroquinoline-N-oxide	5-Nitro-o-toluidine	Acetophenone	Azobenzene	Chlorobenzilate	Dimethylaminoazobenzene	Isophorone	Nitrobenzene
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL					0.5	0.5	0.5	5	0.5	0.5	0.5	1	0.5	0.5	0.5	0.5	1	0.5	0.5	1	1	0.5	0.5	0.5	0.5	0.5	1	0.5	0.5	0.5	0.5
NEPM 2013 Table 1B(5) Generic EIL - Comm/Ind																															
PFAS NEMP 2020 Ecological direct exposure																															
PFAS NEMP 2020 Ecological indirect exposure																															
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Coarse Soil																															
0-2m																															
	HA21_1.0-1.1_220823	HA21_1.0-1.1_220823	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5
	HA22_0.0-0.1_220823	HA22_0.0-0.1_220823	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5
	HA22_0.5-0.6_220823	HA22_0.5-0.6_220823	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5
	HA22_1.2-1.3_220823	HA22_1.2-1.3_220823	23/08/2022	ES2230767	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	HA23_0.0-0.1_220823	HA23_0.0-0.1_220823	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5
	HA23_0.5-0.6_220823	HA23_0.5-0.6_220823	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5
	HA24_0.0-0.1_220823	HA24_0.0-0.1_220823	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5
	HA24_1.1-1.2_220823	HA24_1.1-1.2_220823	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5
	HA25_0.1_0.2_220824	HA25_0.1_0.2_220824	24/08/2022	ES2230964	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5
	HA25_0.4_0.5_220824	HA25_0.4_0.5_220824	24/08/2022	ES2230964	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5
Area 9	SS01_0.0-0.1	SS01_0.0-0.1	10/08/2022	ES2228696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SS01_220826	SS01_220826	26/08/2022	ES2230964	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	QC105_220826	SS01_220826	26/08/2022	ES2230964	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SS02_0.0-0.1	SS02_0.0-0.1	10/08/2022	ES2228696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SS02_220826	SS02_220826	26/08/2022	ES2230964	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SS03_0.0-0.1	SS03_0.0-0.1	10/08/2022	ES2228696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SS03_220826	SS03_220826	26/08/2022	ES2230964	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SS04_0.0-0.1	SS04_0.0-0.1	10/08/2022	ES2228696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SS04_220826	SS04_220826	26/08/2022	ES2230964	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SS05_0.0-0.05	SS05_0.0-0.05	10/08/2022	ES2228696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SS05_220826	SS05_220826	26/08/2022	ES2230964	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SS06_0.0-0.05	SS06_0.0-0.05	10/08/2022	ES2228696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SS06_220826	SS06_220826	26/08/2022	ES2230964	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SS07_0.0-0.05	SS07_0.0-0.05	10/08/2022	ES2228696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SS07_220826	SS07_220826	26/08/2022	ES2230964	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SS08_0.0-0.05	SS08_0.0-0.05	10/08/2022	ES2228696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SS08_220826	SS08_220826	26/08/2022	ES2230964	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SS09_0.0-0.05	SS09_0.0-0.05	10/08/2022	ES2228696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SS09_220826	SS09_220826	26/08/2022	ES2230964	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SS10_0.0-0.05	SS10_0.0-0.05	10/08/2022	ES2228696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SS10_220826	SS10_220826	26/08/2022	ES2230964	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Client Name: Transport for New South Wales (TfNSW)
Project Name: Muswellbrook Bypass - Detailed Site Investigation
Project No: 60619756

T2- Soil Analytical Results - Ecological Criteria

AECOM

				Haloethers				Chlorinated Hydrocarbons				Organophosphorus Pesticides (OP)																		
				4-Bromophenyl phenyl ether	Bis(2-chloroethyl) ether	Bis(2-chloroethoxy) methane	4-Chlorophenyl phenyl ether	Hexachlorocyclopentadiene	Hexachloroethane	Hexachloropropene	Pentachlorobenzene	Azinphos Methyl	Bromophos-ethyl	Carbophenothion	Chlorfenvinphos	Chlorpyrifos	Chlorpyrifos-methyl	Demeton-S-methyl	Diazinon	Dichlorvos	Dimethoate	Ethion	Fenamiphos	Fenthion	Malathion	Monocrotophos	Parathion	Parathion-methyl	Pirimphos-ethyl
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL				0.5	0.5	0.5	0.5	2.5	0.5	0.5	0.5	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.2	0.2	0.2	0.05
NEPM 2013 Table 1B(5) Generic EIL - Comm/Ind																													
PFAS NEMP 2020 Ecological direct exposure																													
PFAS NEMP 2020 Ecological indirect exposure																													
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Coarse Soil																													
0-2m																													
Area	Field_ID	Location_Code	Sampled_Date_Time	Lab_Report_Number																									
Area 3 and Area 4	HA01_0.0-0.1_220822	HA01_0.0-0.1_220822	22/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.2	<0.05
	HA01_1.1-1.2_220822	HA01_1.1-1.2_220822	22/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.2	<0.05
	HA02_0.0-0.2_220822	HA02_0.0-0.2_220822	22/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.2	<0.05
	HA02_1.4-1.5_220822	HA02_1.4-1.5_220822	22/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.2	<0.05
	HA03_0.5-0.6_220822	HA03_0.5-0.6_220822	22/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.2	<0.05
	HA03_1.4-1.5_220822	HA03_1.4-1.5_220822	22/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.2	<0.05
	HA04_0.1-0.2_220822	HA04_0.1-0.2_220822	22/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.2	<0.05
	HA04_1.0-1.1_220822	HA04_1.0-1.1_220822	22/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.2	<0.05
	HA05_0.1_0.2_220824	HA05_0.1_0.2_220824	24/08/2022	ES2230964	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.2	<0.05
	QC103_220824	HA05_0.1_0.2_220824	24/08/2022	ES2230964	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<2.5	<0.6	<0.6	<0.6	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.2	<0.05
	HA05_1.0_1.1_220824	HA05_1.0_1.1_220824	24/08/2022	ES2230964	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.2	<0.05
	HA06_0.0-0.1_220822	HA06_0.0-0.1_220822	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.2	<0.05
	HA06_1.1-1.2_220822	HA06_1.1-1.2_220822	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.2	<0.05
	HA07_0.05-0.15_220822		22/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.2	<0.05
	HA07_0.4-0.5_220822	HA07_0.4-0.5_220822	22/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.2	<0.05
	HA08_0.1_0.2_220824	HA08_0.1_0.2_220824	24/08/2022	ES2230964	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.2	<0.05
	HA08_1.2_1.3_220824	HA08_1.2_1.3_220824	24/08/2022	ES2230964	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.2	<0.05
	HA09_0.0-0.1_220822	HA09_0.0-0.1_220822	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.2	<0.05
	HA09_1.0-1.2_220822	HA09_1.0-1.2_220822	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.2	<0.05
	HA10_0.1_0.2_220824	HA10_0.1_0.2_220824	24/08/2022	ES2230964	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.2	<0.05
	HA10_0.5_0.6_220824	HA10_0.5_0.6_220824	24/08/2022	ES2230964	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.2	<0.05
	HA11_0.0_0.1_220824	HA11_0.0_0.1_220824	24/08/2022	ES2230964	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.2	<0.05
	HA11_1.0_1.1_220824	HA11_1.0_1.1_220824	24/08/2022	ES2230964	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.2	<0.05
	HA12_0.0-0.1_220822	HA12_0.0-0.1_220822	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.2	<0.05
	QC101_220823	HA12_0.0-0.1_220822	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.2	<0.05
	QC201_220823	HA12_0.0-0.1_220822	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.2	<0.05
	HA12_0.6-0.7_220822	HA12_0.6-0.7_220822	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.2	<0.05
	HA13_0.0-0.2_220822	HA13_0.0-0.2_220822	22/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.2	<0.05
	HA13_0.5-0.6_220822	HA13_0.5-0.6_220822	22/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.2	<0.05
	HA14_0.1_0.2_220824	HA14_0.1_0.2_220824	24/08/2022	ES2230964	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.2	<0.05
	QC102_220824	HA14_0.1_0.2_220824	24/08/2022	ES2230964	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.2	<0.05
	HA14_0.6_0.7_220824	HA14_0.6_0.7_220824	24/08/2022	ES2230964	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.2	<0.05
	HA15_0.0-0.1_220822	HA15_0.0-0.1_220822	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.2	<0.05
	HA15_1.1-1.2_220822	HA15_1.1-1.2_220822	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.2	<0.05
	HA16_0.0_0.1_220824	HA16_0.0_0.1_220824	24/08/2022	ES2230964	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.2	<0.05
	HA16_1.4_1.5_220824	HA16_1.4_1.5_220824	24/08/2022	ES2230964	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.2	<0.05
	HA17_0.5_0.6_220824	HA17_0.5_0.6_220824	24/08/2022	ES2230964	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.2	<0.05
	HA17_4.0_4.2_220824	HA17_4.0_4.2_220824	24/08/2022	ES2230964	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.2	<0.05
	HA18_0.0-0.1_220823	HA18_0.0-0.1_220823	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.2	<0.05
	HA18_1.4-1.5_220823	HA18_1.4-1.5_220823	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.2	<0.05
	HA19_0.0-0.1_220823	HA19_0.0-0.1_220823	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.2	<0.05
	HA19_1.1-1.2_220823	HA19_1.1-1.2_220823	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.2	<0.05
	HA20_0.0_0.1_220824	HA20_0.0_0.1_220824	24/08/2022	ES2230964	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.2	<0.05
	HA20_1.2_1.3_220824	HA20_1.2_1.3_220824	24/08/2022	ES2230964	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.2	<0.05
	HA21_0.0-0.1_220823	HA21_0.0-0.1_220823	23/08/2022	ES2230767	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.2	<0.05

Client Name: Transport for New South Wales (TfNSW)
Project Name: Muswellbrook Bypass - Detailed Site Investigation
Project No: 60619756

T2- Soil Analytical Results - Ecological Criteria

AECOM

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T2- Soil Analytical Results - Ecological Criteria

AECOM

								Organochlorine Pesticides (OC)																													Phenoxy		
								Prothiofos	Aldrin	Dieldrin	Aldrin + Dieldrin	a-BHC	b-BHC	d-BHC	g-BHC (Lindane)	cis-Chlordane	trans-Chlordane	Chlordane	DDD	DDE	DDT	DDT+DDE+DDD	Endosulfan	Endosulfan 1	Endosulfan 2	Endosulfan sulfate	Endrin	Endrin aldehyde	Endrin ketone	Heptachlor	Heptachlor epoxide	Hexachlorobenzene (HCB)	Methoxychlor	2,4,5-TP (Silvex)	4-Chlorophenoxy acetic acid	Clopyralid
								mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL								0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.2	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.2	0.02	0.02	0.02
NEPM 2013 Table 1B(5) Generic EIL - Comm/Ind																					640																
PFAS NEMP 2020 Ecological direct exposure																																					
PFAS NEMP 2020 Ecological indirect exposure																																					
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Coarse Soil																																					
0-2m																																					
Area	**Field_ID**	**Location_Code**	**Sampled_Date_Time**	**Lab_Report_Number**																																	
Area 3 and Area 4	HA01_0.0-0.1_220822	HA01_0.0-0.1_220822	22/08/2022	ES2230767	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	-	-
	HA01_1.1-1.2_220822	HA01_1.1-1.2_220822	22/08/2022	ES2230767	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	-	-
	HA02_0.0-0.2_220822	HA02_0.0-0.2_220822	22/08/2022	ES2230767	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	-	-
	HA02_1.4-1.5_220822	HA02_1.4-1.5_220822	22/08/2022	ES2230767	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	-	-
	HA03_0.5-0.6_220822	HA03_0.5-0.6_220822	22/08/2022	ES2230767	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	-	-
	HA03_1.4-1.5_220822	HA03_1.4-1.5_220822	22/08/2022	ES2230767	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	-	-
	HA04_0.1-0.2_220822	HA04_0.1-0.2_220822	22/08/2022	ES2230767	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	-	-
	HA04_1.0-1.1_220822	HA04_1.0-1.1_220822	22/08/2022	ES2230767	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	-	-
	HA05_0.1_0.2_220824	HA05_0.1_0.2_220824	24/08/2022	ES2230964	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.04	<0.04	<0.04
	QC103_220824	HA05_0.1_0.2_220824	24/08/2022	ES2230964	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.02	<0.02	<0.02
	HA05_1.0_1.1_220824	HA05_1.0_1.1_220824	24/08/2022	ES2230964	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.02	<0.02	<0.02
	HA06_0.0-0.1_220822	HA06_0.0-0.1_220822	23/08/2022	ES2230767	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	-	-
	HA06_1.1-1.2_220822	HA06_1.1-1.2_220822	23/08/2022	ES2230767	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	-	-
	HA07_0.05-0.15_220822		22/08/2022	ES2230767	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	-	-
	HA07_0.4-0.5_220822	HA07_0.4-0.5_220822	22/08/2022	ES2230767	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	-	-
	HA08_0.1_0.2_220824	HA08_0.1_0.2_220824	24/08/2022	ES2230964	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.02	<0.02	<0.02
	HA08_1.2_1.3_220824	HA08_1.2_1.3_220824	24/08/2022	ES2230964	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.02	<0.02	<0.02
	HA09_0.0-0.1_220822	HA09_0.0-0.1_220822	23/08/2022	ES2230767	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	-	-
	HA09_1.0-1.2_220822	HA09_1.0-1.2_220822	23/08/2022	ES2230767	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	-	-
	HA10_0.1_0.2_220824	HA10_0.1_0.2_220824	24/08/2022	ES2230964	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.02	<0.02	<0.02
	HA10_0.5_0.6_220824	HA10_0.5_0.6_220824	24/08/2022	ES2230964	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.02	<0.02	<0.02
	HA11_0.0_0.1_220824	HA11_0.0_0.1_220824	24/08/2022	ES2230964	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.02	<0.02	<0.02
	HA11_1.0_1.1_220824	HA11_1.0_1.1_220824	24/08/2022	ES2230964	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.02	<0.02	<0.02
	HA12_0.0-0.1_220822	HA12_0.0-0.1_220822	23/08/2022	ES2230767	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	-	-
	QC101_220823	HA12_0.0-0.1_220822	23/08/2022	ES2230767	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	-	-
	QC201_220823	HA12_0.0-0.1_220822	23/08/2022	ES2230767	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	-	-
	HA12_0.6-0.7_220822	HA12_0.6-0.7_220822	23/08/2022	ES2230767	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	-	-
	HA13_0.0-0.2_220822	HA13_0.0-0.2_220822	22/08/2022	ES2230767	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	-	-
	HA13_0.5-0.6_220822	HA13_0.5-0.6_220822	22/08/2022	ES2230767	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	-	-
	HA14_0.1_0.2_220824	HA14_0.1_0.2_220824	24/08/2022	ES2230964	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.02	<0.02	<0.02
	QC102_220824	HA14_0.1_0.2_220824	24/08/2022	ES2230964	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.02	<0.02	<0.02
	HA14_0.6_0.7_220824	HA14_0.6_0.7_220824	24/08/2022	ES2230964	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.02	<0.02	<0.02
	HA15_0.0-0.1_220822	HA15_0.0-0.1_220822	23/08/2022	ES2230767	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	-	-
	HA15_1.1-1.2_220822	HA15_1.1-1.2_220822	23/08/2022	ES2230767	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	-	-
	HA16_0.0_0.1_220824	HA16_0.0_0.1_220824	24/08/2022	ES2230964	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.21	<0.2	0.21	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.02	<0.02	<0.02
	HA16_1.4_1.5_220824	HA16_1.4_1.5_220824	24/08/2022	ES2230964	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.02	<0.02	<0.02
	HA17_0.5_0.6_220824	HA17_0.5_0.6_220824	24/08/2022	ES2230964	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.02	<0.02	<0.02
	HA17_4.0_4.2_220824	HA17_4.0_4.2_220824	24/08/2022	ES2230964	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.02	<0.02	<0.02
	HA18_0.0-0.1_220823	HA18_0.0-0.1_220823	23/08/2022	ES2230767	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	-	-
	HA18_1.4-1.5_220823	HA18_1.4-1.5_220823	23/08/2022	ES2230767	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	-	-
	HA19_0.0-0.1_220823	HA19_0.0-0.1_220823	23/08/2022	ES2230767	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	-	-
	HA19_1.1-1.2_220823	HA19_1.1-1.2_220823	23/08/2022	ES2230767	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	-	-
	HA20_0.0_0.1_220824	HA20_0.0_0.1_220824	24/08/2022	ES2230964	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.02	<0.02	<0.02
	HA20_1.2_1.3_220824	HA20_1.2_1.3_220824	24/08/2022	ES2230964	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.02	<0.02	<0.02
	HA21_0.0-0.1_220823	HA21_0.0-0.1_220823	23/08/2022	ES2230767	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	-	-

Client Name: Transport for New South Wales (TfNSW)
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Project No: 60619756

T2- Soil Analytical Results - Ecological Criteria

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					Organochlorine Pesticides (OC)																												Phenoxy		
					Prothiofos	Aldrin	Dieldrin	Aldrin + Dieldrin	a-BHC	b-BHC	d-BHC	g-BHC (Lindane)	cis-Chlordane	trans-Chlordane	Chlordane	DDD	DDE	DDT	DDT+DDE+DDD	Endosulfan	Endosulfan 1	Endosulfan 2	Endosulfan sulfate	Endrin	Endrin aldehyde	Endrin ketone	Heptachlor	Heptachlor epoxide	Hexachlorobenzene (HCB)	Methoxychlor	2,4,5-TP (Silvex)	4-Chlorophenoxy acetic acid	Clopyralid
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL					0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.2	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.2	0.02	0.02	0.02
NEPM 2013 Table 1B(5) Generic EIL - Comm/Ind																		640															
PFAS NEMP 2020 Ecological direct exposure																																	
PFAS NEMP 2020 Ecological indirect exposure																																	
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Coarse Soil																																	
0-2m																																	
	HA21_1.0-1.1_220823	HA21_1.0-1.1_220823	23/08/2022	ES2230767	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	-	-
	HA22_0.0-0.1_220823	HA22_0.0-0.1_220823	23/08/2022	ES2230767	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	-	-
	HA22_0.5-0.6_220823	HA22_0.5-0.6_220823	23/08/2022	ES2230767	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	-	-
	HA22_1.2-1.3_220823	HA22_1.2-1.3_220823	23/08/2022	ES2230767	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	HA23_0.0-0.1_220823	HA23_0.0-0.1_220823	23/08/2022	ES2230767	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	-	-
	HA23_0.5-0.6_220823	HA23_0.5-0.6_220823	23/08/2022	ES2230767	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	-	-
	HA24_0.0-0.1_220823	HA24_0.0-0.1_220823	23/08/2022	ES2230767	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	-	-
	HA24_1.1-1.2_220823	HA24_1.1-1.2_220823	23/08/2022	ES2230767	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	-	-
	HA25_0.1_0.2_220824	HA25_0.1_0.2_220824	24/08/2022	ES2230964	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.02	<0.02	<0.02
	HA25_0.4_0.5_220824	HA25_0.4_0.5_220824	24/08/2022	ES2230964	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.02	<0.02	<0.02
Area 9	SS01_0.0-0.1	SS01_0.0-0.1	10/08/2022	ES2228696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SS01_220826	SS01_220826	26/08/2022	ES2230964	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.02	<0.02	<0.02
	QC105_220826	SS01_220826	26/08/2022	ES2230964	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.02	<0.02	<0.02
	SS02_0.0-0.1	SS02_0.0-0.1	10/08/2022	ES2228696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SS02_220826	SS02_220826	26/08/2022	ES2230964	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.02	<0.02	<0.02
	SS03_0.0-0.1	SS03_0.0-0.1	10/08/2022	ES2228696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SS03_220826	SS03_220826	26/08/2022	ES2230964	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.02	<0.02	<0.02
	SS04_0.0-0.1	SS04_0.0-0.1	10/08/2022	ES2228696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SS04_220826	SS04_220826	26/08/2022	ES2230964	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.02	<0.02	<0.02
	SS05_0.0-0.05	SS05_0.0-0.05	10/08/2022	ES2228696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SS05_220826	SS05_220826	26/08/2022	ES2230964	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.02	<0.02	<0.02
	SS06_0.0-0.05	SS06_0.0-0.05	10/08/2022	ES2228696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SS06_220826	SS06_220826	26/08/2022	ES2230964	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.02	<0.02	<0.02
	SS07_0.0-0.05	SS07_0.0-0.05	10/08/2022	ES2228696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SS07_220826	SS07_220826	26/08/2022	ES2230964	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.02	<0.02	<0.02
	SS08_0.0-0.05	SS08_0.0-0.05	10/08/2022	ES2228696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SS08_220826	SS08_220826	26/08/2022	ES2230964	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.02	<0.02	<0.02
	SS09_0.0-0.05	SS09_0.0-0.05	10/08/2022	ES2228696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SS09_220826	SS09_220826	26/08/2022	ES2230964	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.02	<0.02	<0.02
	SS10_0.0-0.05	SS10_0.0-0.05	10/08/2022	ES2228696	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SS10_220826	SS10_220826	26/08/2022	ES2230964	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.02	<0.02	<0.02

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T2- Soil Analytical Results - Ecological Criteria

AECOM

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T2- Soil Analytical Results - Ecological Criteria

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						:yacetic Acid Herbicides					**Benzidine**	**Asbestos**						**Herbicides**						**Anilines**									
						Dicamba	**Fluroxypyr**	**Mecoprop**	**Picloram**	**Triclopyr**	**3,3-Dichlorobenzidine**	**APPROVED IDENTIFIER:**	**Asbestos fibres**	**Asbestos Type**	**Organic Fibre**	**Asbestos (Trace)**	**Synthetic Mineral Fibre**	**2,4,5-Trichlorophenoxy acetic acid**	**2,4-Dichlorprop**	**2,4-Dichlorophenoxy acetic acid**	**4-(2,4-Dichlorophenoxy)butyric Acid (2,4-DB)**	**2-Methyl-4-chlorophenoxyacetic acid**	**2-Methyl-4-Chlorophenoxy Butanoic Acid**	**2-Nitroaniline**	**3-Nitroaniline**	**4-Chloroaniline**	**4-Nitroaniline**	**Aniline**	**Carbazole**	**Dibenzofuran**
						mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	-	-	-	g/kg	Fibres	g/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL						0.02	0.02	0.02	0.02	0.02	0.5		0.1		0.1	5	0.1	0.02	0.02	0.02	0.02	0.02	0.02	1	1	0.5	0.5	0.5	0.5	0.5
NEPM 2013 Table 1B(5) Generic EIL - Comm/Ind																																
PFAS NEMP 2020 Ecological direct exposure																																
PFAS NEMP 2020 Ecological indirect exposure																																
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Coarse Soil																																
0-2m																																
	HA21_1.0-1.1_220823	HA21_1.0-1.1_220823	23/08/2022	ES2230767		-	-	-	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5
	HA22_0.0-0.1_220823	HA22_0.0-0.1_220823	23/08/2022	ES2230767		-	-	-	-	-	<0.5	1	0	-	0	0	0	-	-	-	-	-	-	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5
	HA22_0.5-0.6_220823	HA22_0.5-0.6_220823	23/08/2022	ES2230767		-	-	-	-	-	<0.5	1	0	-	0	0	0	-	-	-	-	-	-	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5
	HA22_1.2-1.3_220823	HA22_1.2-1.3_220823	23/08/2022	ES2230767		-	-	-	-	-	-	1	0	-	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-
	HA23_0.0-0.1_220823	HA23_0.0-0.1_220823	23/08/2022	ES2230767		-	-	-	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5
	HA23_0.5-0.6_220823	HA23_0.5-0.6_220823	23/08/2022	ES2230767		-	-	-	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5
	HA24_0.0-0.1_220823	HA24_0.0-0.1_220823	23/08/2022	ES2230767		-	-	-	-	-	<0.5	1	0	-	0	0	0	-	-	-	-	-	-	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5
	HA24_1.1-1.2_220823	HA24_1.1-1.2_220823	23/08/2022	ES2230767		-	-	-	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5
	HA25_0.1_0.2_220824	HA25_0.1_0.2_220824	24/08/2022	ES2230964		<0.02	<0.02	<0.02	<0.02	<0.02	<0.5	1	0	1	0	0	0	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5
	HA25_0.4_0.5_220824	HA25_0.4_0.5_220824	24/08/2022	ES2230964		<0.02	<0.02	<0.02	<0.02	<0.02	<0.5	1	0	1	0	0	0	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5
Area 9	SS01_0.0-0.1	SS01_0.0-0.1	10/08/2022	ES2228696		-	-	-	-	-	-	1	0	1	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-
	SS01_220826	SS01_220826	26/08/2022	ES2230964		<0.02	<0.02	<0.02	<0.02	<0.02	-	-	-	-	-	-	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	-	-	-	-	-	-	-
	QC105_220826	SS01_220826	26/08/2022	ES2230964		<0.02	<0.02	<0.02	<0.02	<0.02	-	-	-	-	-	-	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	-	-	-	-	-	-	-
	SS02_0.0-0.1	SS02_0.0-0.1	10/08/2022	ES2228696		-	-	-	-	-	-	1	0	1	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-
	SS02_220826	SS02_220826	26/08/2022	ES2230964		<0.02	<0.02	<0.02	<0.02	<0.02	-	-	-	-	-	-	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	-	-	-	-	-	-	-
	SS03_0.0-0.1	SS03_0.0-0.1	10/08/2022	ES2228696		-	-	-	-	-	-	1	0	1	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-
	SS03_220826	SS03_220826	26/08/2022	ES2230964		<0.02	<0.02	<0.02	<0.02	<0.02	-	-	-	-	-	-	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	-	-	-	-	-	-	-
	SS04_0.0-0.1	SS04_0.0-0.1	10/08/2022	ES2228696		-	-	-	-	-	-	1	0	1	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-
	SS04_220826	SS04_220826	26/08/2022	ES2230964		<0.02	<0.02	<0.02	<0.02	<0.02	-	-	-	-	-	-	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	-	-	-	-	-	-	-
	SS05_0.0-0.05	SS05_0.0-0.05	10/08/2022	ES2228696		-	-	-	-	-	-	1	0	1	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-
	SS05_220826	SS05_220826	26/08/2022	ES2230964		<0.02	<0.02	<0.02	<0.02	<0.02	-	-	-	-	-	-	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	-	-	-	-	-	-	-
	SS06_0.0-0.05	SS06_0.0-0.05	10/08/2022	ES2228696		-	-	-	-	-	-	1	0	1	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-
	SS06_220826	SS06_220826	26/08/2022	ES2230964		<0.02	<0.02	<0.02	<0.02	<0.02	-	-	-	-	-	-	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	-	-	-	-	-	-	-
	SS07_0.0-0.05	SS07_0.0-0.05	10/08/2022	ES2228696		-	-	-	-	-	-	1	0	1	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-
	SS07_220826	SS07_220826	26/08/2022	ES2230964		<0.02	<0.02	<0.02	<0.02	<0.02	-	-	-	-	-	-	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	-	-	-	-	-	-	-
	SS08_0.0-0.05	SS08_0.0-0.05	10/08/2022	ES2228696		-	-	-	-	-	-	1	0	1	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-
	SS08_220826	SS08_220826	26/08/2022	ES2230964		<0.02	<0.02	<0.02	<0.02	<0.02	-	-	-	-	-	-	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	-	-	-	-	-	-	-
	SS09_0.0-0.05	SS09_0.0-0.05	10/08/2022	ES2228696		-	-	-	-	-	-	1	0	1	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-
	SS09_220826	SS09_220826	26/08/2022	ES2230964		<0.02	<0.02	<0.02	<0.02	<0.02	-	-	-	-	-	-	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	-	-	-	-	-	-	-
	SS10_0.0-0.05	SS10_0.0-0.05	10/08/2022	ES2228696		-	-	-	-	-	-	1	0	1	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-
	SS10_220826	SS10_220826	26/08/2022	ES2230964		<0.02	<0.02	<0.02	<0.02	<0.02	-	-	-	-	-	-	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	-	-	-	-	-	-	-

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			Landfill Gas	Metals								Per- and Poly-fluoro														
			Sum of WA DWER PFAS (n=10)*	Description	Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Zinc	Perfluorooctanoic acid (PFOA)	Perfluorooctane sulfonic acid (PFOS)	Perfluorohexane sulfonic acid (PFHxS)	Sum (PFHxS + PFOS)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	Perfluorobutane sulfonic acid (PFBS)	Perfluorobutanoic acid (PFBA)	Perfluorodecane sulfonic acid (PFDS)	Perfluorodecanoic acid (PFDA)	Perfluorododecanoic acid (PFDoDA)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluoroheptanoic acid (PFHpA)
			ug/kg	-	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL			0.2		5	1	2	5	5	0.1	2	5	0.0002	0.0002	0.0002	0.0002	0.0005	0.0005	0.0005	0.0005	0.0002	0.001	0.0002	0.0002	0.0002	0.0002	0.0002
ANZECC 2000 Sediment ISGC-High					70	10	370	270	220	1	52	410															
Field_ID	**Location_Code**	**Sampled_Date_Time**	**Lab_Report_Number**																								
SED01_220826	SED01_220826	26/08/2022	ES2230964	-	-	13	<1	30	10	12	<0.1	20	56	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SED02_220826	SED02_220826	26/08/2022	ES2230964	-	-	8	<1	21	11	11	<0.1	19	31	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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				Perfluoroalkyl Substances																Total Petroleum Hydrocarbons					Total Recoverable Hydrocarbons						
				Perfluorohexanoic acid (PFHxA)	Perfluorononanoic acid (PFNA)	Perfluorooctane sulfonamide (FOSA)	Perfluoropentane sulfonic acid (PFPeS)	Perfluoropentanoic acid (PFPeA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluoroundecanoic acid (PFUnDA)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	Sum of PFAS	C6-C9 fraction	C10-C14 fraction	C15-C28 fraction	C29-C36 fraction	C10-C36 fraction (sum)	C6-C10 fraction	C6-C10 fraction (minus BTEX)(F1)	>C10-C16 (minus Naphthalene)(F2)	>C10-C16 fraction	>C16-C34 fraction	>C34-C40 fraction	>C10-C40 fraction (sum)
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL				0.0002	0.0002	0.0002	0.0002	0.0002	0.0005	0.0002	0.0002	0.0005	0.0002	0.0005	0.0005	0.0002	0.0005	0.0002	10	50	100	100	50	10	10	50	50	100	100	50
ANZECC 2000 Sediment ISGC-High																															
Field_ID	**Location_Code**	**Sampled_Date_Time**	**Lab_Report_Number**																												
SED01_220826	SED01_220826	26/08/2022	ES2230964	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<10	<50	140	<100	140	<10	<10	<50	<50	190	<100	190
SED02_220826	SED02_220826	26/08/2022	ES2230964	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<10	<50	<100	<100	<50	<10	<10	<50	<50	<100	<100	<50

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				Monocyclic Aromatic Hydrocarbons																Polynuclear Aromatic Hydrocarl																	
				Benzene	Toluene	Ethylbenzene	m&p-Xylene	o-Xylene	Total Xylenes	Styrene	Isopropylbenzene	n-butylbenzene	n-propylbenzene	p-isopropyltoluene	sec-butylbenzene	tert-butylbenzene	1,2,4-trimethylbenzene	1,3,5-trimethylbenzene	Total BTEX	Benzo(a)pyrene TEQ calc (Half)	Benzo(a)pyrene TEQ calc (Zero)	Benzo(a)pyrene TEQ calc(PQL)	Naphthalene	2-Methylnaphthalene	2-Chloronaphthalene	Acenaphthylene	Acenaphthene	Anthracene	Fluorene	Phenanthrene	Fluoranthene	Benz(a)anthracene	Benzo(k)fluoranthene	Benzo(b&j)fluoranthene
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL				0.2	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.2	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
ANZECC 2000 Sediment ISGC-High																							2.1			0.64	0.5	1.1	0.54	1.5	5.1	1.6		
Field_ID	**Location_Code**	**Sampled_Date_Time**	**Lab_Report_Number**																																
SED01_220826	SED01_220826	26/08/2022	ES2230964	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	0.6	<0.5	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
SED02_220826	SED02_220826	26/08/2022	ES2230964	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	0.6	<0.5	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5

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				ons											Phenolic Compounds												Fumigants						
				Benzo(b+j) & Benzo(k)fluoranthene	N-2-Fluorenyl Acetamide	7,12-Dimethylbenz(a)anthracene	Benzo(a)pyrene	Chrysene	Pyrene	3-Methylcholanthrene	Benzo(g,h,i)perylene	Dibenz(a,h)anthracene	Indeno(1,2,3-cd)pyrene	Sum of PAHs	3/4-Methylphenol (m/p-cresol)	Phenol	2-Chlorophenol	2-Methylphenol (o-Cresol)	2-Nitrophenol	2,4-Dichlorophenol	2,4-Dimethylphenol	2,6-Dichlorophenol	4-Chloro-3-methylphenol	2,4,6-Trichlorophenol	2,4,5-Trichlorophenol	Pentachlorophenol	1,2-Dibromoethane (EDB)	1,2-Dichloropropane	2,2-Dichloropropane	cis-1,3-Dichloropropene	trans-1,3-Dichloropropene	Bromobenzene	Chlorobenzene
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL				1	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	1	0.5	0.5	0.5	0.5	0.5	0.5	0.5
ANZECC 2000 Sediment ISGC-High							1.6	2.8	2.6			0.26		45																			
Field_ID	**Location_Code**	**Sampled_Date_Time**	**Lab_Report_Number**																														
SED01_220826	SED01_220826	26/08/2022	ES2230964	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
SED02_220826	SED02_220826	26/08/2022	ES2230964	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5

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				Halogenated Aromatic Compounds							Halogenated Aliphatic Compounds																							
				2-Chlorotoluene	4-Chlorotoluene	1,2-Dichlorobenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	1,2,3-Trichlorobenzene	1,2,4-Trichlorobenzene	Dichlorodifluoromethane (Freon 12)	Chloromethane	Vinyl chloride	Bromomethane	Chloroethane	Trichlorofluoromethane (Freon 11)	1,1-Dichloroethene	Iodomethane	1,1-Dichloroethane	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	1,1,1-Trichloroethane	1,1-Dichloropropene	Carbon Tetrachloride	1,2-Dichloroethane	Trichloroethene	Dibromomethane	1,1,2-Trichloroethane	1,3-Dichloropropane	Tetrachloroethene	1,1,1,2-Tetrachloroethane	trans-1,4-Dichloro-2-butene	cis-1,4-Dichloro-2-butene	1,1,2,2-Tetrachloroethane
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL				0.5	0.5	0.5	0.5	0.5	0.5	0.5	5	5	5	5	5	5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
ANZECC 2000 Sediment ISGC-High																																		
Field_ID	**Location_Code**	**Sampled_Date_Time**	**Lab_Report_Number**																															
SED01_220826	SED01_220826	26/08/2022	ES2230964	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
SED02_220826	SED02_220826	26/08/2022	ES2230964	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5

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AECOM

						Trihalomethanes				Chemical Pa		Polychlorinated Biphenyls	Oxygenated Compounds				Sulfonated Compounds	Phthalate Esters											
				1,2,3-Trichloropropane	Pentachloroethane	1,2-Dibromo-3-chloropropane	Hexachlorobutadiene	Bromodichloromethane	Bromoform	Chloroform	Dibromochloromethane	Moisture Content	weight of sample	Polychlorinated Biphenyls	Vinyl acetate	2-Butanone (MEK)	2-hexanone (MBK)	4-Methyl-2-pentanone (MIBK)	Carbon disulfide	Butyl benzyl phthalate	Diethyl phthalate	Dimethyl phthalate	Di-n-butyl phthalate	Di-n-octyl phthalate	Bis(2-ethylhexyl)phthalate	Methapyrilene	N-Nitrosodibutylamine	N-Nitrosodiethylamine
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	%	g	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL				0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	1	0.01	0.1	5	5	5	5	0.5	0.5	0.5	0.5	0.5	0.5	5	0.5	0.5	0.5
ANZECC 2000 Sediment ISGC-High																													
Field_ID	**Location_Code**	**Sampled_Date_Time**	**Lab_Report_Number**																										
SED01_220826	SED01_220826	26/08/2022	ES2230964	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	33.2	-	<0.1	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5
SED02_220826	SED02_220826	26/08/2022	ES2230964	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	32	-	<0.1	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5

Client Name: Transport for New South Wales (TfNSW)
Project Name: Muswellbrook Bypass - Detailed Site Investigation
Project No: 60619756

T3 - Sediment Analytical Results - Ecological Criteria

AECOM

				Nitrosamines						Nitroaromatics and Ketones																	Haloethers				Chlorinated
				N-Nitrosodiphenyl & Diphenylamine	N-Nitrosodipropylamine	N-Nitrosomethylethylamine	N-Nitrosomorpholine	N-Nitrosopiperidine	N-Nitrosopyrrolidine	1,3,5-Trinitrobenzene	1-Naphthylamine	2,4-Dinitrotoluene	2,6-Dinitrotoluene	2-Picoline	4-Aminobiphenyl	4-Nitroquinoline-N-oxide	5-Nitro-o-toluidine	Acetophenone	Azobenzene	Chlorobenzilate	Dimethylaminoazobenzene	Isophorone	Nitrobenzene	Pentachloronitrobenzene	Phenacetin	Pronamide	4-Bromophenyl phenyl ether	Bis(2-chloroethyl) ether	Bis(2-chloroethoxy) methane	4-Chlorophenyl phenyl ether	Hexachlorocyclopentadiene	Hexachloroethane
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL				1	0.5	0.5	0.5	0.5	1	0.5	0.5	1	1	0.5	0.5	0.5	0.5	0.5	1	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	2.5	0.5
ANZECC 2000 Sediment ISGC-High																															
Field_ID	**Location_Code**	**Sampled_Date_Time**	**Lab_Report_Number**																												
SED01_220826	SED01_220826	26/08/2022	ES2230964	<1	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5
SED02_220826	SED02_220826	26/08/2022	ES2230964	<1	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5

Client Name: Transport for New South Wales (TfNSW)
Project Name: Muswellbrook Bypass - Detailed Site Investigation
Project No: 60619756

T3 - Sediment Analytical Results - Ecological Criteria

AECOM

				Hydrocarbons		Organophosphorus Pesticides (OP)																														
				Hexachloropropene	Pentachlorobenzene	Azinphos Methyl	Bromophos-ethyl	Carbophenothion	Chlorfenvinphos	Chlorpyrifos	Chlorpyrifos-methyl	Demeton-S-methyl	Diazinon	Dichlorvos	Dimethoate	Ethion	Fenamiphos	Fenthion	Malathion	Monocrotophos	Parathion	Parathion-methyl	Pirimphos-ethyl	Prothiofos	Aldrin	Dieldrin	Aldrin + Dieldrin	a-BHC	b-BHC	d-BHC	g-BHC (Lindane)	cis-Chlordane	trans-Chlordane	Chlordane
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL				0.5	0.5	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.2	0.2	0.2	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
ANZECC 2000 Sediment ISGC-High																										0.008						0.001				0.006
Field_ID	**Location_Code**	**Sampled_Date_Time**	**Lab_Report_Number**																																	
SED01_220826	SED01_220826	26/08/2022	ES2230964	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
SED02_220826	SED02_220826	26/08/2022	ES2230964	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05

Client Name: Transport for New South Wales (TfNSW)
Project Name: Muswellbrook Bypass - Detailed Site Investigation
Project No: 60619756

T3 - Sediment Analytical Results - Ecological Criteria

AECOM

				Organochlorine Pesticides (OC)																Phenoxyacetic Acid Herbicides								Benzidine	Asbestos								
				DDD	DDE	DDT	DDT+DDE+DDD	Endosulfan	Endosulfan 1	Endosulfan 2	Endosulfan sulfate	Endrin	Endrin aldehyde	Endrin ketone	Heptachlor	Heptachlor epoxide	Hexachlorobenzene (HCB)	Methoxychlor	2,4,5-TP (Silvex)	4-Chlorophenoxy acetic acid	Clopyralid	Dicamba	Fluroxypyr	Mecoprop	Picloram	Triclopyr	3,3-Dichlorobenzidine	APPROVED IDENTIFIER:	Asbestos fibres	Asbestos Type	Organic Fibre	Asbestos (Trace)	Synthetic Mineral Fibre	2,4,5-Trichlorophenoxy acetic acid	2,4-Dichlorprop
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	-	-	-	g/kg	Fibres	g/kg	mg/kg	mg/kg
EQL				0.05	0.05	0.2	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.2	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.5		0.1		0.1	5	0.1	0.02	0.02
ANZECC 2000 Sediment ISGC-High						0.046						0.008																								
Field_ID	**Location_Code**	**Sampled_Date_Time**	**Lab_Report_Number**																																	
SED01_220826	SED01_220826	26/08/2022	ES2230964	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.5	-	-	-	-	-	-	<0.02	<0.02
SED02_220826	SED02_220826	26/08/2022	ES2230964	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.5	-	-	-	-	-	-	<0.02	<0.02

T3 - Sediment Analytical Results - Ecological Criteria

AECOM

					Herbicides				Anilines						
					2,4-Dichlorophenoxy acetic acid	4-(2,4-Dichlorophenoxy)butyric Acid (2,4-DB)	2-Methyl-4-chlorophenoxyacetic acid	2-Methyl-4-Chlorophenoxy Butanoic Acid	2-Nitroaniline	3-Nitroaniline	4-Chloroaniline	4-Nitroaniline	Aniline	Carbazole	Dibenzofuran
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL					0.02	0.02	0.02	0.02	1	1	0.5	0.5	0.5	0.5	0.5
ANZECC 2000 Sediment ISGC-High															
Field_ID	**Location_Code**	**Sampled_Date_Time**	**Lab_Report_Number**												
SED01_220826	SED01_220826	26/08/2022	ES2230964		<0.02	<0.02	<0.02	<0.02	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5
SED02_220826	SED02_220826	26/08/2022	ES2230964		<0.02	<0.02	<0.02	<0.02	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5

Client Name: Transport for New South Wales (TfNSW)
Project Name: Muswellbrook Bypass - Detailed Site Investigation
Project No: 60619756

T4 - Surface Water Analytical Results

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	Field Paramters						Metals								Per- and Poly-fluoroalkyl Substances																							
	Dissolved Oxygen (DO)	Electrical Conductivity (EC)	pH	Corrected Redox	Temperature	Sum of WA DWER PFAS (n=10)*	Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Zinc	Perfluorooctanoic acid (PFOA)	Perfluorooctane sulfonic acid (PFOS)	Perfluorohexane sulfonic acid (PFHxS)	Sum (PFHxS + PFOS)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	Perfluorobutane sulfonic acid (PFBS)	Perfluorobutanoic acid (PFBA)	Perfluorodecane sulfonic acid (PFDS)	Perfluorodecanoic acid (PFDA)	Perfluorododecanoic acid (PFDoDA)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluoroheptanoic acid (PFHpA)	Perfluorohexanoic acid (PFHxA)	Perfluorononanoic acid (PFNA)	Perfluorooctane sulfonamide (FOSA)	Perfluoropentane sulfonic acid (PFPeS)	Perfluoropentanoic acid (PFPeA)	Perfluorotetradecanoic acid (PFTeDA)
	mg/L	us/cm	-	eH	°C	UG/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL	-	-	-	-	-	0.01	0.001	0.0001	0.001	0.001	0.001	0.0001	0.001	0.005	0.01	0.01	0.01	0.01	0.05	0.05	0.05	0.05	0.02	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.05
ANZG (2018) Freshwater 95% LOSP Toxicant DGVs								0.0002		0.0014	0.0034	0.0006	0.011	0.008																						
NHMRC 2008 - Guidelines for Managing Risks in Recreational Waters							0.1	0.02	0.5	20	0.1	0.01	0.2																							
PFAS NEMP 2020 Freshwater 99%															19	0.00023																			
Field_ID	**Location_Code**	**Well**	**Sampled_Date_Time**																																	
SW01_220826	SW01_220826		26/08/2022	6.04	686	6.77	343	16.0	<0.01	0.001	<0.0001	<0.001	0.001	<0.001	<0.0001	0.016	<0.005	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05
SW02_220826	SW02_220826		26/08/2022	4.09	701	6.85	308	16.2	<0.01	<0.001	<0.0001	<0.001	0.002	<0.001	<0.0001	0.015	<0.005	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05

Notes: field redox has been corrected by a factor of +205 to obtain corrected redox value

Client Name: Transport for New South Wales (TfNSW)
Project Name: Muswellbrook Bypass - Detailed Site Investigation
Project No: 60619756

T4 - Surface Water Analytical Results

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| | | |

Client Name: Transport for New South Wales (TfNSW)
Project Name: Muswellbrook Bypass - Detailed Site Investigation
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| | Polynuclear Aromatic Hydrocarbons | | | | | | | | | | | | | | | Phenolic Compounds | | | | | | | | | | | | Fumigants | | | | | Halogenated Aromatic Compounds | | | | | | | | | | | | | | |

Client Name: Transport for New South Wales (TfNSW)
Project Name: Muswellbrook Bypass - Detailed Site Investigation
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T4 - Surface Water Analytical Results

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	Halogenated Aliphatic Compounds																					Trihalomethanes				Polychlorinated Biphenyls	xygenated Compound				Sulfonated Compounds	Phthalate Esters								
	Iodomethane	1,1-Dichloroethane	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	1,1,1-Trichloroethane	1,1-Dichloropropene	Carbon Tetrachloride	1,2-Dichloroethane	Trichloroethene	Dibromomethane	1,1,2-Trichloroethane	1,3-Dichloropropane	Tetrachloroethene	1,1,1,2-Tetrachloroethane	trans-1,4-Dichloro-2-butene	cis-1,4-Dichloro-2-butene	1,1,2,2-Tetrachloroethane	1,2,3-Trichloropropane	Pentachloroethane	1,2-Dibromo-3-chloropropane	Hexachlorobutadiene	Bromodichloromethane	Bromoform	Chloroform	Dibromochloromethane	Polychlorinated Biphenyls	Vinyl acetate	2-Butanone (MEK)	2-hexanone (MBK)	4-Methyl-2-pentanone (MIBK)	Carbon disulfide	Butyl benzyl phthalate	Diethyl phthalate	Dimethyl phthalate	Di-n-butyl phthalate	Di-n-octyl phthalate	Bis(2-ethylhexyl)phthalate	Methapyrilene	N-Nitrosodibutylamine	N-Nitrosodiethylamine
	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	2	5	5	5	5	1	50	50	50	50	5	2	2	2	2	2	10	2	2	2
ANZG (2018) Freshwater 95% LOSP Toxicant DGVs					270		240	1900	330		6500	1100	70				400		80					770									1000	3700	26						
NHMRC 2008 - Guidelines for Managing Risks in Recreational Wa							30	30					500								7																100			
PFAS NEMP 2020 Freshwater 99%																																								
Field_ID	**Location_Code**	**Well**	**Sampled_Date_Time**																																						
SW01_220826	SW01_220826		26/08/2022	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<2	<5	<5	<5	<5	<1	<50	<50	<50	<50	<5	<2	<2	<2	<2	<2	<10	<2	<2	<2
SW02_220826	SW02_220826		26/08/2022	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<2	<5	<5	<5	<5	<1	<50	<50	<50	<50	<5	<2	<2	<2	<2	<2	<10	<2	<2	<2

Notes: field redox has been corrected by a factor of +205 to obtain

Client Name: Transport for New South Wales (TfNSW)
Project Name: Muswellbrook Bypass - Detailed Site Investigation
Project No: 60619756

T4 - Surface Water Analytical Results

AECOM

	Nitrosamines						Nitroaromatics and Ketones																	Haloethers				Chlorinated Hydrocarbo				Organophosphorus Pesticides (OP)																									
	N-Nitrosodiphenyl & Diphenylamine	N-Nitrosodipropylamine	N-Nitrosomethylethylamine	N-Nitrosomorpholine	N-Nitrosopiperidine	N-Nitrosopyrrolidine	1,3,5-Trinitrobenzene	1-Naphthylamine	2,4-Dinitrotoluene	2,6-Dinitrotoluene	2-Picoline	4-Aminobiphenyl	4-Nitroquinoline-N-oxide	5-Nitro-o-toluidine	Acetophenone	Azobenzene	Chlorobenzilate	Dimethylaminoazobenzene	Isophorone	Nitrobenzene	Pentachloronitrobenzene	Phenacetin	Pronamide	4-Bromophenyl phenyl ether	Bis(2-chloroethyl) ether	Bis(2-chloroethoxy) methane	4-Chlorophenyl phenyl ether	Hexachlorocyclopentadiene	Hexachloroethane	Hexachloropropene	Pentachlorobenzene	Azinphos Methyl	Bromophos-ethyl	Carbophenothion	Chlorfenvinphos	Chlorpyrifos	Chlorpyrifos-methyl	Demeton-S-methyl	Diazinon	Dichlorvos	Dimethoate	Ethion	Fenamiphos	Fenthion	Malathion	Monocrotophos	Parathion	Parathion-methyl
	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL	4	2	2	2	2	4	2	2	4	4	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	10	2	2	2	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	2	2	2
ANZG (2018) Freshwater 95% LOSP Toxicant DGVs									65											550									360		2	0.02				0.01			0.01		0.15				0.05		0.004	
NHMRC 2008 - Guidelines for Managing Risks in Recreational Wa																					300		700									300	100	5	20	100			40	50	70	40	5	70	700	20	200	7
PFAS NEMP 2020 Freshwater 99%																																																		
Field_ID	**Location_Code**	**Well**	**Sampled_Date_Time**																																																
SW01_220826	SW01_220826		26/08/2022	<4	<2	<2	<2	<2	<4	<2	<2	<4	<4	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<2	<2
SW02_220826	SW02_220826		26/08/2022	<4	<2	<2	<2	<2	<4	<2	<2	<4	<4	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<2	<2

Notes: field redox has been corrected by a factor of +205 to obtain

Client Name: Transport for New South Wales (TfNSW)
Project Name: Muswellbrook Bypass - Detailed Site Investigation
Project No: 60619756

T4 - Surface Water Analytical Results

AECOM

			Organochlorine Pesticides (OC)																											Phenoxyacetic Acid Herbicides									Benzidine	Herbicides										
			Pirimphos-ethyl	Prothiofos	Aldrin	Dieldrin	Aldrin + Dieldrin	a-BHC	b-BHC	d-BHC	g-BHC (Lindane)	cis-Chlordane	trans-Chlordane	Chlordane	DDD	DDE	DDT	DDT+DDE+DDD	Endosulfan 1	Endosulfan 2	Endosulfan sulfate	Endrin	Endrin aldehyde	Endrin ketone	Heptachlor	Heptachlor epoxide	Hexachlorobenzene (HCB)	Methoxychlor	2,4,5-TP (Silvex)	2,6-D	4-Chlorophenoxy acetic acid	Clopyralid	Dicamba	Fluroxypyr	Mecoprop	Picloram	Triclopyr	3,3-Dichlorobenzidine	2,4,5-Trichlorophenoxy acetic acid	2,4-Dichlorprop	2,4-Dichlorophenoxy acetic acid	4-(2,4-Dichlorophenoxy)butyric Acid (2,4-DB)	2-Methyl-4-chlorophenoxyacetic acid	2,4,6-Trichlorophenoxy acetic acid	2-Methyl-4-Chlorophenoxy Butanoic Acid	2-Nitroaniline	3-Nitroaniline
			µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL			0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	2	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	2	10	10	10	10	10	10	10	10	10	2	10	10	10	10	10	10	10	4	4
ANZG (2018) Freshwater 95% LOSP Toxicant DGVs											0.2			0.08			0.01					0.02			0.09		0.1													36		280							
NHMRC 2008 - Guidelines for Managing Risks in Recreational Wa			5				3				100			20			90								3				100			20000	1000			3000	200		1000	1000	300		400				
PFAS NEMP 2020 Freshwater 99%																																																
Field_ID	**Location_Code**	**Well**	**Sampled_Date_Time**																																													
SW01_220826	SW01_220826		26/08/2022	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<10	<10	<10	<10	<10	<10	<10	<10	<10	<2	<10	<10	<10	<10	<10	<10	<10	<4	<4
SW02_220826	SW02_220826		26/08/2022	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<10	<10	<10	<10	<10	<10	<10	<10	<10	<2	<10	<10	<10	<10	<10	<10	<10	<4	<4

Notes: field redox has been corrected by a factor of +205 to obtain

Client Name: Transport for New South Wales (TfNSW)
Project Name: Muswellbrook Bypass - Detailed Site Investigation
Project No: 60619756

T4 - Surface Water Analytical Results

AECOM

				Anilines				
				4-Chloroaniline	4-Nitroaniline	Aniline	Carbazole	Dibenzofuran
				µg/L	µg/L	µg/L	µg/L	µg/L
EQL				2	2	2	2	2
ANZG (2018) Freshwater 95% LOSP Toxicant DGVs						250		
NHMRC 2008 - Guidelines for Managing Risks in Recreational Wa								
PFAS NEMP 2020 Freshwater 99%								
Field_ID	**Location_Code**	**Well**	**Sampled_Date_Time**					
SW01_220826	SW01_220826		26/08/2022	<2	<2	<2	<2	<2
SW02_220826	SW02_220826		26/08/2022	<2	<2	<2	<2	<2

Notes: field redox has been corrected by a factor of +205 to obtain

Table T5 - Groundwater Field Parameters

		Groundwater Field Parameters							
		Depth to Groundwater	Depth to Bottm of Well	Dissolved Oxygen	Electrical Conductivity	pH	Redox	Temperature	Comments
Well ID	Date	mbtoc	mbtoc	mg/L	µS/cm		mV	°C	Odour, Colour, Turbidity
MW01	23-11-22	4.886	10.485	2.16	3791	7.26	143.7	18.4	No odour, clear colour, clear turbidity, no sheen
MW02	23-11-22	4.274	8.834	1.61	10077	7.35	146	18.3	No odour, clear colour, clear turbidity, no sheen
MW03	23-11-22	3.014	6.345	0.38	146	5.79	98.4	17.9	No odour, clear colour, clear turbidity, no sheen
BR245	23-11-22	5.785	7.829	1.26	17749	6.99	98.3	18.7	No odour, clear colour, clear turbidity, no sheen
BR225	23-11-22	3.289	5.989	3.33	104.3	4.44	260.1	19.3	No odour, clear colour, clear turbidity, no sheen

Table T6 - Groundwater Analytical Results - Human Health

				Metals									Per- and Poly-fluoroalkyl Substances																				
				Sum of WA DWER PFAS (n=10)*	Arsenic (Filtered)	Cadmium (Filtered)	Chromium (Filtered)	Copper (Filtered)	Lead (Filtered)	Mercury (Filtered)	Nickel (Filtered)	Zinc (Filtered)	Perfluorooctanoic acid (PFOA)	Perfluorooctane sulfonic acid (PFOS)	Perfluorohexane sulfonic acid (PFHxS)	Sum (PFHxS + PFOS)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	Perfluorobutane sulfonic acid (PFBS)	Perfluorobutanoic acid (PFBA)	Perfluorodecane sulfonic acid (PFDS)	Perfluorodecanoic acid (PFDA)	Perfluorododecanoic acid (PFDoDA)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluoroheptanoic acid (PFHpA)	Perfluorohexanoic acid (PFHxA)	Perfluorononane sulfonic acid (PFNS)	Perfluorononanoic acid (PFNA)	Perfluorooctane sulfonamide (FOSA)	Perfluoropentane sulfonic acid (PFPeS)	Perfluoropentanoic acid (PFPeA)
				UG/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL				0.01	0.001	0.0001	0.001	0.001	0.001	0.0001	0.001	0.005	0.01	0.01	0.01	0.01	0.05	0.05	0.05	0.05	0.02	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.01	0.02	0.02	0.02	0.02
PFAS NEMP 2020 Recreational Water													10			2																	
CRC Care 2011 Table B2 GW HSL Int. Main. Worker (Shallow Trench), Sand																																	
2-4m																																	
4-8m																																	
>8m																																	
NEPM 2013 Table 1A(4) Comm/Ind HSL D GW for Vapour Intrusion, Sand																																	
2-4m																																	
4-8m																																	
>8m																																	
Location_Code	**Field_ID**	**Sampled_Date_Time**	**Lab_Report_Number**																															
BR225	BR225_221123	23-11-22	WN2214776	<0.01	<0.001	0.0004	<0.001	0.002	<0.001	<0.0001	0.05	0.112	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.02
	QC100_221123	23-11-22	WN2214776	<0.01	<0.001	0.0003	<0.001	0.002	<0.001	<0.0001	0.051	0.112	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.02
	QC200_221123	23-11-22	944491	<0.05	<0.001	0.0004	<0.001	0.003	<0.001	<0.0001	0.047	0.11	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01
BR245	BR245_221123	23-11-22	WN2214776	0.04	0.004	<0.0001	0.002	<0.001	<0.001	<0.0001	0.036	<0.005	<0.01	<0.01	0.04	0.04	<0.05	<0.05	<0.05	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.02
MW01	MW01_221123	23-11-22	WN2214776	0.28	<0.001	<0.0001	<0.001	<0.001	<0.001	<0.0001	0.003	<0.005	<0.01	<0.01	0.25	0.25	<0.05	<0.05	<0.05	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	-	<0.02	<0.02	0.02	<0.02
MW02	MW02 -221123	23-11-22	WN2214776	0.02	<0.001	<0.0001	<0.001	<0.001	<0.001	<0.0001	0.004	<0.005	<0.01	<0.01	0.02	0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.02
MW03	MW03_221123	23-11-22	WN2214776	0.67	<0.001	<0.0001	<0.001	0.004	<0.001	<0.0001	0.004	<0.005	0.01	0.44	0.2	0.64	<0.05	<0.05	<0.05	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	-	0.2	<0.02	<0.02	<0.02

Table T6 - Groundwater Analytical Results - Human Health

| | | |

Table T6 - Groundwater Analytical Results - Human Health

| | | | | Monocyclic Aromatic Hydrocarbons | | | | | | | | | | | | | | Polynuclear Aromatic Hydrocarbons | | | | | | | | | | | | | |

Table T6 - Groundwater Analytical Results - Human Health

| | | | | Phenolic Compounds | | | | | | | | | | | | | | Fumigants | | | | | Halogenated Aromatic Compounds | | | | | | | | | | | | | |

Table T6 - Groundwater Analytical Results - Human Health

				Halogenated Aliphatic Compounds																						Trihalomethanes				Polychlorinated Biphenyls								Oxygenated Compounds					Sulfonated Compounds	
				cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	1,1,1-Trichloroethane	1,1-Dichloropropene	Carbon Tetrachloride	1,2-Dichloroethane	Trichloroethene	Dibromomethane	1,1,2-Trichloroethane	1,3-Dichloropropane	Tetrachloroethene	1,1,1,2-Tetrachloroethane	trans-1,4-Dichloro-2-butene	cis-1,4-Dichloro-2-butene	1,1,2,2-Tetrachloroethane	1,2,3-Trichloropropane	Dichloromethane	Pentachloroethane	1,2-Dibromo-3-chloropropane	Hexachlorobutadiene	Bromodichloromethane	Bromoform	Chloroform	Dibromochloromethane	Polychlorinated Biphenyls	Arochlor 1016	Arochlor 1221	Arochlor 1232	Arochlor 1242	Arochlor 1248	Arochlor 1254	Arochlor 1260	2-Propanone (Acetone)	Vinyl acetate	2-Butanone (MEK)	2-hexanone (MBK)	4-Methyl-2-pentanone (MIBK)	Carbon disulfide	Butyl benzyl phthalate
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL				5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	1	5	5	5	5	5	5	5	50	50	50	50	5	2
PFAS NEMP 2020 Recreational Water																																											
CRC Care 2011 Table B2 GW HSL Int. Main. Worker (Shallow Trench), Sand																																											
2-4m																																											
4-8m																																											
>8m																																											
NEPM 2013 Table 1A(4) Comm/Ind HSL D GW for Vapour Intrusion, Sand																																											
2-4m																																											
4-8m																																											
>8m																																											
BR225	BR225_221123	23-11-22	WN2214776	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	-	<5	<5	<2	<5	<5	<5	<5	<1	-	-	-	-	-	-	-	-	<50	<50	<50	<50	<5	<2
	QC100_221123	23-11-22	WN2214776	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	-	<5	<5	<2	<5	<5	<5	<5	<1	-	-	-	-	-	-	-	-	<50	<50	<50	<50	<5	<2
	QC200_221123	23-11-22	944491	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1	-	-	<1	<1	<5	-	-	<5	<1	<1	<5	<1	<5	<5	<5	<5	<5	<5	<5	<5	<5	-	<5	-	<5	<1	<5
BR245	BR245_221123	23-11-22	WN2214776	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	-	<5	<5	<2	<5	<5	<5	<5	<1	-	-	-	-	-	-	-	-	<50	<50	<50	<50	<5	<2
MW01	MW01_221123	23-11-22	WN2214776	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	-	<5	<5	<2	<5	<5	<5	<5	<1	-	-	-	-	-	-	-	-	<50	<50	<50	<50	<5	<2
MW02	MW02 -221123	23-11-22	WN2214776	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	-	<5	<5	<2	<5	<5	<5	<5	<1	-	-	-	-	-	-	-	-	<50	<50	<50	<50	<5	<2
MW03	MW03_221123	23-11-22	WN2214776	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	-	<5	<5	<2	<5	<5	<5	<5	<1	-	-	-	-	-	-	-	-	<50	<50	<50	<50	<5	<2

Table T6 - Groundwater Analytical Results - Human Health

				Phthalate Esters					Nitrosamines										Nitroaromatics and Ketones																		Haloethers					Chlorinated Hydrocarbo				
				Diethyl phthalate	Dimethyl phthalate	Di-n-butyl phthalate	Di-n-octyl phthalate	Bis(2-ethylhexyl)phthalate	Diphenylamine	Methapyrilene	N-Nitrosodibutylamine	N-Nitrosodiethylamine	N-Nitrosodiphenyl & Diphenylamine	N-Nitrosodipropylamine	N-Nitrosomethylethylamine	N-Nitrosomorpholine	N-Nitrosopiperidine	N-Nitrosopyrrolidine	1,3,5-Trinitrobenzene	1-Naphthylamine	2,4-Dinitrotoluene	2,6-Dinitrotoluene	2-Naphthylamine	2-Picoline	4-Aminobiphenyl	4-Nitroquinoline-N-oxide	5-Nitro-o-toluidine	Acetophenone	Azobenzene	Chlorobenzilate	Dimethylaminoazobenzene	Isophorone	Nitrobenzene	Pentachloronitrobenzene	Phenacetin	Pronamide	4-Bromophenyl phenyl ether	Bis(2-chloroisopropyl)ether	Bis(2-chloroethyl) ether	Bis(2-chloroethoxy) methane	4-Chlorophenyl phenyl ether	Hexachlorocyclopentadiene	Hexachloroethane	Hexachloropropene	Pentachlorobenzene	Chlorinated hydrocarbons (sum)
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL				2	2	2	2	10	5	2	2	2	4	2	2	2	2	4	2	2	4	4	5	2	2	2	4	2	2	2	2	2	2	2	2	2	2	5	2	2	2	10	2	2	2	5
PFAS NEMP 2020 Recreational Water																																													
CRC Care 2011 Table B2 GW HSL Int. Main. Worker (Shallow Trench), Sand																																													
2-4m																																													
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2-4m																																													
4-8m																																													
>8m																																													
Location_Code	Field_ID	Sampled_Date_Time	Lab_Report_Number																																										
BR225	BR225_221123	23-11-22	WN2214776	<2	<2	<2	<2	<10	-	<2	<2	<2	<4	<2	<2	<2	<2	<4	<2	<2	<4	<4	-	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	-	<2	<2	<2	<10	<2	<2	<2	-
	QC100_221123	23-11-22	WN2214776	<2	<2	<2	<2	<10	-	<2	<2	<2	<4	<2	<2	<2	<2	<4	<2	<2	<4	<4	-	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	-	<2	<2	<2	<10	<2	<2	<2	-
	QC200_221123	23-11-22	944491	<5	<5	<5	<5	<5	<5	-	<5	-	-	<5	-	-	<5	-	-	<50	<5	<5	<50	<5	<5	-	-	<5	-	-	<5	-	<5	<5	-	<5	<5	<5	-	<5	<5	<5	<5	-	<5	<5	<5
BR245	BR245_221123	23-11-22	WN2214776	<2	<2	<2	<2	<10	-	<2	<2	<2	<4	<2	<2	<2	<2	<4	<2	<2	<4	<4	-	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	-	<2	<2	<2	<10	<2	<2	<2	-
MW01	MW01_221123	23-11-22	WN2214776	<2	<2	<2	<2	<10	-	<2	<2	<2	<4	<2	<2	<2	<2	<4	<2	<2	<4	<4	-	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	-	<2	<2	<2	<10	<2	<2	<2	-
MW02	MW02 -221123	23-11-22	WN2214776	<2	<2	<2	<2	<10	-	<2	<2	<2	<4	<2	<2	<2	<2	<4	<2	<2	<4	<4	-	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	-	<2	<2	<2	<10	<2	<2	<2	-
MW03	MW03_221123	23-11-22	WN2214776	<2	<2	<2	<2	<10	-	<2	<2	<2	<4	<2	<2	<2	<2	<4	<2	<2	<4	<4	-	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	-	<2	<2	<2	<10	<2	<2	<2	-

Table T6 - Groundwater Analytical Results - Human Health

| | | | | ns | Organophosphorus Pesticides (OP) | | | |

Table T6 - Groundwater Analytical Results - Human Health

				Organochlorine Pesticides (OC)																					Phenoxyacetic Acid Herbicides									Benzidine	Herbicides							
				g-BHC (Lindane)	cis-Chlordane	trans-Chlordane	Chlordane	DDD	DDE	DDT	DDT+DDE+DDD	Endosulfan 1	Endosulfan 2	Endosulfan sulfate	Endrin	Endrin aldehyde	Endrin ketone	Heptachlor	Heptachlor epoxide	Hexachlorobenzene (HCB)	Methoxychlor	Toxaphene	Organochlorine pesticides (sum)	Other organochlorine pesticides (sum)	2,4,5-TP (Silvex)	2,6-D	4-Chlorophenoxy acetic acid	Clopyralid	Dicamba	Fluroxypyr	Mecoprop	Picloram	Triclopyr	3,3-Dichlorobenzidine	2,4,5-Trichlorophenoxy acetic acid	2,4-Dichlorprop	2,4-Dichlorophenoxy acetic acid	4-(2,4-Dichlorophenoxy)butyric Acid (2,4-DB)	2-Methyl-4-chlorophenoxyacetic acid	2,4,6-Trichlorophenoxy acetic acid	2-Methyl-4-Chlorophenoxy Butanoic Acid
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL				0.5	0.5	0.5	0.5	0.5	0.5	2	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	2	5	2	2	10	10	10	10	10	10	10	10	10	2	10	10	10	10	10	10	10
PFAS NEMP 2020 Recreational Water																																										
CRC Care 2011 Table B2 GW HSL Int. Main. Worker (Shallow Trench), Sand																																										
2-4m																																										
4-8m																																										
>8m																																										
NEPM 2013 Table 1A(4) Comm/Ind HSL D GW for Vapour Intrusion, Sand																																										
2-4m																																										
4-8m																																										
>8m																																										
Location_Code	Field_ID	Sampled_Date_Time	Lab_Report_Number																																							
BR225	BR225_221123	23-11-22	WN2214776	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	-	-	-	<10	<10	<10	<10	<10	<10	<10	<10	<10	<2	<10	<10	<10	<10	<10	<10	<10
	QC100_221123	23-11-22	WN2214776	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	-	-	-	<10	<10	<10	<10	<10	<10	<10	<10	<10	<2	<10	<10	<10	<10	<10	<10	<10
	QC200_221123	23-11-22	944491	<0.2	-	-	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<5	<2	<2	-	-	-	-	-	-	-	-	-	<5	-	-	-	-	-	-	-
BR245	BR245_221123	23-11-22	WN2214776	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	-	-	-	<10	<10	<10	<10	<10	<10	<10	<10	<10	<2	<10	<10	<10	<10	<10	<10	<10
MW01	MW01_221123	23-11-22	WN2214776	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	-	-	-	<10	<10	<10	<10	<10	<10	<10	<10	<10	<2	<10	<10	<10	<10	<10	<10	<10
MW02	MW02 -221123	23-11-22	WN2214776	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	-	-	-	<10	<10	<10	<10	<10	<10	<10	<10	<10	<2	<10	<10	<10	<10	<10	<10	<10
MW03	MW03_221123	23-11-22	WN2214776	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	-	-	-	<10	<10	<10	<10	<10	<10	<10	<10	<10	<2	<10	<10	<10	<10	<10	<10	<10

Table T6 - Groundwater Analytical Results - Human Health

		Inorganics	Anilines							
		Reactive Phosphorus as P (Orthophosphate as P)	2-Nitroaniline	3-Nitroaniline	4-Chloroaniline	4-Nitroaniline	Aniline	Carbazole	Dibenzofuran	Trifluralin
		mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL		0.01	4	4	2	2	2	2	2	5
PFAS NEMP 2020 Recreational Water										
CRC Care 2011 Table B2 GW HSL Int. Main. Worker (Shallow Trench), Sand										
2-4m										
4-8m										
>8m										
NEPM 2013 Table 1A(4) Comm/Ind HSL D GW for Vapour Intrusion, Sand										
2-4m										
4-8m										
>8m										
Location_Code	**Field_ID**	**Sampled_Date_Time**	**Lab_Report_Number**							
BR225	BR225_221123	23-11-22	WN2214776	0.09	<4	<4	<2	<2	<2	<2	<2	-
	QC100_221123	23-11-22	WN2214776	0.09	<4	<4	<2	<2	<2	<2	<2	-
	QC200_221123	23-11-22	944491	0.09	<5	-	-	-	<5	-	<5	<5
BR245	BR245_221123	23-11-22	WN2214776	<0.01	<4	<4	<2	<2	<2	<2	<2	-
MW01	MW01_221123	23-11-22	WN2214776	-	<4	<4	<2	<2	<2	<2	<2	-
MW02	MW02 -221123	23-11-22	WN2214776	-	<4	<4	<2	<2	<2	<2	<2	-
MW03	MW03_221123	23-11-22	WN2214776	-	<4	<4	<2	<2	<2	<2	<2	-

Table T7 - Groundwater Analytical Results - Ecological

				Metals									Per- and Poly-fluoroalkyl Substances																				
				Sum of WA DWER PFAS (n=10)*	Arsenic (Filtered)	Cadmium (Filtered)	Chromium (Filtered)	Copper (Filtered)	Lead (Filtered)	Mercury (Filtered)	Nickel (Filtered)	Zinc (Filtered)	Perfluorooctanoic acid (PFOA)	Perfluorooctane sulfonic acid (PFOS)	Perfluorohexane sulfonic acid (PFHxS)	Sum (PFHxS + PFOS)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	Perfluorobutane sulfonic acid (PFBS)	Perfluorobutanoic acid (PFBA)	Perfluorodecane sulfonic acid (PFDS)	Perfluorodecanoic acid (PFDA)	Perfluorododecanoic acid (PFDoDA)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluoroheptanoic acid (PFHpA)	Perfluorohexanoic acid (PFHxA)	Perfluorononane sulfonic acid (PFNS)	Perfluorononanoic acid (PFNA)	Perfluorooctane sulfonamide (FOSA)	Perfluoropentane sulfonic acid (PFPeS)	Perfluoropentanoic acid (PFPeA)
				UG/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL				0.01	0.001	0.0001	0.001	0.001	0.001	0.0001	0.001	0.005	0.01	0.01	0.01	0.01	0.05	0.05	0.05	0.05	0.02	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.01	0.02	0.02	0.02	0.02
ANZG (2018) Freshwater 95% LOSP Toxicant DGVs						0.0002		0.0014	0.0034	0.0006	0.011	0.008																					
ANZG (2018) Freshwater 99% LOSP Toxicant DGVs										0.00006																							
PFAS NEPM 2020 Freshwater 99%													19	0.00023																			
Location_Code	Field_ID	Sampled_Date_Time	Lab_Report_Number																															
BR225	BR225_221123	23-11-22	WN2214776	<0.01	<0.001	0.0004	<0.001	0.002	<0.001	<0.0001	0.05	0.112	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.02
	QC100_221123	23-11-22	WN2214776	<0.01	<0.001	0.0003	<0.001	0.002	<0.001	<0.0001	0.051	0.112	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.02
	QC200_221123	23-11-22	944491	<0.05	<0.001	0.0004	<0.001	0.003	<0.001	<0.0001	0.047	0.11	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01
BR245	BR245_221123	23-11-22	WN2214776	0.04	0.004	<0.0001	0.002	<0.001	<0.001	<0.0001	0.036	<0.005	<0.01	<0.01	0.04	0.04	<0.05	<0.05	<0.05	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.02
MW01	MW01_221123	23-11-22	WN2214776	0.28	<0.001	<0.0001	<0.001	<0.001	<0.001	<0.0001	0.003	<0.005	<0.01	<0.01	0.25	0.25	<0.05	<0.05	<0.05	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	-	<0.02	<0.02	0.02	<0.02
MW02	MW02 -221123	23-11-22	WN2214776	0.02	<0.001	<0.0001	<0.001	<0.001	<0.001	<0.0001	0.004	<0.005	<0.01	<0.01	0.02	0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.02
MW03	MW03_221123	23-11-22	WN2214776	0.67	<0.001	<0.0001	<0.001	0.004	<0.001	<0.0001	0.004	<0.005	0.01	0.44	0.2	0.64	<0.05	<0.05	<0.05	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	-	0.2	<0.02	<0.02	<0.02

Table T7 - Groundwater Analytical Results - Ecological

Location_Code	Field_ID	Sampled_Date_Time	Lab_Report_Number	Perfluoropropanesulfonic acid (PFPrS)	Perfluorotetradecanoic acid (PFTeDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluoroundecanoic acid (PFUnDA)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	Sum of PFAS	Sum of enHealth PFAS (PFHxS + PFOS + PFOA)	Sum of US EPA PFAS (PFOS + PFOA)	Total Petroleum Hydrocarbon					Total Recoverable Hydrocarbons							Nutrients										
																	C6-C9 fraction	C10-C14 fraction	C15-C28 fraction	C29-C36 fraction	C10-C36 fraction (sum)	C6-C10 fraction	C6-C10 fraction (minus BTEX)(F1)	>C10-C16 (minus Naphthalene)(F2)	>C10-C16 fraction	>C16-C34 fraction	>C34-C40 fraction	>C10-C40 fraction (sum)	Ammonia (as N)	Nitrate (as N)	Nitrite (as N)	Total Kjeldahl Nitrogen	Nitrite + Nitrate as N	Total Nitrogen (as N)	Phosphorus	Benzene	Toluene	Ethylbenzene	m&p-Xylene	o-Xylene
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL				0.01	0.05	0.02	0.02	0.05	0.02	0.05	0.05	0.02	0.05	0.01	0.01	0.01	20	50	100	50	50	20	20	100	100	100	100	100	0.01	0.01	0.01	0.1	0.01	0.1	0.01	1	2	2	2	2
ANZG (2018) Freshwater 95% LOSP Toxicant DGVs																													0.9							950	180	80		350
ANZG (2018) Freshwater 99% LOSP Toxicant DGVs																																								
PFAS NEPM 2020 Freshwater 99%																																								
BR225	BR225_221123	23-11-22	WN2214776	-	<0.05	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	-	-	<20	<50	<100	<50	<50	<20	<20	<100	<100	<100	<100	<100	<0.01	0.75	<0.01	<0.1	0.75	0.8	0.1	<1	<2	<2	<2	<2
	QC100_221123	23-11-22	WN2214776	-	<0.05	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	-	-	<20	<50	<100	<50	<50	<20	<20	<100	<100	<100	<100	<100	<0.01	0.72	<0.01	<0.1	0.72	0.7	0.1	<1	<2	<2	<2	<2
	QC200_221123	23-11-22	944491	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.01	<0.01	<20	<50	<100	<100	<100	<20	<20	<50	<50	<100	<100	<100	-	-	-	-	0.82	-	-	<1	<1	<1	<2	<1
BR245	BR245_221123	23-11-22	WN2214776	-	<0.05	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.04	-	-	<20	<50	<100	<50	<50	<20	<20	<100	<100	<100	<100	<100	0.12	0.15	0.02	0.2	0.17	0.4	0.03	<1	<2	<2	<2	<2
MW01	MW01_221123	23-11-22	WN2214776	-	<0.05	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.3	-	-	<20	<50	<100	<50	<50	<20	<20	<100	<100	<100	<100	<100	-	-	-	-	-	-	-	<1	<2	<2	<2	<2
MW02	MW02 -221123	23-11-22	WN2214776	-	<0.05	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.02	-	-	<20	<50	<100	<50	<50	<20	<20	<100	<100	<100	<100	<100	-	-	-	-	-	-	-	<1	<2	<2	<2	<2
MW03	MW03_221123	23-11-22	WN2214776	-	<0.05	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	0.87	-	-	<20	<50	<100	<50	<50	<20	<20	<100	<100	<100	<100	<100	-	-	-	-	-	-	-	<1	<2	<2	<2	<2

Table T7 - Groundwater Analytical Results - Ecological

| | | | | Monocyclic Aromatic Hydrocarbons | | | | | | | | | | | | | Polynuclear Aromatic Hydrocarbons | | | | | | | | | | | | |

Table T7 - Groundwater Analytical Results - Ecological

				Phenolic Compounds												Fumigants					Halogenated Aromatic Compounds																								H
				2-Nitrophenol	2,4-Dichlorophenol	2,4-Dimethylphenol	2,6-Dichlorophenol	4-Chloro-3-methylphenol	2,4,6-Trichlorophenol	2,4,5-Trichlorophenol	4,6-Dinitro-2-methylphenol	Pentachlorophenol	2,3,4,6-Tetrachlorophenol	2,4-Dinitrophenol	4-Nitrophenol	1,2-Dibromoethane (EDB)	1,2-Dichloropropane	2,2-Dichloropropane	cis-1,3-Dichloropropene	trans-1,3-Dichloropropene	Benzyl chloride	Bromobenzene	Chlorobenzene	2-Chlorotoluene	4-Chlorotoluene	1,2-Dichlorobenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	1,2,3,4-Tetrachlorobenzene	1,2,3,5-Tetrachlorobenzene	1,2,4,5-Tetrachlorobenzene	1,2,3-Trichlorobenzene	1,2,4-Trichlorobenzene	1,3,5-Trichlorobenzene	Bromochloromethane	Allyl chloride	Dichlorodifluoromethane (Freon 12)	Chloromethane	Vinyl chloride	Bromomethane	Chloroethane	Trichlorofluoromethane (Freon 11)	1,1-Dichloroethene	Iodomethane	1,1-Dichloroethane	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL				2	2	2	2	2	2	2	30	4	10	30	30	5	5	5	5	5	5	5	5	5	5	2	2	2	5	5	5	5	2	5	1	1	50	50	50	50	50	50	5	5	5	5	5
ANZG (2018) Freshwater 95% LOSP Toxicant DGVs					160				20			10	20	45			900					55				160	260	60	4	5	7	10	170	13					100				700					
ANZG (2018) Freshwater 99% LOSP Toxicant DGVs					120				3			3.6																																		
PFAS NEPM 2020 Freshwater 99%																																														
Location_Code	**Field_ID**	**Sampled_Date_Time**	**Lab_Report_Number**																																										
BR225	BR225_221123	23-11-22	WN2214776	<2	<2	<2	<2	<2	<2	<2	-	<4	-	-	-	<5	<5	<5	<5	<5	-	<5	<5	<5	<5	<2	<2	<2	-	-	-	<5	<2	-	-	-	<50	<50	<50	<50	<50	<50	<5	<5	<5	<5	<5
	QC100_221123	23-11-22	WN2214776	<2	<2	<2	<2	<2	<2	<2	-	<4	-	-	-	<5	<5	<5	<5	<5	-	<5	<5	<5	<5	<2	<2	<2	-	-	-	<5	<2	-	-	-	<50	<50	<50	<50	<50	<50	<5	<5	<5	<5	<5
	QC200_221123	23-11-22	944491	<10	<3	<3	<3	<10	<10	<10	<30	<10	<10	<30	<30	<1	<1	-	<1	<1	<5	<1	<1	-	<1	<1	<1	<1	<5	<5	<5	<5	<5	<5	<1	<1	<5	<5	<5	<5	<5	<5	<1	<1	<1	<1
BR245	BR245_221123	23-11-22	WN2214776	<2	<2	<2	<2	<2	<2	<2	-	<4	-	-	-	<5	<5	<5	<5	<5	-	<5	<5	<5	<5	<2	<2	<2	-	-	-	<5	<2	-	-	-	<50	<50	<50	<50	<50	<50	<5	<5	<5	<5	<5
MW01	MW01_221123	23-11-22	WN2214776	<2	<2	<2	<2	<2	<2	<2	-	<4	-	-	-	<5	<5	<5	<5	<5	-	<5	<5	<5	<5	<2	<2	<2	-	-	-	<5	<2	-	-	-	<50	<50	<50	<50	<50	<50	<5	<5	<5	<5	<5
MW02	MW02 -221123	23-11-22	WN2214776	<2	<2	<2	<2	<2	<2	<2	-	<4	-	-	-	<5	<5	<5	<5	<5	-	<5	<5	<5	<5	<2	<2	<2	-	-	-	<5	<2	-	-	-	<50	<50	<50	<50	<50	<50	<5	<5	<5	<5	<5
MW03	MW03_221123	23-11-22	WN2214776	<2	<2	<2	<2	<2	<2	<2	-	<4	-	-	-	<5	<5	<5	<5	<5	-	<5	<5	<5	<5	<2	<2	<2	-	-	-	<5	<2	-	-	-	<50	<50	<50	<50	<50	<50	<5	<5	<5	<5	<5

Table T7 - Groundwater Analytical Results - Ecological

				alogenated Aliphatic Compounds																			Trihalomethanes				Polychlorinated Biphenyls								Oxygenated Compounds					Sulfonated Compounds	Phthalat		
				1,1,1-Trichloroethane	1,1-Dichloropropene	Carbon Tetrachloride	1,2-Dichloroethane	Trichloroethene	Dibromomethane	1,1,2-Trichloroethane	1,3-Dichloropropane	Tetrachloroethene	1,1,1,2-Tetrachloroethane	trans-1,4-Dichloro-2-butene	cis-1,4-Dichloro-2-butene	1,1,2,2-Tetrachloroethane	1,2,3-Trichloropropane	Dichloromethane	Pentachloroethane	1,2-Dibromo-3-chloropropane	Hexachlorobutadiene	Bromodichloromethane	Bromoform	Chloroform	Dibromochloromethane	Polychlorinated Biphenyls	Arochlor 1016	Arochlor 1221	Arochlor 1232	Arochlor 1242	Arochlor 1248	Arochlor 1254	Arochlor 1260	2-Propanone (Acetone)	Vinyl acetate	2-Butanone (MEK)	2-hexanone (MBK)	4-Methyl-2-pentanone (MIBK)	Carbon disulfide	Butyl benzyl phthalate	Diethyl phthalate	Dimethyl phthalate
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL				5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	2	5	5	5	5	1	5	5	5	5	5	5	5	5	50	50	50	50	5	2	2	2
ANZG (2018) Freshwater 95% LOSP Toxicant DGVs				270		240	1900	330		6500	1100	70				400		4000	80					770						0.6		0.03									1000	3700
ANZG (2018) Freshwater 99% LOSP Toxicant DGVs																																									
PFAS NEPM 2020 Freshwater 99%																																									
Location_Code	Field_ID	Sampled_Date_Time	Lab_Report_Number																																							
BR225	BR225_221123	23-11-22	WN2214776	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	-	<5	<5	<2	<5	<5	<5	<5	<1	-	-	-	-	-	-	-	-	<50	<50	<50	<50	<5	<2	<2	<2
	QC100_221123	23-11-22	WN2214776	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	-	<5	<5	<2	<5	<5	<5	<5	<1	-	-	-	-	-	-	-	-	<50	<50	<50	<50	<5	<2	<2	<2
	QC200_221123	23-11-22	944491	<1	-	<1	<1	<1	<1	<1	<1	<1	<1	-	-	<1	<1	<5	-	-	<5	<1	<1	<5	<1	<5	<5	<5	<5	<5	<5	<5	<5	<5	-	<5	-	<5	<1	<5	<5	<5
BR245	BR245_221123	23-11-22	WN2214776	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	-	<5	<5	<2	<5	<5	<5	<5	<1	-	-	-	-	-	-	-	-	<50	<50	<50	<50	<5	<2	<2	<2
MW01	MW01_221123	23-11-22	WN2214776	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	-	<5	<5	<2	<5	<5	<5	<5	<1	-	-	-	-	-	-	-	-	<50	<50	<50	<50	<5	<2	<2	<2
MW02	MW02 -221123	23-11-22	WN2214776	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	-	<5	<5	<2	<5	<5	<5	<5	<1	-	-	-	-	-	-	-	-	<50	<50	<50	<50	<5	<2	<2	<2
MW03	MW03_221123	23-11-22	WN2214776	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	-	<5	<5	<2	<5	<5	<5	<5	<1	-	-	-	-	-	-	-	-	<50	<50	<50	<50	<5	<2	<2	<2

Table T7 - Groundwater Analytical Results - Ecological

				e Esters			Nitrosamines										Nitroaromatics and Ketones																			Haloethers					Chlorinated Hydrocarbons						
				Di-n-butyl phthalate	Di-n-octyl phthalate	Bis(2-ethylhexyl)phthalate	Diphenylamine	Methapyrilene	N-Nitrosodibutylamine	N-Nitrosodiethylamine	N-Nitrosodiphenyl & Diphenylamine	N-Nitrosodipropylamine	N-Nitrosomethylethylamine	N-Nitrosomorpholine	N-Nitrosopiperidine	N-Nitrosopyrrolidine	1,3,5-Trinitrobenzene	1-Naphthylamine	2,4-Dinitrotoluene	2,6-Dinitrotoluene	2-Naphthylamine	2-Picoline	4-Aminobiphenyl	4-Nitroquinoline-N-oxide	5-Nitro-o-toluidine	Acetophenone	Azobenzene	Chlorobenzilate	Dimethylaminoazobenzene	Isophorone	Nitrobenzene	Pentachloronitrobenzene	Phenacetin	Pronamide	4-Bromophenyl phenyl ether	Bis(2-chloroisopropyl)ether	Bis(2-chloroethyl) ether	Bis(2-chloroethoxy) methane	4-Chlorophenyl phenyl ether	Hexachlorocyclopentadiene	Hexachloroethane	Hexachloropropene	Pentachlorobenzene	Chlorinated hydrocarbons (sum)	Other chlorinated hydrocarbons (sum)	Bolstar (Sulprofos)
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL				2	2	10	5	2	2	2	4	2	2	2	2	4	2	2	4	4	5	2	2	2	2	2	2	2	2	2	2	2	2	2	5	2	2	2	10	2	2	2	5	5	2
ANZG (2018) Freshwater 95% LOSP Toxicant DGVs				26															65												550										360		2			
ANZG (2018) Freshwater 99% LOSP Toxicant DGVs																																													
PFAS NEPM 2020 Freshwater 99%																																													
Location_Code	Field_ID	Sampled_Date_Time	Lab_Report_Number																																										
BR225	BR225_221123	23-11-22	WN2214776	<2	<2	<10	-	<2	<2	<2	<4	<2	<2	<2	<2	<4	<2	<2	<4	<4	-	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	-	<2	<2	<2	<10	<2	<2	<2	-	-	-
	QC100_221123	23-11-22	WN2214776	<2	<2	<10	-	<2	<2	<2	<4	<2	<2	<2	<2	<4	<2	<2	<4	<4	-	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	-	<2	<2	<2	<10	<2	<2	<2	-	-	-
	QC200_221123	23-11-22	944491	<5	<5	<5	<5	-	<5	-	-	<5	-	-	<5	-	-	<50	<5	<5	<50	<5	<5	-	-	<5	-	-	<5	-	<5	<5	-	<5	<5	<5	-	<5	<5	<5	<5	<5	-	<5	<5	<5	<2
BR245	BR245_221123	23-11-22	WN2214776	<2	<2	<10	-	<2	<2	<2	<4	<2	<2	<2	<2	<4	<2	<2	<4	<4	-	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	-	<2	<2	<2	<10	<2	<2	<2	-	-	-
MW01	MW01_221123	23-11-22	WN2214776	<2	<2	<10	-	<2	<2	<2	<4	<2	<2	<2	<2	<4	<2	<2	<4	<4	-	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	-	<2	<2	<2	<10	<2	<2	<2	-	-	-
MW02	MW02 -221123	23-11-22	WN2214776	<2	<2	<10	-	<2	<2	<2	<4	<2	<2	<2	<2	<4	<2	<2	<4	<4	-	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	-	<2	<2	<2	<10	<2	<2	<2	-	-	-
MW03	MW03_221123	23-11-22	WN2214776	<2	<2	<10	-	<2	<2	<2	<4	<2	<2	<2	<2	<4	<2	<2	<4	<4	-	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	-	<2	<2	<2	<10	<2	<2	<2	-	-	-

Table T7 - Groundwater Analytical Results - Ecological

| | | | | Organophosphorus Pesticides (OP) | | | |

Table T7 - Groundwater Analytical Results - Ecological

				Organochlorine Pesticides (OC)																							Phenoxyacetic Acid Herbicides									Benzidine	Herbicides							
				g-BHC (Lindane)	cis-Chlordane	trans-Chlordane	Chlordane	DDD	DDE	DDT	DDT+DDE+DDD	Endosulfan 1	Endosulfan 2	Endosulfan sulfate	Endrin	Endrin aldehyde	Endrin ketone	Heptachlor	Heptachlor epoxide	Hexachlorobenzene (HCB)	Methoxychlor	Toxaphene	Organochlorine pesticides (sum)	Other organochlorine pesticides (sum)	2,4,5-TP (Silvex)	2,6-D	4-Chlorophenoxy acetic acid	Clopyralid	Dicamba	Fluroxypyr	Mecoprop	Picloram	Triclopyr	3,3-Dichlorobenzidine	2,4,5-Trichlorophenoxy acetic acid	2,4-Dichlorprop	2,4-Dichlorophenoxy acetic acid	4-(2,4-Dichlorophenoxy)butyric Acid (2,4-DB)	2-Methyl-4-chlorophenoxyacetic acid	2,4,6-Trichlorophenoxy acetic acid	2-Methyl-4-Chlorophenoxy Butanoic Acid
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL				0.5	0.5	0.5	0.5	0.5	0.5	2	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	2	5	2	2	10	10	10	10	10	10	10	10	10	2	10	10	10	10	10	10	10
ANZG (2018) Freshwater 95% LOSP Toxicant DGVs				0.2			0.08			0.01					0.02			0.09		0.1		0.2													36		280					
ANZG (2018) Freshwater 99% LOSP Toxicant DGVs							0.03			0.006					0.01			0.01		0.05		0.1																				
PFAS NEPM 2020 Freshwater 99%																																										
Location_Code	**Field_ID**	**Sampled_Date_Time**	**Lab_Report_Number**																																							
BR225	BR225_221123	23-11-22	WN2214776	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	-	-	-	<10	<10	<10	<10	<10	<10	<10	<10	<10	<2	<10	<10	<10	<10	<10	<10	<10
	QC100_221123	23-11-22	WN2214776	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	-	-	-	<10	<10	<10	<10	<10	<10	<10	<10	<10	<2	<10	<10	<10	<10	<10	<10	<10
	QC200_221123	23-11-22	944491	<0.2	-	-	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<5	<2	<2	-	-	-	-	-	-	-	-	-	<5	-	-	-	-	-	-	-
BR245	BR245_221123	23-11-22	WN2214776	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	-	-	-	<10	<10	<10	<10	<10	<10	<10	<10	<10	<2	<10	<10	<10	<10	<10	<10	<10
MW01	MW01_221123	23-11-22	WN2214776	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	-	-	-	<10	<10	<10	<10	<10	<10	<10	<10	<10	<2	<10	<10	<10	<10	<10	<10	<10
MW02	MW02 -221123	23-11-22	WN2214776	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	-	-	-	<10	<10	<10	<10	<10	<10	<10	<10	<10	<2	<10	<10	<10	<10	<10	<10	<10
MW03	MW03_221123	23-11-22	WN2214776	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	-	-	-	<10	<10	<10	<10	<10	<10	<10	<10	<10	<2	<10	<10	<10	<10	<10	<10	<10

Table T7 - Groundwater Analytical Results - Ecological

				Inorganics	Anilines								
				Reactive Phosphorus as P (Orthophosphate as P)	2-Nitroaniline	3-Nitroaniline	4-Chloroaniline	4-Nitroaniline	Aniline	Carbazole	Dibenzofuran	Trifluralin
				mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL				0.01	4	4	2	2	2	2	2	5
ANZG (2018) Freshwater 95% LOSP Toxicant DGVs									250			4.4
ANZG (2018) Freshwater 99% LOSP Toxicant DGVs												
PFAS NEPM 2020 Freshwater 99%												
Location_Code	**Field_ID**	**Sampled_Date_Time**	**Lab_Report_Number**									
BR225	BR225_221123	23-11-22	WN2214776	0.09	<4	<4	<2	<2	<2	<2	<2	-
	QC100_221123	23-11-22	WN2214776	0.09	<4	<4	<2	<2	<2	<2	<2	-
	QC200_221123	23-11-22	944491	0.09	<5	-	-	-	<5	-	<5	<5
BR245	BR245_221123	23-11-22	WN2214776	<0.01	<4	<4	<2	<2	<2	<2	<2	-
MW01	MW01_221123	23-11-22	WN2214776	-	<4	<4	<2	<2	<2	<2	<2	-
MW02	MW02 -221123	23-11-22	WN2214776	-	<4	<4	<2	<2	<2	<2	<2	-
MW03	MW03_221123	23-11-22	WN2214776	-	<4	<4	<2	<2	<2	<2	<2	-

Client Name: Transport for New South Wales (TfNSW)
Project Name: Muswellbrook Bypass - Detailed Site Investigation
Project No: 60619756

T8 - Soil Intra-laboratory Duplicates - Relative Percentage Difference (RPD)

		Lab Report Number	ES2230767	ES2230767		ES2230767	ES2230767		ES2230964	ES2230964	
		Field ID	A12_0.0-0.1_22082	QC101_220823	**RPD**	A12_0.0-0.1_22082	QC201_220823	**RPD**	A14_0.1_0.2_2208	QC102_220824	**RPD**
		Sampled Date/Time	23-08-22 15:00	23-08-22 15:00		23-08-22 15:00	23-08-22 15:00		24-08-22 15:00	24-08-22 15:00	
Chem_Group	**ChemName**	**Units**	**EQL**								
	Sum of WA DWER PFAS (n=10)*	UG/KG	0.2	<0.2	<0.2	0	<0.2	<0.2	0	<0.2	<0.2	0
Landfill Gas	Description	-		1	1	0	1	1	0	1	1	0
Metals	Arsenic	mg/kg	5	<5	<5	0	<5	<5	0	6	6	0
	Cadmium	mg/kg	1	<1	<1	0	<1	<1	0	<1	<1	0
	Chromium	mg/kg	2	5	2	86	5	6	18	20	20	0
	Copper	mg/kg	5	15	12	22	15	<5	100	7	6	15
	Lead	mg/kg	5	<5	<5	0	<5	<5	0	10	10	0
	Mercury	mg/kg	0.1	<0.1	<0.1	0	<0.1	<0.1	0	<0.1	<0.1	0
	Nickel	mg/kg	2	**40**	**6**	**148**	**40**	**8**	**133**	20	13	42
	Zinc	mg/kg	5	12	10	18	12	10	18	21	16	27
Per- and Poly-fluoroalkyl Substances	Perfluorooctanoic acid (PFOA)	mg/kg	0.0002	<0.0002	<0.0002	0	<0.0002	<0.0002	0	<0.0002	<0.0002	0
	Perfluorooctane sulfonic acid (PFOS)	mg/kg	0.0002	<0.0002	<0.0002	0	<0.0002	<0.0002	0	<0.0002	<0.0002	0
	Perfluorohexane sulfonic acid (PFHxS)	mg/kg	0.0002	<0.0002	<0.0002	0	<0.0002	<0.0002	0	<0.0002	<0.0002	0
	Sum (PFHxS + PFOS)	mg/kg	0.0002	<0.0002	<0.0002	0	<0.0002	<0.0002	0	<0.0002	<0.0002	0
	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	mg/kg	0.0005	<0.0005	<0.0005	0	<0.0005	<0.0005	0	<0.0005	<0.0005	0
	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	mg/kg	0.0005	<0.0005	<0.0005	0	<0.0005	<0.0005	0	<0.0005	<0.0005	0
	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	mg/kg	0.0005	<0.0005	<0.0005	0	<0.0005	<0.0005	0	<0.0005	<0.0005	0
	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	mg/kg	0.0005	<0.0005	<0.0005	0	<0.0005	<0.0005	0	<0.0005	<0.0005	0
	Perfluorobutane sulfonic acid (PFBS)	mg/kg	0.0002	<0.0002	<0.0002	0	<0.0002	<0.0002	0	<0.0002	<0.0002	0
	Perfluorobutanoic acid (PFBA)	mg/kg	0.001	<0.001	<0.001	0	<0.001	<0.001	0	<0.001	<0.001	0
	Perfluorodecane sulfonic acid (PFDS)	mg/kg	0.0002	<0.0002	<0.0002	0	<0.0002	<0.0002	0	<0.0002	<0.0002	0
	Perfluorodecanoic acid (PFDA)	mg/kg	0.0002	<0.0002	<0.0002	0	<0.0002	<0.0002	0	<0.0002	<0.0002	0
	Perfluorododecanoic acid (PFDoDA)	mg/kg	0.0002	<0.0002	<0.0002	0	<0.0002	<0.0002	0	<0.0002	<0.0002	0
	Perfluoroheptane sulfonic acid (PFHpS)	mg/kg	0.0002	<0.0002	<0.0002	0	<0.0002	<0.0002	0	<0.0002	<0.0002	0
	Perfluoroheptanoic acid (PFHpA)	mg/kg	0.0002	<0.0002	<0.0002	0	<0.0002	<0.0002	0	<0.0002	<0.0002	0
	Perfluorohexanoic acid (PFHxA)	mg/kg	0.0002	<0.0002	<0.0002	0	<0.0002	<0.0002	0	<0.0002	<0.0002	0
	Perfluorononanoic acid (PFNA)	mg/kg	0.0002	<0.0002	<0.0002	0	<0.0002	<0.0002	0	<0.0002	<0.0002	0
	Perfluorooctane sulfonamide (FOSA)	mg/kg	0.0002	<0.0002	<0.0002	0	<0.0002	<0.0002	0	<0.0002	<0.0002	0
	Perfluoropentane sulfonic acid (PFPeS)	mg/kg	0.0002	<0.0002	<0.0002	0	<0.0002	<0.0002	0	<0.0002	<0.0002	0
	Perfluoropentanoic acid (PFPeA)	mg/kg	0.0002	<0.0002	<0.0002	0	<0.0002	<0.0002	0	<0.0002	<0.0002	0
	Perfluorotetradecanoic acid (PFTeDA)	mg/kg	0.0005	<0.0005	<0.0005	0	<0.0005	<0.0005	0	<0.0005	<0.0005	0
	Perfluorotridecanoic acid (PFTrDA)	mg/kg	0.0002	<0.0002	<0.0002	0	<0.0002	<0.0002	0	<0.0002	<0.0002	0
	Perfluoroundecanoic acid (PFUnDA)	mg/kg	0.0002	<0.0002	<0.0002	0	<0.0002	<0.0002	0	<0.0002	<0.0002	0
	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	mg/kg	0.0005	<0.0005	<0.0005	0	<0.0005	<0.0005	0	<0.0005	<0.0005	0
	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	mg/kg	0.0002	<0.0002	<0.0002	0	<0.0002	<0.0002	0	<0.0002	<0.0002	0
	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	mg/kg	0.0005	<0.0005	<0.0005	0	<0.0005	<0.0005	0	<0.0005	<0.0005	0
	N-Methyl perfluorooctane sulfonamide (MeFOSA)	mg/kg	0.0005	<0.0005	<0.0005	0	<0.0005	<0.0005	0	<0.0005	<0.0005	0
	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	mg/kg	0.0002	<0.0002	<0.0002	0	<0.0002	<0.0002	0	<0.0002	<0.0002	0
	N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	mg/kg	0.0005	<0.0005	<0.0005	0	<0.0005	<0.0005	0	<0.0005	<0.0005	0
	Sum of PFAS	mg/kg	0.0002	<0.0002	<0.0002	0	<0.0002	<0.0002	0	<0.0002	<0.0002	0
Total Petroleum Hydrocarbons	C6-C9 fraction	mg/kg	10	<10	<10	0	<10	<10	0	<10	<10	0
	C10-C14 fraction	mg/kg	50	<50	<50	0	<50	<50	0	<50	<50	0
	C15-C28 fraction	mg/kg	100	<100	<100	0	<100	<100	0	<100	<100	0
	C29-C36 fraction	mg/kg	100	<100	<100	0	<100	<100	0	<100	<100	0
	C10-C36 fraction (sum)	mg/kg	50	<50	<50	0	<50	<50	0	<50	<50	0
Total Recoverable Hydrocarbons	C6-C10 fraction	mg/kg	10	<10	<10	0	<10	<10	0	<10	<10	0
	C6-C10 fraction (minus BTEX)(F1)	mg/kg	10	<10	<10	0	<10	<10	0	<10	<10	0
	>C10-C16 (minus Naphthalene)(F2)	mg/kg	50	<50	<50	0	<50	<50	0	<50	<50	0
	>C10-C16 fraction	mg/kg	50	<50	<50	0	<50	<50	0	<50	<50	0
	>C16-C34 fraction	mg/kg	100	<100	<100	0	<100	<100	0	<100	<100	0
	>C34-C40 fraction	mg/kg	100	<100	<100	0	<100	<100	0	<100	<100	0
	>C10-C40 fraction (sum)	mg/kg	50	<50	<50	0	<50	<50	0	<50	<50	0
Monocyclic Aromatic Hydrocarbons	Benzene	mg/kg	0.2	<0.2	<0.2	0	<0.2	<0.2	0			
	Benzene	mg/kg	0.2	<0.2	<0.2	0	<0.2	<0.2	0	<0.2	<0.2	0
	Toluene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0			
	Toluene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	Ethylbenzene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0			
	Ethylbenzene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	m&p-Xylene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0			
	m&p-Xylene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	o-Xylene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0			
	o-Xylene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	Total Xylenes	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	Styrene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	Isopropylbenzene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	n-butylbenzene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	n-propylbenzene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	p-isopropyltoluene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	sec-butylbenzene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	tert-butylbenzene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	1,2,4-trimethylbenzene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	1,3,5-trimethylbenzene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	Total BTEX	mg/kg	0.2	<0.2	<0.2	0	<0.2	<0.2	0	<0.2	<0.2	0
	Benzo(a)pyrene TEQ calc (Half)	mg/kg	0.5	0.6	0.6	0	0.6	0.6	0	0.6	0.6	0
	Benzo(a)pyrene TEQ calc (Half)	mg/kg	0.5	0.6	0.6	0	0.6	0.6	0			
	Benzo(a)pyrene TEQ calc (Zero)	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	Benzo(a)pyrene TEQ calc (Zero)	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0			
	Benzo(a)pyrene TEQ calc(PQL)	mg/kg	0.5	1.2	1.2	0	1.2	1.2	0	1.2	1.2	0
	Benzo(a)pyrene TEQ calc(PQL)	mg/kg	0.5	1.2	1.2	0	1.2	1.2	0			
	Naphthalene	mg/kg	1							<1	<1	0
	Naphthalene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	Naphthalene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0			

Client Name: Transport for New South Wales (TfNSW)
Project Name: Muswellbrook Bypass - Detailed Site Investigation
Project No: 60619756

T8 - Soil Intra-laboratory Duplicates - Relative Percentage Difference (RPD)

			Lab Report Number	ES2230767	ES2230767		ES2230767	ES2230767		ES2230964	ES2230964	
			Field ID	A12_0.0-0.1_22082	QC101_220823	RPD	A12_0.0-0.1_22082	QC201_220823	RPD	A14_0.1_0.2_2208	QC102_220824	RPD
			Sampled Date/Time	23-08-22 15:00	23-08-22 15:00		23-08-22 15:00	23-08-22 15:00		24-08-22 15:00	24-08-22 15:00	
Polynuclear Aromatic Hydrocarbons	2-Methylnaphthalene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	2-Chloronaphthalene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	Acenaphthylene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	Acenaphthylene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0			
	Acenaphthene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	Acenaphthene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0			
	Anthracene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	Anthracene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0			
	Fluorene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	Fluorene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0			
	Phenanthrene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	Phenanthrene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0			
	Fluoranthene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	Fluoranthene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0			
	Benz(a)anthracene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	Benz(a)anthracene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0			
	Benzo(k)fluoranthene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	Benzo(b&j)fluoranthene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	Benzo(b+j) & Benzo(k)fluoranthene	mg/kg	1	<1	<1	0	<1	<1	0			
	N-2-Fluorenyl Acetamide	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	7,12-Dimethylbenz(a)anthracene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	Benzo(a)pyrene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	Benzo(a)pyrene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0			
	Chrysene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	Chrysene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0			
	Pyrene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	Pyrene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0			
	3-Methylcholanthrene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	Benzo(g,h,i)perylene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	Benzo(g,h,i)perylene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0			
	Dibenz(a,h)anthracene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	Dibenz(a,h)anthracene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0			
	Indeno(1,2,3-cd)pyrene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	Indeno(1,2,3-cd)pyrene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0			
	Sum of PAHs	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	Sum of PAHs	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0			
Phenolic Compounds	3/4-Methylphenol (m/p-cresol)	mg/kg	1									
	3/4-Methylphenol (m/p-cresol)	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	Phenol	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	2-Chlorophenol	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	2-Methylphenol (o-Cresol)	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	2-Nitrophenol	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	2,4-Dichlorophenol	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	2,4-Dimethylphenol	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	2,6-Dichlorophenol	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	4-Chloro-3-methylphenol	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	2,4,6-Trichlorophenol	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	2,4,5-Trichlorophenol	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	Pentachlorophenol	mg/kg	2									
	Pentachlorophenol	mg/kg	1	<1	<1	0	<1	<1	0	<1	<1	0
Fumigants	1,2-Dibromoethane (EDB)	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	1,2-Dichloropropane	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	2,2-Dichloropropane	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	cis-1,3-Dichloropropene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	trans-1,3-Dichloropropene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
Halogenated Aromatic Compounds	Bromobenzene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	Chlorobenzene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	2-Chlorotoluene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	4-Chlorotoluene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	1,2-Dichlorobenzene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	1,3-Dichlorobenzene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	1,4-Dichlorobenzene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	1,2,3-Trichlorobenzene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	1,2,4-Trichlorobenzene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
Halogenated Aliphatic Compounds	Dichlorodifluoromethane (Freon 12)	mg/kg	5	<5	<5	0	<5	<5	0	<5	<5	0
	Chloromethane	mg/kg	5	<5	<5	0	<5	<5	0	<5	<5	0
	Vinyl chloride	mg/kg	5	<5	<5	0	<5	<5	0	<5	<5	0
	Bromomethane	mg/kg	5	<5	<5	0	<5	<5	0	<5	<5	0
	Chloroethane	mg/kg	5	<5	<5	0	<5	<5	0	<5	<5	0
	Trichlorofluoromethane (Freon 11)	mg/kg	5	<5	<5	0	<5	<5	0	<5	<5	0
	1,1-Dichloroethene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	Iodomethane	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	1,1-Dichloroethane	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	cis-1,2-Dichloroethene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	trans-1,2-Dichloroethene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	1,1,1-Trichloroethane	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	1,1-Dichloropropene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	Carbon Tetrachloride	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	1,2-Dichloroethane	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	Trichloroethene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	Dibromomethane	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	1,1,2-Trichloroethane	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	1,3-Dichloropropane	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	Tetrachloroethene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	1,1,1,2-Tetrachloroethane	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0

Client Name: Transport for New South Wales (TfNSW)
Project Name: Muswellbrook Bypass - Detailed Site Investigation
Project No: 60619756

T8 - Soil Intra-laboratory Duplicates - Relative Percentage Difference (RPD)

			Lab Report Number	ES2230767	ES2230767		ES2230767	ES2230767		ES2230964	ES2230964	
			Field ID	A12_0.0-0.1_22082	QC101_220823	RPD	A12_0.0-0.1_22082	QC201_220823	RPD	A14_0.1_0.2_2208	QC102_220824	RPD
			Sampled Date/Time	23-08-22 15:00	23-08-22 15:00		23-08-22 15:00	23-08-22 15:00		24-08-22 15:00	24-08-22 15:00	
	trans-1,4-Dichloro-2-butene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	cis-1,4-Dichloro-2-butene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	1,1,2,2-Tetrachloroethane	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	1,2,3-Trichloropropane	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	Pentachloroethane	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	1,2-Dibromo-3-chloropropane	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	Hexachlorobutadiene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
Trihalomethanes	Bromodichloromethane	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	Bromoform	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	Chloroform	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	Dibromochloromethane	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
Physico-Chemical Parameters	Moisture Content	%	1							11.5	13	12
	weight of sample	g	0.01	262	254	3	262	298	13	136	148	8
Polychlorinated Biphenyls	Polychlorinated Biphenyls	mg/kg	0.1	<0.1	<0.1	0	<0.1	<0.1	0	<0.1	<0.1	0
Oxygenated Compounds	Vinyl acetate	mg/kg	5	<5	<5	0	<5	<5	0	<5	<5	0
	2-Butanone (MEK)	mg/kg	5	<5	<5	0	<5	<5	0	<5	<5	0
	2-hexanone (MBK)	mg/kg	5	<5	<5	0	<5	<5	0	<5	<5	0
	4-Methyl-2-pentanone (MIBK)	mg/kg	5	<5	<5	0	<5	<5	0	<5	<5	0
Sulfonated Compounds	Carbon disulfide	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
Phthalate Esters	Butyl benzyl phthalate	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	Diethyl phthalate	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	Dimethyl phthalate	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	Di-n-butyl phthalate	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	Di-n-octyl phthalate	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	Bis(2-ethylhexyl)phthalate	mg/kg	5	<5	<5	0	<5	<5	0	<5	<5	0
Nitrosamines	Methapyrilene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	N-Nitrosodibutylamine	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	N-Nitrosodiethylamine	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	N-Nitrosodiphenyl & Diphenylamine	mg/kg	1	<1	<1	0	<1	<1	0	<1	<1	0
	N-Nitrosodipropylamine	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	N-Nitrosomethylethylamine	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	N-Nitrosomorpholine	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	N-Nitrosopiperidine	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	N-Nitrosopyrrolidine	mg/kg	1	<1	<1	0	<1	<1	0	<1	<1	0
Nitroaromatics and Ketones	1,3,5-Trinitrobenzene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	1-Naphthylamine	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	2,4-Dinitrotoluene	mg/kg	1	<1	<1	0	<1	<1	0	<1	<1	0
	2,6-Dinitrotoluene	mg/kg	1	<1	<1	0	<1	<1	0	<1	<1	0
	2-Picoline	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	4-Aminobiphenyl	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	4-Nitroquinoline-N-oxide	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	5-Nitro-o-toluidine	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	Acetophenone	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	Azobenzene	mg/kg	1	<1	<1	0	<1	<1	0	<1	<1	0
	Chlorobenzilate	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	Dimethylaminoazobenzene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	Isophorone	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	Nitrobenzene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	Pentachloronitrobenzene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	Phenacetin	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	Pronamide	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
Haloethers	4-Bromophenyl phenyl ether	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	Bis(2-chloroethyl) ether	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	Bis(2-chloroethoxy) methane	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	4-Chlorophenyl phenyl ether	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
Chlorinated Hydrocarbons	Hexachlorocyclopentadiene	mg/kg	2.5	<2.5	<2.5	0	<2.5	<2.5	0	<2.5	<2.5	0
	Hexachloroethane	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	Hexachloropropene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	Pentachlorobenzene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
Organophosphorus Pesticides (OP)	Azinphos Methyl	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	Bromophos-ethyl	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	Carbophenothion	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	Chlorfenvinphos	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0			
	Chlorfenvinphos	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	Chlorpyrifos	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0			
	Chlorpyrifos	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	Chlorpyrifos-methyl	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0			
	Chlorpyrifos-methyl	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	Demeton-S-methyl	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	Diazinon	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0			
	Diazinon	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	Dichlorvos	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0			
	Dichlorvos	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	Dimethoate	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0			
	Dimethoate	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	Ethion	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0			
	Ethion	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	Fenamiphos	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	Fenthion	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0			
	Fenthion	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	Malathion	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0			
	Malathion	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	Monocrotophos	mg/kg	0.2	<0.2	<0.2	0	<0.2	<0.2	0	<0.2	<0.2	0
	Parathion	mg/kg	0.2	<0.2	<0.2	0	<0.2	<0.2	0	<0.2	<0.2	0
	Parathion-methyl	mg/kg	0.2	<0.2	<0.2	0	<0.2	<0.2	0	<0.2	<0.2	0

Client Name: Transport for New South Wales (TfNSW)
Project Name: Muswellbrook Bypass - Detailed Site Investigation
Project No: 60619756

T8 - Soil Intra-laboratory Duplicates - Relative Percentage Difference (RPD)

			Lab Report Number	ES2230767	ES2230767		ES2230767	ES2230767		ES2230964	ES2230964	
			Field ID	A12_0.0-0.1_22082	QC101_220823	RPD	#A12_0.0-0.1_22082	QC201_220823	RPD	A14_0.1_0.2_2208	QC102_220824	RPD
			Sampled Date/Time	23-08-22 15:00	23-08-22 15:00		23-08-22 15:00	23-08-22 15:00		24-08-22 15:00	24-08-22 15:00	
	Pirimphos-ethyl	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0			
	Pirimphos-ethyl	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	Prothiofos	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0			
	Prothiofos	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
Organochlorine Pesticides (OC)	Aldrin	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0			
	Aldrin	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	Dieldrin	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0			
	Dieldrin	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	Aldrin + Dieldrin	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	a-BHC	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0			
	a-BHC	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	b-BHC	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0			
	b-BHC	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	d-BHC	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0			
	d-BHC	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	g-BHC (Lindane)	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0			
	g-BHC (Lindane)	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	cis-Chlordane	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	trans-Chlordane	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	Chlordane	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	DDD	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0			
	DDD	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	DDE	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0			
	DDE	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	DDT	mg/kg	1	<1	<1	0	<1	<1	0			
	DDT	mg/kg	0.2	<0.2	<0.2	0	<0.2	<0.2	0	<0.2	<0.2	0
	DDT+DDE+DDD	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	Endosulfan	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	Endosulfan 1	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0			
	Endosulfan 1	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	Endosulfan 2	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0			
	Endosulfan 2	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	Endosulfan sulfate	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0			
	Endosulfan sulfate	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	Endrin	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0			
	Endrin	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	Endrin aldehyde	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	Endrin ketone	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	Heptachlor	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0			
	Heptachlor	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	Heptachlor epoxide	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0			
	Heptachlor epoxide	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	Hexachlorobenzene (HCB)	mg/kg	1	<1	<1	0	<1	<1	0	<1	<1	0
	Hexachlorobenzene (HCB)	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	Methoxychlor	mg/kg	0.2	<0.2	<0.2	0	<0.2	<0.2	0	<0.2	<0.2	0
Phenoxyacetic Acid Herbicides	2,4,5-TP (Silvex)	mg/kg	0.02							<0.02	<0.02	0
	4-Chlorophenoxy acetic acid	mg/kg	0.02							<0.02	<0.02	0
	Clopyralid	mg/kg	0.02							<0.02	<0.02	0
	Dicamba	mg/kg	0.02							<0.02	<0.02	0
	Fluroxypyr	mg/kg	0.02							<0.02	<0.02	0
	Mecoprop	mg/kg	0.02							<0.02	<0.02	0
	Picloram	mg/kg	0.02							<0.02	<0.02	0
	Triclopyr	mg/kg	0.02							<0.02	<0.02	0
Benzidine	3,3-Dichlorobenzidine	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
Asbestos	APPROVED IDENTIFIER:	-		1	1	0	1	1	0	1	1	0
	Asbestos fibres	-	0.1	0.0E0	0.0E0	0	0.0E0	0.0E0	0	0.0E0	0.0E0	0
	Asbestos Type	-	--							1	1	0
	Organic Fibre	g/kg	0.1	0.0E0	0.0E0	0	0.0E0	0.0E0	0	0.0E0	0.0E0	0
	Asbestos (Trace)	Fibres	5	0.0E0	0.0E0	0	0.0E0	0.0E0	0	0.0E0	0.0E0	0
	Synthetic Mineral Fibre	g/kg	0.1	0.0E0	0.0E0	0	0.0E0	0.0E0	0	0.0E0	0.0E0	0
Herbicides	2,4,5-Trichlorophenoxy acetic acid	mg/kg	0.02							<0.02	<0.02	0
	2,4-Dichlorprop	mg/kg	0.02							<0.02	<0.02	0
	2,4-Dichlorophenoxy acetic acid	mg/kg	0.02							<0.02	<0.02	0
	4-(2,4-Dichlorophenoxy)butyric Acid (2,4-DB)	mg/kg	0.02							<0.02	<0.02	0
	2-Methyl-4-chlorophenoxyacetic acid	mg/kg	0.02							<0.02	<0.02	0
	2-Methyl-4-Chlorophenoxy Butanoic Acid	mg/kg	0.02							<0.02	<0.02	0
Anilines	2-Nitroaniline	mg/kg	1	<1	<1	0	<1	<1	0	<1	<1	0
	3-Nitroaniline	mg/kg	1	<1	<1	0	<1	<1	0	<1	<1	0
	4-Chloroaniline	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	4-Nitroaniline	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	Aniline	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	Carbazole	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	Dibenzofuran	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0

*RPDs have only been considered where a concentration is greater than 1 times the EQL.
**High RPDs are in bold (Acceptable RPDs for each EQL multiplier range are: 200 (1-10 x EQL); 50 (10-20 x EQL); 30 (> 20 x EQL))
***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any methods in the row header relate to those used in the primary laboratory

Client Name: Transport for New South Wales (TfNSW)
Project Name: Muswellbrook Bypass - Detailed Site Investigation
Project No: 60619756

T8 - Soil Intra-laboratory Duplicates - Relative Percentage Difference (RPD)

Lab Report Number	ES2230964	ES2230964		ES2230964	ES2230964	
Field ID	A05_0.1_0.2_22082	QC103_220824	**RPD**	SS01_220826	QC105_220826	**RPD**
Sampled Date/Time	24-08-22 15:00	24-08-22 15:00		26-08-22 15:00	26-08-22 15:00	

Chem_Group	ChemName	Units	EQL						
	Sum of WA DWER PFAS (n=10)*	UG/KG	0.2	**318**	**476**	**40**			
Landfill Gas	Description	-		1	1	0			
Metals	Arsenic	mg/kg	5	21	24	13	13	<5	89
	Cadmium	mg/kg	1	<1	<1	0	<1	<1	0
	Chromium	mg/kg	2	24	32	29	8	6	29
	Copper	mg/kg	5	**148**	**359**	**83**	**66**	**29**	**78**
	Lead	mg/kg	5	26	33	24	**85**	**27**	**104**
	Mercury	mg/kg	0.1	0.6	0.5	18	0.2	<0.1	67
	Nickel	mg/kg	2	154	144	7	28	20	33
	Zinc	mg/kg	5	**193**	**288**	**40**	**81**	**28**	**97**
Per- and Poly-fluoroalkyl Substances	Perfluorooctanoic acid (PFOA)	mg/kg	0.0002	**0.0031**	**0.0056**	**57**			
	Perfluorooctane sulfonic acid (PFOS)	mg/kg	0.0002	**0.202**	**0.29**	**36**			
	Perfluorohexane sulfonic acid (PFHxS)	mg/kg	0.0002	**0.106**	**0.168**	**45**			
	Sum (PFHxS + PFOS)	mg/kg	0.0002	**0.308**	**0.458**	**39**			
	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	mg/kg	0.0005	<0.0005	<0.0005	0			
	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	mg/kg	0.0005	<0.0005	<0.0005	0			
	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	mg/kg	0.0005	<0.0005	<0.0005	0			
	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	mg/kg	0.0005	<0.0005	<0.0005	0			
	Perfluorobutane sulfonic acid (PFBS)	mg/kg	0.0002	0.0008	0.0014	55			
	Perfluorobutanoic acid (PFBA)	mg/kg	0.001	<0.001	<0.001	0			
	Perfluorodecane sulfonic acid (PFDS)	mg/kg	0.0002	<0.0002	<0.0002	0			
	Perfluorodecanoic acid (PFDA)	mg/kg	0.0002	0.0008	0.0014	55			
	Perfluorododecanoic acid (PFDoDA)	mg/kg	0.0002	0.0004	0.0013	106			
	Perfluoroheptane sulfonic acid (PFHpS)	mg/kg	0.0002	**0.0055**	**0.0089**	**47**			
	Perfluoroheptanoic acid (PFHpA)	mg/kg	0.0002	0.0008	0.0015	61			
	Perfluorohexanoic acid (PFHxA)	mg/kg	0.0002	**0.0042**	**0.008**	**62**			
	Perfluorononanoic acid (PFNA)	mg/kg	0.0002	**0.0499**	**0.0744**	**39**			
	Perfluorooctane sulfonamide (FOSA)	mg/kg	0.0002	<0.0002	<0.0002	0			
	Perfluoropentane sulfonic acid (PFPeS)	mg/kg	0.0002	**0.0035**	**0.0059**	**51**			
	Perfluoropentanoic acid (PFPeA)	mg/kg	0.0002	0.0008	0.0014	55			
	Perfluorotetradecanoic acid (PFTeDA)	mg/kg	0.0005	<0.0005	<0.0005	0			
	Perfluorotridecanoic acid (PFTrDA)	mg/kg	0.0002	**0.0119**	**0.0434**	**114**			
	Perfluoroundecanoic acid (PFUnDA)	mg/kg	0.0002	**0.041**	**0.0825**	**67**			
	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	mg/kg	0.0005	<0.0005	<0.0005	0			
	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	mg/kg	0.0002	<0.0002	<0.0002	0			
	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	mg/kg	0.0005	<0.0005	<0.0005	0			
	N-Methyl perfluorooctane sulfonamide (MeFOSA)	mg/kg	0.0005	<0.0005	<0.0005	0			
	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	mg/kg	0.0002	<0.0002	<0.0002	0			
	N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	mg/kg	0.0005	<0.0005	<0.0005	0			
	Sum of PFAS	mg/kg	0.0002	**0.431**	**0.694**	**47**			
Total Petroleum Hydrocarbons	C6-C9 fraction	mg/kg	10	<10	<10	0	<10	<10	0
	C10-C14 fraction	mg/kg	50	<50	<50	0	<50	<50	0
	C15-C28 fraction	mg/kg	100	<100	<100	0	250	360	36
	C29-C36 fraction	mg/kg	100	<100	<100	0	140	150	7
	C10-C36 fraction (sum)	mg/kg	50	<50	<50	0	390	510	27
Total Recoverable Hydrocarbons	C6-C10 fraction	mg/kg	10	<10	<10	0	<10	<10	0
	C6-C10 fraction (minus BTEX)(F1)	mg/kg	10	<10	<10	0	<10	<10	0
	>C10-C16 (minus Naphthalene)(F2)	mg/kg	50	<50	<50	0	50	<50	0
	>C10-C16 fraction	mg/kg	50	<50	<50	0	50	<50	0
	>C16-C34 fraction	mg/kg	100	<100	<100	0	320	450	34
	>C34-C40 fraction	mg/kg	100	<100	<100	0	<100	<100	0
	>C10-C40 fraction (sum)	mg/kg	50	<50	<50	0	370	450	20
Monocyclic Aromatic Hydrocarbons	Benzene	mg/kg	0.2						
	Benzene	mg/kg	0.2	<0.2	<0.2	0	<0.2	<0.2	0
	Toluene	mg/kg	0.5						
	Toluene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
	Ethylbenzene	mg/kg	0.5						
	Ethylbenzene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
	m&p-Xylene	mg/kg	0.5						
	m&p-Xylene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
	o-Xylene	mg/kg	0.5						
	o-Xylene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
	Total Xylenes	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
	Styrene	mg/kg	0.5	<0.5	<0.5	0			
	Isopropylbenzene	mg/kg	0.5	<0.5	<0.5	0			
	n-butylbenzene	mg/kg	0.5	<0.5	<0.5	0			
	n-propylbenzene	mg/kg	0.5	<0.5	<0.5	0			
	p-isopropyltoluene	mg/kg	0.5	<0.5	<0.5	0			
	sec-butylbenzene	mg/kg	0.5	<0.5	<0.5	0			
	tert-butylbenzene	mg/kg	0.5	<0.5	<0.5	0			
	1,2,4-trimethylbenzene	mg/kg	0.5	<0.5	<0.5	0			
	1,3,5-trimethylbenzene	mg/kg	0.5	<0.5	<0.5	0			
	Total BTEX	mg/kg	0.2	<0.2	<0.2	0	<0.2	<0.2	0
	Benzo(a)pyrene TEQ calc (Half)	mg/kg	0.5	0.6	1	50	0.6	0.6	0
	Benzo(a)pyrene TEQ calc (Half)	mg/kg	0.5						
	Benzo(a)pyrene TEQ calc (Zero)	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
	Benzo(a)pyrene TEQ calc (Zero)	mg/kg	0.5						
	Benzo(a)pyrene TEQ calc(PQL)	mg/kg	0.5	1.2	1.9	45	1.2	1.2	0
	Benzo(a)pyrene TEQ calc(PQL)	mg/kg	0.5						
	Naphthalene	mg/kg	1	<1	<1	0	<1	<1	0
	Naphthalene	mg/kg	0.5	<0.5	<0.8	0	<0.5	<0.5	0
	Naphthalene	mg/kg	0.5						

Client Name: Transport for New South Wales (TfNSW)
Project Name: Muswellbrook Bypass - Detailed Site Investigation
Project No: 60619756

T8 - Soil Intra-laboratory Duplicates - Relative Percentage Difference (RPD)

			Lab Report Number	ES2230964	ES2230964	RPD	ES2230964	ES2230964	RPD
			Field ID	A05_0.1_0.2_22082	QC103_220824		SS01_220826	QC105_220826	
			Sampled Date/Time	24-08-22 15:00	24-08-22 15:00		26-08-22 15:00	26-08-22 15:00	
Polynuclear Aromatic Hydrocarbons	2-Methylnaphthalene	mg/kg	0.5	<0.5	<0.6	0			
	2-Chloronaphthalene	mg/kg	0.5	<0.5	<0.6	0			
	Acenaphthylene	mg/kg	0.5	<0.5	<0.8	0	<0.5	<0.5	0
	Acenaphthylene	mg/kg	0.5						
	Acenaphthene	mg/kg	0.5	<0.5	<0.8	0	<0.5	<0.5	0
	Acenaphthene	mg/kg	0.5						
	Anthracene	mg/kg	0.5	<0.5	<0.8	0	<0.5	<0.5	0
	Anthracene	mg/kg	0.5						
	Fluorene	mg/kg	0.5	<0.5	<0.8	0	<0.5	<0.5	0
	Fluorene	mg/kg	0.5						
	Phenanthrene	mg/kg	0.5	<0.5	<0.8	0	1.5	2.7	57
	Phenanthrene	mg/kg	0.5						
	Fluoranthene	mg/kg	0.5	<0.5	<0.8	0	1.1	1.5	31
	Fluoranthene	mg/kg	0.5						
	Benz(a)anthracene	mg/kg	0.5	<0.5	<0.8	0	<0.5	0.5	0
	Benz(a)anthracene	mg/kg	0.5						
	Benzo(k)fluoranthene	mg/kg	0.5	<0.5	<0.8	0	<0.5	<0.5	0
	Benzo(b&j)fluoranthene	mg/kg	0.5	<0.5	<0.8	0	<0.5	<0.5	0
	Benzo(b+j) & Benzo(k)fluoranthene	mg/kg	1						
	N-2-Fluorenyl Acetamide	mg/kg	0.5	<0.5	<0.6	0			
	7,12-Dimethylbenz(a)anthracene	mg/kg	0.5	<0.5	<0.6	0			
	Benzo(a)pyrene	mg/kg	0.5	<0.5	<0.8	0	<0.5	<0.5	0
	Benzo(a)pyrene	mg/kg	0.5						
	Chrysene	mg/kg	0.5	<0.5	<0.8	0	0.5	0.6	18
	Chrysene	mg/kg	0.5						
	Pyrene	mg/kg	0.5	<0.5	<0.8	0	0.9	1	11
	Pyrene	mg/kg	0.5						
	3-Methylcholanthrene	mg/kg	0.5	<0.5	<0.6	0			
	Benzo(g,h,i)perylene	mg/kg	0.5	<0.5	<0.8	0	<0.5	<0.5	0
	Benzo(g,h,i)perylene	mg/kg	0.5						
	Dibenz(a,h)anthracene	mg/kg	0.5	<0.5	<0.8	0	<0.5	<0.5	0
	Dibenz(a,h)anthracene	mg/kg	0.5						
	Indeno(1,2,3-cd)pyrene	mg/kg	0.5	<0.5	<0.8	0	<0.5	<0.5	0
	Indeno(1,2,3-cd)pyrene	mg/kg	0.5						
	Sum of PAHs	mg/kg	0.5	<0.5	<0.5	0	4	6.3	45
	Sum of PAHs	mg/kg	0.5						
Phenolic Compounds	3/4-Methylphenol (m/p-cresol)	mg/kg	1				<1	<1	0
	3/4-Methylphenol (m/p-cresol)	mg/kg	0.5	<0.5	<0.6	0			
	Phenol	mg/kg	0.5	<0.5	<0.6	0	<0.5	<0.5	0
	2-Chlorophenol	mg/kg	0.5	<0.5	<0.6	0	<0.5	<0.5	0
	2-Methylphenol (o-Cresol)	mg/kg	0.5	<0.5	<0.6	0	<0.5	<0.5	0
	2-Nitrophenol	mg/kg	0.5	<0.5	<0.6	0	<0.5	<0.5	0
	2,4-Dichlorophenol	mg/kg	0.5	<0.5	<0.6	0	<0.5	<0.5	0
	2,4-Dimethylphenol	mg/kg	0.5	<0.5	<0.6	0	<0.5	<0.5	0
	2,6-Dichlorophenol	mg/kg	0.5	<0.5	<0.6	0	<0.5	<0.5	0
	4-Chloro-3-methylphenol	mg/kg	0.5	<0.5	<0.6	0	<0.5	<0.5	0
	2,4,6-Trichlorophenol	mg/kg	0.5	<0.5	<0.6	0	<0.5	<0.5	0
	2,4,5-Trichlorophenol	mg/kg	0.5	<0.5	<0.6	0	<0.5	<0.5	0
	Pentachlorophenol	mg/kg	2				<2	<2	0
	Pentachlorophenol	mg/kg	1	<1	<1	0			
Fumigants	1,2-Dibromoethane (EDB)	mg/kg	0.5	<0.5	<0.5	0			
	1,2-Dichloropropane	mg/kg	0.5	<0.5	<0.5	0			
	2,2-Dichloropropane	mg/kg	0.5	<0.5	<0.5	0			
	cis-1,3-Dichloropropene	mg/kg	0.5	<0.5	<0.5	0			
	trans-1,3-Dichloropropene	mg/kg	0.5	<0.5	<0.5	0			
Halogenated Aromatic Compounds	Bromobenzene	mg/kg	0.5	<0.5	<0.5	0			
	Chlorobenzene	mg/kg	0.5	<0.5	<0.5	0			
	2-Chlorotoluene	mg/kg	0.5	<0.5	<0.5	0			
	4-Chlorotoluene	mg/kg	0.5	<0.5	<0.5	0			
	1,2-Dichlorobenzene	mg/kg	0.5	<0.5	<0.6	0			
	1,3-Dichlorobenzene	mg/kg	0.5	<0.5	<0.6	0			
	1,4-Dichlorobenzene	mg/kg	0.5	<0.5	<0.6	0			
	1,2,3-Trichlorobenzene	mg/kg	0.5	<0.5	<0.5	0			
	1,2,4-Trichlorobenzene	mg/kg	0.5	<0.5	<0.6	0			
Halogenated Aliphatic Compounds	Dichlorodifluoromethane (Freon 12)	mg/kg	5	<5	<5	0			
	Chloromethane	mg/kg	5	<5	<5	0			
	Vinyl chloride	mg/kg	5	<5	<5	0			
	Bromomethane	mg/kg	5	<5	<5	0			
	Chloroethane	mg/kg	5	<5	<5	0			
	Trichlorofluoromethane (Freon 11)	mg/kg	5	<5	<5	0			
	1,1-Dichloroethene	mg/kg	0.5	<0.5	<0.5	0			
	Iodomethane	mg/kg	0.5	<0.5	<0.5	0			
	1,1-Dichloroethane	mg/kg	0.5	<0.5	<0.5	0			
	cis-1,2-Dichloroethene	mg/kg	0.5	<0.5	<0.5	0			
	trans-1,2-Dichloroethene	mg/kg	0.5	<0.5	<0.5	0			
	1,1,1-Trichloroethane	mg/kg	0.5	<0.5	<0.5	0			
	1,1-Dichloropropene	mg/kg	0.5	<0.5	<0.5	0			
	Carbon Tetrachloride	mg/kg	0.5	<0.5	<0.5	0			
	1,2-Dichloroethane	mg/kg	0.5	<0.5	<0.5	0			
	Trichloroethene	mg/kg	0.5	<0.5	<0.5	0			
	Dibromomethane	mg/kg	0.5	<0.5	<0.5	0			
	1,1,2-Trichloroethane	mg/kg	0.5	<0.5	<0.5	0			
	1,3-Dichloropropane	mg/kg	0.5	<0.5	<0.5	0			
	Tetrachloroethene	mg/kg	0.5	<0.5	0.9	57			
	1,1,1,2-Tetrachloroethane	mg/kg	0.5	<0.5	<0.5	0			

Client Name: Transport for New South Wales (TfNSW)
Project Name: Muswellbrook Bypass - Detailed Site Investigation
Project No: 60619756

T8 - Soil Intra-laboratory Duplicates - Relative Percentage Difference (RPD)

			Lab Report Number	ES2230964	ES2230964		ES2230964	ES2230964	
			Field ID	A05_0.1_0.2_22082	QC103_220824	RPD	SS01_220826	QC105_220826	RPD
			Sampled Date/Time	24-08-22 15:00	24-08-22 15:00		26-08-22 15:00	26-08-22 15:00	
	trans-1,4-Dichloro-2-butene	mg/kg	0.5	<0.5	<0.5	0			
	cis-1,4-Dichloro-2-butene	mg/kg	0.5	<0.5	<0.5	0			
	1,1,2,2-Tetrachloroethane	mg/kg	0.5	<0.5	<0.5	0			
	1,2,3-Trichloropropane	mg/kg	0.5	<0.5	<0.5	0			
	Pentachloroethane	mg/kg	0.5	<0.5	<0.5	0			
	1,2-Dibromo-3-chloropropane	mg/kg	0.5	<0.5	<0.5	0			
	Hexachlorobutadiene	mg/kg	0.5	<0.5	<0.6	0			
Trihalomethanes	Bromodichloromethane	mg/kg	0.5	<0.5	<0.5	0			
	Bromoform	mg/kg	0.5	<0.5	<0.5	0			
	Chloroform	mg/kg	0.5	<0.5	<0.5	0			
	Dibromochloromethane	mg/kg	0.5	<0.5	<0.5	0			
Physico-Chemical Parameters	Moisture Content	%	1	46.6	56.7	20	**20.7**	**32.6**	**45**
	weight of sample	g	0.01	**226**	**70.3**	**105**			
Polychlorinated Biphenyls	Polychlorinated Biphenyls	mg/kg	0.1	<0.1	<0.1	0	<0.1	<0.1	0
Oxygenated Compounds	Vinyl acetate	mg/kg	5	<5	<5	0			
	2-Butanone (MEK)	mg/kg	5	<5	<5	0			
	2-hexanone (MBK)	mg/kg	5	<5	<5	0			
	4-Methyl-2-pentanone (MIBK)	mg/kg	5	<5	<5	0			
Sulfonated Compounds	Carbon disulfide	mg/kg	0.5	<0.5	<0.5	0			
Phthalate Esters	Butyl benzyl phthalate	mg/kg	0.5	<0.5	<0.6	0			
	Diethyl phthalate	mg/kg	0.5	<0.5	<0.6	0			
	Dimethyl phthalate	mg/kg	0.5	<0.5	<0.6	0			
	Di-n-butyl phthalate	mg/kg	0.5	<0.5	<0.6	0			
	Di-n-octyl phthalate	mg/kg	0.5	<0.5	<0.6	0			
	Bis(2-ethylhexyl)phthalate	mg/kg	5	<5	<5	0			
Nitrosamines	Methapyrilene	mg/kg	0.5	<0.5	<0.6	0			
	N-Nitrosodibutylamine	mg/kg	0.5	<0.5	<0.6	0			
	N-Nitrosodiethylamine	mg/kg	0.5	<0.5	<0.6	0			
	N-Nitrosodiphenyl & Diphenylamine	mg/kg	1	<1	<1.2	0			
	N-Nitrosodipropylamine	mg/kg	0.5	<0.5	<0.6	0			
	N-Nitrosomethylethylamine	mg/kg	0.5	<0.5	<0.6	0			
	N-Nitrosomorpholine	mg/kg	0.5	<0.5	<0.6	0			
	N-Nitrosopiperidine	mg/kg	0.5	<0.5	<0.6	0			
	N-Nitrosopyrrolidine	mg/kg	1	<1	<1	0			
Nitroaromatics and Ketones	1,3,5-Trinitrobenzene	mg/kg	0.5	<0.5	<0.6	0			
	1-Naphthylamine	mg/kg	0.5	<0.5	<0.6	0			
	2,4-Dinitrotoluene	mg/kg	1	<1	<1	0			
	2,6-Dinitrotoluene	mg/kg	1	<1	<1	0			
	2-Picoline	mg/kg	0.5	<0.5	<0.6	0			
	4-Aminobiphenyl	mg/kg	0.5	<0.5	<0.6	0			
	4-Nitroquinoline-N-oxide	mg/kg	0.5	<0.5	<0.6	0			
	5-Nitro-o-toluidine	mg/kg	0.5	<0.5	<0.6	0			
	Acetophenone	mg/kg	0.5	<0.5	<0.6	0			
	Azobenzene	mg/kg	1	<1	<1	0			
	Chlorobenzilate	mg/kg	0.5	<0.5	<0.6	0			
	Dimethylaminoazobenzene	mg/kg	0.5	<0.5	<0.6	0			
	Isophorone	mg/kg	0.5	<0.5	<0.6	0			
	Nitrobenzene	mg/kg	0.5	<0.5	<0.6	0			
	Pentachloronitrobenzene	mg/kg	0.5	<0.5	<0.6	0			
	Phenacetin	mg/kg	0.5	<0.5	<0.6	0			
	Pronamide	mg/kg	0.5	<0.5	<0.6	0			
Haloethers	4-Bromophenyl phenyl ether	mg/kg	0.5	<0.5	<0.6	0			
	Bis(2-chloroethyl) ether	mg/kg	0.5	<0.5	<0.6	0			
	Bis(2-chloroethoxy) methane	mg/kg	0.5	<0.5	<0.6	0			
	4-Chlorophenyl phenyl ether	mg/kg	0.5	<0.5	<0.6	0			
Chlorinated Hydrocarbons	Hexachlorocyclopentadiene	mg/kg	2.5	<2.5	<2.5	0			
	Hexachloroethane	mg/kg	0.5	<0.5	<0.6	0			
	Hexachloropropene	mg/kg	0.5	<0.5	<0.6	0			
	Pentachlorobenzene	mg/kg	0.5	<0.5	<0.6	0			
Organophosphorus Pesticides (OP)	Azinphos Methyl	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0
	Bromophos-ethyl	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0
	Carbophenothion	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0
	Chlorfenvinphos	mg/kg	0.5						
	Chlorfenvinphos	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0
	Chlorpyrifos	mg/kg	0.5						
	Chlorpyrifos	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0
	Chlorpyrifos-methyl	mg/kg	0.5						
	Chlorpyrifos-methyl	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0
	Demeton-S-methyl	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0
	Diazinon	mg/kg	0.5						
	Diazinon	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0
	Dichlorvos	mg/kg	0.5						
	Dichlorvos	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0
	Dimethoate	mg/kg	0.5						
	Dimethoate	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0
	Ethion	mg/kg	0.5						
	Ethion	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0
	Fenamiphos	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0
	Fenthion	mg/kg	0.5						
	Fenthion	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0
	Malathion	mg/kg	0.5						
	Malathion	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0
	Monocrotophos	mg/kg	0.2	<0.2	<0.2	0	<0.2	<0.2	0
	Parathion	mg/kg	0.2	<0.2	<0.2	0	<0.2	<0.2	0
	Parathion-methyl	mg/kg	0.2	<0.2	<0.2	0	<0.2	<0.2	0

Client Name: Transport for New South Wales (TfNSW)
Project Name: Muswellbrook Bypass - Detailed Site Investigation
Project No: 60619756

T8 - Soil Intra-laboratory Duplicates - Relative Percentage Difference (RPD)

			Lab Report Number	ES2230964	ES2230964		ES2230964	ES2230964	
			Field ID	A05_0.1_0.2_22082	QC103_220824	RPD	SS01_220826	QC105_220826	RPD
			Sampled Date/Time	24-08-22 15:00	24-08-22 15:00		26-08-22 15:00	26-08-22 15:00	
	Pirimphos-ethyl	mg/kg	0.5						
	Pirimphos-ethyl	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0
	Prothiofos	mg/kg	0.5						
	Prothiofos	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0
Organochlorine Pesticides (OC)	Aldrin	mg/kg	0.5						
	Aldrin	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0
	Dieldrin	mg/kg	0.5						
	Dieldrin	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0
	Aldrin + Dieldrin	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0
	a-BHC	mg/kg	0.5						
	a-BHC	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0
	b-BHC	mg/kg	0.5						
	b-BHC	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0
	d-BHC	mg/kg	0.5						
	d-BHC	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0
	g-BHC (Lindane)	mg/kg	0.5						
	g-BHC (Lindane)	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0
	cis-Chlordane	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0
	trans-Chlordane	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0
	Chlordane	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0
	DDD	mg/kg	0.5						
	DDD	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0
	DDE	mg/kg	0.5						
	DDE	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0
	DDT	mg/kg	1						
	DDT	mg/kg	0.2	<0.2	<0.2	0	<0.2	<0.2	0
	DDT+DDE+DDD	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0
	Endosulfan	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0
	Endosulfan 1	mg/kg	0.5						
	Endosulfan 1	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0
	Endosulfan 2	mg/kg	0.5						
	Endosulfan 2	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0
	Endosulfan sulfate	mg/kg	0.5						
	Endosulfan sulfate	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0
	Endrin	mg/kg	0.5						
	Endrin	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0
	Endrin aldehyde	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0
	Endrin ketone	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0
	Heptachlor	mg/kg	0.5						
	Heptachlor	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0
	Heptachlor epoxide	mg/kg	0.5						
	Heptachlor epoxide	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0
	Hexachlorobenzene (HCB)	mg/kg	1	<1	<1	0			
	Hexachlorobenzene (HCB)	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0
	Methoxychlor	mg/kg	0.2	<0.2	<0.2	0	<0.2	<0.2	0
Phenoxyacetic Acid Herbicides	2,4,5-TP (Silvex)	mg/kg	0.02	<0.04	<0.02	0	<0.02	<0.02	0
	4-Chlorophenoxy acetic acid	mg/kg	0.02	<0.04	<0.02	0	<0.02	<0.02	0
	Clopyralid	mg/kg	0.02	<0.04	<0.02	0	<0.02	<0.02	0
	Dicamba	mg/kg	0.02	<0.04	<0.02	0	<0.02	<0.02	0
	Fluroxypyr	mg/kg	0.02	<0.04	<0.02	0	<0.02	<0.02	0
	Mecoprop	mg/kg	0.02	<0.04	<0.02	0	<0.02	<0.02	0
	Picloram	mg/kg	0.02	<0.04	<0.02	0	<0.02	<0.02	0
	Triclopyr	mg/kg	0.02	<0.04	<0.02	0	<0.02	<0.02	0
Benzidine	3,3-Dichlorobenzidine	mg/kg	0.5	<0.5	<0.6	0			
Asbestos	APPROVED IDENTIFIER:	-		1	1	0			
	Asbestos fibres	-	0.1	0.0E0	0.0E0	0			
	Asbestos Type	-	--	1	1	0			
	Organic Fibre	g/kg	0.1	0.0E0	0.0E0	0			
	Asbestos (Trace)	Fibres	5	0.0E0	0.0E0	0			
	Synthetic Mineral Fibre	g/kg	0.1	0.0E0	0.0E0	0			
Herbicides	2,4,5-Trichlorophenoxy acetic acid	mg/kg	0.02	<0.04	<0.02	0	<0.02	<0.02	0
	2,4-Dichlorprop	mg/kg	0.02	<0.04	<0.02	0	<0.02	<0.02	0
	2,4-Dichlorophenoxy acetic acid	mg/kg	0.02	<0.04	<0.02	0	<0.02	<0.02	0
	4-(2,4-Dichlorophenoxy)butyric Acid (2,4-DB)	mg/kg	0.02	<0.04	<0.02	0	<0.02	<0.02	0
	2-Methyl-4-chlorophenoxyacetic acid	mg/kg	0.02	<0.04	<0.02	0	<0.02	<0.02	0
	2-Methyl-4-Chlorophenoxy Butanoic Acid	mg/kg	0.02	<0.04	<0.02	0	<0.02	<0.02	0
Anilines	2-Nitroaniline	mg/kg	1	<1	<1	0			
	3-Nitroaniline	mg/kg	1	<1	<1	0			
	4-Chloroaniline	mg/kg	0.5	<0.5	<0.6	0			
	4-Nitroaniline	mg/kg	0.5	<0.5	<0.6	0			
	Aniline	mg/kg	0.5	<0.5	<0.6	0			
	Carbazole	mg/kg	0.5	<0.5	<0.6	0			
	Dibenzofuran	mg/kg	0.5	<0.5	<0.6	0			

*RPDs have only been considered where a concentration is greater than 1 times the EQL.
**High RPDs are in bold (Acceptable RPDs for each EQL multiplier range are: 200 (1-10 x EQL); 50 (10-20 x EQL); 30 (> 20 x EQL))
***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any methods in the row header relate

Client Name: Transport for New South Wales (TfNSW)
Project Name: Muswellbrook Bypass - Detailed Site Investigation
Project No: 60619756

T9 - Soil Inter-laboratory Duplicates - Relative Percentage Difference (RPD)

Field_ID	HA12_0.0-0.1_220822	QC201_220823	RPD	HA14_0.1_0.2_220824	QC202_220824
Location_Code	HA12_0.0-0.1_220822	HA12_0.0-0.1_220822		HA14_0.1_0.2_220824	HA14_0.1_0.2_220824
Sampled_Date_Time	23-08-22	23-08-22		24-08-22	24-08-22
Lab_Report_Number	ES2230767	ES2230767		ES2230964	921148

Chem_Group	ChemName	Units	EQL					
	Sum of WA DWER PFAS (n=10)*	ug/kg	0.2	<0.2	<0.2	0	<0.2	<10
Landfill Gas	Description	-		1	1		1	-
Metals	Arsenic	mg/kg	5	<5	<5	0	6	5.4
	Cadmium	mg/kg	1	<1	<1	0	<1	<0.4
	Chromium	mg/kg	2	5	6	18%	20	20
	Copper	mg/kg	5	15	<5	NC	7	8.1
	Lead	mg/kg	5	<5	<5	0	10	11
	Mercury	mg/kg	0.1	<0.1	<0.1	0	<0.1	<0.1
	Nickel	mg/kg	2	40	8	133%	20	19
	Zinc	mg/kg	5	12	10	18%	21	21
Per- and Poly-fluoroalkyl Substances	Perfluorooctanoic acid (PFOA)	mg/kg	0.0002	<0.0002	<0.0002	0	<0.0002	<0.005
	Perfluorooctane sulfonic acid (PFOS)	mg/kg	0.0002	<0.0002	<0.0002	0	<0.0002	<0.005
	Perfluorohexane sulfonic acid (PFHxS)	mg/kg	0.0002	<0.0002	<0.0002	0	<0.0002	<0.005
	Sum (PFHxS + PFOS)	mg/kg	0.0002	<0.0002	<0.0002	0	<0.0002	<0.005
	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	mg/kg	0.0005	<0.0005	<0.0005	0	<0.0005	<0.005
	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	mg/kg	0.0005	<0.0005	<0.0005	0	<0.0005	<0.01
	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	mg/kg	0.0005	<0.0005	<0.0005	0	<0.0005	<0.005
	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	mg/kg	0.0005	<0.0005	<0.0005	0	<0.0005	<0.005
	Perfluorobutane sulfonic acid (PFBS)	mg/kg	0.0002	<0.0002	<0.0002	0	<0.0002	<0.005
	Perfluorobutanoic acid (PFBA)	mg/kg	0.001	<0.001	<0.001	0	<0.001	<0.005
	Perfluorodecane sulfonic acid (PFDS)	mg/kg	0.0002	<0.0002	<0.0002	0	<0.0002	<0.005
	Perfluorodecanoic acid (PFDA)	mg/kg	0.0002	<0.0002	<0.0002	0	<0.0002	<0.005
	Perfluorododecanoic acid (PFDoDA)	mg/kg	0.0002	<0.0002	<0.0002	0	<0.0002	<0.005
	Perfluoroheptane sulfonic acid (PFHpS)	mg/kg	0.0002	<0.0002	<0.0002	0	<0.0002	<0.005
	Perfluoroheptanoic acid (PFHpA)	mg/kg	0.0002	<0.0002	<0.0002	0	<0.0002	<0.005
	Perfluorohexanoic acid (PFHxA)	mg/kg	0.0002	<0.0002	<0.0002	0	<0.0002	<0.005
	Perfluorononane sulfonic acid (PFNS)	mg/kg	0.005	-	-	-	-	<0.005
	Perfluorononanoic acid (PFNA)	mg/kg	0.0002	<0.0002	<0.0002	0	<0.0002	<0.005
	Perfluorooctane sulfonamide (FOSA)	mg/kg	0.0002	<0.0002	<0.0002	0	<0.0002	<0.005
	Perfluoropentane sulfonic acid (PFPeS)	mg/kg	0.0002	<0.0002	<0.0002	0	<0.0002	<0.005
	Perfluoropentanoic acid (PFPeA)	mg/kg	0.0002	<0.0002	<0.0002	0	<0.0002	<0.005
	Perfluoropropanesulfonic acid (PFPrS)	ng/kg	5000	-	-	-	-	<5000
	Perfluorotetradecanoic acid (PFTeDA)	mg/kg	0.0005	<0.0005	<0.0005	0	<0.0005	<0.005
	Perfluorotridecanoic acid (PFTrDA)	mg/kg	0.0002	<0.0002	<0.0002	0	<0.0002	<0.005
	Perfluoroundecanoic acid (PFUnDA)	mg/kg	0.0002	<0.0002	<0.0002	0	<0.0002	<0.005
	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	mg/kg	0.0005	<0.0005	<0.0005	0	<0.0005	<0.005
	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	mg/kg	0.0002	<0.0002	<0.0002	0	<0.0002	<0.01
	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	mg/kg	0.0005	<0.0005	<0.0005	0	<0.0005	<0.005
	N-Methyl perfluorooctane sulfonamide (MeFOSA)	mg/kg	0.0005	<0.0005	<0.0005	0	<0.0005	<0.005
	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	mg/kg	0.0002	<0.0002	<0.0002	0	<0.0002	<0.01
	N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	mg/kg	0.0005	<0.0005	<0.0005	0	<0.0005	<0.005
	Sum of PFAS	mg/kg	0.0002	<0.0002	<0.0002	0	<0.0002	<0.05
	Sum of enHealth PFAS (PFHxS + PFOS + PFOA)	UG/KG	5	-	-	-	-	<5
	Sum of US EPA PFAS (PFOS + PFOA)	UG/KG	5	-	-	-	-	<5
Total Petroleum Hydrocarbons	C6-C9 fraction	mg/kg	10	<10	<10	0	<10	<20
	C10-C14 fraction	mg/kg	50	<50	<50	0	<50	<20
	C15-C28 fraction	mg/kg	100	<100	<100	0	<100	<50
	C29-C36 fraction	mg/kg	100	<100	<100	0	<100	<50
	C10-C36 fraction (sum)	mg/kg	50	<50	<50	0	<50	<50
Total Recoverable Hydrocarbons	C6-C10 fraction	mg/kg	10	<10	<10	0	<10	<20
	C6-C10 fraction (minus BTEX)(F1)	mg/kg	10	<10	<10	0	<10	<20
	>C10-C16 (minus Naphthalene)(F2)	mg/kg	50	<50	<50	0	<50	<50
	>C10-C16 fraction	mg/kg	50	<50	<50	0	<50	<50
	>C16-C34 fraction	mg/kg	100	<100	<100	0	<100	<100
	>C34-C40 fraction	mg/kg	100	<100	<100	0	<100	<100
	>C10-C40 fraction (sum)	mg/kg	50	<50	<50	0	<50	<100

Client Name: Transport for New South Wales (TfNSW)
Project Name: Muswellbrook Bypass - Detailed Site Investigation
Project No: 60619756

T9 - Soil Inter-laboratory Duplicates - Relative Percentage Difference (RPD)

			Field_ID	HA12_0.0-0.1_220822	QC201_220823	RPD	HA14_0.1_0.2_220824	QC202_220824
			Location_Code	HA12_0.0-0.1_220822	HA12_0.0-0.1_220822		HA14_0.1_0.2_220824	HA14_0.1_0.2_220824
			Sampled_Date_Time	23-08-22	23-08-22		24-08-22	24-08-22
			Lab_Report_Number	ES2230767	ES2230767		ES2230964	921148
Monocyclic Aromatic Hydrocarbons	Benzene	mg/kg	0.2	<0.2	<0.2	0	<0.2	<0.1
	Toluene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.1
	Ethylbenzene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.1
	m&p-Xylene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.2
	o-Xylene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.1
	Total Xylenes	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.3
	Styrene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5
	Isopropylbenzene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5
	n-butylbenzene	mg/kg	0.5	<0.5	<0.5	0	<0.5	-
	n-propylbenzene	mg/kg	0.5	<0.5	<0.5	0	<0.5	-
	p-isopropyltoluene	mg/kg	0.5	<0.5	<0.5	0	<0.5	-
	sec-butylbenzene	mg/kg	0.5	<0.5	<0.5	0	<0.5	-
	tert-butylbenzene	mg/kg	0.5	<0.5	<0.5	0	<0.5	-
	1,2,4-trimethylbenzene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5
	1,3,5-trimethylbenzene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5
	Total MAH	mg/kg	0.5	-	-		-	<0.5
	Total BTEX	mg/kg	0.2	<0.2	<0.2	0	<0.2	-
Polynuclear Aromatic Hydrocarbons	Benzo(a)pyrene TEQ calc (Half)	mg/kg	0.5	0.6	0.6	0%	0.6	0.6
	Benzo(a)pyrene TEQ calc (Zero)	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5
	Benzo(a)pyrene TEQ calc(PQL)	mg/kg	0.5	1.2	1.2	0%	1.2	1.2
	Naphthalene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5
	2-Methylnaphthalene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5
	1-Chloronaphthalene	mg/kg	0.5	-	-	-	-	<0.5
	2-Chloronaphthalene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5
	Acenaphthylene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5
	Acenaphthene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5
	Anthracene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5
	Fluorene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5
	Phenanthrene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5
	Fluoranthene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5
	Benz(a)anthracene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5
	Benzo(k)fluoranthene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5
	Benzo(b&j)fluoranthene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5
	Benzo(b+j) & Benzo(k)fluoranthene	mg/kg	1	<1	<1	0	-	-
	N-2-Fluorenyl Acetamide	mg/kg	0.5	<0.5	<0.5	0	<0.5	-
	7,12-Dimethylbenz(a)anthracene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<1
	Benzo(a)pyrene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5
	Chrysene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5
	Pyrene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5
	3-Methylcholanthrene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5
	Benzo(g,h,i)perylene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5
	Dibenz(a,h)anthracene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5
	Indeno(1,2,3-cd)pyrene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5
	Dibenz(a,j)acridine	mg/kg	0.5	-	-	-	-	<0.5
	Sum of PAHs	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5
Phenolic Compounds	3/4-Methylphenol (m/p-cresol)	mg/kg	0.5	<0.5	<0.5	0	<0.5	-
	Phenol	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5
	2-Chlorophenol	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5
	2-Methylphenol (o-Cresol)	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.2
	3&4-Methylphenol (m&p-Cresol)	mg/kg	0.4	-	-	-	-	<0.4
	2-Nitrophenol	mg/kg	0.5	<0.5	<0.5	0	<0.5	<1
	2,4-Dichlorophenol	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5
	2,4-Dimethylphenol	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5
	2,6-Dichlorophenol	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5
	4-Chloro-3-methylphenol	mg/kg	0.5	<0.5	<0.5	0	<0.5	<1
	2,4,6-Trichlorophenol	mg/kg	0.5	<0.5	<0.5	0	<0.5	<1
	2,4,5-Trichlorophenol	mg/kg	0.5	<0.5	<0.5	0	<0.5	<1
	4,6-Dinitro-2-methylphenol	mg/kg	0.5	-	-	-	-	<0.5
	Pentachlorophenol	mg/kg	1	<1	<1	0	<1	<1
	2,3,4,6-Tetrachlorophenol	mg/kg	0.5	-	-	-	-	<0.5
	2,4-Dinitrophenol	mg/kg	5	-	-	-	-	<5
	4-Nitrophenol	mg/kg	5	-	-	-	-	<5
	Dinoseb	mg/kg	0.5	-	-	-	-	<0.5

Client Name: Transport for New South Wales (TfNSW)
Project Name: Muswellbrook Bypass - Detailed Site Investigation
Project No: 60619756

T9 - Soil Inter-laboratory Duplicates - Relative Percentage Difference (RPD)

			Field_ID	HA12_0.0-0.1_220822	QC201_220823	RPD	HA14_0.1_0.2_220824	QC202_220824
			Location_Code	HA12_0.0-0.1_220822	HA12_0.0-0.1_220822		HA14_0.1_0.2_220824	HA14_0.1_0.2_220824
			Sampled_Date_Time	23-08-22	23-08-22		24-08-22	24-08-22
			Lab_Report_Number	ES2230767	ES2230767		ES2230964	921148
Fumigants	1,2-Dibromoethane (EDB)	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5
	1,2-Dichloropropane	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5
	2,2-Dichloropropane	mg/kg	0.5	<0.5	<0.5	0	<0.5	-
	cis-1,3-Dichloropropene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5
	trans-1,3-Dichloropropene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5
Halogenated Aromatic Compounds	Benzyl chloride	mg/kg	0.5	-	-	-	-	<0.5
	Bromobenzene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5
	Chlorobenzene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5
	2-Chlorotoluene	mg/kg	0.5	<0.5	<0.5	0	<0.5	-
	4-Chlorotoluene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5
	1,2-Dichlorobenzene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5
	1,3-Dichlorobenzene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5
	1,4-Dichlorobenzene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5
	1,2,3,4-Tetrachlorobenzene	mg/kg	0.5	-	-	-	-	<0.5
	1,2,3,5-Tetrachlorobenzene	mg/kg	0.5	-	-	-	-	<0.5
	1,2,4,5-Tetrachlorobenzene	mg/kg	0.5	-	-	-	-	<0.5
	1,2,3-Trichlorobenzene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5
	1,2,4-Trichlorobenzene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5
	1,3,5-Trichlorobenzene	mg/kg	0.5	-	-	-	-	<0.5
Halogenated Aliphatic Compounds	Bromochloromethane	mg/kg	0.5	-	-	-	-	<0.5
	Allyl chloride	mg/kg	0.5	-	-	-	-	<0.5
	Dichlorodifluoromethane (Freon 12)	mg/kg	5	<5	<5	0	<5	<0.5
	Chloromethane	mg/kg	5	<5	<5	0	<5	<0.5
	Vinyl chloride	mg/kg	5	<5	<5	0	<5	<0.5
	Bromomethane	mg/kg	5	<5	<5	0	<5	<0.5
	Chloroethane	mg/kg	5	<5	<5	0	<5	<0.5
	Trichlorofluoromethane (Freon 11)	mg/kg	5	<5	<5	0	<5	<0.5
	1,1-Dichloroethene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5
	Iodomethane	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5
	1,1-Dichloroethane	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5
	cis-1,2-Dichloroethene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5
	trans-1,2-Dichloroethene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5
	1,1,1-Trichloroethane	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5
	1,1-Dichloropropene	mg/kg	0.5	<0.5	<0.5	0	<0.5	-
	Carbon Tetrachloride	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5
	1,2-Dichloroethane	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5
	Trichloroethene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5
	Dibromomethane	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5
	1,1,2-Trichloroethane	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5
	1,3-Dichloropropane	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5
	Tetrachloroethene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5
	1,1,1,2-Tetrachloroethane	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5
	trans-1,4-Dichloro-2-butene	mg/kg	0.5	<0.5	<0.5	0	<0.5	-
	cis-1,4-Dichloro-2-butene	mg/kg	0.5	<0.5	<0.5	0	<0.5	-
	1,1,2,2-Tetrachloroethane	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5
	1,2,3-Trichloropropane	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5
	Dichloromethane	mg/kg	0.5	-	-	-	-	<0.5
	Pentachloroethane	mg/kg	0.5	<0.5	<0.5	0	<0.5	-
	1,2-Dibromo-3-chloropropane	mg/kg	0.5	<0.5	<0.5	0	<0.5	-
	Hexachlorobutadiene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5
Trihalomethanes	Bromodichloromethane	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5
	Bromoform	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5
	Chloroform	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5
	Dibromochloromethane	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5
Physico-Chemical Parameters	Moisture Content (dried @ 103°C)	%	1	-	-		-	12
	Moisture Content	%	1	-	-		11.5	-
	weight of sample	g	0.01	262	298	0	136	-
Polychlorinated Biphenyls	Polychlorinated Biphenyls	mg/kg	0.1	<0.1	<0.1		<0.1	<0.1
	Arochlor 1016	mg/kg	0.1	-	-		-	<0.1
	Arochlor 1221	mg/kg	0.1	-	-		-	<0.1
	Arochlor 1232	mg/kg	0.1	-	-		-	<0.1
	Arochlor 1242	mg/kg	0.1	-	-		-	<0.1
	Arochlor 1248	mg/kg	0.1	-	-		-	<0.1
	Arochlor 1254	mg/kg	0.1	-	-		-	<0.1
	Arochlor 1260	mg/kg	0.1	-	-		-	<0.1

Client Name: Transport for New South Wales (TfNSW)
Project Name: Muswellbrook Bypass - Detailed Site Investigation
Project No: 60619756

T9 - Soil Inter-laboratory Duplicates - Relative Percentage Difference (RPD)

			Field_ID	HA12_0.0-0.1_220822	QC201_220823	RPD	HA14_0.1_0.2_220824	QC202_220824
			Location_Code	HA12_0.0-0.1_220822	HA12_0.0-0.1_220822		HA14_0.1_0.2_220824	HA14_0.1_0.2_220824
			Sampled_Date_Time	23-08-22	23-08-22		24-08-22	24-08-22
			Lab_Report_Number	ES2230767	ES2230767		ES2230964	921148
Oxygenated Compounds	2-Propanone (Acetone)	mg/kg	0.5	-	-		-	<0.5
	Vinyl acetate	mg/kg	5	<5	<5	0	<5	-
	2-Butanone (MEK)	mg/kg	5	<5	<5	0	<5	<0.5
	2-hexanone (MBK)	mg/kg	5	<5	<5	0	<5	-
	4-Methyl-2-pentanone (MIBK)	mg/kg	5	<5	<5	0	<5	<0.5
Sulfonated	Carbon disulfide	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5
Phthalate Esters	Butyl benzyl phthalate	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5
	Diethyl phthalate	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5
	Dimethyl phthalate	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5
	Di-n-butyl phthalate	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5
	Di-n-octyl phthalate	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5
	Bis(2-ethylhexyl)phthalate	mg/kg	5	<5	<5	0	<5	<5
Nitrosamines	Diphenylamine	mg/kg	0.5	-	-		-	<0.5
	Methapyrilene	mg/kg	0.5	<0.5	<0.5	0	<0.5	-
	N-Nitrosodibutylamine	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5
	N-Nitrosodiethylamine	mg/kg	0.5	<0.5	<0.5	0	<0.5	-
	N-Nitrosodiphenyl & Diphenylamine	mg/kg	1	<1	<1	0	<1	-
	N-Nitrosodipropylamine	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5
	N-Nitrosomethylethylamine	mg/kg	0.5	<0.5	<0.5	0	<0.5	-
	N-Nitrosomorpholine	mg/kg	0.5	<0.5	<0.5	0	<0.5	-
	N-Nitrosopiperidine	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5
	N-Nitrosopyrrolidine	mg/kg	1	<1	<1	0	<1	-
Nitroaromatics and Ketones	1,3,5-Trinitrobenzene	mg/kg	0.5	<0.5	<0.5	0	<0.5	-
	1-Naphthylamine	mg/kg	0.5	<0.5	<0.5	0	<0.5	<1
	2,4-Dinitrotoluene	mg/kg	1	<1	<1	0	<1	<0.5
	2,6-Dinitrotoluene	mg/kg	1	<1	<1	0	<1	<1
	2-Naphthylamine	mg/kg	0.5	-	-		-	<0.5
	2-Picoline	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5
	4-Aminobiphenyl	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5
	4-Nitroquinoline-N-oxide	mg/kg	0.5	<0.5	<0.5	0	<0.5	-
	5-Nitro-o-toluidine	mg/kg	0.5	<0.5	<0.5	0	<0.5	-
	Acetophenone	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5
	Azobenzene	mg/kg	1	<1	<1	0	<1	-
	Chlorobenzilate	mg/kg	0.5	<0.5	<0.5	0	<0.5	-
	Dimethylaminoazobenzene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5
	Isophorone	mg/kg	0.5	<0.5	<0.5	0	<0.5	-
	Nitrobenzene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5
	Pentachloronitrobenzene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5
	Phenacetin	mg/kg	0.5	<0.5	<0.5	0	<0.5	-
	Pronamide	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5
Haloethers	4-Bromophenyl phenyl ether	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5
	Bis(2-chloroisopropyl)ether	mg/kg	0.5	-	-		-	<0.5
	Bis(2-chloroethyl) ether	mg/kg	0.5	<0.5	<0.5	0	<0.5	-
	Bis(2-chloroethoxy) methane	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5
	4-Chlorophenyl phenyl ether	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5
Chlorinated Hydrocarbons	Hexachlorocyclopentadiene	mg/kg	2.5	<2.5	<2.5	0	<2.5	<1
	Hexachloroethane	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5
	Hexachloropropene	mg/kg	0.5	<0.5	<0.5	0	<0.5	-
	Pentachlorobenzene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5
	Chlorinated hydrocarbons (sum)	mg/kg	0.5	-	-		-	<0.5
	Other chlorinated hydrocarbons (sum)	mg/kg	0.5	-	-		-	<0.5

Client Name: Transport for New South Wales (TfNSW)
Project Name: Muswellbrook Bypass - Detailed Site Investigation
Project No: 60619756

T9 - Soil Inter-laboratory Duplicates - Relative Percentage Difference (RPD)

			Field_ID	HA12_0.0-0.1_220822	QC201_220823	RPD	HA14_0.1_0.2_220824	QC202_220824
			Location_Code	HA12_0.0-0.1_220822	HA12_0.0-0.1_220822		HA14_0.1_0.2_220824	HA14_0.1_0.2_220824
			Sampled_Date_Time	23-08-22	23-08-22		24-08-22	24-08-22
			Lab_Report_Number	ES2230767	ES2230767		ES2230964	921148
Organophosphorus Pesticides (OP)	Bolstar (Sulprofos)	mg/kg		0.2	-	-		-	<0.2
	Mevinphos (Phosdrin)	mg/kg		0.2	-	-		-	<0.2
	Omethoate	mg/kg		2	-	-		-	<2
	Pirimiphos-methyl	mg/kg		0.2	-	-		-	<0.2
	Pyrazophos	mg/kg		0.2	-	-		-	<0.2
	Azinphos Methyl	mg/kg		0.05	<0.05	<0.05	0	<0.05	<0.2
	Bromophos-ethyl	mg/kg		0.05	<0.05	<0.05	0	<0.05	-
	Carbophenothion	mg/kg		0.05	<0.05	<0.05	0	<0.05	-
	Chlorfenvinphos	mg/kg		0.05	<0.05	<0.05	0	<0.05	<0.2
	Chlorpyrifos	mg/kg		0.05	<0.05	<0.05	0	<0.05	<0.2
	Chlorpyrifos-methyl	mg/kg		0.05	<0.05	<0.05	0	<0.05	<0.2
	Coumaphos	mg/kg		2	-	-		-	<2
	Demeton-O	mg/kg		0.2	-	-		-	<0.2
	Demeton-S	mg/kg		0.2	-	-		-	<0.2
	Demeton-S-methyl	mg/kg		0.05	<0.05	<0.05	0	<0.05	-
	Diazinon	mg/kg		0.05	<0.05	<0.05	0	<0.05	<0.2
	Dichlorvos	mg/kg		0.05	<0.05	<0.05	0	<0.05	<0.2
	Dimethoate	mg/kg		0.05	<0.05	<0.05	0	<0.05	<0.2
	Disulfoton	mg/kg		0.2	-	-		-	<0.2
	EPN	mg/kg		0.2	-	-		-	<0.2
	Ethion	mg/kg		0.05	<0.05	<0.05	0	<0.05	<0.2
	Ethoprop	mg/kg		0.2	-	-		-	<0.2
	Fenamiphos	mg/kg		0.05	<0.05	<0.05	0	<0.05	-
	Fenitrothion	mg/kg		0.2	-	-		-	<0.2
	Fensulfothion	mg/kg		0.2	-	-		-	<0.2
	Fenthion	mg/kg		0.05	<0.05	<0.05	0	<0.05	<0.2
	Malathion	mg/kg		0.05	<0.05	<0.05	0	<0.05	<0.2
	Merphos	mg/kg		0.2	-	-		-	<0.2
	Monocrotophos	mg/kg		0.2	<0.2	<0.2	0	<0.2	<2
	Naled (Dibrom)	mg/kg		0.2	-	-		-	<0.2
	Parathion	mg/kg		0.2	<0.2	<0.2	0	<0.2	<0.2
	Parathion-methyl	mg/kg		0.2	<0.2	<0.2	0	<0.2	<0.2
	Phorate	mg/kg		0.2	-	-		-	<0.2
	Pirimphos-ethyl	mg/kg		0.05	<0.05	<0.05	0	<0.05	-
	Prothiofos	mg/kg		0.05	<0.05	<0.05	0	<0.05	-
	Ronnel	mg/kg		0.2	-	-		-	<0.2
	Trichloronate	mg/kg		0.2	-	-		-	<0.2
	Terbufos	mg/kg		0.2	-	-		-	<0.2
	Tetrachlorvinphos	mg/kg		0.2	-	-		-	<0.2
	Tokuthion	mg/kg		0.2	-	-		-	<0.2
Organochlorine Pesticides (OC)	Aldrin	mg/kg		0.05	<0.05	<0.05	0	<0.05	<0.05
	Dieldrin	mg/kg		0.05	<0.05	<0.05	0	<0.05	<0.05
	Aldrin + Dieldrin	mg/kg		0.05	<0.05	<0.05	0	<0.05	<0.05
	a-BHC	mg/kg		0.05	<0.05	<0.05	0	<0.05	<0.05
	b-BHC	mg/kg		0.05	<0.05	<0.05	0	<0.05	<0.05
	d-BHC	mg/kg		0.05	<0.05	<0.05	0	<0.05	<0.05
	g-BHC (Lindane)	mg/kg		0.05	<0.05	<0.05	0	<0.05	<0.05
	cis-Chlordane	mg/kg		0.05	<0.05	<0.05	0	<0.05	-
	trans-Chlordane	mg/kg		0.05	<0.05	<0.05	0	<0.05	-
	Chlordane	mg/kg		0.05	<0.05	<0.05	0	<0.05	<0.1
	DDD	mg/kg		0.05	<0.05	<0.05	0	<0.05	<0.05
	DDE	mg/kg		0.05	<0.05	<0.05	0	<0.05	<0.05
	DDT	mg/kg		0.2	<0.2	<0.2	0	<0.2	<0.05
	DDT+DDE+DDD	mg/kg		0.05	<0.05	<0.05	0	<0.05	<0.05
	Endosulfan	mg/kg		0.05	<0.05	<0.05	0	<0.05	-
	Endosulfan 1	mg/kg		0.05	<0.05	<0.05	0	<0.05	<0.05
	Endosulfan 2	mg/kg		0.05	<0.05	<0.05	0	<0.05	<0.05
	Endosulfan sulfate	mg/kg		0.05	<0.05	<0.05	0	<0.05	<0.05
	Endrin	mg/kg		0.05	<0.05	<0.05	0	<0.05	<0.05
	Endrin aldehyde	mg/kg		0.05	<0.05	<0.05	0	<0.05	<0.05
	Endrin ketone	mg/kg		0.05	<0.05	<0.05	0	<0.05	<0.05
	Heptachlor	mg/kg		0.05	<0.05	<0.05	0	<0.05	<0.05
	Heptachlor epoxide	mg/kg		0.05	<0.05	<0.05	0	<0.05	<0.05
	Hexachlorobenzene (HCB)	mg/kg		0.05	<0.05	<0.05	0	<0.05	<0.05
	Methoxychlor	mg/kg		0.2	<0.2	<0.2	0	<0.2	<0.05
	Toxaphene	mg/kg		0.5	-	-		-	<0.5
	Organochlorine pesticides (sum)	mg/kg		0.1	-	-		-	<0.1
	Other organochlorine pesticides (sum)	mg/kg		0.1	-	-		-	<0.1

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T9 - Soil Inter-laboratory Duplicates - Relative Percentage Difference (RPD)

			Field_ID	HA12_0.0-0.1_220822	QC201_220823	RPD	HA14_0.1_0.2_220824	QC202_220824
			Location_Code	HA12_0.0-0.1_220822	HA12_0.0-0.1_220822		HA14_0.1_0.2_220824	HA14_0.1_0.2_220824
			Sampled_Date_Time	23-08-22	23-08-22		24-08-22	24-08-22
			Lab_Report_Number	ES2230767	ES2230767		ES2230964	921148
Phenoxyacetic Acid Herbicides	2,4,5-TP (Silvex)	mg/kg	0.02	-	-		<0.02	<0.5
	4-Chlorophenoxy acetic acid	mg/kg	0.02	-	-		<0.02	-
	Clopyralid	mg/kg	0.02	-	-		<0.02	-
	Dicamba	mg/kg	0.02	-	-		<0.02	<0.5
	Fluroxypyr	mg/kg	0.02	-	-		<0.02	-
	Mecoprop	mg/kg	0.02	-	-		<0.02	<0.5
	Picloram	mg/kg	0.02	-	-		<0.02	-
	Triclopyr	mg/kg	0.02	-	-		<0.02	-
Benzidine	3,3-Dichlorobenzidine	mg/kg	0.5	<0.5	<0.5		<0.5	<0.5
Asbestos	APPROVED IDENTIFIER:	-		1	1		1	-
	Asbestos fibres	-	0.1	0	0	0	0	-
	Asbestos Type	-		-	-		1	-
	Organic Fibres - Comment	Comment		-	-		-	1
	Organic Fibre	g/kg	0.1	0	0	0	0	-
	Asbestos from ACM in Soil	%w/w		-	-		-	0
	Asbestos from FA & AF in Soil	%w/w		-	-		-	0
	Approximate Sample Mass	g		-	-		-	211
	Asbestos Reported Result	Comment		-	-		-	1
	ACM - Comment	Comment		-	-		-	1
	Asbestos (Trace)	Fibres	5	0	0	0	0	-
	FA- Comment	Comment		-	-		-	1
	AF - Comment	Comment		-	-		-	1
	Respirable Fibres - Comment	Comment		-	-		-	1
	Synthetic Fibres - Comment	Comment		-	-		-	1
	Synthetic Mineral Fibre	g/kg	0.1	0	0	0	0	-
	Mass ACM	g		-	-		-	0
	Mass AF	g		-	-		-	0
	Mass Asbestos in AF	g		-	-		-	0
	Mass Asbestos in FA & AF	g		-	-		-	0
	Mass Asbestos in ACM	g		-	-		-	0
	Mass Asbestos in FA	g		-	-		-	0
	Mass FA	g		-	-		-	0
Herbicides	2,4,5-Trichlorophenoxy acetic acid	mg/kg	0.02	-	-		<0.02	<0.5
	2,4-Dichlorprop	mg/kg	0.02	-	-		<0.02	<0.5
	2,4-Dichlorophenoxy acetic acid	mg/kg	0.02	-	-		<0.02	<0.5
	4-(2,4-Dichlorophenoxy)butyric Acid (2,4-DB)	mg/kg	0.02	-	-		<0.02	<0.5
	2-Methyl-4-chlorophenoxyacetic acid	mg/kg	0.02	-	-		<0.02	<0.5
	2-Methyl-4-Chlorophenoxy Butanoic Acid	mg/kg	0.02	-	-		<0.02	<0.5
Other	Actril	mg/kg	0.5	-	-		-	<0.5
Anilines	2-Nitroaniline	mg/kg	1	<1	<1	0	<1	<1
	3-Nitroaniline	mg/kg	1	<1	<1	0	<1	-
	4-Chloroaniline	mg/kg	0.5	<0.5	<0.5	0	<0.5	-
	4-Nitroaniline	mg/kg	0.5	<0.5	<0.5	0	<0.5	-
	Aniline	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5
	Carbazole	mg/kg	0.5	<0.5	<0.5	0	<0.5	-
	Dibenzofuran	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5
	Trifluralin	mg/kg	0.5	-	-	0	-	<0.5

*RPDs have only been considered where a concentration is greater than 1 times the EQL.
**High RPDs are in bold (Acceptable RPDs for each EQL multiplier range are: 200 (1-10 x EQL); 50 (10-20 x EQL); 30 (> 20 x EQL))
***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any methods in the row header relate to those used in the primary laboratory

Client Name: Transport for New South Wales (TfNSW)
Project Name: Muswellbrook Bypass - Detailed Site Investigation
Project No: 60619756

T9 - Soil Inter-laboratory Duplicates - Relative Percentage Difference (RPD)

Field_ID		QC203_220824	HA05_0.1_0.2_220824		SS01_220826	QC205_220824	
Location_Code	RPD	HA05_0.1_0.2_220824	HA05_0.1_0.2_220824	RPD	SS01_220826	SS01_220826	RPD
Sampled_Date_Time		24-08-22	24-08-22		26-08-22	24-08-22	
Lab_Report_Number		921148	ES2230964		ES2230964	921148	

Chem_Group	ChemName	Units	EQL							
	Sum of WA DWER PFAS (n=10)*	ug/kg	0.2		1453.6	318		-	-	
Landfill Gas	Description	-			-	1		-	-	
Metals	Arsenic	mg/kg	5	11%	25	21	17.39%	13	6.9	61%
	Cadmium	mg/kg	1	NC	0.9	<1	NC	<1	<0.4	NC
	Chromium	mg/kg	2	0%	38	24	45%	8	9.5	17%
	Copper	mg/kg	5	15%	260	148	**55%**	66	35	**61%**
	Lead	mg/kg	5	10%	40	26	42%	85	27	**104%**
	Mercury	mg/kg	0.1	0%	0.7	0.6	15%	0.2	0.1	67%
	Nickel	mg/kg	2	5%	220	154	**35%**	28	38	30%
	Zinc	mg/kg	5	0%	300	193	**43%**	81	24	**109%**
Per- and Poly-fluoroalkyl Substances	Perfluorooctanoic acid (PFOA)	mg/kg	0.0002	0	0.018	0.0031	141%	-	-	
	Perfluorooctane sulfonic acid (PFOS)	mg/kg	0.0002	0	0.94	0.202	**129%**	-	-	
	Perfluorohexane sulfonic acid (PFHxS)	mg/kg	0.0002	0	0.45	0.106	**124%**	-	-	
	Sum (PFHxS + PFOS)	mg/kg	0.0002	0	1.39	0.308	**127%**	-	-	
	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	mg/kg	0.0005	0	<0.005	<0.0005	NC	-	-	
	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	mg/kg	0.0005	0	<0.01	<0.0005	NC	-	-	
	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	mg/kg	0.0005	0	<0.005	<0.0005	NC	-	-	
	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	mg/kg	0.0005	0	<0.005	<0.0005	NC	-	-	
	Perfluorobutane sulfonic acid (PFBS)	mg/kg	0.0002	0	0.0052	0.0008	**147%**	-	-	
	Perfluorobutanoic acid (PFBA)	mg/kg	0.001	0	<0.005	<0.001	NC	-	-	
	Perfluorodecane sulfonic acid (PFDS)	mg/kg	0.0002	0	<0.005	<0.0002	NC	-	-	
	Perfluorodecanoic acid (PFDA)	mg/kg	0.0002	0	0.011	0.0008	**173%**	-	-	
	Perfluorododecanoic acid (PFDoDA)	mg/kg	0.0002	0	<0.005	0.0004	NC	-	-	
	Perfluoroheptane sulfonic acid (PFHpS)	mg/kg	0.0002	0	0.034	0.0055	**144%**	-	-	
	Perfluoroheptanoic acid (PFHpA)	mg/kg	0.0002	0	0.0054	0.0008	**148%**	-	-	
	Perfluorohexanoic acid (PFHxA)	mg/kg	0.0002	0	0.029	0.0042	**149%**	-	-	
	Perfluorononane sulfonic acid (PFNS)	mg/kg	0.005		<0.005	-	NC	-	-	
	Perfluorononanoic acid (PFNA)	mg/kg	0.0002	0	0.42	0.0499	**158%**	-	-	
	Perfluorooctane sulfonamide (FOSA)	mg/kg	0.0002	0	<0.005	<0.0002	NC	-	-	
	Perfluoropentane sulfonic acid (PFPeS)	mg/kg	0.0002	0	0.015	0.0035	**124%**	-	-	
	Perfluoropentanoic acid (PFPeA)	mg/kg	0.0002	0	0.006	0.0008	**153%**	-	-	
	Perfluoropropanesulfonic acid (PFPrS)	ng/kg	5000		<5000	-	NC	-	-	
	Perfluorotetradecanoic acid (PFTeDA)	mg/kg	0.0005	0	<0.005	<0.0005	0	-	-	
	Perfluorotridecanoic acid (PFTrDA)	mg/kg	0.0002	0	0.087	0.0119	**152%**	-	-	
	Perfluoroundecanoic acid (PFUnDA)	mg/kg	0.0002	0	0.43	0.041	**165%**	-	-	
	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	mg/kg	0.0005	0	<0.005	<0.0005	NC	-	-	
	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	mg/kg	0.0002	0	<0.01	<0.0002	NC	-	-	
	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	mg/kg	0.0005	0	<0.005	<0.0005	NC	-	-	
	N-Methyl perfluorooctane sulfonamide (MeFOSA)	mg/kg	0.0005	0	<0.005	<0.0005	NC	-	-	
	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	mg/kg	0.0002	0	<0.01	<0.0002	NC	-	-	
	N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	mg/kg	0.0005	0	<0.005	<0.0005	0	-	-	
	Sum of PFAS	mg/kg	0.0002	0	2.4506	0.431	**140%**	-	-	
	Sum of enHealth PFAS (PFHxS + PFOS + PFOA)	UG/KG	5		1408	-	NC	-	-	
	Sum of US EPA PFAS (PFOS + PFOA)	UG/KG	5		958	-	NC	-	-	
Total Petroleum Hydrocarbons	C6-C9 fraction	mg/kg	10	0	<20	<10	0	<10	<20	0
	C10-C14 fraction	mg/kg	50	0	<20	<50	0	<50	22	NC
	C15-C28 fraction	mg/kg	100	0	68	<100	NC	250	120	70%
	C29-C36 fraction	mg/kg	100	0	60	<100	NC	140	72	64%
	C10-C36 fraction (sum)	mg/kg	50	0	128	<50	NC	390	214	58%
Total Recoverable Hydrocarbons	C6-C10 fraction	mg/kg	10	0	<20	<10	0	<10	<20	0
	C6-C10 fraction (minus BTEX)(F1)	mg/kg	10	0	<20	<10	0	<10	<20	0
	>C10-C16 (minus Naphthalene)(F2)	mg/kg	50	0	<50	<50	0	50	<50	NC
	>C10-C16 fraction	mg/kg	50	0	<50	<50	0	50	<50	NC
	>C16-C34 fraction	mg/kg	100	0	110	<100	NC	320	160	67%
	>C34-C40 fraction	mg/kg	100	0	<100	<100	0	<100	<100	0
	>C10-C40 fraction (sum)	mg/kg	50	0	110	<50	NC	370	160	79%

Client Name: Transport for New South Wales (TfNSW)
Project Name: Muswellbrook Bypass - Detailed Site Investigation
Project No: 60619756

T9 - Soil Inter-laboratory Duplicates - Relative Percentage Difference (RPD)

			Field_ID	RPD	QC203_220824	HA05_0.1_0.2_220824	RPD	SS01_220826	QC205_220824	RPD
			Location_Code		HA05_0.1_0.2_220824	HA05_0.1_0.2_220824		SS01_220826	SS01_220826	
			Sampled_Date_Time		24-08-22	24-08-22		26-08-22	24-08-22	
			Lab_Report_Number		921148	ES2230964		ES2230964	921148	
Monocyclic Aromatic Hydrocarbons	Benzene	mg/kg	0.2	0	<0.1	<0.2	NC	<0.2	<0.1	NC
	Toluene	mg/kg	0.5	0	<0.1	<0.5	NC	<0.5	<0.1	NC
	Ethylbenzene	mg/kg	0.5	0	<0.1	<0.5	NC	<0.5	<0.1	NC
	m&p-Xylene	mg/kg	0.5	0	<0.2	<0.5	NC	<0.5	<0.2	NC
	o-Xylene	mg/kg	0.5	0	<0.1	<0.5	NC	<0.5	<0.1	NC
	Total Xylenes	mg/kg	0.5	0	<0.3	<0.5	NC	<0.5	<0.3	NC
	Styrene	mg/kg	0.5	0	<0.5	<0.5	NC	-	-	
	Isopropylbenzene	mg/kg	0.5	0	<0.5	<0.5	NC	-	-	
	n-butylbenzene	mg/kg	0.5		-	<0.5	NC	-	-	
	n-propylbenzene	mg/kg	0.5		-	<0.5	NC	-	-	
	p-isopropyltoluene	mg/kg	0.5		-	<0.5	NC	-	-	
	sec-butylbenzene	mg/kg	0.5		-	<0.5	NC	-	-	
	tert-butylbenzene	mg/kg	0.5		-	<0.5	NC	-	-	
	1,2,4-trimethylbenzene	mg/kg	0.5	0	<0.5	<0.5	0	-	-	
	1,3,5-trimethylbenzene	mg/kg	0.5	0	<0.5	<0.5	0	-	-	
	Total MAH	mg/kg	0.5		<0.5	-	NC	-	-	
	Total BTEX	mg/kg	0.2		-	<0.2	NC	<0.2	-	
Polynuclear Aromatic Hydrocarbons	Benzo(a)pyrene TEQ calc (Half)	mg/kg	0.5	0	0.6	0.6	0	0.6	0.6	0
	Benzo(a)pyrene TEQ calc (Zero)	mg/kg	0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	Benzo(a)pyrene TEQ calc(PQL)	mg/kg	0.5	0	1.2	1.2	0	1.2	1.2	0
	Naphthalene	mg/kg	0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	2-Methylnaphthalene	mg/kg	0.5	0	<0.5	<0.5	0	-	-	NC
	1-Chloronaphthalene	mg/kg	0.5	0	<0.5	-	NC	-	-	NC
	2-Chloronaphthalene	mg/kg	0.5	0	<0.5	<0.5	0	-	-	NC
	Acenaphthylene	mg/kg	0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	Acenaphthene	mg/kg	0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	Anthracene	mg/kg	0.5	0	<0.5	<0.5	0	<0.5	0.5	0
	Fluorene	mg/kg	0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	Phenanthrene	mg/kg	0.5	0	<0.5	<0.5	0	1.5	<0.5	NC
	Fluoranthene	mg/kg	0.5	0	<0.5	<0.5	0	1.1	<0.5	NC
	Benz(a)anthracene	mg/kg	0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	Benzo(k)fluoranthene	mg/kg	0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	Benzo(b&j)fluoranthene	mg/kg	0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	Benzo(b+j) & Benzo(k)fluoranthene	mg/kg	1		-	-	NC	-	-	-
	N-2-Fluorenyl Acetamide	mg/kg	0.5		-	<0.5	NC	-	-	-
	7,12-Dimethylbenz(a)anthracene	mg/kg	0.5	0	<1	<0.5	0	-	-	-
	Benzo(a)pyrene	mg/kg	0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	Chrysene	mg/kg	0.5	0	<0.5	<0.5	0	0.5	<0.5	NC
	Pyrene	mg/kg	0.5	0	<0.5	<0.5	0	0.9	<0.5	NC
	3-Methylcholanthrene	mg/kg	0.5	0	<0.5	<0.5	0	-	-	-
	Benzo(g,h,i)perylene	mg/kg	0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	Dibenz(a,h)anthracene	mg/kg	0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	Indeno(1,2,3-cd)pyrene	mg/kg	0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	Dibenz(a,j)acridine	mg/kg	0.5		<0.5	-	NC	-	-	-
	Sum of PAHs	mg/kg	0.5	0	<0.5	<0.5	0	4	0.5	156%
Phenolic Compounds	3/4-Methylphenol (m/p-cresol)	mg/kg	0.5	NC	-	<0.5	NC	<1	-	NC
	Phenol	mg/kg	0.5	0	<0.5	<0.5	0	<0.5	-	NC
	2-Chlorophenol	mg/kg	0.5	0	<0.5	<0.5	0	<0.5	-	NC
	2-Methylphenol (o-Cresol)	mg/kg	0.5	0	<0.2	<0.5	0	<0.5	-	NC
	3&4-Methylphenol (m&p-Cresol)	mg/kg	0.4	NC	<0.4	-	NC	-	-	NC
	2-Nitrophenol	mg/kg	0.5	0	<1	<0.5	0	<0.5	-	NC
	2,4-Dichlorophenol	mg/kg	0.5	0	<0.5	<0.5	0	<0.5	-	NC
	2,4-Dimethylphenol	mg/kg	0.5	0	<0.5	<0.5	0	<0.5	-	NC
	2,6-Dichlorophenol	mg/kg	0.5	0	<0.5	<0.5	0	<0.5	-	NC
	4-Chloro-3-methylphenol	mg/kg	0.5	0	<1	<0.5	0	<0.5	-	NC
	2,4,6-Trichlorophenol	mg/kg	0.5	0	<1	<0.5	0	<0.5	-	NC
	2,4,5-Trichlorophenol	mg/kg	0.5	0	<1	<0.5	0	<0.5	-	NC
	4,6-Dinitro-2-methylphenol	mg/kg	0.5	NC	<0.5	-	NC	-	<0.5	NC
	Pentachlorophenol	mg/kg	1	0	<1	<1	0	<2	-	NC
	2,3,4,6-Tetrachlorophenol	mg/kg	0.5	NC	<0.5	-	NC	-	-	-
	2,4-Dinitrophenol	mg/kg	5	NC	<5	-	NC	-	-	-
	4-Nitrophenol	mg/kg	5	NC	<5	-	NC	-	-	-
	Dinoseb	mg/kg	0.5	NC	<0.5	-	NC	-	<0.5	NC

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			Field_ID	RPD	QC203_220824	HA05_0.1_0.2_220824	RPD	SS01_220826	QC205_220824	RPD
			Location_Code		HA05_0.1_0.2_220824	HA05_0.1_0.2_220824		SS01_220826	SS01_220826	
			Sampled_Date_Time		24-08-22	24-08-22		26-08-22	24-08-22	
			Lab_Report_Number		921148	ES2230964		ES2230964	921148	
Fumigants	1,2-Dibromoethane (EDB)	mg/kg	0.5	0	<0.5	<0.5	0	-	-	-
	1,2-Dichloropropane	mg/kg	0.5	0	<0.5	<0.5	0	-	-	-
	2,2-Dichloropropane	mg/kg	0.5	NC	-	<0.5	NC	-	-	-
	cis-1,3-Dichloropropene	mg/kg	0.5	0	<0.5	<0.5	0	-	-	-
	trans-1,3-Dichloropropene	mg/kg	0.5	0	<0.5	<0.5	0	-	-	-
Halogenated Aromatic Compounds	Benzyl chloride	mg/kg	0.5	NC	<0.5	-	NC	-	-	-
	Bromobenzene	mg/kg	0.5	0	<0.5	<0.5	0	-	-	-
	Chlorobenzene	mg/kg	0.5	0	<0.5	<0.5	0	-	-	-
	2-Chlorotoluene	mg/kg	0.5	NC	-	<0.5	NC	-	-	-
	4-Chlorotoluene	mg/kg	0.5	0	<0.5	<0.5	0	-	-	-
	1,2-Dichlorobenzene	mg/kg	0.5	0	<0.5	<0.5	0	-	-	-
	1,3-Dichlorobenzene	mg/kg	0.5	0	<0.5	<0.5	0	-	-	-
	1,4-Dichlorobenzene	mg/kg	0.5	0	<0.5	<0.5	0	-	-	-
	1,2,3,4-Tetrachlorobenzene	mg/kg	0.5	NC	<0.5	-	NC	-	-	-
	1,2,3,5-Tetrachlorobenzene	mg/kg	0.5	NC	<0.5	-	NC	-	-	-
	1,2,4,5-Tetrachlorobenzene	mg/kg	0.5	NC	<0.5	-	NC	-	-	-
	1,2,3-Trichlorobenzene	mg/kg	0.5	0	<0.5	<0.5	0	-	-	-
	1,2,4-Trichlorobenzene	mg/kg	0.5	0	<0.5	<0.5	0	-	-	-
	1,3,5-Trichlorobenzene	mg/kg	0.5	NC	<0.5	-	NC	-	-	-
Halogenated Aliphatic Compounds	Bromochloromethane	mg/kg	0.5	NC	<0.5	-	NC	-	-	-
	Allyl chloride	mg/kg	0.5	NC	<0.5	-	NC	-	-	-
	Dichlorodifluoromethane (Freon 12)	mg/kg	5	0	<0.5	<5	0	-	-	-
	Chloromethane	mg/kg	5	0	<0.5	<5	0	-	-	-
	Vinyl chloride	mg/kg	5	0	<0.5	<5	0	-	-	-
	Bromomethane	mg/kg	5	0	<0.5	<5	0	-	-	-
	Chloroethane	mg/kg	5	0	<0.5	<5	0	-	-	-
	Trichlorofluoromethane (Freon 11)	mg/kg	5	0	<0.5	<5	0	-	-	-
	1,1-Dichloroethene	mg/kg	0.5	0	<0.5	<0.5	0	-	-	-
	Iodomethane	mg/kg	0.5	0	<0.5	<0.5	0	-	-	-
	1,1-Dichloroethane	mg/kg	0.5	0	<0.5	<0.5	0	-	-	-
	cis-1,2-Dichloroethene	mg/kg	0.5	0	<0.5	<0.5	0	-	-	-
	trans-1,2-Dichloroethene	mg/kg	0.5	0	<0.5	<0.5	0	-	-	-
	1,1,1-Trichloroethane	mg/kg	0.5	0	<0.5	<0.5	0	-	-	-
	1,1-Dichloropropene	mg/kg	0.5	NC	-	<0.5	NC	-	-	-
	Carbon Tetrachloride	mg/kg	0.5	0	<0.5	<0.5	0	-	-	-
	1,2-Dichloroethane	mg/kg	0.5	0	<0.5	<0.5	0	-	-	-
	Trichloroethene	mg/kg	0.5	0	<0.5	<0.5	0	-	-	-
	Dibromomethane	mg/kg	0.5	0	<0.5	<0.5	0	-	-	-
	1,1,2-Trichloroethane	mg/kg	0.5	0	<0.5	<0.5	0	-	-	-
	1,3-Dichloropropane	mg/kg	0.5	0	<0.5	<0.5	0	-	-	-
	Tetrachloroethene	mg/kg	0.5	0	<0.5	<0.5	0	-	-	-
	1,1,1,2-Tetrachloroethane	mg/kg	0.5	0	<0.5	<0.5	0	-	-	-
	trans-1,4-Dichloro-2-butene	mg/kg	0.5	NC	-	<0.5	NC	-	-	-
	cis-1,4-Dichloro-2-butene	mg/kg	0.5	NC	-	<0.5	NC	-	-	-
	1,1,2,2-Tetrachloroethane	mg/kg	0.5	0	<0.5	<0.5	0	-	-	-
	1,2,3-Trichloropropane	mg/kg	0.5	0	<0.5	<0.5	0	-	-	-
	Dichloromethane	mg/kg	0.5		<0.5	-		-	-	-
	Pentachloroethane	mg/kg	0.5	NC	-	<0.5	NC	-	-	-
	1,2-Dibromo-3-chloropropane	mg/kg	0.5	NC	-	<0.5	NC	-	-	-
	Hexachlorobutadiene	mg/kg	0.5	0	<0.5	<0.5	0	-	-	-
Trihalomethanes	Bromodichloromethane	mg/kg	0.5	0	<0.5	<0.5	0	-	-	-
	Bromoform	mg/kg	0.5	0	<0.5	<0.5	0	-	-	-
	Chloroform	mg/kg	0.5	0	<0.5	<0.5	0	-	-	-
	Dibromochloromethane	mg/kg	0.5	0	<0.5	<0.5	0	-	-	-
Physico-Chemical Parameters	Moisture Content (dried @ 103°C)	%	1	-	59	-	-	-	25	NC
	Moisture Content	%	1	-	-	46.6	-	20.7	-	NC
	weight of sample	g	0.01	-	-	226	-	-	-	-
Polychlorinated Biphenyls	Polychlorinated Biphenyls	mg/kg	0.1	0	<0.1	<0.1	0	<0.1	<0.1	0
	Arochlor 1016	mg/kg	0.1	NC	<0.1	-	NC	-	<0.1	NC
	Arochlor 1221	mg/kg	0.1	NC	<0.1	-	NC	-	<0.1	NC
	Arochlor 1232	mg/kg	0.1	NC	<0.1	-	NC	-	<0.1	NC
	Arochlor 1242	mg/kg	0.1	NC	<0.1	-	NC	-	<0.1	NC
	Arochlor 1248	mg/kg	0.1	NC	<0.1	-	NC	-	<0.1	NC
	Arochlor 1254	mg/kg	0.1	NC	<0.1	-	NC	-	<0.1	NC
	Arochlor 1260	mg/kg	0.1	NC	<0.1	-	NC	-	<0.1	NC

Client Name: Transport for New South Wales (TfNSW)
Project Name: Muswellbrook Bypass - Detailed Site Investigation
Project No: 60619756

T9 - Soil Inter-laboratory Duplicates - Relative Percentage Difference (RPD)

			Field_ID	RPD	QC203_220824	HA05_0.1_0.2_220824	RPD	SS01_220826	QC205_220824	RPD
			Location_Code		HA05_0.1_0.2_220824	HA05_0.1_0.2_220824		SS01_220826	SS01_220826	
			Sampled_Date_Time		24-08-22	24-08-22		26-08-22	24-08-22	
			Lab_Report_Number		921148	ES2230964		ES2230964	921148	
Oxygenated Compounds	2-Propanone (Acetone)	mg/kg	0.5	NC	<0.5	-	NC	-	-	
	Vinyl acetate	mg/kg	5	NC	-	<5	NC	-	-	
	2-Butanone (MEK)	mg/kg	5	0	<0.5	<5	0	-	-	
	2-hexanone (MBK)	mg/kg	5	NC	-	<5	NC	-	-	
	4-Methyl-2-pentanone (MIBK)	mg/kg	5	0	<0.5	<5	0	-	-	
Sulfonated	Carbon disulfide	mg/kg	0.5	0	<0.5	<0.5	0	-	-	
Phthalate Esters	Butyl benzyl phthalate	mg/kg	0.5	0	<0.5	<0.5	0	-	-	
	Diethyl phthalate	mg/kg	0.5	0	<0.5	<0.5	0	-	-	
	Dimethyl phthalate	mg/kg	0.5	0	<0.5	<0.5	0	-	-	
	Di-n-butyl phthalate	mg/kg	0.5	0	<0.5	<0.5	0	-	-	
	Di-n-octyl phthalate	mg/kg	0.5	0	<0.5	<0.5	0	-	-	
	Bis(2-ethylhexyl)phthalate	mg/kg	5	0	<5	<5	0	-	-	
Nitrosamines	Diphenylamine	mg/kg	0.5	NC	<0.5	-	NC	-	-	
	Methapyrilene	mg/kg	0.5	NC	-	<0.5	NC	-	-	
	N-Nitrosodibutylamine	mg/kg	0.5	0	<0.5	<0.5	0	-	-	
	N-Nitrosodiethylamine	mg/kg	0.5	NC	-	<0.5	NC	-	-	
	N-Nitrosodiphenyl & Diphenylamine	mg/kg	1	NC	-	<1	NC	-	-	
	N-Nitrosodipropylamine	mg/kg	0.5	0	<0.5	<0.5	0	-	-	
	N-Nitrosomethylethylamine	mg/kg	0.5	NC	-	<0.5	NC	-	-	
	N-Nitrosomorpholine	mg/kg	0.5	NC	-	<0.5	NC	-	-	
	N-Nitrosopiperidine	mg/kg	0.5	0	<0.5	<0.5	0	-	-	
	N-Nitrosopyrrolidine	mg/kg	1	NC	-	<1	NC	-	-	
Nitroaromatics and Ketones	1,3,5-Trinitrobenzene	mg/kg	0.5	NC	-	<0.5	NC	-	-	
	1-Naphthylamine	mg/kg	0.5	0	<1	<0.5	0	-	-	
	2,4-Dinitrotoluene	mg/kg	1	0	<0.5	<1	0	-	-	
	2,6-Dinitrotoluene	mg/kg	1	0	<1	<1	0	-	-	
	2-Naphthylamine	mg/kg	0.5	0	<0.5	-	0	-	-	
	2-Picoline	mg/kg	0.5	0	<0.5	<0.5	0	-	-	
	4-Aminobiphenyl	mg/kg	0.5	0	<0.5	<0.5	0	-	-	
	4-Nitroquinoline-N-oxide	mg/kg	0.5	NC	-	<0.5	NC	-	-	
	5-Nitro-o-toluidine	mg/kg	0.5	NC	-	<0.5	NC	-	-	
	Acetophenone	mg/kg	0.5	0	<0.5	<0.5	0	-	-	
	Azobenzene	mg/kg	1	NC	-	<1	NC	-	-	
	Chlorobenzilate	mg/kg	0.5	NC	-	<0.5	NC	-	-	
	Dimethylaminoazobenzene	mg/kg	0.5	0	<0.5	<0.5	0	-	-	
	Isophorone	mg/kg	0.5	NC	-	<0.5	NC	-	-	
	Nitrobenzene	mg/kg	0.5	0	<0.5	<0.5	0	-	-	
	Pentachloronitrobenzene	mg/kg	0.5	0	<0.5	<0.5	0	-	-	
	Phenacetin	mg/kg	0.5	NC	-	<0.5	NC	-	-	
	Pronamide	mg/kg	0.5	0	<0.5	<0.5	0	-	-	
Haloethers	4-Bromophenyl phenyl ether	mg/kg	0.5	0	<0.5	<0.5	0	-	-	
	Bis(2-chloroisopropyl)ether	mg/kg	0.5	NC	<0.5	-	NC	-	-	
	Bis(2-chloroethyl) ether	mg/kg	0.5	NC	-	<0.5	NC	-	-	
	Bis(2-chloroethoxy) methane	mg/kg	0.5	0	<0.5	<0.5	0	-	-	
	4-Chlorophenyl phenyl ether	mg/kg	0.5	0	<0.5	<0.5	0	-	-	
Chlorinated Hydrocarbons	Hexachlorocyclopentadiene	mg/kg	2.5	0	<1	<2.5	0	-	-	
	Hexachloroethane	mg/kg	0.5	0	<0.5	<0.5	0	-	-	
	Hexachloropropene	mg/kg	0.5	NC	-	<0.5	NC	-	-	
	Pentachlorobenzene	mg/kg	0.5	0	<0.5	<0.5	0	-	-	
	Chlorinated hydrocarbons (sum)	mg/kg	0.5	NC	<0.5	-	NC	-	-	
	Other chlorinated hydrocarbons (sum)	mg/kg	0.5	NC	<0.5	-	NC	-	-	

Client Name: Transport for New South Wales (TfNSW)
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T9 - Soil Inter-laboratory Duplicates - Relative Percentage Difference (RPD)

			Field_ID	RPD	QC203_220824	HA05_0.1_0.2_220824	RPD	SS01_220826	QC205_220824	RPD
			Location_Code		HA05_0.1_0.2_220824	HA05_0.1_0.2_220824		SS01_220826	SS01_220826	
			Sampled_Date_Time		24-08-22	24-08-22		26-08-22	24-08-22	
			Lab_Report_Number		921148	ES2230964		ES2230964	921148	
Organophosphorus Pesticides (OP)	Bolstar (Sulprofos)	mg/kg	0.2	NC	<0.2	-	NC	-	<0.2	NC
	Mevinphos (Phosdrin)	mg/kg	0.2	NC	<0.2	-	NC	-	<0.2	NC
	Omethoate	mg/kg	2	NC	<2	-	NC	-	<2	NC
	Pirimiphos-methyl	mg/kg	0.2	NC	<0.2	-	NC	-	<0.2	NC
	Pyrazophos	mg/kg	0.2	NC	<0.2	-	NC	-	<0.2	NC
	Azinphos Methyl	mg/kg	0.05	0	<0.2	<0.05	0	<0.05	<0.2	0
	Bromophos-ethyl	mg/kg	0.05	NC	-	<0.05	NC	<0.05	-	NC
	Carbophenothion	mg/kg	0.05	NC	-	<0.05	NC	<0.05	-	NC
	Chlorfenvinphos	mg/kg	0.05	0	<0.2	<0.05	0	<0.05	<0.2	0
	Chlorpyrifos	mg/kg	0.05	0	<0.2	<0.05	0	<0.05	<0.2	0
	Chlorpyrifos-methyl	mg/kg	0.05	0	<0.2	<0.05	0	<0.05	<0.2	0
	Coumaphos	mg/kg	2	NC	<2	-	NC	-	<2	NC
	Demeton-O	mg/kg	0.2	NC	<0.2	-	NC	-	<0.2	NC
	Demeton-S	mg/kg	0.2	NC	<0.2	-	NC	-	<0.2	NC
	Demeton-S-methyl	mg/kg	0.05	NC	-	<0.05	NC	<0.05	-	NC
	Diazinon	mg/kg	0.05	0	<0.2	<0.05	0	<0.05	<0.2	0
	Dichlorvos	mg/kg	0.05	0	<0.2	<0.05	0	<0.05	<0.2	0
	Dimethoate	mg/kg	0.05	0	<0.2	<0.05	0	<0.05	<0.2	0
	Disulfoton	mg/kg	0.2	NC	<0.2	-	NC	-	<0.2	NC
	EPN	mg/kg	0.2	NC	<0.2	-	NC	-	<0.2	NC
	Ethion	mg/kg	0.05	0	<0.2	<0.05	0	<0.05	<0.2	0
	Ethoprop	mg/kg	0.2	NC	<0.2	-	NC	-	<0.2	NC
	Fenamiphos	mg/kg	0.05	NC	-	<0.05	NC	<0.05	-	NC
	Fenitrothion	mg/kg	0.2	NC	<0.2	-	NC	-	<0.2	NC
	Fensulfothion	mg/kg	0.2	NC	<0.2	-	NC	-	<0.2	NC
	Fenthion	mg/kg	0.05	0	<0.2	<0.05	0	<0.05	<0.2	0
	Malathion	mg/kg	0.05	0	<0.2	<0.05	0	<0.05	<0.2	0
	Merphos	mg/kg	0.2	NC	<0.2	-	NC	-	<0.2	NC
	Monocrotophos	mg/kg	0.2	0	<2	<0.2	0	<0.2	<2	0
	Naled (Dibrom)	mg/kg	0.2	NC	<0.2	-	NC	-	<0.2	NC
	Parathion	mg/kg	0.2	0	<0.2	<0.2	0	<0.2	<0.2	0
	Parathion-methyl	mg/kg	0.2	0	<0.2	<0.2	0	<0.2	<0.2	0
	Phorate	mg/kg	0.2	NC	<0.2	-	NC	-	<0.2	NC
	Pirimphos-ethyl	mg/kg	0.05	NC	-	<0.05	NC	<0.05	-	NC
	Prothiofos	mg/kg	0.05	NC	-	<0.05	NC	<0.05	-	NC
	Ronnel	mg/kg	0.2	NC	<0.2	-	NC	-	<0.2	NC
	Trichloronate	mg/kg	0.2	NC	<0.2	-	NC	-	<0.2	NC
	Terbufos	mg/kg	0.2	NC	<0.2	-	NC	-	<0.2	NC
	Tetrachlorvinphos	mg/kg	0.2	NC	<0.2	-	NC	-	<0.2	NC
	Tokuthion	mg/kg	0.2	NC	<0.2	-	NC	-	<0.2	NC
Organochlorine Pesticides (OC)	Aldrin	mg/kg	0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	Dieldrin	mg/kg	0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	Aldrin + Dieldrin	mg/kg	0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	a-BHC	mg/kg	0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	b-BHC	mg/kg	0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	d-BHC	mg/kg	0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	g-BHC (Lindane)	mg/kg	0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	cis-Chlordane	mg/kg	0.05	NC	-	<0.05	NC	<0.05	-	NC
	trans-Chlordane	mg/kg	0.05	NC	-	<0.05	NC	<0.05	-	NC
	Chlordane	mg/kg	0.05	0	<0.1	<0.05	0	<0.05	<0.1	0
	DDD	mg/kg	0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	DDE	mg/kg	0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	DDT	mg/kg	0.2	0	<0.05	<0.2	0	<0.2	<0.05	0
	DDT+DDE+DDD	mg/kg	0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	Endosulfan	mg/kg	0.05	NC	-	<0.05	NC	<0.05	-	NC
	Endosulfan 1	mg/kg	0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	Endosulfan 2	mg/kg	0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	Endosulfan sulfate	mg/kg	0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	Endrin	mg/kg	0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	Endrin aldehyde	mg/kg	0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	Endrin ketone	mg/kg	0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	Heptachlor	mg/kg	0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	Heptachlor epoxide	mg/kg	0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	Hexachlorobenzene (HCB)	mg/kg	0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	Methoxychlor	mg/kg	0.2	0	<0.05	<0.2	0	<0.2	<0.05	0
	Toxaphene	mg/kg	0.5	NC	<0.5	-	NC	-	<0.5	NC
	Organochlorine pesticides (sum)	mg/kg	0.1	NC	<0.1	-	NC	-	<0.1	NC
	Other organochlorine pesticides (sum)	mg/kg	0.1	NC	<0.1	-	NC	-	<0.1	NC

Client Name: Transport for New South Wales (TfNSW)
Project Name: Muswellbrook Bypass - Detailed Site Investigation
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T9 - Soil Inter-laboratory Duplicates - Relative Percentage Difference (RPD)

			Field_ID	RPD	QC203_220824	HA05_0.1_0.2_220824	RPD	SS01_220826	QC205_220824	RPD
			Location_Code		HA05_0.1_0.2_220824	HA05_0.1_0.2_220824		SS01_220826	SS01_220826	
			Sampled_Date_Time		24-08-22	24-08-22		26-08-22	24-08-22	
			Lab_Report_Number		921148	ES2230964		ES2230964	921148	
Phenoxyacetic Acid Herbicides	2,4,5-TP (Silvex)	mg/kg	0.02	0	<0.5	<0.04	0	<0.02	<0.5	0
	4-Chlorophenoxy acetic acid	mg/kg	0.02	NC	-	<0.04	NC	<0.02	-	NC
	Clopyralid	mg/kg	0.02	NC	-	<0.04	NC	<0.02	-	NC
	Dicamba	mg/kg	0.02	0	<0.5	<0.04	0	<0.02	<0.5	0
	Fluroxypyr	mg/kg	0.02	NC	-	<0.04	NC	<0.02	-	NC
	Mecoprop	mg/kg	0.02	0	<0.5	<0.04	0	<0.02	<0.5	0
	Picloram	mg/kg	0.02	NC	-	<0.04	NC	<0.02	-	NC
	Triclopyr	mg/kg	0.02	NC	-	<0.04	NC	<0.02	-	NC
Benzidine	3,3-Dichlorobenzidine	mg/kg	0.5	0	<0.5	<0.5	0	-	-	
Asbestos	APPROVED IDENTIFIER:	-		NC	-	1	NC	-	-	-
	Asbestos fibres	-	0.1	NC	-	0	NC	-	-	-
	Asbestos Type	-		NC	-	1	NC	-	-	-
	Organic Fibres - Comment	Comment		NC	1	-	NC	-	-	-
	Organic Fibre	g/kg	0.1	NC	-	0	NC	-	-	-
	Asbestos from ACM in Soil	%w/w		NC	0	-	NC	-	-	-
	Asbestos from FA & AF in Soil	%w/w		NC	0	-	NC	-	-	-
	Approximate Sample Mass	g		NC	36	-	NC	-	-	-
	Asbestos Reported Result	Comment		NC	1	-	NC	-	-	-
	ACM - Comment	Comment		NC	1	-	NC	-	-	-
	Asbestos (Trace)	Fibres	5	NC	-	0	NC	-	-	-
	FA- Comment	Comment		NC	1	-	NC	-	-	-
	AF - Comment	Comment		NC	1	-	NC	-	-	-
	Respirable Fibres - Comment	Comment		NC	1	-	NC	-	-	-
	Synthetic Fibres - Comment	Comment		NC	1	-	NC	-	-	-
	Synthetic Mineral Fibre	g/kg	0.1	NC	-	0	NC	-	-	-
	Mass ACM	g		NC	0	-	NC	-	-	-
	Mass AF	g		NC	0	-	NC	-	-	-
	Mass Asbestos in AF	g		NC	0	-	NC	-	-	-
	Mass Asbestos in FA & AF	g		NC	0	-	NC	-	-	-
	Mass Asbestos in ACM	g		NC	0	-	NC	-	-	-
	Mass Asbestos in FA	g		NC	0	-	NC	-	-	-
	Mass FA	g		NC	0	-	NC	-	-	-
Herbicides	2,4,5-Trichlorophenoxy acetic acid	mg/kg	0.02	NC	<0.5	<0.04	NC	<0.02	<0.5	NC
	2,4-Dichlorprop	mg/kg	0.02	NC	<0.5	<0.04	NC	<0.02	<0.5	NC
	2,4-Dichlorophenoxy acetic acid	mg/kg	0.02	NC	<0.5	<0.04	NC	<0.02	<0.5	NC
	4-(2,4-Dichlorophenoxy)butyric Acid (2,4-DB)	mg/kg	0.02	NC	<0.5	<0.04	NC	<0.02	<0.5	NC
	2-Methyl-4-chlorophenoxyacetic acid	mg/kg	0.02	NC	<0.5	<0.04	NC	<0.02	<0.5	NC
	2-Methyl-4-Chlorophenoxy Butanoic Acid	mg/kg	0.02	NC	<0.5	<0.04	NC	<0.02	<0.5	NC
Other	Actril	mg/kg	0.5	NC	<0.5	-	NC	-	<0.5	NC
Anilines	2-Nitroaniline	mg/kg	1	NC	<1	<1	NC	-	-	-
	3-Nitroaniline	mg/kg	1	NC	-	<1	NC	-	-	-
	4-Chloroaniline	mg/kg	0.5	NC	-	<0.5	NC	-	-	-
	4-Nitroaniline	mg/kg	0.5	NC	-	<0.5	NC	-	-	-
	Aniline	mg/kg	0.5	0	<0.5	<0.5	0	-	-	-
	Carbazole	mg/kg	0.5	NC	-	<0.5	NC	-	-	-
	Dibenzofuran	mg/kg	0.5	0	<0.5	<0.5	0	-	-	-
	Trifluralin	mg/kg	0.5	NC	<0.5	-	NC	-	-	-

*RPDs have only been considered where a concentration is greater than 1 times the EQL.
**High RPDs are in bold (Acceptable RPDs for each EQL multiplier range are: 200 (1-10 x EQL); 50 (10-20 x EQL); 30 (> 20 x EQL))
***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any methods in the row header relate to

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T10 - Water Intra and Inter-Laboraory Duplicates
Relative Percentage Difference (RPD)

Lab Report	ES2230964	ES2230964	**RPD**	ES2230964	922560	**RPD**
Field ID	SW01_220826	QC104		SW02_220826	QC204	
Sampled	26-08-22 15:00	26-08-22 15:00		26-08-22 15:00	26-08-22 15:00	

Chem_Group	ChemName	Units	EQL						
	Sum of WA DWER PFAS (n=10)*	µg/L	0.01	<0.01	<0.01	0	<0.01	<0.01	0
Metals	Arsenic	mg/L	0.001	0.001	<0.001	0	<0.001	0.002	0
	Cadmium	mg/L	0.0001	<0.0001	<0.0001	0	<0.0001	<0.0002	0
	Chromium	mg/L	0.001	<0.001	<0.001	0	<0.001	<0.001	0
	Copper	mg/L	0.001	0.001	0.002	66	0.002	0.002	0
	Lead	mg/L	0.001	<0.001	<0.001	0	<0.001	<0.001	0
	Mercury	mg/L	0.0001	<0.0001	<0.0001	0	<0.0001	<0.0001	0
	Nickel	mg/L	0.001	0.016	0.015	6	0.015	0.014	7%
	Zinc	mg/L	0.005	<0.005	<0.005	0	<0.005	0.005	0
Per- and Poly-fluoroalkyl Substances	Perfluorooctanoic acid (PFOA)	µg/L	0.01	<0.01	<0.01	0	<0.01	<0.01	0
	Perfluorooctane sulfonic acid (PFOS)	µg/L	0.01	<0.01	<0.01	0	<0.01	<0.01	0
	Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	<0.01	<0.01	0	<0.01	<0.01	0
	Sum (PFHxS + PFOS)	µg/L	0.01	<0.01	<0.01	0	<0.01	<0.01	0
	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.05	<0.05	<0.05	0	<0.05	<0.05	0
	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	µg/L	0.05	<0.05	<0.05	0	<0.05	<0.05	0
	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.05	<0.05	<0.05	0	<0.05	<0.05	0
	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.05	<0.05	<0.05	0	<0.05	<0.05	0
	Perfluorobutane sulfonic acid (PFBS)	µg/L	0.02	<0.02	<0.02	0	<0.02	<0.02	0
	Perfluorobutanoic acid (PFBA)	µg/L	0.1	<0.1	<0.1	0	<0.1	<0.1	0
	Perfluorodecane sulfonic acid (PFDS)	µg/L	0.02	<0.02	<0.02	0	<0.02	<0.02	0
	Perfluorodecanoic acid (PFDA)	µg/L	0.02	<0.02	<0.02	0	<0.02	<0.02	0
	Perfluorododecanoic acid (PFDoDA)	µg/L	0.02	<0.02	<0.02	0	<0.02	<0.02	0
	Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.02	<0.02	<0.02	0	<0.02	<0.02	0
	Perfluoroheptanoic acid (PFHpA)	µg/L	0.02	<0.02	<0.02	0	<0.02	<0.02	0
	Perfluorohexanoic acid (PFHxA)	µg/L	0.02	<0.02	<0.02	0	<0.02	<0.02	0
	Perfluorononanoic acid (PFNA)	µg/L	0.02	<0.02	<0.02	0	<0.02	<0.02	0
	Perfluorooctane sulfonamide (FOSA)	µg/L	0.02	<0.02	<0.02	0	<0.02	<0.02	0
	Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.02	<0.02	<0.02	0	<0.02	<0.02	0
	Perfluoropentanoic acid (PFPeA)	µg/L	0.02	<0.02	<0.02	0	<0.02	<0.02	0
	Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.05	<0.05	<0.05	0	<0.05	<0.05	0
	Perfluorotridecanoic acid (PFTrDA)	µg/L	0.02	<0.02	<0.02	0	<0.02	<0.02	0
	Perfluoroundecanoic acid (PFUnDA)	µg/L	0.02	<0.02	<0.02	0	<0.02	<0.02	0
	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05	<0.05	<0.05	0	<0.05	<0.05	0
	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSA	µg/L	0.02	<0.02	<0.02	0	<0.02	<0.02	0
	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05	<0.05	<0.05	0	<0.05	<0.05	0
	N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05	<0.05	<0.05	0	<0.05	<0.05	0
	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFC	µg/L	0.02	<0.02	<0.02	0	<0.02	<0.02	0
	N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE	µg/L	0.05	<0.05	<0.05	0	<0.05	<0.05	0
	Sum of PFAS	µg/L	0.01	<0.01	<0.01	0	<0.01	<0.01	0
Total Petroleum Hydrocarbons	C6-C9 fraction	µg/L	20	<20	<20	0	<20	<20	0
	C10-C14 fraction	µg/L	50	<50	<50	0	<50	<50	0
	C15-C28 fraction	µg/L	100	<100	<100	0	<100	<100	0
	C29-C36 fraction	µg/L	50	<50	<50	0	<50	<50	0
	C10-C36 fraction (sum)	µg/L	50	<50	<50	0	<50	<50	0
Total Recoverable Hydrocarbons	C6-C10 fraction	µg/L	20	<20	<20	0	<20	<20	0
	C6-C10 fraction (minus BTEX)(F1)	µg/L	20	<20	<20	0	<20	<20	0
	>C10-C16 (minus Naphthalene)(F2)	µg/L	100	<100	<100	0	<100	<100	0
	>C10-C16 fraction	µg/L	100	<100	<100	0	<100	<100	0
	>C16-C34 fraction	µg/L	100	<100	<100	0	<100	<100	0
	>C34-C40 fraction	µg/L	100	<100	<100	0	<100	<100	0
	>C10-C40 fraction (sum)	µg/L	100	<100	<100	0	<100	<100	0
Monocyclic Aromatic Hydrocarbons	Benzene	µg/L	1	<1	<1	0	<1	<1	0
	Toluene	µg/L	2	<2	<2	0	<2	<2	0
	Ethylbenzene	µg/L	2	<2	<2	0	<2	<2	0
	m&p-Xylene	µg/L	2	<2	<2	0	<2	<2	0
	o-Xylene	µg/L	2	<2	<2	0	<2	<2	0
	Total Xylenes	µg/L	2	<2	<2	0	<2	<2	0
	Total BTEX	µg/L	1	<1	<1	0	<1	<1	0
Polynuclear Aromatic Hydrocarbons	Benzo(a)pyrene TEQ calc (Zero)	µg/L	0.5	<0.5	<0.5	0	<0.5	<0.5	0
	Naphthalene	µg/L	5	<5	<5	0	<5	<5	0
	Naphthalene	µg/L	1	<1	<1	0	<1	<1	0
	Acenaphthylene	µg/L	1	<1	<1	0	<1	<1	0
	Acenaphthene	µg/L	1	<1	<1	0	<1	<1	0
	Anthracene	µg/L	1	<1	<1	0	<1	<1	0
	Fluorene	µg/L	1	<1	<1	0	<1	<1	0
	Phenanthrene	µg/L	1	<1	<1	0	<1	<1	0
	Fluoranthene	µg/L	1	<1	<1	0	<1	<1	0
	Benz(a)anthracene	µg/L	1	<1	<1	0	<1	<1	0
	Benzo(k)fluoranthene	µg/L	1	<1	<1	0	<1	<1	0
	Benzo(b&j)fluoranthene	µg/L	1	<1	<1	0	<1	<1	0
	Benzo(a)pyrene	µg/L	0.5	<0.5	<0.5	0	<0.5	<0.5	0
	Chrysene	µg/L	1	<1	<1	0	<1	<1	0
	Pyrene	µg/L	1	<1	<1	0	<1	<1	0
	Benzo(g,h,i)perylene	µg/L	1	<1	<1	0	<1	<1	0
	Dibenz(a,h)anthracene	µg/L	1	<1	<1	0	<1	<1	0
	Indeno(1,2,3-cd)pyrene	µg/L	1	<1	<1	0	<1	<1	0
	Sum of PAHs	µg/L	0.5	<0.5	<0.5	0	<0.5	<0.5	0

Client Name: Transport for New South Wales (TfNSW)
Project Name: Muswellbrook Bypass - Detailed Site Investigation
Project No: 60619756

T10 - Water Intra and Inter-Laboraory Duplicates
Relative Percentage Difference (RPD)

				Lab Report	ES2230964	ES2230964	RPD	ES2230964	922560	RPD
				Field ID	SW01_220826	QC104		SW02_220826	QC204	
				Sampled	26-08-22 15:00	26-08-22 15:00		26-08-22 15:00	26-08-22 15:00	
Organophosphorus Pesticides (OP)	Azinphos Methyl	µg/L	0.5		<0.5	<0.5	0	<0.5	<0.5	0
	Bromophos-ethyl	µg/L	0.5		<0.5	<0.5	0	<0.5	<0.5	0
	Carbophenothion	µg/L	0.5		<0.5	<0.5	0	<0.5	<0.5	0
	Chlorfenvinphos	µg/L	0.5		<0.5	<0.5	0	<0.5	<0.5	0
	Chlorpyrifos	µg/L	0.5		<0.5	<0.5	0	<0.5	<0.5	0
	Chlorpyrifos-methyl	µg/L	0.5		<0.5	<0.5	0	<0.5	<0.5	0
	Demeton-S-methyl	µg/L	0.5		<0.5	<0.5	0	<0.5	<0.5	0
	Diazinon	µg/L	0.5		<0.5	<0.5	0	<0.5	<0.5	0
	Dichlorvos	µg/L	0.5		<0.5	<0.5	0	<0.5	<0.5	0
	Dimethoate	µg/L	0.5		<0.5	<0.5	0	<0.5	<0.5	0
	Ethion	µg/L	0.5		<0.5	<0.5	0	<0.5	<0.5	0
	Fenamiphos	µg/L	0.5		<0.5	<0.5	0	<0.5	<0.5	0
	Fenthion	µg/L	0.5		<0.5	<0.5	0	<0.5	<0.5	0
	Malathion	µg/L	0.5		<0.5	<0.5	0	<0.5	<0.5	0
	Monocrotophos	µg/L	2		<2	<2	0	<2	<2	0
	Parathion	µg/L	2		<2	<2	0	<2	<2	0
	Parathion-methyl	µg/L	2		<2	<2	0	<2	<2	0
	Pirimphos-ethyl	µg/L	0.5		<0.5	<0.5	0	<0.5	<0.5	0
	Prothiofos	µg/L	0.5		<0.5	<0.5	0	<0.5	<0.5	0
Organochlorine Pesticides (OC)	Aldrin	µg/L	0.5		<0.5	<0.5	0	<0.5	<0.5	0
	Dieldrin	µg/L	0.5		<0.5	<0.5	0	<0.5	<0.5	0
	Aldrin + Dieldrin	µg/L	0.5		<0.5	<0.5	0	<0.5	<0.5	0
	a-BHC	µg/L	0.5		<0.5	<0.5	0	<0.5	<0.5	0
	b-BHC	µg/L	0.5		<0.5	<0.5	0	<0.5	<0.5	0
	d-BHC	µg/L	0.5		<0.5	<0.5	0	<0.5	<0.5	0
	g-BHC (Lindane)	µg/L	0.5		<0.5	<0.5	0	<0.5	<0.5	0
	cis-Chlordane	µg/L	0.5		<0.5	<0.5	0	<0.5	<0.5	0
	trans-Chlordane	µg/L	0.5		<0.5	<0.5	0	<0.5	<0.5	0
	Chlordane	µg/L	0.5		<0.5	<0.5	0	<0.5	<0.5	0
	DDD	µg/L	0.5		<0.5	<0.5	0	<0.5	<0.5	0
	DDE	µg/L	0.5		<0.5	<0.5	0	<0.5	<0.5	0
	DDT	µg/L	2		<2	<2	0	<2	<2	0
	DDT+DDE+DDD	µg/L	0.5		<0.5	<0.5	0	<0.5	<0.5	0
	Endosulfan 1	µg/L	0.5		<0.5	<0.5	0	<0.5	<0.5	0
	Endosulfan 2	µg/L	0.5		<0.5	<0.5	0	<0.5	<0.5	0
	Endosulfan sulfate	µg/L	0.5		<0.5	<0.5	0	<0.5	<0.5	0
	Endrin	µg/L	0.5		<0.5	<0.5	0	<0.5	<0.5	0
	Endrin aldehyde	µg/L	0.5		<0.5	<0.5	0	<0.5	<0.5	0
	Endrin ketone	µg/L	0.5		<0.5	<0.5	0	<0.5	<0.5	0
	Heptachlor	µg/L	0.5		<0.5	<0.5	0	<0.5	<0.5	0
	Heptachlor epoxide	µg/L	0.5		<0.5	<0.5	0	<0.5	<0.5	0
	Hexachlorobenzene (HCB)	µg/L	0.5		<0.5	<0.5	0	<0.5	<0.5	0
	Methoxychlor	µg/L	2		<2	<2	0	<2	<2	0
Phenoxyacetic Acid Herbicides	2,4,5-TP (Silvex)	µg/L	10		<10	<10	0	<10	<10	0
	2,6-D	µg/L	10		<10	<10	0	<10	<10	0
	4-Chlorophenoxy acetic acid	µg/L	10		<10	<10	0	<10	<10	0
	Clopyralid	µg/L	10		<10	<10	0	<10	<10	0
	Dicamba	µg/L	10		<10	<10	0	<10	<10	0
	Fluroxypyr	µg/L	10		<10	<10	0	<10	<10	0
	Mecoprop	µg/L	10		<10	<10	0	<10	<10	0
	Picloram	µg/L	10		<10	<10	0	<10	<10	0
	Triclopyr	µg/L	10		<10	<10	0	<10	<10	0
Herbicides	2,4,5-Trichlorophenoxy acetic acid	µg/L	10		<10	<10	0	<10	<10	0
	2,4-Dichlorprop	µg/L	10		<10	<10	0	<10	<10	0
	2,4-Dichlorophenoxy acetic acid	µg/L	10		<10	<10	0	<10	<10	0
	4-(2,4-Dichlorophenoxy)butyric Acid (2,4-DB)	µg/L	10		<10	<10	0	<10	<10	0
	2-Methyl-4-chlorophenoxyacetic acid	µg/L	10		<10	<10	0	<10	<10	0
	2,4,6-Trichlorophenoxy acetic acid	µg/L	10		<10	<10	0	<10	<10	0
	2-Methyl-4-Chlorophenoxy Butanoic Acid	µg/L	10		<10	<10	0	<10	<10	0

*RPDs have only been considered where a concentration is greater than 1 times the EQL.
**High RPDs are in bold (Acceptable RPDs for each EQL multiplier range are: 200 (1-10 x EQL); 50 (10-20 x EQL); 30 (> 20 x EQL))
***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any methods in the row header relate to those used in the primary laboratory

Lab Report Number	ES2230964	ES2230964	ES2230964	ES2230964	ES2230964
Field ID	QC300_220822	QC301_220823	QC302_220824	QC303_220825	QC304_220826
Sampled_Date/Time	22-08-22 15:00	23-08-22 15:00	24-08-22 15:00	25-08-22 15:00	26-08-22 15:00
Sample Type	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate

Chem_Group	ChemName	Units	EQL					
	Sum of WA DWER PFAS (n=10)*	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	
Anilines	2-Nitroaniline	µg/L	4	<4	<4	<4	<4	<4
	3-Nitroaniline	µg/L	4	<4	<4	<4	<4	<4
	4-Chloroaniline	µg/L	2	<2	<2	<2	<2	<2
	4-Nitroaniline	µg/L	2	<2	<2	<2	<2	<2
	Aniline	µg/L	2	<2	<2	<2	<2	<2
	Carbazole	µg/L	2	<2	<2	<2	<2	<2
	Dibenzofuran	µg/L	2	<2	<2	<2	<2	<2
Benzidine	3,3-Dichlorobenzidine	µg/L	2	<2	<2	<2	<2	<2
Chlorinated Hydrocarbons	Hexachlorocyclopentadiene	µg/L	10	<10	<10	<10	<10	<10
	Hexachloroethane	µg/L	2	<2	<2	<2	<2	<2
	Hexachloropropene	µg/L	2	<2	<2	<2	<2	<2
	Pentachlorobenzene	µg/L	2	<2	<2	<2	<2	<2
Fumigants	1,2-Dibromoethane (EDB)	µg/L	5	<5	<5	<5	<5	<5
	1,2-Dichloropropane	µg/L	5	<5	<5	<5	<5	<5
	2,2-Dichloropropane	µg/L	5	<5	<5	<5	<5	<5
	cis-1,3-Dichloropropene	µg/L	5	<5	<5	<5	<5	<5
	trans-1,3-Dichloropropene	µg/L	5	<5	<5	<5	<5	<5
Haloethers	4-Bromophenyl phenyl ether	µg/L	2	<2	<2	<2	<2	<2
	Bis(2-chloroethyl) ether	µg/L	2	<2	<2	<2	<2	<2
	Bis(2-chloroethoxy) methane	µg/L	2	<2	<2	<2	<2	<2
	4-Chlorophenyl phenyl ether	µg/L	2	<2	<2	<2	<2	<2
Halogenated Aliphatic Compounds	Dichlorodifluoromethane (Freon 12)	µg/L	50	<50	<50	<50	<50	<50
	Chloromethane	µg/L	50	<50	<50	<50	<50	<50
	Vinyl chloride	µg/L	50	<50	<50	<50	<50	<50
	Bromomethane	µg/L	50	<50	<50	<50	<50	<50
	Chloroethane	µg/L	50	<50	<50	<50	<50	<50
	Trichlorofluoromethane (Freon 11)	µg/L	50	<50	<50	<50	<50	<50
	1,1-Dichloroethene	µg/L	5	<5	<5	<5	<5	<5
	Iodomethane	µg/L	5	<5	<5	<5	<5	<5
	1,1-Dichloroethane	µg/L	5	<5	<5	<5	<5	<5
	cis-1,2-Dichloroethene	µg/L	5	<5	<5	<5	<5	<5
	trans-1,2-Dichloroethene	µg/L	5	<5	<5	<5	<5	<5
	1,1,1-Trichloroethane	µg/L	5	<5	<5	<5	<5	<5
	1,1-Dichloropropene	µg/L	5	<5	<5	<5	<5	<5
	Carbon Tetrachloride	µg/L	5	<5	<5	<5	<5	<5
	1,2-Dichloroethane	µg/L	5	<5	<5	<5	<5	<5
	Trichloroethene	µg/L	5	<5	<5	<5	<5	<5
	Dibromomethane	µg/L	5	<5	<5	<5	<5	<5
	1,1,2-Trichloroethane	µg/L	5	<5	<5	<5	<5	<5
	1,3-Dichloropropane	µg/L	5	<5	<5	<5	<5	<5
	Tetrachloroethene	µg/L	5	<5	<5	<5	<5	<5
	1,1,1,2-Tetrachloroethane	µg/L	5	<5	<5	<5	<5	<5
	trans-1,4-Dichloro-2-butene	µg/L	5	<5	<5	<5	<5	<5
	cis-1,4-Dichloro-2-butene	µg/L	5	<5	<5	<5	<5	<5
	1,1,2,2-Tetrachloroethane	µg/L	5	<5	<5	<5	<5	<5
	1,2,3-Trichloropropane	µg/L	5	<5	<5	<5	<5	<5
	Pentachloroethane	µg/L	5	<5	<5	<5	<5	<5
	1,2-Dibromo-3-chloropropane	µg/L	5	<5	<5	<5	<5	<5
	Hexachlorobutadiene	µg/L	2	<2	<2	<2	<2	<2
Halogenated Aromatic Compounds	Bromobenzene	µg/L	5	<5	<5	<5	<5	<5
	Chlorobenzene	µg/L	5	<5	<5	<5	<5	<5
	2-Chlorotoluene	µg/L	5	<5	<5	<5	<5	<5
	4-Chlorotoluene	µg/L	5	<5	<5	<5	<5	<5
	1,2-Dichlorobenzene	µg/L	2	<2	<2	<2	<2	<2
	1,3-Dichlorobenzene	µg/L	2	<2	<2	<2	<2	<2
	1,4-Dichlorobenzene	µg/L	2	<2	<2	<2	<2	<2
	1,2,3-Trichlorobenzene	µg/L	5	<5	<5	<5	<5	<5
	1,2,4-Trichlorobenzene	µg/L	2	<2	<2	<2	<2	<2
Metals	Arsenic	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	Arsenic (Filtered)	mg/L	0.001					
	Cadmium	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
	Cadmium (Filtered)	mg/L	0.0001					
	Chromium	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	Chromium (Filtered)	mg/L	0.001					
	Copper	mg/L	0.001	<0.001	**0.003**	**0.003**	<0.001	<0.001
	Copper (Filtered)	mg/L	0.001					
	Lead	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	Lead (Filtered)	mg/L	0.001					
	Mercury	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
	Mercury (Filtered)	mg/L	0.0001					
	Nickel	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	Nickel (Filtered)	mg/L	0.001					
	Zinc	mg/L	0.005	<0.005	<0.005	<0.005	<0.005	<0.005
	Zinc (Filtered)	mg/L	0.005					
Monocyclic Aromatic Hydrocarbons	Benzene	µg/L	1	<1	<1	<1	<1	<1
	Toluene	µg/L	2	<2	<2	<2	<2	<2
	Ethylbenzene	µg/L	2	<2	<2	<2	<2	<2
	m&p-Xylene	µg/L	2	<2	<2	<2	<2	<2
	o-Xylene	µg/L	2	<2	<2	<2	<2	<2
	Total Xylenes	µg/L	2	<2	<2	<2	<2	<2
	Styrene	µg/L	5	<5	<5	<5	<5	<5
	Isopropylbenzene	µg/L	5	<5	<5	<5	<5	<5
	n-butylbenzene	µg/L	5	<5	<5	<5	<5	<5
	n-propylbenzene	µg/L	5	<5	<5	<5	<5	<5
	p-isopropyltoluene	µg/L	5	<5	<5	<5	<5	<5
	sec-butylbenzene	µg/L	5	<5	<5	<5	<5	<5
	tert-butylbenzene	µg/L	5	<5	<5	<5	<5	<5
	1,2,4-trimethylbenzene	µg/L	5	<5	<5	<5	<5	<5
	1,3,5-trimethylbenzene	µg/L	5	<5	<5	<5	<5	<5
	Total BTEX	µg/L	1	<1	<1	<1	<1	<1
Nitroaromatics and Ketones	1,3,5-Trinitrobenzene	µg/L	2	<2	<2	<2	<2	<2
	1-Naphthylamine	µg/L	2	<2	<2	<2	<2	<2
	2,4-Dinitrotoluene	µg/L	4	<4	<4	<4	<4	<4
	2,6-Dinitrotoluene	µg/L	4	<4	<4	<4	<4	<4
	2-Picoline	µg/L	2	<2	<2	<2	<2	<2
	4-Aminobiphenyl	µg/L	2	<2	<2	<2	<2	<2
	4-Nitroquinoline-N-oxide	µg/L	2	<2	<2	<2	<2	<2
	5-Nitro-o-toluidine	µg/L	2	<2	<2	<2	<2	<2
	Acetophenone	µg/L	2	<2	<2	<2	<2	<2
	Azobenzene	µg/L	2	<2	<2	<2	<2	<2
	Chlorobenzilate	µg/L	2	<2	<2	<2	<2	<2
	Dimethylaminoazobenzene	µg/L	2	<2	<2	<2	<2	<2
	Isophorone	µg/L	2	<2	<2	<2	<2	<2
	Nitrobenzene	µg/L	2	<2	<2	<2	<2	<2
	Pentachloronitrobenzene	µg/L	2	<2	<2	<2	<2	<2
	Phenacetin	µg/L	2	<2	<2	<2	<2	<2
	Pronamide	µg/L	2	<2	<2	<2	<2	<2
Nitrosamines	Methapyrilene	µg/L	2	<2	<2	<2	<2	<2
	N-Nitrosodibutylamine	µg/L	2	<2	<2	<2	<2	<2
	N-Nitrosodiethylamine	µg/L	2	<2	<2	<2	<2	<2
	N-Nitrosodiphenyl & Diphenylamine	µg/L	4	<4	<4	<4	<4	<4
	N-Nitrosodipropylamine	µg/L	2	<2	<2	<2	<2	<2
	N-Nitrosomethylethylamine	µg/L	2	<2	<2	<2	<2	<2
	N-Nitrosomorpholine	µg/L	2	<2	<2	<2	<2	<2
	N-Nitrosopiperidine	µg/L	2	<2	<2	<2	<2	<2
	N-Nitrosopyrrolidine	µg/L	4	<4	<4	<4	<4	<4

				Lab Report Number	ES2230964	ES2230964	ES2230964	ES2230964	ES2230964
				Field ID	QC300_220822	QC301_220823	QC302_220824	QC303_220825	QC304_220826
				Sampled_Date/Time	22-08-22 15:00	23-08-22 15:00	24-08-22 15:00	25-08-22 15:00	26-08-22 15:00
				Sample Type	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate
Organochlorine Pesticides (OC)	Aldrin	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
	Dieldrin	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
	Aldrin + Dieldrin	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
	a-BHC	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
	b-BHC	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
	d-BHC	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
	g-BHC (Lindane)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
	cis-Chlordane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
	trans-Chlordane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
	Chlordane	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
	DDD	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
	DDE	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
	DDT	µg/L	2	<2	<2	<2	<2	<2	
	DDT+DDE+DDD	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
	Endosulfan 1	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
	Endosulfan 2	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
	Endosulfan sulfate	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
	Endrin	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
	Endrin aldehyde	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
	Endrin ketone	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
	Heptachlor	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
	Heptachlor epoxide	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
	Hexachlorobenzene (HCB)	µg/L	0.5	<4	<4	<4	<4	<4	
	Methoxychlor	µg/L	2	<2	<2	<2	<2	<2	
Organophosphorus Pesticides (OP)	Azinphos Methyl	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
	Bromophos-ethyl	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
	Carbophenothion	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
	Chlorfenvinphos	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
	Chlorpyrifos	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
	Chlorpyrifos-methyl	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
	Demeton-S-methyl	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
	Diazinon	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
	Dichlorvos	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
	Dimethoate	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
	Ethion	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
	Fenamiphos	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
	Fenthion	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
	Malathion	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
	Monocrotophos	µg/L	2	<2	<2	<2	<2	<2	
	Parathion	µg/L	2	<2	<2	<2	<2	<2	
	Parathion-methyl	µg/L	2	<2	<2	<2	<2	<2	
	Pirimphos-ethyl	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
	Prothiofos	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
Oxygenated Compounds	Vinyl acetate	µg/L	50	<50	<50	<50	<50	<50	
	2-Butanone (MEK)	µg/L	50	<50	<50	<50	<50	<50	
	2-hexanone (MBK)	µg/L	50	<50	<50	<50	<50	<50	
	4-Methyl-2-pentanone (MIBK)	µg/L	50	<50	<50	<50	<50	<50	
Per- and Poly-fluoroalkyl Substances	Perfluorooctanoic acid (PFOA)	µg/L	0.01	<0.01	<0.01	<0.01	<0.01		
	Perfluorooctane sulfonic acid (PFOS)	µg/L	0.01	<0.01	<0.01	<0.01	<0.01		
	Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	<0.01	<0.01	<0.01	<0.01		
	Sum (PFHxS + PFOS)	µg/L	0.01	<0.01	<0.01	<0.01	<0.01		
	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05		
	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05		
	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05		
	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05		
	Perfluorobutane sulfonic acid (PFBS)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02		
	Perfluorobutanoic acid (PFBA)	µg/L	0.1	<0.1	<0.1	<0.1	<0.1		
	Perfluorodecane sulfonic acid (PFDS)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02		
	Perfluorodecanoic acid (PFDA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02		
	Perfluorododecanoic acid (PFDoDA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02		
	Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02		
	Perfluoroheptanoic acid (PFHpA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02		
	Perfluorohexanoic acid (PFHxA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02		
	Perfluorononanoic acid (PFNA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02		
	Perfluorooctane sulfonamide (FOSA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02		
	Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02		
	Perfluoropentanoic acid (PFPeA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02		
	Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05		
	Perfluorotridecanoic acid (PFTrDA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02		
	Perfluoroundecanoic acid (PFUnDA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02		
	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05		
	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02		
	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05		
	N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05		
	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02		
	N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05		
	Sum of PFAS	µg/L	0.01	<0.01	<0.01	<0.01	<0.01		
Phenolic Compounds	3/4-Methylphenol (m/p-cresol)	µg/L	2	<4	<4	<4	<4		
	Phenol	µg/L	2	<2	<2	<2	<2		
	2-Chlorophenol	µg/L	2	<2	<2	<2	<2		
	2-Methylphenol (o-Cresol)	µg/L	2	<2	<2	<2	<2		
	2-Nitrophenol	µg/L	2	<2	<2	<2	<2		
	2,4-Dichlorophenol	µg/L	2	<2	<2	<2	<2		
	2,4-Dimethylphenol	µg/L	2	<2	<2	<2	<2		
	2,6-Dichlorophenol	µg/L	2	<2	<2	<2	<2		
	4-Chloro-3-methylphenol	µg/L	2	<2	<2	<2	<2		
	2,4,6-Trichlorophenol	µg/L	2	<2	<2	<2	<2		
	2,4,5-Trichlorophenol	µg/L	2	<2	<2	<2	<2		
	Pentachlorophenol	µg/L	4	<4	<4	<4	<4		
Phthalate Esters	Butyl benzyl phthalate	µg/L	2	<2	<2	<2	<2	<2	
	Diethyl phthalate	µg/L	2	<2	<2	<2	<2	<2	
	Dimethyl phthalate	µg/L	2	<2	<2	<2	<2	<2	
	Di-n-butyl phthalate	µg/L	2	<2	<2	<2	<2	<2	
	Di-n-octyl phthalate	µg/L	2	<2	<2	<2	<2	<2	
	Bis(2-ethylhexyl)phthalate	µg/L	10	<10	<10	<10	<10	<10	
Polychlorinated Biphenyls	Polychlorinated Biphenyls	µg/L	1	<1	<1	<1	<1	<1	
Polynuclear Aromatic Hydrocarbons	Benzo(a)pyrene TEQ calc (Zero)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
	Naphthalene	µg/L	1	<5	<5	<5	<5	<5	
	2-Methylnaphthalene	µg/L	2	<2	<2	<2	<2	<2	
	2-Chloronaphthalene	µg/L	2	<2	<2	<2	<2	<2	
	Acenaphthylene	µg/L	1	<1	<1	<1	<1	<1	
	Acenaphthene	µg/L	1	<1	<1	<1	<1	<1	
	Anthracene	µg/L	1	<1	<1	<1	<1	<1	
	Fluorene	µg/L	1	<1	<1	<1	<1	<1	
	Phenanthrene	µg/L	1	<1	<1	<1	<1	<1	
	Fluoranthene	µg/L	1	<1	<1	<1	<1	<1	
	Benz(a)anthracene	µg/L	1	<1	<1	<1	<1	<1	
	Benzo(k)fluoranthene	µg/L	1	<1	<1	<1	<1	<1	
	Benzo(b&j)fluoranthene	µg/L	1	<1	<1	<1	<1	<1	
	N-2-Fluorenyl Acetamide	µg/L	2	<2	<2	<2	<2	<2	
	7,12-Dimethylbenz(a)anthracene	µg/L	2	<2	<2	<2	<2	<2	
	Benzo(a)pyrene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
	Chrysene	µg/L	1	<1	<1	<1	<1	<1	
	Pyrene	µg/L	1	<1	<1	<1	<1	<1	
	3-Methylcholanthrene	µg/L	2	<2	<2	<2	<2	<2	
	Benzo(g,h,i)perylene	µg/L	1	<1	<1	<1	<1	<1	
	Dibenz(a,h)anthracene	µg/L	1	<1	<1	<1	<1	<1	
	Indeno(1,2,3-cd)pyrene	µg/L	1	<1	<1	<1	<1	<1	
	Sum of PAHs	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
Sulfonated Compounds	Carbon disulfide	µg/L	5	<5	<5	<5	<5	<5	
Total Petroleum Hydrocarbons	C6-C9 fraction	µg/L	20	<20	<20	<20	<20	<20	
	C10-C14 fraction	µg/L	50	<50	<50	<50	<50	<50	
	C15-C28 fraction	µg/L	100	<100	<100	<100	<100	<100	
	C29-C36 fraction	µg/L	50	<50	<50	<50	<50	<50	
	C10-C36 fraction (sum)	µg/L	50	<50	<50	<50	<50	<50	
Total Recoverable Hydrocarbons	C6-C10 fraction	µg/L	20	<20	<20	<20	<20	<20	
	C6-C10 fraction (minus BTEX)(F1)	µg/L	20	<20	<20	<20	<20	<20	
	>C10-C16 (minus Naphthalene)(F2)	µg/L	100	<100	<100	<100	<100	<100	
	>C10-C16 fraction	µg/L	100	<100	<100	<100	<100	<100	
	>C16-C34 fraction	µg/L	100	<100	<100	<100	<100	<100	
	>C34-C40 fraction	µg/L	100	<100	<100	<100	<100	<100	
	>C10-C40 fraction (sum)	µg/L	100	<100	<100	<100	<100	<100	

			Lab Report Number	ES2230964	ES2230964	ES2230964	ES2230964	ES2230964
			Field ID	QC300_220822	QC301_220823	QC302_220824	QC303_220825	QC304_220826
			Sampled_Date/Time	22-08-22 15:00	23-08-22 15:00	24-08-22 15:00	25-08-22 15:00	26-08-22 15:00
			Sample Type	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate
Trihalomethanes	Bromodichloromethane	µg/L	5	<5	<5	<5	<5	<5
	Bromoform	µg/L	5	<5	<5	<5	<5	<5
	Chloroform	µg/L	5	**5**	<5	<5	<5	<5
	Dibromochloromethane	µg/L	5	<5	<5	<5	<5	<5

Client Name: Transport for New South Wales (TfNSW)
Project Name: Muswellbrook Bypass - Detailed Site Investigation
Project No: 60619756

T12 - Trip Blanks and Trip Spike Recovery

			Lab Report Number	ES2229963	ES2230767	ES2230964	ES2229963	ES2229963	Recovery	ES2230767	ES2230767	Recovery
			Field ID	QC500	QC500_220823	QC501_220825	QC600	TSC		QC600_220823	TSC	
			Sampled_Date/Time	15-08-22 16:32	23-08-22 15:00	25-08-22 15:00	09-08-22 0:00	09-08-22 0:00		09-08-22 0:00	09-08-22 0:00	
			Sample Type	Trip_B	Trip_B	Trip_B	Trip_S	Trip_S		Trip_S	Trip_S	
Chem_Group	**ChemName**	**Units**	**EQL**									
Monocyclic Aromatic Hydrocarbons	Benzene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	100%	<0.2	<0.2	100%
	Toluene	mg/kg	0.5	<0.5	<0.5	<0.5	10.6	10.5	101%	6.4	6	107%
	Ethylbenzene	mg/kg	0.5	<0.5	<0.5	<0.5	3	3.1	97%	5.6	5.5	102%
	m&p-Xylene	mg/kg	0.5	<0.5	<0.5	<0.5	16.6	17	98%	8.5	8.4	101%
	o-Xylene	mg/kg	0.5	<0.5	<0.5	<0.5	7.4	7.8	95%	4	3.8	105%
	Total Xylenes	mg/kg	0.5	<0.5	<0.5	<0.5	24	24.8	97%	12.5	12.2	102%
	Total BTEX	mg/kg	0.2	<0.2	<0.2	<0.2	37.6	38.4	98%	24.5	23.7	103%
Polynuclear Aromatic Hydrocarbons	Naphthalene	mg/kg	0.5	<1		<1	1	1	100%	<1	<1	100%
Total Petroleum Hydrocarbons	C6-C9 fraction	mg/kg	10	<10	<10	<10				39	39	100%
Total Recoverable Hydrocarbons	C6-C10 fraction	mg/kg	10	<10	<10	<10				51	52	98%
	C6-C10 fraction (minus BTEX)(F1)	mg/kg	10	<10	<10	<10				26	28	93%

Table T13 - Groundwater RPDs

				Metals								NA								
				Arsenic (filtered)	Cadmium (filtered)	Chromium (filtered)	Copper (filtered)	Lead (filtered)	Mercury (filtered)	Nickel (filtered)	Zinc (filtered)	Sum of WA DWER PFAS (n=10)*	Perfluorooctanoic acid (PFOA)	Perfluorooctane sulfonic acid (PFOS)	Perfluorohexane sulfonic acid (PFHxS)	Sum (PFHxS + PFOS)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)
				mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	UG/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL				0.001	0.0001	0.001	0.001	0.001	0.0001	0.001	0.005	0.01	0.01	0.01	0.01	0.01	0.01	0.05	0.01
Field ID	**Matrix Type**	**Date**	**Lab Report Number**																
BR225_221123	Water	23-11-22	WN2214776	<0.001	**0.0004**	<0.001	**0.002**	<0.001	<0.0001	**0.050**	**0.112**	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05
QC100_221123	Water	23-11-22	WN2214776	<0.001	**0.0003**	<0.001	**0.002**	<0.001	<0.0001	**0.051**	**0.112**	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05
RPD				0	29	0	0	0	0	2	0	0	0	0	0	0	0	0	0
BR225_221123	Water	23-11-22	WN2214776	<0.001	**0.0004**	<0.001	**0.002**	<0.001	<0.0001	**0.050**	**0.112**	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05
QC200_221123	WATER	23-11-22	944491	<0.001	**0.0004**	<0.001	**0.003**	<0.001	<0.0001	**0.047**	**0.11**	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01
RPD				0	0	0	40	0	0	6	2	0	0	0	0	0	0	0	0

***RPDs have only been considered where a concentration is greater than 1 times the EQL.**

****Elevated RPDs are highlighted as per QAQC Profile settings (Acceptable RPDs for each EQL multiplier range are: 81 (1 - 10 x EQL); 50 (10 - 30 x EQL); 30 (> 30 x EQL))**

*****Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any methods in the row header relate to those used in the primary laboratory**

NR - not reported

Table T13 - Groundwater RPDs

				Per- and Poly-fluoroalkyl Substances															
				10:2 Fluorotelomer sulfonic acid (10:2 FTS)	Perfluorobutane sulfonic acid (PFBS)	Perfluorobutanoic acid (PFBA)	Perfluorodecane sulfonic acid (PFDS)	Perfluorodecanoic acid (PFDA)	Perfluorododecanoic acid (PFDoDA)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluoroheptanoic acid (PFHpA)	Perfluorohexanoic acid (PFHxA)	Perfluorononane sulfonic acid (PFNS)	Perfluorononanoic acid (PFNA)	Perfluorooctane sulfonamide (FOSA)	Perfluoropentane sulfonic acid (PFPeS)	Perfluoropentanoic acid (PFPeA)	Perfluoropropanesulfonic acid (PFPrS)	Perfluorotetradecanoic acid (PFTeDA)
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL				0.01	0.01	0.05	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.01	0.01	0.01	0.01
Field ID	**Matrix Type**	**Date**	**Lab Report Number**																
BR225_221123	Water	23-11-22	WN2214776	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	NR	<0.02	<0.02	<0.02	<0.02	NR	<0.05
QC100_221123	Water	23-11-22	WN2214776	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	NR	<0.02	<0.02	<0.02	<0.02	NR	<0.05
RPD				0	0	0	0	0	0	0	0	0	NR	0	0	0	0	NR	0
BR225_221123	Water	23-11-22	WN2214776	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	NR	<0.02	<0.02	<0.02	<0.02	NR	<0.05
QC200_221123	WATER	23-11-22	944491	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01
RPD				0	0	0	0	0	0	0	0	0	NR	0	0	0	0	NR	0

*RPDs have only been considered where a concentration is greater than 1 times the EQL.
**Elevated RPDs are highlighted as per QAQC Profile settings (Acceptable RPDs for each EQL multiplier range are: 81 (1 - 10 x EQL); 5(
***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any methods in the row heade
NR - not reported

Table T13 - Groundwater RPDs

																	Total Petroleum Hydrocarbons			
				Perfluorotridecanoic acid (PFTrDA)	Perfluoroundecanoic acid (PFUnDA)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	Sum of PFAS	Sum of enHealth PFAS (PFHxS + PFOS + PFOA)	Sum of US EPA PFAS (PFOS + PFOA)	C6-C9 fraction	C10-C14 fraction	C15-C28 fraction	C29-C36 fraction	C10-C36 fraction (sum)
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL				0.01	0.01	0.05	0.02	0.05	0.05	0.02	0.05	0.01	0.01	0.01	20	50	100	50	50
Field ID	**Matrix Type**	**Date**	**Lab Report Number**																	
BR225_221123	**Water**	**23-11-22**	**WN2214776**	*<0.02*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.01*	NR	NR	*<20*	*<50*	*<100*	*<50*	*<50*
QC100_221123	**Water**	**23-11-22**	**WN2214776**	*<0.02*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.01*	NR	NR	*<20*	*<50*	*<100*	*<50*	*<50*
RPD				0	0	0	0	0	0	0	0	0	NR	NR	0	0	0	0	0
BR225_221123	**Water**	**23-11-22**	**WN2214776**	*<0.02*	*<0.02*	*<0.05*	*<0.02*	*<0.05*	*<0.05*	*<0.02*	*<0.05*	*<0.01*	NR	NR	*<20*	*<50*	*<100*	*<50*	*<50*
QC200_221123	**WATER**	**23-11-22**	**944491**	*<0.01*	*<0.01*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.1*	*<0.01*	*<0.01*	*<20*	*<50*	*<100*	*<100*	*<100*
RPD				0	0	0	0	0	0	0	0	0	NR	NR	0	0	0	0	0

***RPDs have only been considered where a concentration is greater than 1 times the EQL.**
****Elevated RPDs are highlighted as per QAQC Profile settings (Acceptable RPDs for each EQL multiplier range are: 81 (1 - 10 x EQL); 5(**
*****Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any methods in the row heade**
NR - not reported

Table T13 - Groundwater RPDs

				Total Recoverable Hydrocarbons							Nutrients								
				C6-C10 fraction	C6-C10 fraction (minus BTEX)(F1)	>C10-C16 (minus Naphthalene)(F2)	>C10-C16 fraction	>C16-C34 fraction	>C34-C40 fraction	>C10-C40 fraction (sum)	Ammonia (as N)	Nitrate (as N)	Nitrite (as N)	Total Kjeldahl Nitrogen	Nitrite + Nitrate as N	Total Nitrogen (as N)	Phosphorus	Benzene	Toluene
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	µg/L
EQL				20	20	50	50	100	100	100	0.01	0.01	0.01	0.1	0.01	0.1	0.01	1	1
Field ID	**Matrix Type**	**Date**	**Lab Report Number**																
BR225_221123	**Water**	**23-11-22**	**WN2214776**	*<20*	*<20*	*<100*	*<100*	*<100*	*<100*	*<100*	*<0.01*	**0.75**	*<0.01*	*<0.1*	**0.75**	**0.8**	**0.10**	*<1*	*<2*
QC100_221123	**Water**	**23-11-22**	**WN2214776**	*<20*	*<20*	*<100*	*<100*	*<100*	*<100*	*<100*	*<0.01*	**0.72**	*<0.01*	*<0.1*	**0.72**	**0.7**	**0.10**	*<1*	*<2*
RPD				0	0	0	0	0	0	0	0	4	0	0	4	13	0	0	0
BR225_221123	**Water**	**23-11-22**	**WN2214776**	*<20*	*<20*	*<100*	*<100*	*<100*	*<100*	*<100*	*<0.01*	**0.75**	*<0.01*	*<0.1*	**0.75**	**0.8**	**0.10**	*<1*	*<2*
QC200_221123	**WATER**	**23-11-22**	**944491**	*<20*	*<20*	*<50*	*<50*	*<100*	*<100*	*<100*	NR	NR	NR	NR	**0.82**	NR	NR	*<1*	*<1*
RPD				0	0	0	0	0	0	0	NR	NR	NR	NR	9	NR	NR	0	0

***RPDs have only been considered where a concentration is greater than 1 times the EQL.**
****Elevated RPDs are highlighted as per QAQC Profile settings (Acceptable RPDs for each EQL multiplier range are: 81 (1 - 10 x EQL); 5(**
*****Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any methods in the row heade**
NR - not reported

Table T13 - Groundwater RPDs

				Monocyclic Aromatic Hydrocarbons															
				Ethylbenzene	m&p-Xylene	o-Xylene	Total Xylenes	Styrene	Isopropylbenzene	n-butylbenzene	n-propylbenzene	p-isopropyltoluene	sec-butylbenzene	tert-butylbenzene	1,2,4-trimethylbenzene	1,3,5-trimethylbenzene	Total MAH	Total BTEX	Benzo(a)pyrene TEQ calc (Zero)
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL				1	2	1	2	1	1	5	5	5	5	5	1	1	3	1	0.5
Field ID	**Matrix Type**	**Date**	**Lab Report Number**																
BR225_221123	Water	23-11-22	WN2214776	<2	<2	<2	<2	<5	<5	<5	<5	<5	<5	<5	<5	<5	NR	<1	<0.5
QC100_221123	Water	23-11-22	WN2214776	<2	<2	<2	<2	<5	<5	<5	<5	<5	<5	<5	<5	<5	NR	<1	<0.5
RPD				0	0	0	0	0	0	0	0	0	0	0	0	0	NR	0	0
BR225_221123	Water	23-11-22	WN2214776	<2	<2	<2	<2	<5	<5	<5	<5	<5	<5	<5	<5	<5	NR	<1	<0.5
QC200_221123	WATER	23-11-22	944491	<1	<2	<1	<3	<1	<1	NR	NR	NR	NR	NR	<1	<1	<3	NR	NR
RPD				0	0	0	0	0	0	NR	NR	NR	NR	NR	0	0	NR	NR	NR

*RPDs have only been considered where a concentration is greater than 1 times the EQL.
**Elevated RPDs are highlighted as per QAQC Profile settings (Acceptable RPDs for each EQL multiplier range are: 81 (1 - 10 x EQL); 5(
***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any methods in the row heade
NR - not reported

Table T13 - Groundwater RPDs

				Polynuclear Aromatic Hydrocarbons															
				Naphthalene	2-Methylnaphthalene	1-Chloronaphthalene	2-Chloronaphthalene	Acenaphthylene	Acenaphthene	Anthracene	Fluorene	Phenanthrene	Fluoranthene	Benz(a)anthracene	Benzo(k)fluoranthene	Benzo(b&j)fluoranthene	Benzo(b+j) & Benzo(k)fluoranthene	N-2-Fluorenyl Acetamide	7,12-Dimethylbenz(a)anthracene
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL				1	2	5	2	1	1	1	1	1	1	1	1	1	4	2	2
Field ID	**Matrix Type**	**Date**	**Lab Report Number**																
BR225_221123	Water	23-11-22	WN2214776	<1.0	<2	NR	<2	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<4	<2	<2
QC100_221123	Water	23-11-22	WN2214776	<1.0	<2	NR	<2	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<4	<2	<2
RPD				0	0	NR	0	0	0	0	0	0	0	0	0	0	0	0	0
BR225_221123	Water	23-11-22	WN2214776	<1.0	<2	NR	<2	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<4	<2	<2
QC200_221123	WATER	23-11-22	944491	<1	<5	<5	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	NR	NR	<500
RPD				0	0	NR	0	0	0	0	0	0	0	0	0	0	NR	NR	0

*RPDs have only been considered where a concentration is greater than 1 times the EQL.
**Elevated RPDs are highlighted as per QAQC Profile settings (Acceptable RPDs for each EQL multiplier range are: 81 (1 - 10 x EQL); 5(
***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any methods in the row heade
NR - not reported

Table T13 - Groundwater RPDs

				Benzo(a)pyrene	Chrysene	Pyrene	3-Methylcholanthrene	Benzo(g,h,i)perylene	Dibenz(a,h)anthracene	Indeno(1,2,3-cd)pyrene	Dibenz(a,j)acridine	Sum of PAHs	3/4-Methylphenol (m/p-cresol)	Phenol	2-Chlorophenol	2-Methylphenol (o-Cresol)	3&4-Methylphenol (m&p-Cresol)	2-Nitrophenol	2,4-Dichlorophenol
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL				0.5	1	1	2	1	1	1	5	0.5	4	2	2	2	6	2	2
Field ID	**Matrix Type**	**Date**	**Lab Report Number**																
BR225_221123	**Water**	**23-11-22**	**WN2214776**	*<0.5*	*<1.0*	*<1.0*	*<2*	*<1.0*	*<1.0*	*<1.0*	NR	*<0.5*	*<4*	*<2*	*<2*	*<2*	NR	*<2*	*<2*
QC100_221123	**Water**	**23-11-22**	**WN2214776**	*<0.5*	*<1.0*	*<1.0*	*<2*	*<1.0*	*<1.0*	*<1.0*	NR	*<0.5*	*<4*	*<2*	*<2*	*<2*	NR	*<2*	*<2*
RPD				0	0	0	0	0	0	0	NR	0	0	0	0	0	NR	0	0
BR225_221123	**Water**	**23-11-22**	**WN2214776**	*<0.5*	*<1.0*	*<1.0*	*<2*	*<1.0*	*<1.0*	*<1.0*	NR	*<0.5*	*<4*	*<2*	*<2*	*<2*	NR	*<2*	*<2*
QC200_221123	**WATER**	**23-11-22**	**944491**	*<1*	*<1*	*<1*	*<5*	*<1*	*<1*	*<1*	*<5*	*<1*	NR	*<3*	*<3*	*<3*	*<6*	*<10*	*<3*
RPD				0	0	0	0	0	0	0	NR	0	NR	0	0	0	NR	0	0

***RPDs have only been considered where a concentration is greater than 1 times the EQL.**
****Elevated RPDs are highlighted as per QAQC Profile settings (Acceptable RPDs for each EQL multiplier range are: 81 (1 - 10 x EQL); 5(**
*****Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any methods in the row heade**
NR - not reported

Table T13 - Groundwater RPDs

				Phenolic Compounds										Fumigants					
				2,4-Dimethylphenol	2,6-Dichlorophenol	4-Chloro-3-methylphenol	2,4,6-Trichlorophenol	2,4,5-Trichlorophenol	4,6-Dinitro-2-methylphenol	Pentachlorophenol	2,3,4,6-Tetrachlorophenol	2,4-Dinitrophenol	4-Nitrophenol	1,2-Dibromoethane (EDB)	1,2-Dichloropropane	2,2-Dichloropropane	cis-1,3-Dichloropropene	trans-1,3-Dichloropropene	Benzyl chloride
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL				2	2	2	2	2	30	4	10	30	30	1	1	5	1	1	5
Field ID	**Matrix Type**	**Date**	**Lab Report Number**																
BR225_221123	Water	23-11-22	WN2214776	<2	<2	<2	<2	<2	NR	<4	NR	NR	NR	<5	<5	<5	<5	<5	NR
QC100_221123	Water	23-11-22	WN2214776	<2	<2	<2	<2	<2	NR	<4	NR	NR	NR	<5	<5	<5	<5	<5	NR
RPD				0	0	0	0	0	NR	0	NR	NR	NR	0	0	0	0	0	NR
BR225_221123	Water	23-11-22	WN2214776	<2	<2	<2	<2	<2	NR	<4	NR	NR	NR	<5	<5	<5	<5	<5	NR
QC200_221123	WATER	23-11-22	944491	<3	<3	<10	<10	<10	<30	<10	<10	<30	<30	<1	<1	NR	<1	<1	<5
RPD				0	0	0	0	0	NR	0	NR	NR	NR	0	0	NR	0	0	NR

*RPDs have only been considered where a concentration is greater than 1 times the EQL.
**Elevated RPDs are highlighted as per QAQC Profile settings (Acceptable RPDs for each EQL multiplier range are: 81 (1 - 10 x EQL); 5(
***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any methods in the row heade
NR - not reported

Table T13 - Groundwater RPDs

				Halogenated Aromatic Compounds																
				Bromobenzene	Chlorobenzene	2-Chlorotoluene	4-Chlorotoluene	1,2-Dichlorobenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	1,2,3,4-Tetrachlorobenzene	1,2,3,5-Tetrachlorobenzene	1,2,4,5-Tetrachlorobenzene	1,2,3-Trichlorobenzene	1,2,4-Trichlorobenzene	1,3,5-Trichlorobenzene	Bromochloromethane	Allyl chloride	Dichlorodifluoromethane (Freon 12)
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL				1	1	5	1	1	1	1	5	5	5	5	2	5	1	1	5
Field ID	**Matrix Type**	**Date**	**Lab Report Number**																
BR225_221123	Water	23-11-22	WN2214776	<5	<5	<5	<5	<2	<2	<2	NR	NR	NR	<5	<2	NR	NR	NR	<50
QC100_221123	Water	23-11-22	WN2214776	<5	<5	<5	<5	<2	<2	<2	NR	NR	NR	<5	<2	NR	NR	NR	<50
RPD				0	0	0	0	0	0	0	NR	NR	NR	0	0	NR	NR	NR	0
BR225_221123	Water	23-11-22	WN2214776	<5	<5	<5	<5	<2	<2	<2	NR	NR	NR	<5	<2	NR	NR	NR	<50
QC200_221123	WATER	23-11-22	944491	<1	<1	NR	<1	<1	<1	<1	<5	<5	<5	<5	<5	<5	<1	<1	<5
RPD				0	0	NR	0	0	0	0	NR	NR	NR	0	0	NR	NR	NR	0

*RPDs have only been considered where a concentration is greater than 1 times the EQL.
**Elevated RPDs are highlighted as per QAQC Profile settings (Acceptable RPDs for each EQL multiplier range are: 81 (1 - 10 x EQL); 5(
***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any methods in the row heade
NR - not reported

Table T13 - Groundwater RPDs

				Halogenated Aliphatic Compounds															
				Chloromethane	Vinyl chloride	Bromomethane	Chloroethane	Trichlorofluoromethane (Freon 11)	1,1-Dichloroethene	Iodomethane	1,1-Dichloroethane	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	1,1,1-Trichloroethane	1,1-Dichloropropene	Carbon Tetrachloride	1,2-Dichloroethane	Trichloroethene	Dibromomethane
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL				5	5	5	5	5	1	1	1	1	1	1	5	1	1	1	1
Field ID	**Matrix Type**	**Date**	**Lab Report Number**																
BR225_221123	Water	23-11-22	WN2214776	<50	<50	<50	<50	<50	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
QC100_221123	Water	23-11-22	WN2214776	<50	<50	<50	<50	<50	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
RPD				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BR225_221123	Water	23-11-22	WN2214776	<50	<50	<50	<50	<50	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
QC200_221123	WATER	23-11-22	944491	<5	<5	<5	<5	<5	<1	<1	<1	<1	<1	<1	NR	<1	<1	<1	<1
RPD				0	0	0	0	0	0	0	0	0	0	0	NR	0	0	0	0

*RPDs have only been considered where a concentration is greater than 1 times the EQL.
**Elevated RPDs are highlighted as per QAQC Profile settings (Acceptable RPDs for each EQL multiplier range are: 81 (1 - 10 x EQL); 5(
***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any methods in the row heade
NR - not reported

Table T13 - Groundwater RPDs

																Trihalomethanes			
				1,1,2-Trichloroethane	1,3-Dichloropropane	Tetrachloroethene	1,1,1,2-Tetrachloroethane	trans-1,4-Dichloro-2-butene	cis-1,4-Dichloro-2-butene	1,1,2,2-Tetrachloroethane	1,2,3-Trichloropropane	Dichloromethane	Pentachloroethane	1,2-Dibromo-3-chloropropane	Hexachlorobutadiene	Bromodichloromethane	Bromoform	Chloroform	Dibromochloromethane
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL				1	1	1	1	5	5	1	1	5	5	5	2	1	1	5	1
Field ID	**Matrix Type**	**Date**	**Lab Report Number**																
BR225_221123	**Water**	**23-11-22**	**WN2214776**	<5	<5	<5	<5	<5	<5	<5	<5	NR	<5	<5	<2	<5	<5	<5	<5
QC100_221123	**Water**	**23-11-22**	**WN2214776**	<5	<5	<5	<5	<5	<5	<5	<5	NR	<5	<5	<2	<5	<5	<5	<5
RPD				0	0	0	0	0	0	0	0	NR	0	0	0	0	0	0	0
BR225_221123	**Water**	**23-11-22**	**WN2214776**	<5	<5	<5	<5	<5	<5	<5	<5	NR	<5	<5	<2	<5	<5	<5	<5
QC200_221123	**WATER**	**23-11-22**	**944491**	<1	<1	<1	<1	NR	NR	<1	<1	<5	NR	NR	<5	<1	<1	<5	<1
RPD				0	0	0	0	NR	NR	0	0	NR	NR	NR	0	0	0	0	0

***RPDs have only been considered where a concentration is greater than 1 times the EQL.**
****Elevated RPDs are highlighted as per QAQC Profile settings (Acceptable RPDs for each EQL multiplier range are: 81 (1 - 10 x EQL); 5(**
*****Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any methods in the row heade**
NR - not reported

Table T13 - Groundwater RPDs

				Polychlorinated Biphenyls								Oxygenated Compounds					Sulfonated Compounds		
				Polychlorinated Biphenyls	Arochlor 1016	Arochlor 1221	Arochlor 1232	Arochlor 1242	Arochlor 1248	Arochlor 1254	Arochlor 1260	2-Propanone (Acetone)	Vinyl acetate	2-Butanone (MEK)	2-hexanone (MBK)	4-Methyl-2-pentanone (MIBK)	Carbon disulfide	Butyl benzyl phthalate	Diethyl phthalate
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL				1	5	5	5	5	5	5	5	5	50	5	50	5	1	2	2
Field ID	**Matrix Type**	**Date**	**Lab Report Number**																
BR225_221123	**Water**	**23-11-22**	**WN2214776**	<1	NR	NR	NR	NR	NR	NR	NR	NR	<50	<50	<50	<50	<5	<2	<2
QC100_221123	**Water**	**23-11-22**	**WN2214776**	<1	NR	NR	NR	NR	NR	NR	NR	NR	<50	<50	<50	<50	<5	<2	<2
RPD				0	NR	NR	NR	NR	NR	NR	NR	NR	0	0	0	0	0	0	0
BR225_221123	**Water**	**23-11-22**	**WN2214776**	<1	NR	NR	NR	NR	NR	NR	NR	NR	<50	<50	<50	<50	<5	<2	<2
QC200_221123	**WATER**	**23-11-22**	**944491**	<5	<5	<5	<5	<5	<5	<5	<5	<5	NR	<5	NR	<5	<1	<5	<5
RPD				0	NR	NR	NR	NR	NR	NR	NR	NR	NR	0	NR	0	0	0	0

***RPDs have only been considered where a concentration is greater than 1 times the EQL.**
****Elevated RPDs are highlighted as per QAQC Profile settings (Acceptable RPDs for each EQL multiplier range are: 81 (1 - 10 x EQL); 5(**
*****Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any methods in the row heade**
NR - not reported

Table T13 - Groundwater RPDs

				Phthalate Esters				Nitrosamines												
				Dimethyl phthalate	Di-n-butyl phthalate	Di-n-octyl phthalate	Bis(2-ethylhexyl)phthalate	Diphenylamine	Methapyrilene	N-Nitrosodibutylamine	N-Nitrosodiethylamine	N-Nitrosodiphenyl & Diphenylamine	N-Nitrosodipropylamine	N-Nitrosomethylethylamine	N-Nitrosomorpholine	N-Nitrosopiperidine	N-Nitrosopyrrolidine	1,3,5-Trinitrobenzene	1-Naphthylamine
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL				2	2	2	5	5	2	2	2	4	2	2	2	2	4	2	2
Field ID	**Matrix Type**	**Date**	**Lab Report Number**																
BR225_221123	Water	23-11-22	WN2214776	<2	<2	<2	<10	NR	<2	<2	<2	<4	<2	<2	<2	<2	<4	<2	<2
QC100_221123	Water	23-11-22	WN2214776	<2	<2	<2	<10	NR	<2	<2	<2	<4	<2	<2	<2	<2	<4	<2	<2
RPD				0	0	0	0	NR	0	0	0	0	0	0	0	0	0	0	0
BR225_221123	Water	23-11-22	WN2214776	<2	<2	<2	<10	NR	<2	<2	<2	<4	<2	<2	<2	<2	<4	<2	<2
QC200_221123	WATER	23-11-22	944491	<5	<5	<5	<5	<5	NR	<5	NR	NR	<5	NR	NR	<5	NR	NR	<50
RPD				0	0	0	0	NR	NR	0	NR	NR	0	NR	NR	0	NR	NR	0

*RPDs have only been considered where a concentration is greater than 1 times the EQL.
**Elevated RPDs are highlighted as per QAQC Profile settings (Acceptable RPDs for each EQL multiplier range are: 81 (1 - 10 x EQL); 5(
***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any methods in the row heade
NR - not reported

Table T13 - Groundwater RPDs

				Nitroaromatics and Ketones															
				2,4-Dinitrotoluene	2,6-Dinitrotoluene	2-Naphthylamine	2-Picoline	4-Aminobiphenyl	4-Nitroquinoline-N-oxide	5-Nitro-o-toluidine	Acetophenone	Azobenzene	Chlorobenzilate	Dimethylaminoazobenzene	Isophorone	Nitrobenzene	Pentachloronitrobenzene	Phenacetin	Pronamide
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL				4	4	5	2	2	2	2	2	2	2	2	2	2	2	2	2
Field ID	**Matrix Type**	**Date**	**Lab Report Number**																
BR225_221123	**Water**	**23-11-22**	**WN2214776**	<4	<4	NR	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
QC100_221123	**Water**	**23-11-22**	**WN2214776**	<4	<4	NR	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
RPD				0	0	NR	0	0	0	0	0	0	0	0	0	0	0	0	0
BR225_221123	**Water**	**23-11-22**	**WN2214776**	<4	<4	NR	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
QC200_221123	**WATER**	**23-11-22**	**944491**	<5	<5	<50	<5	<5	NR	NR	<5	NR	NR	<5	NR	<5	<5	NR	<5
RPD				0	0	NR	0	0	NR	NR	0	NR	NR	0	NR	0	0	NR	0

***RPDs have only been considered where a concentration is greater than 1 times the EQL.**
****Elevated RPDs are highlighted as per QAQC Profile settings (Acceptable RPDs for each EQL multiplier range are: 81 (1 - 10 x EQL); 5(**
*****Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any methods in the row heade**
NR - not reported

Table T13 - Groundwater RPDs

				Haloethers					Chlorinated Hydrocarbons											
				4-Bromophenyl phenyl ether	Bis(2-chloroisopropyl)ether	Bis(2-chloroethyl) ether	Bis(2-chloroethoxy) methane	4-Chlorophenyl phenyl ether	Hexachlorocyclopentadiene	Hexachloroethane	Hexachloropropene	Pentachlorobenzene	Chlorinated hydrocarbons (sum)	Other chlorinated hydrocarbons (sum)	Bolstar (Sulprofos)	Mevinphos (Phosdrin)	Omethoate	Pirimiphos-methyl	Pyrazophos
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL				2	5	2	2	2	5	2	2	2	5	5	2	2	20	20	2
Field ID	**Matrix Type**	**Date**	**Lab Report Number**																	
BR225_221123	**Water**	**23-11-22**	**WN2214776**	<2	NR	<2	<2	<2	<10	<2	<2	<2	NR	NR	NR	NR	NR	NR	NR	NR
QC100_221123	**Water**	**23-11-22**	**WN2214776**	<2	NR	<2	<2	<2	<10	<2	<2	<2	NR	NR	NR	NR	NR	NR	NR	NR
RPD				0	NR	0	0	0	0	0	0	0	NR	NR	NR	NR	NR	NR	NR	NR
BR225_221123	**Water**	**23-11-22**	**WN2214776**	<2	NR	<2	<2	<2	<10	<2	<2	<2	NR	NR	NR	NR	NR	NR	NR	NR
QC200_221123	**WATER**	**23-11-22**	**944491**	<5	<5	NR	<5	<5	<5	<5	NR	<5	<5	<5	<2	<2	<20	<20	<2	
RPD				0	NR	NR	0	0	0	0	NR	0	NR	NR	NR	NR	NR	NR	NR	NR

***RPDs have only been considered where a concentration is greater than 1 times the EQL.**
****Elevated RPDs are highlighted as per QAQC Profile settings (Acceptable RPDs for each EQL multiplier range are: 81 (1 - 10 x EQL); 5(**
*****Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any methods in the row heade**
NR - not reported

Table T13 - Groundwater RPDs

				Organophosphorus Pesticides (OP)															
				Azinphos Methyl	Chlorfenvinphos	Chlorpyrifos	Chlorpyrifos-methyl	Coumaphos	Demeton-O	Demeton-S	Diazinon	Dichlorvos	Dimethoate	Disulfoton	EPN	Ethion	Ethoprop	Fenitrothion	Fensulfothion
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL				2	2	2	2	20	2	2	2	2	2	2	2	2	2	2	2
Field ID	**Matrix Type**	**Date**	**Lab Report Number**																
BR225_221123	**Water**	**23-11-22**	**WN2214776**	NR	<2	<2	<2	NR	NR	NR	<2	<2	<2	NR	NR	<2	NR	NR	NR
QC100_221123	**Water**	**23-11-22**	**WN2214776**	NR	<2	<2	<2	NR	NR	NR	<2	<2	<2	NR	NR	<2	NR	NR	NR
RPD				NR	0	0	0	NR	NR	NR	0	0	0	NR	NR	0	NR	NR	NR
BR225_221123	**Water**	**23-11-22**	**WN2214776**	NR	<2	<2	<2	NR	NR	NR	<2	<2	<2	NR	NR	<2	NR	NR	NR
QC200_221123	**WATER**	**23-11-22**	**944491**	<2	<20	<2	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
RPD				NR	0	0	0	NR	NR	NR	0	0	0	NR	NR	0	NR	NR	NR

***RPDs have only been considered where a concentration is greater than 1 times the EQL.**
****Elevated RPDs are highlighted as per QAQC Profile settings (Acceptable RPDs for each EQL multiplier range are: 81 (1 - 10 x EQL); 5(**
*****Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any methods in the row heade**
NR - not reported

Table T13 - Groundwater RPDs

				Fenthion	Malathion	Merphos	Monocrotophos	Naled (Dibrom)	Parathion	Parathion-methyl	Phorate	Pirimphos-ethyl	Prothiofos	Ronnel	Trichloronate	Terbufos	Tetrachlorvinphos	Tokuthion	Aldrin
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	µg/L
EQL				2	2	2	2	2	2	2	2	2	2	2	2	2	2	0.002	0.2
Field ID	**Matrix Type**	**Date**	**Lab Report Number**																
BR225_221123	**Water**	**23-11-22**	**WN2214776**	<2	<2	NR	NR	NR	NR	NR	NR	<2	<2	NR	NR	NR	NR	NR	<0.5
QC100_221123	**Water**	**23-11-22**	**WN2214776**	<2	<2	NR	NR	NR	NR	NR	NR	<2	<2	NR	NR	NR	NR	NR	<0.5
RPD				0	0	NR	NR	NR	NR	NR	NR	0	0	NR	NR	NR	NR	NR	0
BR225_221123	**Water**	**23-11-22**	**WN2214776**	<2	<2	NR	NR	NR	NR	NR	NR	<2	<2	NR	NR	NR	NR	NR	<0.5
QC200_221123	**WATER**	**23-11-22**	**944491**	<2	<2	<2	<2	<2	<2	<2	<2	NR	NR	<2	<2	<2	<2	<0.002	<0.2
RPD				0	0	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	0

***RPDs have only been considered where a concentration is greater than 1 times the EQL.**
****Elevated RPDs are highlighted as per QAQC Profile settings (Acceptable RPDs for each EQL multiplier range are: 81 (1 - 10 x EQL); 5(**
*****Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any methods in the row heade**
NR - not reported

Table T13 - Groundwater RPDs

				Organochlorine Pesticides (OC)															
				Dieldrin	Aldrin + Dieldrin	a-BHC	b-BHC	d-BHC	g-BHC (Lindane)	cis-Chlordane	trans-Chlordane	Chlordane	DDD	DDE	DDT	DDT+DDE+DDD	Endosulfan 1	Endosulfan 2	Endosulfan sulfate
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL				0.2	0.2	0.2	0.2	0.2	0.2	0.5	0.5	0.5	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Field ID	**Matrix Type**	**Date**	**Lab Report Number**																
BR225_221123	Water	23-11-22	WN2214776	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<0.5	<0.5	<0.5	<0.5
QC100_221123	Water	23-11-22	WN2214776	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<0.5	<0.5	<0.5	<0.5
RPD				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BR225_221123	Water	23-11-22	WN2214776	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<0.5	<0.5	<0.5	<0.5
QC200_221123	WATER	23-11-22	944491	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	NR	NR	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
RPD				0	0	0	0	0	0	NR	NR	0	0	0	0	0	0	0	0

*RPDs have only been considered where a concentration is greater than 1 times the EQL.
**Elevated RPDs are highlighted as per QAQC Profile settings (Acceptable RPDs for each EQL multiplier range are: 81 (1 - 10 x EQL); 5(
***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any methods in the row heade
NR - not reported

Table T13 - Groundwater RPDs

														Phenoxyacetic Acid Herbicides				
				Endrin	Endrin aldehyde	Endrin ketone	Heptachlor	Heptachlor epoxide	Hexachlorobenzene (HCB)	Methoxychlor	Toxaphene	Organochlorine pesticides (sum)	Other organochlorine pesticides (sum)	2,4,5-TP (Silvex)	2,6-D	4-Chlorophenoxy acetic acid	Clopyralid	Dicamba	Fluroxypyr
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL				0.2	0.2	0.2	0.2	0.2	0.2	0.2	5	2	2	10	10	10	10	10	10
Field ID	**Matrix Type**	**Date**	**Lab Report Number**																
BR225_221123	**Water**	**23-11-22**	**WN2214776**	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*<2.0*	NR	NR	NR	*<10*	*<10*	*<10*	*<10*	*<10*	*<10*
QC100_221123	**Water**	**23-11-22**	**WN2214776**	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*<2.0*	NR	NR	NR	*<10*	*<10*	*<10*	*<10*	*<10*	*<10*
RPD				0	0	0	0	0	0	0	NR	NR	NR	0	0	0	0	0	0
BR225_221123	**Water**	**23-11-22**	**WN2214776**	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*<2.0*	NR	NR	NR	*<10*	*<10*	*<10*	*<10*	*<10*	*<10*
QC200_221123	**WATER**	**23-11-22**	**944491**	*<0.2*	*<0.2*	*<0.2*	*<0.2*	*<0.2*	*<0.2*	*<0.2*	*<5*	*<2*	*<2*	NR	NR	NR	NR	NR	NR
RPD				0	0	0	0	0	0	0	NR	NR	NR	NR	NR	NR	NR	NR	NR

***RPDs have only been considered where a concentration is greater than 1 times the EQL.**
****Elevated RPDs are highlighted as per QAQC Profile settings (Acceptable RPDs for each EQL multiplier range are: 81 (1 - 10 x EQL); 5(**
*****Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any methods in the row heade**
NR - not reported

Table T13 - Groundwater RPDs

								Benzidine	Herbicides								Inorganics	Anil			
					Mecoprop	Picloram	Triclopyr	3,3-Dichlorobenzidine	2,4,5-Trichlorophenoxy acetic acid	2,4-Dichlorprop	2,4-Dichlorophenoxy acetic acid	4-(2,4-Dichlorophenoxy)butyric Acid (2,4-DB)	2-Methyl-4-chlorophenoxyacetic acid	2,4,6-Trichlorophenoxy acetic acid	2-Methyl-4-Chlorophenoxy Butanoic Acid	Reactive Phosphorus as P (Orthophosphate as P)	2-Nitroaniline	3-Nitroaniline	4-Chloroaniline	4-Nitroaniline
					µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L
EQL					10	10	10	2	10	10	10	10	10	10	10	0.01	4	4	2	2
Field ID	**Matrix Type**	**Date**	**Lab Report Number**																	
BR225_221123	**Water**	**23-11-22**	**WN2214776**		<10	<10	<10	<2	<10	<10	<10	<10	<10	<10	<10	**0.09**	<4	<4	<2	<2
QC100_221123	**Water**	**23-11-22**	**WN2214776**		<10	<10	<10	<2	<10	<10	<10	<10	<10	<10	<10	**0.09**	<4	<4	<2	<2
RPD					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BR225_221123	**Water**	**23-11-22**	**WN2214776**		<10	<10	<10	<2	<10	<10	<10	<10	<10	<10	<10	**0.09**	<4	<4	<2	<2
QC200_221123	**WATER**	**23-11-22**	**944491**		NR	NR	NR	<5	NR	NR	NR	NR	NR	NR	NR	**0.09**	<5	NR	NR	NR
RPD					NR	NR	NR	0	NR	NR	NR	NR	NR	NR	NR	0	0	NR	NR	NR

***RPDs have only been considered where a concentration is greater than 1 times the EQL.**
****Elevated RPDs are highlighted as per QAQC Profile settings (Acceptable RPDs for each EQL multiplier range are: 81 (1 - 10 x EQL); 5(**
*****Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any methods in the row heade**
NR - not reported

Table T13 - Groundwater RPDs

				nes			
				Aniline	Carbazole	Dibenzofuran	Trifluralin
				µg/L	µg/L	µg/L	µg/L
EQL				2	2	2	5
Field ID	**Matrix Type**	**Date**	**Lab Report Number**				
BR225_221123	Water	23-11-22	WN2214776	<2	<2	<2	NR
QC100_221123	Water	23-11-22	WN2214776	<2	<2	<2	NR
RPD				0	0	0	NR
BR225_221123	Water	23-11-22	WN2214776	<2	<2	<2	NR
QC200_221123	WATER	23-11-22	944491	<5	NR	<5	<5
RPD				0	NR	0	NR

*RPDs have only been considered where a concentration is greater than 1 times the EQL.
**Elevated RPDs are highlighted as per QAQC Profile settings (Acceptable RPDs for each EQL multiplier range are: 81 (1 - 10 x EQL); 5(
***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any methods in the row heade
NR - not reported

Table T14 - Groundwater QC Samples

				Metals								NA								
				Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Zinc	Sum of WA DWER PFAS (n=10)*	Perfluorooctanoic acid (PFOA)	Perfluorooctane sulfonic acid (PFOS)	Perfluorohexane sulfonic acid (PFHxS)	Sum (PFHxS + PFOS)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)
				mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	UG/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL				0.001	0.0001	0.001	0.001	0.001	0.0001	0.001	0.005	0.01	0.01	0.01	0.01	0.01	0.05	0.05	0.05
Field ID	**Date**	**Lab Report Number**	**Sample Type**																
QC300_221123	23-11-22	WN2214776	Rinsate	*<0.001*	*<0.0001*	*<0.001*	*<0.001*	*<0.001*	*<0.0001*	*<0.001*	*<0.005*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.05*	*<0.05*	*<0.05*
QC500_221123	23-11-22	WN2214776	Trip Blank	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
QC600_221123	23-11-22	WN2214776	Trip Spike	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

Table T14 - Groundwater QC Samples

				Per- and Poly-fluoroalkyl Substances																
				10:2 Fluorotelomer sulfonic acid (10:2 FTS)	Perfluorobutane sulfonic acid (PFBS)	Perfluorobutanoic acid (PFBA)	Perfluorodecane sulfonic acid (PFDS)	Perfluorodecanoic acid (PFDA)	Perfluorododecanoic acid (PFDoDA)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluoroheptanoic acid (PFHpA)	Perfluorohexanoic acid (PFHxA)	Perfluorononanoic acid (PFNA)	Perfluorooctane sulfonamide (FOSA)	Perfluoropentane sulfonic acid (PFPeS)	Perfluoropentanoic acid (PFPeA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluoroundecanoic acid (PFUnDA)
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL				0.05	0.02	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.05	0.02	0.02
Field ID	**Date**	**Lab Report Number**	**Sample Type**																	
QC300_221123	23-11-22	WN2214776	Rinsate	*<0.05*	*<0.02*	*<0.1*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.05*	*<0.02*	*<0.02*
QC500_221123	23-11-22	WN2214776	Trip Blank	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
QC600_221123	23-11-22	WN2214776	Trip Spike	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

Table T14 - Groundwater QC Samples

													Total Petroleum Hydrocarbons					Total Recoverable Hydrc			
				N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	Sum of PFAS	C6-C9 fraction	C10-C14 fraction	C15-C28 fraction	C29-C36 fraction	C10-C36 fraction (sum)	C6-C10 fraction	C6-C10 fraction (minus BTEX)(F1)	>C10-C16 (minus Naphthalene)(F2)	>C10-C16 fraction
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL				0.05	0.02	0.05	0.05	0.02	0.05	0.01	20	50	100	50	50	20	20	100	100
Field ID	**Date**	**Lab Report Number**	**Sample Type**																	
QC300_221123	23-11-22	WN2214776	Rinsate	<0.05	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	<20	<50	<100	<50	<50	<20	<20	<100	<100
QC500_221123	23-11-22	WN2214776	Trip Blank	NR	NR	NR	NR	NR	NR	NR	<20	NR	NR	NR	NR	<20	<20	NR	NR
QC600_221123	23-11-22	WN2214776	Trip Spike	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

Table T14 - Groundwater QC Samples

				carbons			Monocyclic Aromatic Hydrocarbons												
				>C16-C34 fraction	>C34-C40 fraction	>C10-C40 fraction (sum)	Benzene	Toluene	Ethylbenzene	m&p-Xylene	o-Xylene	Total Xylenes	Styrene	Isopropylbenzene	n-butylbenzene	n-propylbenzene	p-isopropyltoluene	sec-butylbenzene	tert-butylbenzene
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL				100	100	100	1	2	2	2	2	2	5	5	5	5	5	5	5
Field ID	**Date**	**Lab Report Number**	**Sample Type**																
QC300_221123	23-11-22	WN2214776	Rinsate	<100	<100	<100	<1	<2	<2	<2	<2	<2	<5	<5	<5	<5	<5	<5	<5
QC500_221123	23-11-22	WN2214776	Trip Blank	NR	NR	NR	<1	<2	<2	<2	<2	<2	NR	NR	NR	NR	NR	NR	NR
QC600_221123	23-11-22	WN2214776	Trip Spike	NR	NR	NR	95%	80%	70%	70%	75%	72.5%	NR	NR	NR	NR	NR	NR	NR

Table T14 - Groundwater QC Samples

																			Polynuclear Aromatic Hydrocarbo
				1,2,4-trimethylbenzene	1,3,5-trimethylbenzene	Total BTEX	Benzo(a)pyrene TEQ calc (Zero)	Naphthalene	2-Methylnaphthalene	2-Chloronaphthalene	Acenaphthylene	Acenaphthene	Anthracene	Fluorene	Phenanthrene	Fluoranthene	Benz(a)anthracene	Benzo(k)fluoranthene	Benzo(b&j)fluoranthene
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL				5	5	1	0.5	1	2	2	1	1	1	1	1	1	1	1	1
Field ID	**Date**	**Lab Report Number**	**Sample Type**																
QC300_221123	23-11-22	WN2214776	Rinsate	<5	<5	<1	<0.5	<1.0	<2	<2	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
QC500_221123	23-11-22	WN2214776	Trip Blank	NR	NR	<1	NR	<5	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
QC600_221123	23-11-22	WN2214776	Trip Spike	NR	NR	78%	NR	90%	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

Table T14 - Groundwater QC Samples

				PAHs										Phenols				
				Benzo(b+j) & Benzo(k)fluoranthene	N-2-Fluorenyl Acetamide	7,12-Dimethylbenz(a)anthracene	Benzo(a)pyrene	Chrysene	Pyrene	3-Methylcholanthrene	Benzo(g,h,i)perylene	Dibenz(a,h)anthracene	Indeno(1,2,3-cd)pyrene	Sum of PAHs	3/4-Methylphenol (m/p-cresol)	Phenol	2-Chlorophenol	2-Methylphenol (o-Cresol)	2-Nitrophenol
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL				4	2	2	0.5	1	1	2	1	1	1	0.5	4	2	2	2	2
Field ID	**Date**	**Lab Report Number**	**Sample Type**																
QC300_221123	23-11-22	WN2214776	Rinsate	<4	<2	<2	<0.5	<1.0	<1.0	<2	<1.0	<1.0	<1.0	<0.5	<4	<2	<2	<2	<2
QC500_221123	23-11-22	WN2214776	Trip Blank	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
QC600_221123	23-11-22	WN2214776	Trip Spike	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

Table T14 - Groundwater QC Samples

				Phenolic Compounds							Fumigants					Halogena			
				2,4-Dichlorophenol	2,4-Dimethylphenol	2,6-Dichlorophenol	4-Chloro-3-methylphenol	2,4,6-Trichlorophenol	2,4,5-Trichlorophenol	Pentachlorophenol	1,2-Dibromoethane (EDB)	1,2-Dichloropropane	2,2-Dichloropropane	cis-1,3-Dichloropropene	trans-1,3-Dichloropropene	Bromobenzene	Chlorobenzene	2-Chlorotoluene	4-Chlorotoluene
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL				2	2	2	2	2	2	4	5	5	5	5	5	5	5	5	5
Field ID	**Date**	**Lab Report Number**	**Sample Type**																
QC300_221123	23-11-22	WN2214776	Rinsate	<2	<2	<2	<2	<2	<2	<4	<5	<5	<5	<5	<5	<5	<5	<5	<5
QC500_221123	23-11-22	WN2214776	Trip Blank	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
QC600_221123	23-11-22	WN2214776	Trip Spike	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

Table T14 - Groundwater QC Samples

				...ed Aromatic Compounds																
				1,2-Dichlorobenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	1,2,3-Trichlorobenzene	1,2,4-Trichlorobenzene	Dichlorodifluoromethane (Freon 12)	Chloromethane	Vinyl chloride	Bromomethane	Chloroethane	Trichlorofluoromethane (Freon 11)	1,1-Dichloroethene	Iodomethane	1,1-Dichloroethane	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL				2	2	2	5	2	50	50	50	50	50	50	5	5	5	5	5
Field ID	**Date**	**Lab Report Number**	**Sample Type**																
QC300_221123	23-11-22	WN2214776	Rinsate	<2	<2	<2	<5	<2	<50	<50	<50	<50	<50	<50	<5	<5	<5	<5	<5
QC500_221123	23-11-22	WN2214776	Trip Blank	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
QC600_221123	23-11-22	WN2214776	Trip Spike	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

Table T14 - Groundwater QC Samples

				Halogenated Aliphatic Compounds																
				1,1,1-Trichloroethane	1,1-Dichloropropene	Carbon Tetrachloride	1,2-Dichloroethane	Trichloroethene	Dibromomethane	1,1,2-Trichloroethane	1,3-Dichloropropane	Tetrachloroethene	1,1,1,2-Tetrachloroethane	trans-1,4-Dichloro-2-butene	cis-1,4-Dichloro-2-butene	1,1,2,2-Tetrachloroethane	1,2,3-Trichloropropane	Pentachloroethane	1,2-Dibromo-3-chloropropane
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL				5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Field ID	**Date**	**Lab Report Number**	**Sample Type**																	
QC300_221123	23-11-22	WN2214776	Rinsate	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
QC500_221123	23-11-22	WN2214776	Trip Blank	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
QC600_221123	23-11-22	WN2214776	Trip Spike	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

Table T14 - Groundwater QC Samples

					Trihalomethanes					Polychlorinated Biphenyls	Oxygenated Compounds				Sulfonated Compounds	Phthalate Esters				
				Hexachlorobutadiene	Bromodichloromethane	Bromoform	Chloroform	Dibromochloromethane	Polychlorinated Biphenyls	Vinyl acetate	2-Butanone (MEK)	2-hexanone (MBK)	4-Methyl-2-pentanone (MIBK)	Carbon disulfide	Butyl benzyl phthalate	Diethyl phthalate	Dimethyl phthalate	Di-n-butyl phthalate	Di-n-octyl phthalate
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL				2	5	5	5	5	1	50	50	50	50	5	2	2	2	2	2
Field ID	**Date**	**Lab Report Number**	**Sample Type**																
QC300_221123	23-11-22	WN2214776	Rinsate	<2	<5	<5	<5	<5	<1	<50	<50	<50	<50	<5	<2	<2	<2	<2	<2
QC500_221123	23-11-22	WN2214776	Trip Blank	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
QC600_221123	23-11-22	WN2214776	Trip Spike	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

Table T14 - Groundwater QC Samples

					Nitrosamines																
				Bis(2-ethylhexyl)phthalate	Methapyrilene	N-Nitrosodibutylamine	N-Nitrosodiethylamine	N-Nitrosodiphenyl & Diphenylamine	N-Nitrosodipropylamine	N-Nitrosomethylethylamine	N-Nitrosomorpholine	N-Nitrosopiperidine	N-Nitrosopyrrolidine	1,3,5-Trinitrobenzene	1-Naphthylamine	2,4-Dinitrotoluene	2,6-Dinitrotoluene	2-Picoline	4-Aminobiphenyl
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL				10	2	2	2	4	2	2	2	2	4	2	2	4	4	2	2
Field ID	**Date**	**Lab Report Number**	**Sample Type**																
QC300_221123	23-11-22	WN2214776	Rinsate	<10	<2	<2	<2	<4	<2	<2	<2	<2	<4	<2	<2	<4	<4	<2	<2
QC500_221123	23-11-22	WN2214776	Trip Blank	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
QC600_221123	23-11-22	WN2214776	Trip Spike	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

Table T14 - Groundwater QC Samples

				Nitroaromatics and Ketones											Haloethers				
				4-Nitroquinoline-N-oxide	5-Nitro-o-toluidine	Acetophenone	Azobenzene	Chlorobenzilate	Dimethylaminoazobenzene	Isophorone	Nitrobenzene	Pentachloronitrobenzene	Phenacetin	Pronamide	4-Bromophenyl phenyl ether	Bis(2-chloroethyl) ether	Bis(2-chloroethoxy) methane	4-Chlorophenyl phenyl ether	Hexachlorocyclopentadiene
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL				2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	10
Field ID	**Date**	**Lab Report Number**	**Sample Type**																
QC300_221123	23-11-22	WN2214776	Rinsate	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<10
QC500_221123	23-11-22	WN2214776	Trip Blank	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
QC600_221123	23-11-22	WN2214776	Trip Spike	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

Table T14 - Groundwater QC Samples

				Chlorinated Hydrocarbons			Organophosphorus Pesticides (OP)											
				Hexachloroethane	Hexachloropropene	Pentachlorobenzene	Chlorfenvinphos	Chlorpyrifos	Chlorpyrifos-methyl	Diazinon	Dichlorvos	Dimethoate	Ethion	Fenthion	Malathion	Pirimphos-ethyl	Prothiofos	Aldrin	Dieldrin
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL				2	2	2	2	2	2	2	2	2	2	2	2	2	2	0.5	0.5
Field ID	**Date**	**Lab Report Number**	**Sample Type**																
QC300_221123	23-11-22	WN2214776	Rinsate	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<0.5	<0.5
QC500_221123	23-11-22	WN2214776	Trip Blank	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
QC600_221123	23-11-22	WN2214776	Trip Spike	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

Table T14 - Groundwater QC Samples

				Organochlorine Pesticides (OC)																
				Aldrin + Dieldrin	a-BHC	b-BHC	d-BHC	g-BHC (Lindane)	cis-Chlordane	trans-Chlordane	Chlordane	DDD	DDE	DDT	DDT+DDE+DDD	Endosulfan 1	Endosulfan 2	Endosulfan sulfate	Endrin
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL				0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	2	0.5	0.5	0.5	0.5	0.5
Field ID	**Date**	**Lab Report Number**	**Sample Type**																
QC300_221123	23-11-22	WN2214776	Rinsate	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<0.5	<0.5	<0.5	<0.5	<0.5
QC500_221123	23-11-22	WN2214776	Trip Blank	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
QC600_221123	23-11-22	WN2214776	Trip Spike	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

Table T14 - Groundwater QC Samples

								Phenoxyacetic Acid Herbicides											Benzidine
				Endrin aldehyde	Endrin ketone	Heptachlor	Heptachlor epoxide	Hexachlorobenzene (HCB)	Methoxychlor	2,4,5-TP (Silvex)	2,6-D	4-Chlorophenoxy acetic acid	Clopyralid	Dicamba	Fluroxypyr	Mecoprop	Picloram	Triclopyr	3,3-Dichlorobenzidine
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL				0.5	0.5	0.5	0.5	0.5	2	10	10	10	10	10	10	10	10	10	2
Field ID	**Date**	**Lab Report Number**	**Sample Type**																
QC300_221123	23-11-22	WN2214776	Rinsate	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<2
QC500_221123	23-11-22	WN2214776	Trip Blank	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
QC600_221123	23-11-22	WN2214776	Trip Spike	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

Table T14 - Groundwater QC Samples

				Herbicides							Anilines						
				2,4,5-Trichlorophenoxy acetic acid	2,4-Dichlorprop	2,4-Dichlorophenoxy acetic acid	4-(2,4-Dichlorophenoxy)butyric Acid (2,4-DB)	2-Methyl-4-chlorophenoxyacetic acid	2,4,6-Trichlorophenoxy acetic acid	2-Methyl-4-Chlorophenoxy Butanoic Acid	2-Nitroaniline	3-Nitroaniline	4-Chloroaniline	4-Nitroaniline	Aniline	Carbazole	Dibenzofuran
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL				10	10	10	10	10	10	10	4	4	2	2	2	2	2
Field ID	**Date**	**Lab Report Number**	**Sample Type**														
QC300_221123	23-11-22	WN2214776	Rinsate	<10	<10	<10	<10	<10	<10	<10	<4	<4	<2	<2	<2	<2	<2
QC500_221123	23-11-22	WN2214776	Trip Blank	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
QC600_221123	23-11-22	WN2214776	Trip Spike	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

Appendix D

Laboratory Certificates

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

Eurofins Environment Testing Australia Pty Ltd

ABN: 50 005 085 521

Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
6 Monterey Road	19/8 Lewalan Street	179 Magowar Road	Unit 1,2 Dacre Street	1/21 Smallwood Place	4/52 Industrial Drive
Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield East NSW 2304
VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	PO Box 60 Wickham 2293
Tel: +61 3 8564 5000	Tel: +61 3 8564 5000	Tel: +61 2 9900 8400	Tel: +61 2 6113 8091	Tel: +61 7 3902 4600	Tel: +61 2 4968 8448
NATA# 1261 Site# 1254	NATA# 1261 Site# 1254	NATA# 1261 Site# 18217		NATA# 1261 Site# 20794	NATA# 1261 Site# 25079

Eurofins ARL Pty Ltd

ABN: 91 05 0159 898

Perth
46-48 Banksia Road
Welshpool
WA 6106
Tel: +61 8 6253 4444
NATA# 2377 Site# 2370

Eurofins Environment Testing NZ Ltd

NZBN: 9429046024954

Auckland	Christchurch
35 O'Rorke Road	43 Detroit Drive
Penrose,	Rolleston,
Auckland 1061	Christchurch 7675
Tel: +64 9 526 45 51	Tel: 0800 856 450
IANZ# 1327	IANZ# 1290

Sample Receipt Advice

Company name:	AECOM Aust Pty Ltd Newcastle
Contact name:	Tama Armani
Project name:	60619756 24.3
Project ID:	Not provided
Turnaround time:	5 Day
Date/Time received	Sep 6, 2022 5:46 PM
Eurofins reference	921148

Sample Information

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

Notes

Please confirm analysis.
Samples received by the laboratory after 5.30pm are deemed to have been received the following working day.

Contact

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

Andrew Black on phone : (+61) 2 9900 8490 or by email: AndrewBlack@eurofins.com

Results will be delivered electronically via email to Tama Armani - tama.armani@aecom.com.

Note: A copy of these results will also be delivered to the general AECOM Aust Pty Ltd Newcastle email address.

AECOM Aust Pty Ltd Newcastle
18 Warabrook Blvd, PO Box 73
HRMC
NSW 2310

NATA Accredited
Accreditation Number 1261
Site Number 18217

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and certificates.

Attention: **Tama Armani**

Report **921148-S**
Project name 60619756 24.3
Received Date Sep 06, 2022

Client Sample ID			QC202_220824	QC203_220824	QC205_220824
Sample Matrix			Soil	Sludge	Soil
Eurofins Sample No.			S22-Se0012958	S22-Se0012959	S22-Se0012960
Date Sampled			Aug 24, 2022	Aug 24, 2022	Aug 24, 2022
Test/Reference	LOR	Unit			
Total Recoverable Hydrocarbons					
TRH C6-C9	20	mg/kg	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	22
TRH C15-C28	50	mg/kg	< 50	68	120
TRH C29-C36	50	mg/kg	< 50	60	72
TRH C10-C36 (Total)	50	mg/kg	< 50	128	214
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5
TRH C6-C10	20	mg/kg	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	110	160
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	110	160
BTEX					
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	110	79	53
Volatile Organics					
1.1-Dichloroethane	0.5	mg/kg	< 0.5	< 0.5	-
1.1-Dichloroethene	0.5	mg/kg	< 0.5	< 0.5	-
1.1.1-Trichloroethane	0.5	mg/kg	< 0.5	< 0.5	-
1.1.1.2-Tetrachloroethane	0.5	mg/kg	< 0.5	< 0.5	-
1.1.2-Trichloroethane	0.5	mg/kg	< 0.5	< 0.5	-
1.1.2.2-Tetrachloroethane	0.5	mg/kg	< 0.5	< 0.5	-
1.2-Dibromoethane	0.5	mg/kg	< 0.5	< 0.5	-
1.2-Dichlorobenzene	0.5	mg/kg	< 0.5	< 0.5	-
1.2-Dichloroethane	0.5	mg/kg	< 0.5	< 0.5	-
1.2-Dichloropropane	0.5	mg/kg	< 0.5	< 0.5	-
1.2.3-Trichloropropane	0.5	mg/kg	< 0.5	< 0.5	-
1.2.4-Trimethylbenzene	0.5	mg/kg	< 0.5	< 0.5	-
1.3-Dichlorobenzene	0.5	mg/kg	< 0.5	< 0.5	-
1.3-Dichloropropane	0.5	mg/kg	< 0.5	< 0.5	-

Client Sample ID			QC202_220824	QC203_220824	QC205_220824
Sample Matrix			Soil	Sludge	Soil
Eurofins Sample No.			S22-Se0012958	S22-Se0012959	S22-Se0012960
Date Sampled			Aug 24, 2022	Aug 24, 2022	Aug 24, 2022
Test/Reference	LOR	Unit			
Volatile Organics					
1.3.5-Trimethylbenzene	0.5	mg/kg	< 0.5	< 0.5	-
1.4-Dichlorobenzene	0.5	mg/kg	< 0.5	< 0.5	-
2-Butanone (MEK)	0.5	mg/kg	< 0.5	< 0.5	-
2-Propanone (Acetone)	0.5	mg/kg	< 0.5	< 0.5	-
4-Chlorotoluene	0.5	mg/kg	< 0.5	< 0.5	-
4-Methyl-2-pentanone (MIBK)	0.5	mg/kg	< 0.5	< 0.5	-
Allyl chloride	0.5	mg/kg	< 0.5	< 0.5	-
Benzene	0.1	mg/kg	< 0.1	< 0.1	-
Bromobenzene	0.5	mg/kg	< 0.5	< 0.5	-
Bromochloromethane	0.5	mg/kg	< 0.5	< 0.5	-
Bromodichloromethane	0.5	mg/kg	< 0.5	< 0.5	-
Bromoform	0.5	mg/kg	< 0.5	< 0.5	-
Bromomethane	0.5	mg/kg	< 0.5	< 0.5	-
Carbon disulfide	0.5	mg/kg	< 0.5	< 0.5	-
Carbon Tetrachloride	0.5	mg/kg	< 0.5	< 0.5	-
Chlorobenzene	0.5	mg/kg	< 0.5	< 0.5	-
Chloroethane	0.5	mg/kg	< 0.5	< 0.5	-
Chloroform	0.5	mg/kg	< 0.5	< 0.5	-
Chloromethane	0.5	mg/kg	< 0.5	< 0.5	-
cis-1.2-Dichloroethene	0.5	mg/kg	< 0.5	< 0.5	-
cis-1.3-Dichloropropene	0.5	mg/kg	< 0.5	< 0.5	-
Dibromochloromethane	0.5	mg/kg	< 0.5	< 0.5	-
Dibromomethane	0.5	mg/kg	< 0.5	< 0.5	-
Dichlorodifluoromethane	0.5	mg/kg	< 0.5	< 0.5	-
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	-
Iodomethane	0.5	mg/kg	< 0.5	< 0.5	-
Isopropyl benzene (Cumene)	0.5	mg/kg	< 0.5	< 0.5	-
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	-
Methylene Chloride	0.5	mg/kg	< 0.5	< 0.5	-
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	-
Styrene	0.5	mg/kg	< 0.5	< 0.5	-
Tetrachloroethene	0.5	mg/kg	< 0.5	< 0.5	-
Toluene	0.1	mg/kg	< 0.1	< 0.1	-
trans-1.2-Dichloroethene	0.5	mg/kg	< 0.5	< 0.5	-
trans-1.3-Dichloropropene	0.5	mg/kg	< 0.5	< 0.5	-
Trichloroethene	0.5	mg/kg	< 0.5	< 0.5	-
Trichlorofluoromethane	0.5	mg/kg	< 0.5	< 0.5	-
Vinyl chloride	0.5	mg/kg	< 0.5	< 0.5	-
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	-
Total MAH*	0.5	mg/kg	< 0.5	< 0.5	-
Vic EPA IWRG 621 CHC (Total)*	0.5	mg/kg	< 0.5	< 0.5	-
Vic EPA IWRG 621 Other CHC (Total)*	0.5	mg/kg	< 0.5	< 0.5	-
4-Bromofluorobenzene (surr.)	1	%	110	79	-
Toluene-d8 (surr.)	1	%	109	82	-
Polycyclic Aromatic Hydrocarbons					
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	0.6	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.2	1.2
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5

Client Sample ID			QC202_220824	QC203_220824	QC205_220824
Sample Matrix			Soil	Sludge	Soil
Eurofins Sample No.			S22-Se0012958	S22-Se0012959	S22-Se0012960
Date Sampled			Aug 24, 2022	Aug 24, 2022	Aug 24, 2022
Test/Reference	LOR	Unit			
Polycyclic Aromatic Hydrocarbons					
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5	0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Chrysene	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Total PAH*	0.5	mg/kg	< 0.5	< 0.5	0.5
2-Fluorobiphenyl (surr.)	1	%	100	99	100
p-Terphenyl-d14 (surr.)	1	%	104	85	102
Organochlorine Pesticides					
Chlordanes - Total	0.1	mg/kg	< 0.1	< 0.1	< 0.1
4.4'-DDD	0.05	mg/kg	< 0.05	< 0.05	< 0.05
4.4'-DDE	0.05	mg/kg	< 0.05	< 0.05	< 0.05
4.4'-DDT	0.05	mg/kg	< 0.05	< 0.05	< 0.05
a-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Aldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05
b-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05
d-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Endrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	< 0.05
g-HCH (Lindane)	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Methoxychlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Toxaphene	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Dibutylchlorendate (surr.)	1	%	74	63	102
Tetrachloro-m-xylene (surr.)	1	%	106	94	99

Client Sample ID			QC202_220824	QC203_220824	QC205_220824
Sample Matrix			Soil	Sludge	Soil
Eurofins Sample No.			S22-Se0012958	S22-Se0012959	S22-Se0012960
Date Sampled			Aug 24, 2022	Aug 24, 2022	Aug 24, 2022
Test/Reference	LOR	Unit			
Organophosphorus Pesticides					
Azinphos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 0.2
Bolstar	0.2	mg/kg	< 0.2	< 0.2	< 0.2
Chlorfenvinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2
Chlorpyrifos	0.2	mg/kg	< 0.2	< 0.2	< 0.2
Chlorpyrifos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 0.2
Coumaphos	2	mg/kg	< 2	< 2	< 2
Demeton-S	0.2	mg/kg	< 0.2	< 0.2	< 0.2
Demeton-O	0.2	mg/kg	< 0.2	< 0.2	< 0.2
Diazinon	0.2	mg/kg	< 0.2	< 0.2	< 0.2
Dichlorvos	0.2	mg/kg	< 0.2	< 0.2	< 0.2
Dimethoate	0.2	mg/kg	< 0.2	< 0.2	< 0.2
Disulfoton	0.2	mg/kg	< 0.2	< 0.2	< 0.2
EPN	0.2	mg/kg	< 0.2	< 0.2	< 0.2
Ethion	0.2	mg/kg	< 0.2	< 0.2	< 0.2
Ethoprop	0.2	mg/kg	< 0.2	< 0.2	< 0.2
Ethyl parathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2
Fenitrothion	0.2	mg/kg	< 0.2	< 0.2	< 0.2
Fensulfothion	0.2	mg/kg	< 0.2	< 0.2	< 0.2
Fenthion	0.2	mg/kg	< 0.2	< 0.2	< 0.2
Malathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2
Merphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2
Methyl parathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2
Mevinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2
Monocrotophos	2	mg/kg	< 2	< 2	< 2
Naled	0.2	mg/kg	< 0.2	< 0.2	< 0.2
Omethoate	2	mg/kg	< 2	< 2	< 2
Phorate	0.2	mg/kg	< 0.2	< 0.2	< 0.2
Pirimiphos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 0.2
Pyrazophos	0.2	mg/kg	< 0.2	< 0.2	< 0.2
Ronnel	0.2	mg/kg	< 0.2	< 0.2	< 0.2
Terbufos	0.2	mg/kg	< 0.2	< 0.2	< 0.2
Tetrachlorvinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2
Tokuthion	0.2	mg/kg	< 0.2	< 0.2	< 0.2
Trichloronate	0.2	mg/kg	< 0.2	< 0.2	< 0.2
Triphenylphosphate (surr.)	1	%	71	70	92
Polychlorinated Biphenyls					
Aroclor-1016	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Aroclor-1221	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Aroclor-1232	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Aroclor-1242	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Aroclor-1248	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Aroclor-1254	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Aroclor-1260	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Total PCB*	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Dibutylchlorendate (surr.)	1	%	74	63	102
Tetrachloro-m-xylene (surr.)	1	%	106	94	99

Client Sample ID			QC202_220824	QC203_220824	QC205_220824
Sample Matrix			Soil	Sludge	Soil
Eurofins Sample No.			S22-Se0012958	S22-Se0012959	S22-Se0012960
Date Sampled			Aug 24, 2022	Aug 24, 2022	Aug 24, 2022
Test/Reference	LOR	Unit			
Acid Herbicides					
2.4-D	0.5	mg/kg	< 0.5	< 0.5	< 0.5
2.4-DB	0.5	mg/kg	< 0.5	< 0.5	< 0.5
2.4.5-T	0.5	mg/kg	< 0.5	< 0.5	< 0.5
2.4.5-TP	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Actril (loxynil)	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Dicamba	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Dichlorprop	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Dinitro-o-cresol	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Dinoseb	0.5	mg/kg	< 0.5	< 0.5	< 0.5
MCPA	0.5	mg/kg	< 0.5	< 0.5	< 0.5
MCPB	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Mecoprop	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Warfarin (surr.)	1	%	78	85	78
Semivolatile Organics					
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	< 0.5	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	0.6	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.2	-
2-Methyl-4.6-dinitrophenol	5	mg/kg	< 5	< 5	-
1-Chloronaphthalene	0.5	mg/kg	< 0.5	< 0.5	-
1-Naphthylamine	0.5	mg/kg	< 1	< 1	-
1.2-Dichlorobenzene	0.5	mg/kg	< 0.5	< 0.5	-
1.2.3-Trichlorobenzene	0.5	mg/kg	< 0.5	< 0.5	-
1.2.3.4-Tetrachlorobenzene	0.5	mg/kg	< 0.5	< 0.5	-
1.2.3.5-Tetrachlorobenzene	0.5	mg/kg	< 0.5	< 0.5	-
1.2.4-Trichlorobenzene	0.5	mg/kg	< 0.5	< 0.5	-
1.2.4.5-Tetrachlorobenzene	0.5	mg/kg	< 0.5	< 0.5	-
1.3-Dichlorobenzene	0.5	mg/kg	< 0.5	< 0.5	-
1.3.5-Trichlorobenzene	0.5	mg/kg	< 0.5	< 0.5	-
1.4-Dichlorobenzene	0.5	mg/kg	< 0.5	< 0.5	-
2-Chloronaphthalene	0.5	mg/kg	< 0.5	< 0.5	-
2-Chlorophenol	0.5	mg/kg	< 0.5	< 0.5	-
2-Fluorobiphenyl (surr.)	1	%	100	99	-
2-Methylnaphthalene	0.5	mg/kg	< 0.5	< 0.5	-
2-Methylphenol (o-Cresol)	0.2	mg/kg	< 0.2	< 0.2	-
2-Naphthylamine	0.5	mg/kg	< 0.5	< 0.5	-
2-Nitroaniline	1	mg/kg	< 1	< 1	-
2-Nitrophenol	1	mg/kg	< 1	< 1	-
2-Picoline	0.5	mg/kg	< 0.5	< 0.5	-
2.3.4.6-Tetrachlorophenol	0.5	mg/kg	< 0.5	< 0.5	-
2.4-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	-
2.4-Dimethylphenol	0.5	mg/kg	< 0.5	< 0.5	-
2.4-Dinitrophenol	5	mg/kg	< 5	< 5	-
2.4-Dinitrotoluene	0.5	mg/kg	< 0.5	< 0.5	-
2.4.5-Trichlorophenol	1	mg/kg	< 1	< 1	-
2.4.6-Tribromophenol (surr.)	1	%	70	INT	-
2.4.6-Trichlorophenol	1	mg/kg	< 1	< 1	-
2.6-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	-
2.6-Dinitrotoluene	1	mg/kg	< 1	< 1	-
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	< 0.4	< 0.4	-

Client Sample ID			QC202_220824	QC203_220824	QC205_220824
Sample Matrix			Soil	Sludge	Soil
Eurofins Sample No.			S22-Se0012958	S22-Se0012959	S22-Se0012960
Date Sampled			Aug 24, 2022	Aug 24, 2022	Aug 24, 2022
Test/Reference	LOR	Unit			
Semivolatile Organics					
3-Methylcholanthrene	0.5	mg/kg	< 0.5	< 0.5	-
3.3'-Dichlorobenzidine	0.5	mg/kg	< 0.5	< 0.5	-
4-Aminobiphenyl	0.5	mg/kg	< 0.5	< 0.5	-
4-Bromophenyl phenyl ether	0.5	mg/kg	< 0.5	< 0.5	-
4-Chloro-3-methylphenol	1	mg/kg	< 1	< 1	-
4-Chlorophenyl phenyl ether	0.5	mg/kg	< 0.5	< 0.5	-
4-Nitrophenol	5	mg/kg	< 5	< 5	-
4.4'-DDD	0.5	mg/kg	< 0.5	< 0.5	-
4.4'-DDE	0.5	mg/kg	< 0.5	< 0.5	-
4.4'-DDT	1	mg/kg	< 1	< 1	-
7.12-Dimethylbenz(a)anthracene	0.5	mg/kg	< 1	< 1	-
a-HCH	0.5	mg/kg	< 0.5	< 0.5	-
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	-
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	-
Acetophenone	0.5	mg/kg	< 0.5	< 0.5	-
Aldrin	0.5	mg/kg	< 0.5	< 0.5	-
Aniline	0.5	mg/kg	< 0.5	< 0.5	-
Anthracene	0.5	mg/kg	< 0.5	< 0.5	-
b-HCH	0.5	mg/kg	< 0.5	< 0.5	-
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	-
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	-
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5	< 0.5	-
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	< 0.5	-
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5	-
Benzyl chloride	0.5	mg/kg	< 0.5	< 0.5	-
Bis(2-chloroethoxy)methane	0.5	mg/kg	< 0.5	< 0.5	-
Bis(2-chloroisopropyl)ether	0.5	mg/kg	< 0.5	< 0.5	-
Bis(2-ethylhexyl)phthalate	5	mg/kg	< 5	< 5	-
Butyl benzyl phthalate	0.5	mg/kg	< 0.5	< 0.5	-
Chrysene	0.5	mg/kg	< 0.5	< 0.5	-
d-HCH	0.5	mg/kg	< 0.5	< 0.5	-
Di-n-butyl phthalate	0.5	mg/kg	< 0.5	< 0.5	-
Di-n-octyl phthalate	0.5	mg/kg	< 0.5	< 0.5	-
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5	-
Dibenz(a.j)acridine	0.5	mg/kg	< 0.5	< 0.5	-
Dibenzofuran	0.5	mg/kg	< 0.5	< 0.5	-
Dieldrin	0.5	mg/kg	< 0.5	< 0.5	-
Diethyl phthalate	0.5	mg/kg	< 0.5	< 0.5	-
Dimethyl phthalate	0.5	mg/kg	< 0.5	< 0.5	-
Dimethylaminoazobenzene	0.5	mg/kg	< 0.5	< 0.5	-
Diphenylamine	0.5	mg/kg	< 0.5	< 0.5	-
Endosulfan I	0.5	mg/kg	< 0.5	< 0.5	-
Endosulfan II	0.5	mg/kg	< 0.5	< 0.5	-
Endosulfan sulphate	0.5	mg/kg	< 0.5	< 0.5	-
Endrin	0.5	mg/kg	< 0.5	< 0.5	-
Endrin aldehyde	0.5	mg/kg	< 0.5	< 0.5	-
Endrin ketone	0.5	mg/kg	< 0.5	< 0.5	-
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	-
Fluorene	0.5	mg/kg	< 0.5	< 0.5	-

Client Sample ID			QC202_220824	QC203_220824	QC205_220824
Sample Matrix			Soil	Sludge	Soil
Eurofins Sample No.			S22-Se0012958	S22-Se0012959	S22-Se0012960
Date Sampled			Aug 24, 2022	Aug 24, 2022	Aug 24, 2022
Test/Reference	LOR	Unit			
Semivolatile Organics					
g-HCH (Lindane)	0.5	mg/kg	< 0.5	< 0.5	-
Heptachlor	0.5	mg/kg	< 0.5	< 0.5	-
Heptachlor epoxide	0.5	mg/kg	< 0.5	< 0.5	-
Hexachlorobenzene	0.5	mg/kg	< 0.5	< 0.5	-
Hexachlorobutadiene	0.5	mg/kg	< 0.5	< 0.5	-
Hexachlorocyclopentadiene	1	mg/kg	< 1	< 1	-
Hexachloroethane	0.5	mg/kg	< 0.5	< 0.5	-
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	-
Methoxychlor	0.5	mg/kg	< 0.5	< 0.5	-
N-Nitrosodibutylamine	0.5	mg/kg	< 0.5	< 0.5	-
N-Nitrosodipropylamine	0.5	mg/kg	< 0.5	< 0.5	-
N-Nitrosopiperidine	0.5	mg/kg	< 0.5	< 0.5	-
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	-
Nitrobenzene	0.5	mg/kg	< 0.5	< 0.5	-
Nitrobenzene-d5 (surr.)	1	%	116	82	-
Pentachlorobenzene	0.5	mg/kg	< 0.5	< 0.5	-
Pentachloronitrobenzene	0.5	mg/kg	< 0.5	< 0.5	-
Pentachlorophenol	1	mg/kg	< 1	< 1	-
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	-
Phenol	0.5	mg/kg	< 0.5	< 0.5	-
Phenol-d6 (surr.)	1	%	111	95	-
Pronamide	0.5	mg/kg	< 0.5	< 0.5	-
Pyrene	0.5	mg/kg	< 0.5	< 0.5	-
Trifluralin	0.5	mg/kg	< 0.5	< 0.5	-
Heavy Metals					
Arsenic	2	mg/kg	5.4	25	6.9
Cadmium	0.4	mg/kg	< 0.4	0.9	< 0.4
Chromium	5	mg/kg	20	38	9.5
Copper	5	mg/kg	8.1	260	35
Lead	5	mg/kg	11	40	27
Mercury	0.1	mg/kg	< 0.1	0.7	0.1
Nickel	5	mg/kg	19	220	38
Zinc	5	mg/kg	21	300	24
% Moisture	1	%	12	59	25
Perfluoroalkyl carboxylic acids (PFCAs)					
Perfluorobutanoic acid (PFBA)[N11]	5	ug/kg	< 5	< 5	-
Perfluoropentanoic acid (PFPeA)[N11]	5	ug/kg	< 5	6.0	-
Perfluorohexanoic acid (PFHxA)[N11]	5	ug/kg	< 5	[N09]29	-
Perfluoroheptanoic acid (PFHpA)[N11]	5	ug/kg	< 5	5.4	-
Perfluorooctanoic acid (PFOA)[N11]	5	ug/kg	< 5	[N09]18	-
Perfluorononanoic acid (PFNA)[N11]	5	ug/kg	< 5	[N09]420	-
Perfluorodecanoic acid (PFDA)[N11]	5	ug/kg	< 5	11	-
Perfluoroundecanoic acid (PFUnDA)[N11]	5	ug/kg	< 5	430	-
Perfluorododecanoic acid (PFDoDA)[N11]	5	ug/kg	< 5	< 5	-
Perfluorotridecanoic acid (PFTrDA)[N15]	5	ug/kg	< 5	87	-
Perfluorotetradecanoic acid (PFTeDA)[N11]	5	ug/kg	< 5	< 5	-
13C4-PFBA (surr.)	1	%	88	79	-
13C5-PFPeA (surr.)	1	%	102	87	-

Client Sample ID			QC202_220824	QC203_220824	QC205_220824
Sample Matrix			Soil	Sludge	Soil
Eurofins Sample No.			S22-Se0012958	S22-Se0012959	S22-Se0012960
Date Sampled			Aug 24, 2022	Aug 24, 2022	Aug 24, 2022
Test/Reference	LOR	Unit			
Perfluoroalkyl carboxylic acids (PFCAs)					
13C5-PFHxA (surr.)	1	%	101	91	-
13C4-PFHpA (surr.)	1	%	95	86	-
13C8-PFOA (surr.)	1	%	97	88	-
13C5-PFNA (surr.)	1	%	99	85	-
13C6-PFDA (surr.)	1	%	119	105	-
13C2-PFUnDA (surr.)	1	%	113	96	-
13C2-PFDoDA (surr.)	1	%	104	91	-
13C2-PFTeDA (surr.)	1	%	97	81	-
Perfluoroalkyl sulfonamido substances					
Perfluorooctane sulfonamide (FOSA)[N11]	5	ug/kg	< 5	< 5	-
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)[N11]	5	ug/kg	< 5	< 5	-
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)[N11]	5	ug/kg	< 5	< 5	-
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)[N11]	5	ug/kg	< 5	< 5	-
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)[N11]	5	ug/kg	< 5	< 5	-
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)[N11]	10	ug/kg	< 10	< 10	-
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)[N11]	10	ug/kg	< 10	< 10	-
13C8-FOSA (surr.)	1	%	105	97	-
D3-N-MeFOSA (surr.)	1	%	96	91	-
D5-N-EtFOSA (surr.)	1	%	104	87	-
D7-N-MeFOSE (surr.)	1	%	90	80	-
D9-N-EtFOSE (surr.)	1	%	70	70	-
D5-N-EtFOSAA (surr.)	1	%	110	101	-
D3-N-MeFOSAA (surr.)	1	%	138	107	-
Perfluoroalkyl sulfonic acids (PFSAs)					
Perfluorobutanesulfonic acid (PFBS)[N11]	5	ug/kg	< 5	5.2	-
Perfluorononanesulfonic acid (PFNS)[N15]	5	ug/kg	< 5	< 5	-
Perfluoropropanesulfonic acid (PFPrS)[N15]	5	ug/kg	< 5	< 5	-
Perfluoropentanesulfonic acid (PFPeS)[N15]	5	ug/kg	< 5	[N09]15	-
Perfluorohexanesulfonic acid (PFHxS)[N11]	5	ug/kg	< 5	[N09]450	-
Perfluoroheptanesulfonic acid (PFHpS)[N15]	5	ug/kg	< 5	[N09]34	-
Perfluorooctanesulfonic acid (PFOS)[N11]	5	ug/kg	< 5	[N09]940	-
Perfluorodecanesulfonic acid (PFDS)[N15]	5	ug/kg	< 5	< 5	-
13C3-PFBS (surr.)	1	%	112	100	-
18O2-PFHxS (surr.)	1	%	104	87	-
13C8-PFOS (surr.)	1	%	111	83	-
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)					
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)[N11]	5	ug/kg	< 5	< 5	-
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)[N11]	10	ug/kg	< 10	< 10	-
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)[N11]	5	ug/kg	< 5	< 5	-
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)[N11]	5	ug/kg	< 5	< 5	-
13C2-4:2 FTSA (surr.)	1	%	85	88	-
13C2-6:2 FTSA (surr.)	1	%	81	79	-
13C2-8:2 FTSA (surr.)	1	%	186	175	-
13C2-10:2 FTSA (surr.)	1	%	179	162	-

Client Sample ID			QC202_220824	QC203_220824	QC205_220824
Sample Matrix			Soil	Sludge	Soil
Eurofins Sample No.			S22-Se0012958	S22-Se0012959	S22-Se0012960
Date Sampled			Aug 24, 2022	Aug 24, 2022	Aug 24, 2022
Test/Reference	LOR	Unit			
PFASs Summations					
Sum (PFHxS + PFOS)*	5	ug/kg	< 5	1390	-
Sum of US EPA PFAS (PFOS + PFOA)*	5	ug/kg	< 5	958	-
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	5	ug/kg	< 5	1408	-
Sum of WA DWER PFAS (n=10)*	10	ug/kg	< 10	1453.6	-
Sum of PFASs (n=30)*	50	ug/kg	< 50	2450.6	-

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Sydney	Sep 13, 2022	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Sydney	Sep 13, 2022	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Sydney	Sep 13, 2022	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Sydney	Sep 13, 2022	14 Days
- Method: LTM-ORG-2010 BTEX and Volatile TRH			
Polycyclic Aromatic Hydrocarbons	Sydney	Sep 13, 2022	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Organochlorine Pesticides	Sydney	Sep 13, 2022	14 Days
- Method: LTM-ORG-2220 OCP & PCB in Soil and Water			
Organophosphorus Pesticides	Sydney	Sep 13, 2022	14 Days
- Method: LTM-ORG-2200 Organophosphorus Pesticides by GC-MS			
Polychlorinated Biphenyls	Sydney	Sep 13, 2022	28 Days
- Method: LTM-ORG-2220 OCP & PCB in Soil and Water			
Metals M8	Sydney	Sep 13, 2022	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Volatile Organics	Sydney	Sep 13, 2022	7 Days
- Method: LTM-ORG-2150 VOCs in Soils Liquid and other Aqueous Matrices			
Semivolatile Organics	Sydney	Sep 13, 2022	14 Day
- Method: LTM-ORG-2190 SVOC in Water & Soil by GC-MS			
Acid Herbicides	Melbourne	Sep 14, 2022	14 Days
- Method: LTM-ORG-2180 Phenoxy Acid Herbicides			
% Moisture	Sydney	Sep 12, 2022	14 Days
- Method: LTM-GEN-7080 Moisture			
Per- and Polyfluoroalkyl Substances (PFASs)			
Perfluoroalkyl carboxylic acids (PFCAs)	Sydney	Sep 13, 2022	28 Days
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS)			
Perfluoroalkyl sulfonamido substances	Sydney	Sep 13, 2022	28 Days
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS)			
Perfluoroalkyl sulfonic acids (PFSAs)	Sydney	Sep 13, 2022	28 Days
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS)			
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)	Sydney	Sep 13, 2022	28 Days
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS)			
PFASs Summations	Sydney	Sep 12, 2022	
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS)			

eurofins

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

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

Melbourne
6 Monterey Road
Dandenong South
VIC 3175
Tel: +61 3 8564 5000
NATA# 1261 Site# 1254

Geelong
19/8 Lewalan Street
Grovedale
VIC 3216
Tel: +61 3 8564 5000
NATA# 1261 Site# 1254

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

Canberra
Unit 1,2 Dacre Street
Mitchell
ACT 2911
Tel: +61 2 6113 8091

Brisbane
1/21 Smallwood Place
Murarrie
QLD 4172
Tel: +61 7 3902 4600
NATA# 1261 Site# 20794

Newcastle
4/52 Industrial Drive
Mayfield East NSW 2304
PO Box 60 Wickham 2293
Tel: +61 2 4968 8448
NATA# 1261 Site# 25079

Eurofins ARL Pty Ltd
ABN: 91 05 0159 898

Perth
46-48 Banksia Road
Welshpool
WA 6106
Tel: +61 8 6253 4444
NATA# 2377 Site# 2370

Eurofins Environment Testing NZ Ltd
NZBN: 9429046024954

Auckland
35 O'Rorke Road
Penrose,
Auckland 1061
Tel: +64 9 526 45 51
IANZ# 1327

Christchurch
43 Detroit Drive
Rolleston,
Christchurch 7675
Tel: 0800 856 450
IANZ# 1290

Company Name: AECOM Aust Pty Ltd Newcastle
Address: 18 Warabrook Blvd, PO Box 73
HRMC
NSW 2310

Project Name: 60619756 24.3

Order No.: 60619756/211-30
Report #: 921148
Phone: 02 4911 4900
Fax: 02 4968 0005

Received: Sep 12, 2022 2:05 PM
Due: Sep 19, 2022
Priority: 5 Day
Contact Name: Tama Armani

Eurofins Analytical Services Manager : Andrew Black

Sample Detail						Asbestos - AS4964	Acid Herbicides	Moisture Set	Eurofins Suite SVV: SVOC/VOC	Per- and Polyfluoroalkyl Substances (PFASs)	Suite B10B:TRH/BTEXN/PAH/OCP/OPP/PCB/M8
Melbourne Laboratory - NATA # 1261 Site # 1254							X				
Sydney Laboratory - NATA # 1261 Site # 18217						X		X	X	X	X
External Laboratory											
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**						
1	QC202_220824	Aug 24, 2022		Soil	S22-Se0012958	X	X	X	X	X	X
2	QC203_220824	Aug 24, 2022		Sludge	S22-Se0012959	X	X	X	X	X	X
3	QC205_220824	Aug 24, 2022		Soil	S22-Se0012960		X	X			X
Test Counts						2	3	3	2	2	3

Internal Quality Control Review and Glossary

General

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

Holding Times

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

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

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

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

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

Units

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

Terms

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

QC - Acceptance Criteria

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

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

Results <10 times the LOR: No Limit

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

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

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

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

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

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QC Data General Comments

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

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/kg	< 20			20	Pass	
TRH C10-C14	mg/kg	< 20			20	Pass	
TRH C15-C28	mg/kg	< 50			50	Pass	
TRH C29-C36	mg/kg	< 50			50	Pass	
Naphthalene	mg/kg	< 0.5			0.5	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
TRH >C10-C16	mg/kg	< 50			50	Pass	
TRH >C16-C34	mg/kg	< 100			100	Pass	
TRH >C34-C40	mg/kg	< 100			100	Pass	
Method Blank							
BTEX							
Benzene	mg/kg	< 0.1			0.1	Pass	
Toluene	mg/kg	< 0.1			0.1	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Xylenes - Total*	mg/kg	< 0.3			0.3	Pass	
Method Blank							
Volatile Organics							
1.1-Dichloroethane	mg/kg	< 0.5			0.5	Pass	
1.1-Dichloroethene	mg/kg	< 0.5			0.5	Pass	
1.1.1-Trichloroethane	mg/kg	< 0.5			0.5	Pass	
1.1.1.2-Tetrachloroethane	mg/kg	< 0.5			0.5	Pass	
1.1.2-Trichloroethane	mg/kg	< 0.5			0.5	Pass	
1.1.2.2-Tetrachloroethane	mg/kg	< 0.5			0.5	Pass	
1.2-Dibromoethane	mg/kg	< 0.5			0.5	Pass	
1.2-Dichlorobenzene	mg/kg	< 0.5			0.5	Pass	
1.2-Dichloroethane	mg/kg	< 0.5			0.5	Pass	
1.2-Dichloropropane	mg/kg	< 0.5			0.5	Pass	
1.2.3-Trichloropropane	mg/kg	< 0.5			0.5	Pass	
1.2.4-Trimethylbenzene	mg/kg	< 0.5			0.5	Pass	
1.3-Dichlorobenzene	mg/kg	< 0.5			0.5	Pass	
1.3-Dichloropropane	mg/kg	< 0.5			0.5	Pass	
1.3.5-Trimethylbenzene	mg/kg	< 0.5			0.5	Pass	
1.4-Dichlorobenzene	mg/kg	< 0.5			0.5	Pass	
2-Butanone (MEK)	mg/kg	< 0.5			0.5	Pass	
2-Propanone (Acetone)	mg/kg	< 0.5			0.5	Pass	
4-Chlorotoluene	mg/kg	< 0.5			0.5	Pass	
4-Methyl-2-pentanone (MIBK)	mg/kg	< 0.5			0.5	Pass	
Allyl chloride	mg/kg	< 0.5			0.5	Pass	
Bromobenzene	mg/kg	< 0.5			0.5	Pass	
Bromochloromethane	mg/kg	< 0.5			0.5	Pass	
Bromodichloromethane	mg/kg	< 0.5			0.5	Pass	
Bromoform	mg/kg	< 0.5			0.5	Pass	
Bromomethane	mg/kg	< 0.5			0.5	Pass	
Carbon disulfide	mg/kg	< 0.5			0.5	Pass	
Carbon Tetrachloride	mg/kg	< 0.5			0.5	Pass	
Chlorobenzene	mg/kg	< 0.5			0.5	Pass	
Chloroethane	mg/kg	< 0.5			0.5	Pass	
Chloroform	mg/kg	< 0.5			0.5	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Chloromethane	mg/kg	< 0.5			0.5	Pass	
cis-1.2-Dichloroethene	mg/kg	< 0.5			0.5	Pass	
cis-1.3-Dichloropropene	mg/kg	< 0.5			0.5	Pass	
Dibromochloromethane	mg/kg	< 0.5			0.5	Pass	
Dibromomethane	mg/kg	< 0.5			0.5	Pass	
Dichlorodifluoromethane	mg/kg	< 0.5			0.5	Pass	
Iodomethane	mg/kg	< 0.5			0.5	Pass	
Isopropyl benzene (Cumene)	mg/kg	< 0.5			0.5	Pass	
Methylene Chloride	mg/kg	< 0.5			0.5	Pass	
Styrene	mg/kg	< 0.5			0.5	Pass	
Tetrachloroethene	mg/kg	< 0.5			0.5	Pass	
trans-1.2-Dichloroethene	mg/kg	< 0.5			0.5	Pass	
trans-1.3-Dichloropropene	mg/kg	< 0.5			0.5	Pass	
Trichloroethene	mg/kg	< 0.5			0.5	Pass	
Trichlorofluoromethane	mg/kg	< 0.5			0.5	Pass	
Vinyl chloride	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/kg	< 0.5			0.5	Pass	
Acenaphthylene	mg/kg	< 0.5			0.5	Pass	
Anthracene	mg/kg	< 0.5			0.5	Pass	
Benz(a)anthracene	mg/kg	< 0.5			0.5	Pass	
Benzo(a)pyrene	mg/kg	< 0.5			0.5	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.5			0.5	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Chrysene	mg/kg	< 0.5			0.5	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.5			0.5	Pass	
Fluoranthene	mg/kg	< 0.5			0.5	Pass	
Fluorene	mg/kg	< 0.5			0.5	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.5			0.5	Pass	
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Phenanthrene	mg/kg	< 0.5			0.5	Pass	
Pyrene	mg/kg	< 0.5			0.5	Pass	
Total PAH*	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Organochlorine Pesticides							
Chlordanes - Total	mg/kg	< 0.1			0.1	Pass	
4.4'-DDD	mg/kg	< 0.05			0.05	Pass	
4.4'-DDE	mg/kg	< 0.05			0.05	Pass	
4.4'-DDT	mg/kg	< 0.05			0.05	Pass	
a-HCH	mg/kg	< 0.05			0.05	Pass	
Aldrin	mg/kg	< 0.05			0.05	Pass	
b-HCH	mg/kg	< 0.05			0.05	Pass	
d-HCH	mg/kg	< 0.05			0.05	Pass	
Dieldrin	mg/kg	< 0.05			0.05	Pass	
Endosulfan I	mg/kg	< 0.05			0.05	Pass	
Endosulfan II	mg/kg	< 0.05			0.05	Pass	
Endosulfan sulphate	mg/kg	< 0.05			0.05	Pass	
Endrin	mg/kg	< 0.05			0.05	Pass	
Endrin aldehyde	mg/kg	< 0.05			0.05	Pass	
Endrin ketone	mg/kg	< 0.05			0.05	Pass	
g-HCH (Lindane)	mg/kg	< 0.05			0.05	Pass	
Heptachlor	mg/kg	< 0.05			0.05	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Heptachlor epoxide	mg/kg	< 0.05			0.05	Pass	
Hexachlorobenzene	mg/kg	< 0.05			0.05	Pass	
Methoxychlor	mg/kg	< 0.05			0.05	Pass	
Toxaphene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Organophosphorus Pesticides							
Azinphos-methyl	mg/kg	< 0.2			0.2	Pass	
Bolstar	mg/kg	< 0.2			0.2	Pass	
Chlorfenvinphos	mg/kg	< 0.2			0.2	Pass	
Chlorpyrifos	mg/kg	< 0.2			0.2	Pass	
Chlorpyrifos-methyl	mg/kg	< 0.2			0.2	Pass	
Coumaphos	mg/kg	< 2			2	Pass	
Demeton-S	mg/kg	< 0.2			0.2	Pass	
Demeton-O	mg/kg	< 0.2			0.2	Pass	
Diazinon	mg/kg	< 0.2			0.2	Pass	
Dichlorvos	mg/kg	< 0.2			0.2	Pass	
Dimethoate	mg/kg	< 0.2			0.2	Pass	
Disulfoton	mg/kg	< 0.2			0.2	Pass	
EPN	mg/kg	< 0.2			0.2	Pass	
Ethion	mg/kg	< 0.2			0.2	Pass	
Ethoprop	mg/kg	< 0.2			0.2	Pass	
Ethyl parathion	mg/kg	< 0.2			0.2	Pass	
Fenitrothion	mg/kg	< 0.2			0.2	Pass	
Fensulfothion	mg/kg	< 0.2			0.2	Pass	
Fenthion	mg/kg	< 0.2			0.2	Pass	
Malathion	mg/kg	< 0.2			0.2	Pass	
Merphos	mg/kg	< 0.2			0.2	Pass	
Methyl parathion	mg/kg	< 0.2			0.2	Pass	
Mevinphos	mg/kg	< 0.2			0.2	Pass	
Monocrotophos	mg/kg	< 2			2	Pass	
Naled	mg/kg	< 0.2			0.2	Pass	
Omethoate	mg/kg	< 2			2	Pass	
Phorate	mg/kg	< 0.2			0.2	Pass	
Pirimiphos-methyl	mg/kg	< 0.2			0.2	Pass	
Pyrazophos	mg/kg	< 0.2			0.2	Pass	
Ronnel	mg/kg	< 0.2			0.2	Pass	
Terbufos	mg/kg	< 0.2			0.2	Pass	
Tetrachlorvinphos	mg/kg	< 0.2			0.2	Pass	
Tokuthion	mg/kg	< 0.2			0.2	Pass	
Trichloronate	mg/kg	< 0.2			0.2	Pass	
Method Blank							
Polychlorinated Biphenyls							
Aroclor-1016	mg/kg	< 0.1			0.1	Pass	
Aroclor-1221	mg/kg	< 0.1			0.1	Pass	
Aroclor-1232	mg/kg	< 0.1			0.1	Pass	
Aroclor-1242	mg/kg	< 0.1			0.1	Pass	
Aroclor-1248	mg/kg	< 0.1			0.1	Pass	
Aroclor-1254	mg/kg	< 0.1			0.1	Pass	
Aroclor-1260	mg/kg	< 0.1			0.1	Pass	
Total PCB*	mg/kg	< 0.1			0.1	Pass	
Method Blank							
Acid Herbicides							
2.4-D	mg/kg	< 0.5			0.5	Pass	
2.4-DB	mg/kg	< 0.5			0.5	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
2.4.5-T	mg/kg	< 0.5			0.5	Pass	
2.4.5-TP	mg/kg	< 0.5			0.5	Pass	
Dicamba	mg/kg	< 0.5			0.5	Pass	
Dichlorprop	mg/kg	< 0.5			0.5	Pass	
Dinitro-o-cresol	mg/kg	< 0.5			0.5	Pass	
Dinoseb	mg/kg	< 0.5			0.5	Pass	
MCPA	mg/kg	< 0.5			0.5	Pass	
MCPB	mg/kg	< 0.5			0.5	Pass	
Mecoprop	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Semivolatile Organics							
2-Methyl-4.6-dinitrophenol	mg/kg	< 5			5	Pass	
1-Chloronaphthalene	mg/kg	< 0.5			0.5	Pass	
1-Naphthylamine	mg/kg	< 0.5			0.5	Pass	
1.2-Dichlorobenzene	mg/kg	< 0.5			0.5	Pass	
1.2.3-Trichlorobenzene	mg/kg	< 0.5			0.5	Pass	
1.2.3.4-Tetrachlorobenzene	mg/kg	< 0.5			0.5	Pass	
1.2.3.5-Tetrachlorobenzene	mg/kg	< 0.5			0.5	Pass	
1.2.4-Trichlorobenzene	mg/kg	< 0.5			0.5	Pass	
1.2.4.5-Tetrachlorobenzene	mg/kg	< 0.5			0.5	Pass	
1.3-Dichlorobenzene	mg/kg	< 0.5			0.5	Pass	
1.3.5-Trichlorobenzene	mg/kg	< 0.5			0.5	Pass	
1.4-Dichlorobenzene	mg/kg	< 0.5			0.5	Pass	
2-Chloronaphthalene	mg/kg	< 0.5			0.5	Pass	
2-Chlorophenol	mg/kg	< 0.5			0.5	Pass	
2-Methylnaphthalene	mg/kg	< 0.5			0.5	Pass	
2-Methylphenol (o-Cresol)	mg/kg	< 0.2			0.2	Pass	
2-Naphthylamine	mg/kg	< 0.5			0.5	Pass	
2-Nitroaniline	mg/kg	< 1			1	Pass	
2-Nitrophenol	mg/kg	< 1			1	Pass	
2-Picoline	mg/kg	< 0.5			0.5	Pass	
2.3.4.6-Tetrachlorophenol	mg/kg	< 0.5			0.5	Pass	
2.4-Dichlorophenol	mg/kg	< 0.5			0.5	Pass	
2.4-Dimethylphenol	mg/kg	< 0.5			0.5	Pass	
2.4-Dinitrophenol	mg/kg	< 5			5	Pass	
2.4-Dinitrotoluene	mg/kg	< 0.5			0.5	Pass	
2.4.5-Trichlorophenol	mg/kg	< 1			1	Pass	
2.4.6-Trichlorophenol	mg/kg	< 1			1	Pass	
2.6-Dichlorophenol	mg/kg	< 0.5			0.5	Pass	
2.6-Dinitrotoluene	mg/kg	< 1			1	Pass	
3&4-Methylphenol (m&p-Cresol)	mg/kg	< 0.4			0.4	Pass	
3-Methylcholanthrene	mg/kg	< 0.5			0.5	Pass	
3.3'-Dichlorobenzidine	mg/kg	< 0.5			0.5	Pass	
4-Aminobiphenyl	mg/kg	< 0.5			0.5	Pass	
4-Bromophenyl phenyl ether	mg/kg	< 0.5			0.5	Pass	
4-Chloro-3-methylphenol	mg/kg	< 1			1	Pass	
4-Chlorophenyl phenyl ether	mg/kg	< 0.5			0.5	Pass	
4-Nitrophenol	mg/kg	< 5			5	Pass	
4.4'-DDD	mg/kg	< 0.5			0.5	Pass	
4.4'-DDE	mg/kg	< 0.5			0.5	Pass	
4.4'-DDT	mg/kg	< 1			1	Pass	
7.12-Dimethylbenz(a)anthracene	mg/kg	< 0.5			0.5	Pass	
a-HCH	mg/kg	< 0.5			0.5	Pass	
Acetophenone	mg/kg	< 0.5			0.5	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Aldrin	mg/kg	< 0.5			0.5	Pass	
Aniline	mg/kg	< 0.5			0.5	Pass	
b-HCH	mg/kg	< 0.5			0.5	Pass	
Benzyl chloride	mg/kg	< 0.5			0.5	Pass	
Bis(2-chloroethoxy)methane	mg/kg	< 0.5			0.5	Pass	
Bis(2-chloroisopropyl)ether	mg/kg	< 0.5			0.5	Pass	
Bis(2-ethylhexyl)phthalate	mg/kg	< 5			5	Pass	
Butyl benzyl phthalate	mg/kg	< 0.5			0.5	Pass	
d-HCH	mg/kg	< 0.5			0.5	Pass	
Di-n-butyl phthalate	mg/kg	< 0.5			0.5	Pass	
Di-n-octyl phthalate	mg/kg	< 0.5			0.5	Pass	
Dibenz(a.j)acridine	mg/kg	< 0.5			0.5	Pass	
Dibenzofuran	mg/kg	< 0.5			0.5	Pass	
Dieldrin	mg/kg	< 0.5			0.5	Pass	
Diethyl phthalate	mg/kg	< 0.5			0.5	Pass	
Dimethyl phthalate	mg/kg	< 0.5			0.5	Pass	
Dimethylaminoazobenzene	mg/kg	< 0.5			0.5	Pass	
Diphenylamine	mg/kg	< 0.5			0.5	Pass	
Endosulfan I	mg/kg	< 0.5			0.5	Pass	
Endosulfan II	mg/kg	< 0.5			0.5	Pass	
Endosulfan sulphate	mg/kg	< 0.5			0.5	Pass	
Endrin	mg/kg	< 0.5			0.5	Pass	
Endrin aldehyde	mg/kg	< 0.5			0.5	Pass	
Endrin ketone	mg/kg	< 0.5			0.5	Pass	
g-HCH (Lindane)	mg/kg	< 0.5			0.5	Pass	
Heptachlor	mg/kg	< 0.5			0.5	Pass	
Heptachlor epoxide	mg/kg	< 0.5			0.5	Pass	
Hexachlorobenzene	mg/kg	< 0.5			0.5	Pass	
Hexachlorobutadiene	mg/kg	< 0.5			0.5	Pass	
Hexachlorocyclopentadiene	mg/kg	< 1			1	Pass	
Hexachloroethane	mg/kg	< 0.5			0.5	Pass	
Methoxychlor	mg/kg	< 0.5			0.5	Pass	
N-Nitrosodibutylamine	mg/kg	< 0.5			0.5	Pass	
N-Nitrosodipropylamine	mg/kg	< 0.5			0.5	Pass	
N-Nitrosopiperidine	mg/kg	< 0.5			0.5	Pass	
Nitrobenzene	mg/kg	< 0.5			0.5	Pass	
Pentachlorobenzene	mg/kg	< 0.5			0.5	Pass	
Pentachloronitrobenzene	mg/kg	< 0.5			0.5	Pass	
Pentachlorophenol	mg/kg	< 1			1	Pass	
Phenol	mg/kg	< 0.5			0.5	Pass	
Pronamide	mg/kg	< 0.5			0.5	Pass	
Trifluralin	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Heavy Metals							
Arsenic	mg/kg	< 2			2	Pass	
Cadmium	mg/kg	< 0.4			0.4	Pass	
Chromium	mg/kg	< 5			5	Pass	
Copper	mg/kg	< 5			5	Pass	
Lead	mg/kg	< 5			5	Pass	
Mercury	mg/kg	< 0.1			0.1	Pass	
Nickel	mg/kg	< 5			5	Pass	
Zinc	mg/kg	< 5			5	Pass	
Method Blank							
Perfluoroalkyl carboxylic acids (PFCAs)							

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Perfluorobutanoic acid (PFBA)	ug/kg	< 5			5	Pass	
Perfluoropentanoic acid (PFPeA)	ug/kg	< 5			5	Pass	
Perfluorohexanoic acid (PFHxA)	ug/kg	< 5			5	Pass	
Perfluoroheptanoic acid (PFHpA)	ug/kg	< 5			5	Pass	
Perfluorooctanoic acid (PFOA)	ug/kg	< 5			5	Pass	
Perfluorononanoic acid (PFNA)	ug/kg	< 5			5	Pass	
Perfluorodecanoic acid (PFDA)	ug/kg	< 5			5	Pass	
Perfluoroundecanoic acid (PFUnDA)	ug/kg	< 5			5	Pass	
Perfluorododecanoic acid (PFDoDA)	ug/kg	< 5			5	Pass	
Perfluorotridecanoic acid (PFTrDA)	ug/kg	< 5			5	Pass	
Perfluorotetradecanoic acid (PFTeDA)	ug/kg	< 5			5	Pass	
Method Blank							
Perfluoroalkyl sulfonamido substances							
Perfluorooctane sulfonamide (FOSA)	ug/kg	< 5			5	Pass	
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	ug/kg	< 5			5	Pass	
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	ug/kg	< 5			5	Pass	
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	ug/kg	< 5			5	Pass	
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	ug/kg	< 5			5	Pass	
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	ug/kg	< 10			10	Pass	
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	ug/kg	< 10			10	Pass	
Method Blank							
Perfluoroalkyl sulfonic acids (PFSAs)							
Perfluorobutanesulfonic acid (PFBS)	ug/kg	< 5			5	Pass	
Perfluorononanesulfonic acid (PFNS)	ug/kg	< 5			5	Pass	
Perfluoropropanesulfonic acid (PFPrS)	ug/kg	< 5			5	Pass	
Perfluoropentanesulfonic acid (PFPeS)	ug/kg	< 5			5	Pass	
Perfluorohexanesulfonic acid (PFHxS)	ug/kg	< 5			5	Pass	
Perfluoroheptanesulfonic acid (PFHpS)	ug/kg	< 5			5	Pass	
Perfluorooctanesulfonic acid (PFOS)	ug/kg	< 5			5	Pass	
Perfluorodecanesulfonic acid (PFDS)	ug/kg	< 5			5	Pass	
Method Blank							
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)							
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)	ug/kg	< 5			5	Pass	
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	ug/kg	< 10			10	Pass	
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)	ug/kg	< 5			5	Pass	
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	ug/kg	< 5			5	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C6-C9	%	105			70-130	Pass	
TRH C10-C14	%	105			70-130	Pass	
Naphthalene	%	120			70-130	Pass	
TRH C6-C10	%	99			70-130	Pass	
TRH >C10-C16	%	100			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	130			70-130	Pass	
Toluene	%	123			70-130	Pass	
Ethylbenzene	%	129			70-130	Pass	
m&p-Xylenes	%	128			70-130	Pass	
o-Xylene	%	128			70-130	Pass	
Xylenes - Total*	%	128			70-130	Pass	
LCS - % Recovery							
Volatile Organics							
1.1-Dichloroethene	%	115			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
1.1.1-Trichloroethane	%	119			70-130	Pass	
1.2-Dichlorobenzene	%	127			70-130	Pass	
1.2-Dichloroethane	%	128			70-130	Pass	
Trichloroethene	%	122			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	87			70-130	Pass	
Acenaphthylene	%	98			70-130	Pass	
Anthracene	%	83			70-130	Pass	
Benz(a)anthracene	%	103			70-130	Pass	
Benzo(a)pyrene	%	99			70-130	Pass	
Benzo(b&j)fluoranthene	%	88			70-130	Pass	
Benzo(g.h.i)perylene	%	94			70-130	Pass	
Benzo(k)fluoranthene	%	84			70-130	Pass	
Chrysene	%	98			70-130	Pass	
Dibenz(a.h)anthracene	%	92			70-130	Pass	
Fluoranthene	%	98			70-130	Pass	
Fluorene	%	94			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	92			70-130	Pass	
Naphthalene	%	98			70-130	Pass	
Phenanthrene	%	97			70-130	Pass	
Pyrene	%	87			70-130	Pass	
LCS - % Recovery							
Organochlorine Pesticides							
Chlordanes - Total	%	71			70-130	Pass	
4.4'-DDD	%	85			70-130	Pass	
4.4'-DDE	%	84			70-130	Pass	
4.4'-DDT	%	70			70-130	Pass	
a-HCH	%	76			70-130	Pass	
Aldrin	%	75			70-130	Pass	
b-HCH	%	73			70-130	Pass	
d-HCH	%	77			70-130	Pass	
Dieldrin	%	82			70-130	Pass	
Endosulfan I	%	71			70-130	Pass	
Endosulfan II	%	79			70-130	Pass	
Endosulfan sulphate	%	71			70-130	Pass	
Endrin	%	83			70-130	Pass	
Endrin aldehyde	%	88			70-130	Pass	
Endrin ketone	%	75			70-130	Pass	
g-HCH (Lindane)	%	75			70-130	Pass	
Heptachlor	%	79			70-130	Pass	
Heptachlor epoxide	%	82			70-130	Pass	
Hexachlorobenzene	%	77			70-130	Pass	
Methoxychlor	%	71			70-130	Pass	
LCS - % Recovery							
Organophosphorus Pesticides							
Diazinon	%	85			70-130	Pass	
Dimethoate	%	72			70-130	Pass	
Ethion	%	100			70-130	Pass	
Fenitrothion	%	95			70-130	Pass	
Methyl parathion	%	103			70-130	Pass	
Mevinphos	%	86			70-130	Pass	
LCS - % Recovery							
Polychlorinated Biphenyls							

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Aroclor-1016	%	83			70-130	Pass	
Aroclor-1260	%	77			70-130	Pass	
LCS - % Recovery							
Acid Herbicides							
2.4-D	%	97			70-130	Pass	
2.4-DB	%	86			70-130	Pass	
2.4.5-T	%	82			70-130	Pass	
2.4.5-TP	%	111			70-130	Pass	
Actril (loxynil)	%	113			70-130	Pass	
Dicamba	%	94			70-130	Pass	
Dichlorprop	%	94			70-130	Pass	
Dinitro-o-cresol	%	77			70-130	Pass	
Dinoseb	%	92			70-130	Pass	
MCPA	%	96			70-130	Pass	
MCPB	%	86			70-130	Pass	
Mecoprop	%	75			70-130	Pass	
LCS - % Recovery							
Semivolatile Organics							
1.2.4-Trichlorobenzene	%	115			70-130	Pass	
1.4-Dichlorobenzene	%	98			70-130	Pass	
2-Chlorophenol	%	90			25-140	Pass	
2-Methylphenol (o-Cresol)	%	107			25-140	Pass	
2-Nitrophenol	%	104			25-140	Pass	
2.4-Dichlorophenol	%	98			25-140	Pass	
2.4-Dimethylphenol	%	100			25-140	Pass	
2.4-Dinitrotoluene	%	91			70-130	Pass	
2.4.5-Trichlorophenol	%	114			25-140	Pass	
2.4.6-Trichlorophenol	%	97			25-140	Pass	
2.6-Dichlorophenol	%	93			25-140	Pass	
3&4-Methylphenol (m&p-Cresol)	%	90			25-140	Pass	
4-Chloro-3-methylphenol	%	82			25-140	Pass	
4-Nitrophenol	%	86			25-140	Pass	
N-Nitrosodipropylamine	%	106			70-130	Pass	
Pentachlorophenol	%	78			25-140	Pass	
Phenol	%	88			25-140	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic	%	92			80-120	Pass	
Cadmium	%	92			80-120	Pass	
Chromium	%	88			80-120	Pass	
Copper	%	86			80-120	Pass	
Lead	%	89			80-120	Pass	
Mercury	%	103			80-120	Pass	
Nickel	%	88			80-120	Pass	
Zinc	%	86			80-120	Pass	
LCS - % Recovery							
Perfluoroalkyl carboxylic acids (PFCAs)							
Perfluorobutanoic acid (PFBA)	%	135			50-150	Pass	
Perfluoropentanoic acid (PFPeA)	%	139			50-150	Pass	
Perfluorohexanoic acid (PFHxA)	%	133			50-150	Pass	
Perfluoroheptanoic acid (PFHpA)	%	130			50-150	Pass	
Perfluorooctanoic acid (PFOA)	%	135			50-150	Pass	
Perfluorononanoic acid (PFNA)	%	146			50-150	Pass	
Perfluorodecanoic acid (PFDA)	%	139			50-150	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Perfluoroundecanoic acid (PFUnDA)	%	137			50-150	Pass	
Perfluorododecanoic acid (PFDoDA)	%	138			50-150	Pass	
Perfluorotridecanoic acid (PFTrDA)	%	120			50-150	Pass	
LCS - % Recovery							
Perfluoroalkyl sulfonamido substances							
Perfluorooctane sulfonamide (FOSA)	%	132			50-150	Pass	
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	%	133			50-150	Pass	
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	%	139			50-150	Pass	
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	%	128			50-150	Pass	
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	%	140			50-150	Pass	
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	%	130			50-150	Pass	
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	%	135			50-150	Pass	
LCS - % Recovery							
Perfluoroalkyl sulfonic acids (PFSAs)							
Perfluorobutanesulfonic acid (PFBS)	%	135			50-150	Pass	
Perfluorononanesulfonic acid (PFNS)	%	97			50-150	Pass	
Perfluoropropanesulfonic acid (PFPrS)	%	136			50-150	Pass	
Perfluoropentanesulfonic acid (PFPeS)	%	136			50-150	Pass	
Perfluorohexanesulfonic acid (PFHxS)	%	134			50-150	Pass	
Perfluoroheptanesulfonic acid (PFHpS)	%	129			50-150	Pass	
Perfluorooctanesulfonic acid (PFOS)	%	129			50-150	Pass	
Perfluorodecanesulfonic acid (PFDS)	%	134			50-150	Pass	
LCS - % Recovery							
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)							
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)	%	130			50-150	Pass	
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	%	134			50-150	Pass	
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)	%	131			50-150	Pass	
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	%	118			50-150	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C6-C9	S22-Se0019871	NCP	%	101			70-130	Pass	
TRH C10-C14	N22-Se0019264	NCP	%	122			70-130	Pass	
Naphthalene	S22-Se0034361	NCP	%	90			70-130	Pass	
TRH C6-C10	S22-Se0019871	NCP	%	95			70-130	Pass	
TRH >C10-C16	N22-Se0019264	NCP	%	116			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	S22-Se0034361	NCP	%	91			70-130	Pass	
Toluene	S22-Se0034361	NCP	%	95			70-130	Pass	
Ethylbenzene	S22-Se0034361	NCP	%	90			70-130	Pass	
m&p-Xylenes	S22-Se0034361	NCP	%	93			70-130	Pass	
o-Xylene	S22-Se0034361	NCP	%	96			70-130	Pass	
Xylenes - Total*	S22-Se0034361	NCP	%	94			70-130	Pass	
Spike - % Recovery									
Organochlorine Pesticides				Result 1					
Chlordanes - Total	S22-Se0019892	NCP	%	105			70-130	Pass	
4.4'-DDD	S22-Se0031603	NCP	%	76			70-130	Pass	
4.4'-DDE	S22-Se0027727	NCP	%	120			70-130	Pass	
4.4'-DDT	S22-Se0028604	NCP	%	91			70-130	Pass	
a-HCH	S22-Se0027727	NCP	%	115			70-130	Pass	
Aldrin	S22-Se0019892	NCP	%	119			70-130	Pass	
b-HCH	S22-Se0027727	NCP	%	106			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
d-HCH	S22-Se0027727	NCP	%	112			70-130	Pass	
Dieldrin	S22-Se0027727	NCP	%	130			70-130	Pass	
Endosulfan I	S22-Se0027727	NCP	%	115			70-130	Pass	
Endosulfan II	S22-Se0027727	NCP	%	101			70-130	Pass	
Endosulfan sulphate	S22-Se0027727	NCP	%	109			70-130	Pass	
Endrin	S22-Se0027727	NCP	%	128			70-130	Pass	
Endrin aldehyde	S22-Se0027727	NCP	%	112			70-130	Pass	
Endrin ketone	S22-Se0019892	NCP	%	72			70-130	Pass	
g-HCH (Lindane)	S22-Se0027727	NCP	%	135			70-130	Fail	Q08
Heptachlor	S22-Se0027727	NCP	%	130			70-130	Pass	
Heptachlor epoxide	S22-Se0031603	NCP	%	95			70-130	Pass	
Hexachlorobenzene	S22-Se0019892	NCP	%	117			70-130	Pass	
Methoxychlor	S22-Se0040082	NCP	%	82			70-130	Pass	
Spike - % Recovery									
Organophosphorus Pesticides				Result 1					
Diazinon	S22-Se0027727	NCP	%	117			70-130	Pass	
Ethion	S22-Se0027727	NCP	%	116			70-130	Pass	
Fenitrothion	S22-Se0027727	NCP	%	95			70-130	Pass	
Methyl parathion	S22-Se0027727	NCP	%	98			70-130	Pass	
Mevinphos	S22-Se0027727	NCP	%	77			70-130	Pass	
Spike - % Recovery									
Polychlorinated Biphenyls				Result 1					
Aroclor-1016	S22-Se0027727	NCP	%	95			70-130	Pass	
Aroclor-1260	S22-Se0027727	NCP	%	105			70-130	Pass	
Spike - % Recovery									
Acid Herbicides				Result 1					
2.4-D	M22-Jn0046652	NCP	%	116			70-130	Pass	
Actril (loxynil)	M22-Jn0046652	NCP	%	128			70-130	Pass	
Dichlorprop	M22-Jn0046652	NCP	%	128			70-130	Pass	
MCPA	M22-Jn0046652	NCP	%	110			70-130	Pass	
MCPB	M22-Jn0046652	NCP	%	110			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	S22-Se0009054	NCP	%	104			75-125	Pass	
Cadmium	S22-Se0009054	NCP	%	110			75-125	Pass	
Chromium	S22-Se0009054	NCP	%	107			75-125	Pass	
Copper	S22-Se0009054	NCP	%	108			75-125	Pass	
Lead	S22-Se0025127	NCP	%	121			75-125	Pass	
Mercury	S22-Se0009054	NCP	%	109			75-125	Pass	
Nickel	S22-Se0009054	NCP	%	104			75-125	Pass	
Zinc	S22-Se0025127	NCP	%	119			75-125	Pass	
Spike - % Recovery									
Perfluoroalkyl carboxylic acids (PFCAs)				Result 1					
Perfluorobutanoic acid (PFBA)	S22-Se0024401	NCP	%	131			50-150	Pass	
Perfluoropentanoic acid (PFPeA)	S22-Se0024401	NCP	%	123			50-150	Pass	
Perfluorohexanoic acid (PFHxA)	S22-Se0024401	NCP	%	132			50-150	Pass	
Perfluoroheptanoic acid (PFHpA)	S22-Se0024401	NCP	%	127			50-150	Pass	
Perfluorooctanoic acid (PFOA)	S22-Se0024401	NCP	%	128			50-150	Pass	
Perfluorononanoic acid (PFNA)	S22-Se0024401	NCP	%	130			50-150	Pass	
Perfluorodecanoic acid (PFDA)	S22-Se0024401	NCP	%	132			50-150	Pass	
Perfluoroundecanoic acid (PFUnDA)	S22-Se0024401	NCP	%	134			50-150	Pass	
Perfluorododecanoic acid (PFDoDA)	S22-Se0024401	NCP	%	126			50-150	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Perfluorotridecanoic acid (PFTrDA)	S22-Se0024401	NCP	%	126			50-150	Pass	
Perfluorotetradecanoic acid (PFTeDA)	S22-Se0024401	NCP	%	136			50-150	Pass	
Spike - % Recovery									
Perfluoroalkyl sulfonamido substances				Result 1					
Perfluorooctane sulfonamide (FOSA)	S22-Se0024401	NCP	%	123			50-150	Pass	
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	S22-Se0024401	NCP	%	134			50-150	Pass	
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	S22-Se0024401	NCP	%	133			50-150	Pass	
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	S22-Se0024401	NCP	%	119			50-150	Pass	
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	S22-Se0024401	NCP	%	134			50-150	Pass	
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	S22-Se0024401	NCP	%	123			50-150	Pass	
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	S22-Se0024401	NCP	%	131			50-150	Pass	
Spike - % Recovery									
Perfluoroalkyl sulfonic acids (PFSAs)				Result 1					
Perfluorobutanesulfonic acid (PFBS)	S22-Se0024401	NCP	%	118			50-150	Pass	
Perfluorononanesulfonic acid (PFNS)	S22-Se0024401	NCP	%	145			50-150	Pass	
Perfluoropropanesulfonic acid (PFPrS)	S22-Se0024401	NCP	%	112			50-150	Pass	
Perfluoropentanesulfonic acid (PFPeS)	S22-Se0024401	NCP	%	111			50-150	Pass	
Perfluoroheptanesulfonic acid (PFHpS)	S22-Se0024401	NCP	%	134			50-150	Pass	
Perfluorodecanesulfonic acid (PFDS)	S22-Se0024401	NCP	%	145			50-150	Pass	
Spike - % Recovery									
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)				Result 1					
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)	S22-Se0024401	NCP	%	122			50-150	Pass	
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	S22-Se0024401	NCP	%	131			50-150	Pass	
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)	S22-Se0024401	NCP	%	127			50-150	Pass	
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	S22-Se0024401	NCP	%	123			50-150	Pass	
Spike - % Recovery									
Organophosphorus Pesticides				Result 1					
Dimethoate	S22-Se0024839	NCP	%	15			70-130	Fail	Q08

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	S22-Se0038513	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C10-C14	S22-Se0018355	NCP	mg/kg	21	< 20	46	30%	Fail	Q15
TRH C15-C28	S22-Se0018355	NCP	mg/kg	120	58	74	30%	Fail	Q15
TRH C29-C36	S22-Se0018355	NCP	mg/kg	78	53	38	30%	Fail	Q15
Naphthalene	S22-Se0038513	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
TRH C6-C10	S22-Se0038513	NCP	mg/kg	24	28	19	30%	Pass	
TRH >C10-C16	S22-Se0018355	NCP	mg/kg	< 50	< 50	<1	30%	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH >C16-C34	S22-Se0018355	NCP	mg/kg	170	< 100	62	30%	Fail	Q15
TRH >C34-C40	S22-Se0018355	NCP	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	S22-Se0038513	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	S22-Se0038513	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	S22-Se0038513	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	S22-Se0038513	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	S22-Se0038513	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	S22-Se0038513	NCP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Volatile Organics				Result 1	Result 2	RPD			
1.1-Dichloroethane	S22-Se0038513	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.1-Dichloroethene	S22-Se0038513	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.1.1-Trichloroethane	S22-Se0038513	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.1.1.2-Tetrachloroethane	S22-Se0038513	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.1.2-Trichloroethane	S22-Se0038513	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.1.2.2-Tetrachloroethane	S22-Se0038513	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.2-Dibromoethane	S22-Se0038513	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.2-Dichlorobenzene	S22-Se0038513	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.2-Dichloroethane	S22-Se0038513	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.2-Dichloropropane	S22-Se0038513	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.2.3-Trichloropropane	S22-Se0038513	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.2.4-Trimethylbenzene	S22-Se0038513	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.3-Dichlorobenzene	S22-Se0038513	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.3-Dichloropropane	S22-Se0038513	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.3.5-Trimethylbenzene	S22-Se0038513	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.4-Dichlorobenzene	S22-Se0038513	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2-Butanone (MEK)	S22-Se0038513	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2-Propanone (Acetone)	S22-Se0038513	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
4-Chlorotoluene	S22-Se0038513	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
4-Methyl-2-pentanone (MIBK)	S22-Se0038513	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Allyl chloride	S22-Se0038513	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Bromobenzene	S22-Se0038513	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Bromochloromethane	S22-Se0038513	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Bromodichloromethane	S22-Se0038513	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Bromoform	S22-Se0038513	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Bromomethane	S22-Se0038513	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Carbon disulfide	S22-Se0038513	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Carbon Tetrachloride	S22-Se0038513	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chlorobenzene	S22-Se0038513	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chloroethane	S22-Se0038513	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chloroform	S22-Se0038513	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chloromethane	S22-Se0038513	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
cis-1.2-Dichloroethene	S22-Se0038513	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
cis-1.3-Dichloropropene	S22-Se0038513	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibromochloromethane	S22-Se0038513	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibromomethane	S22-Se0038513	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dichlorodifluoromethane	S22-Se0038513	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Iodomethane	S22-Se0038513	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Isopropyl benzene (Cumene)	S22-Se0038513	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Methylene Chloride	S22-Se0038513	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	

Duplicate									
Volatile Organics				Result 1	Result 2	RPD			
Styrene	S22-Se0038513	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Tetrachloroethene	S22-Se0038513	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
trans-1.2-Dichloroethene	S22-Se0038513	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
trans-1.3-Dichloropropene	S22-Se0038513	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Trichloroethene	S22-Se0038513	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Trichlorofluoromethane	S22-Se0038513	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Vinyl chloride	S22-Se0038513	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	S22-Se0029372	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	S22-Se0029372	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	S22-Se0029372	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	S22-Se0029372	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	S22-Se0029372	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(b&j)fluoranthene	S22-Se0029372	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g.h.i)perylene	S22-Se0029372	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(k)fluoranthene	S22-Se0029372	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	S22-Se0029372	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a.h)anthracene	S22-Se0029372	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	S22-Se0029372	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluorene	S22-Se0029372	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	S22-Se0029372	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	S22-Se0029372	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	S22-Se0029372	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	S22-Se0029372	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	S22-Se0029372	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
4.4'-DDD	S22-Se0029372	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDE	S22-Se0029372	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDT	S22-Se0029372	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
a-HCH	S22-Se0029372	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Aldrin	S22-Se0029372	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
b-HCH	S22-Se0029372	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
d-HCH	S22-Se0029372	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Dieldrin	S22-Se0029372	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan I	S22-Se0029372	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan II	S22-Se0029372	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan sulphate	S22-Se0029372	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin	S22-Se0029372	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin aldehyde	S22-Se0029372	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin ketone	S22-Se0029372	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
g-HCH (Lindane)	S22-Se0029372	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor	S22-Se0029372	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor epoxide	S22-Se0029372	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Hexachlorobenzene	S22-Se0029372	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Methoxychlor	S22-Se0029372	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Toxaphene	S22-Se0029372	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Organophosphorus Pesticides				Result 1	Result 2	RPD			
Azinphos-methyl	S22-Se0029372	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Bolstar	S22-Se0029372	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Chlorfenvinphos	S22-Se0029372	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Chlorpyrifos	S22-Se0029372	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	

Duplicate									
Organophosphorus Pesticides				Result 1	Result 2	RPD			
Chlorpyrifos-methyl	S22-Se0029372	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Coumaphos	S22-Se0029372	NCP	mg/kg	< 2	< 2	<1	30%	Pass	
Demeton-S	S22-Se0029372	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Demeton-O	S22-Se0029372	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Diazinon	S22-Se0029372	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Dichlorvos	S22-Se0029372	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Dimethoate	S22-Se0029372	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Disulfoton	S22-Se0029372	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
EPN	S22-Se0029372	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Ethion	S22-Se0029372	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Ethoprop	S22-Se0029372	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Ethyl parathion	S22-Se0029372	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Fenitrothion	S22-Se0029372	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Fensulfothion	S22-Se0029372	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Fenthion	S22-Se0029372	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Malathion	S22-Se0029372	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Merphos	S22-Se0029372	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Methyl parathion	S22-Se0029372	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Mevinphos	S22-Se0029372	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Monocrotophos	S22-Se0029372	NCP	mg/kg	< 2	< 2	<1	30%	Pass	
Naled	S22-Se0029372	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Omethoate	S22-Se0029372	NCP	mg/kg	< 2	< 2	<1	30%	Pass	
Phorate	S22-Se0029372	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Pirimiphos-methyl	S22-Se0029372	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Pyrazophos	S22-Se0029372	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Ronnel	S22-Se0029372	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Terbufos	S22-Se0029372	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Tetrachlorvinphos	S22-Se0029372	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Tokuthion	S22-Se0029372	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Trichloronate	S22-Se0029372	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Duplicate									
Polychlorinated Biphenyls				Result 1	Result 2	RPD			
Aroclor-1016	S22-Se0029372	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1221	S22-Se0029372	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1232	S22-Se0029372	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1242	S22-Se0029372	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1248	S22-Se0029372	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1254	S22-Se0029372	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1260	S22-Se0029372	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Total PCB*	S22-Se0029372	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
Acid Herbicides				Result 1	Result 2	RPD			
2.4-D	M22-Jl0018431	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-DB	M22-Jl0018431	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4.5-T	M22-Jl0018431	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4.5-TP	M22-Jl0018431	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Actril (loxynil)	M22-Jl0018431	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dicamba	M22-Jl0018431	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dichlorprop	M22-Jl0018431	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dinitro-o-cresol	M22-Jl0018431	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dinoseb	M22-Jl0018431	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
MCPA	M22-Jl0018431	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
MCPB	M22-Jl0018431	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Mecoprop	M22-Jl0018431	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	

Duplicate									
Semivolatile Organics				Result 1	Result 2	RPD			
2-Methyl-4.6-dinitrophenol	S22-Se0020525	NCP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Chlorophenol	S22-Se0020525	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2-Methylphenol (o-Cresol)	S22-Se0020525	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
2-Nitrophenol	S22-Se0020525	NCP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4-Dichlorophenol	S22-Se0020525	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dimethylphenol	S22-Se0020525	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dinitrophenol	S22-Se0020525	NCP	mg/kg	< 5	< 5	<1	30%	Pass	
2.4.5-Trichlorophenol	S22-Se0020525	NCP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4.6-Trichlorophenol	S22-Se0020525	NCP	mg/kg	< 1	< 1	<1	30%	Pass	
2.6-Dichlorophenol	S22-Se0020525	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
3&4-Methylphenol (m&p-Cresol)	S22-Se0020525	NCP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
4-Chloro-3-methylphenol	S22-Se0020525	NCP	mg/kg	< 1	< 1	<1	30%	Pass	
4-Nitrophenol	S22-Se0020525	NCP	mg/kg	< 5	< 5	<1	30%	Pass	
Pentachlorophenol	S22-Se0020525	NCP	mg/kg	< 1	< 1	<1	30%	Pass	
Phenol	S22-Se0020525	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	S22-Se0009041	NCP	mg/kg	< 2	< 2	<1	30%	Pass	
Cadmium	S22-Se0009041	NCP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	S22-Se0009041	NCP	mg/kg	25	18	33	30%	Fail	Q15
Copper	S22-Se0009041	NCP	mg/kg	8.4	8.1	3.6	30%	Pass	
Lead	S22-Se0009041	NCP	mg/kg	13	11	15	30%	Pass	
Mercury	S22-Se0009041	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Nickel	S22-Se0009041	NCP	mg/kg	< 5	5.5	120	30%	Fail	Q15
Zinc	S22-Se0009041	NCP	mg/kg	13	18	34	30%	Fail	Q15
Duplicate									
				Result 1	Result 2	RPD			
% Moisture	S22-Se0012958	CP	%	12	12	<1	30%	Pass	
Duplicate									
Perfluoroalkyl carboxylic acids (PFCAs)				Result 1	Result 2	RPD			
Perfluorobutanoic acid (PFBA)	S22-Se0024111	NCP	ug/kg	< 5	< 5	<1	30%	Pass	
Perfluoropentanoic acid (PFPeA)	S22-Se0024111	NCP	ug/kg	< 5	< 5	<1	30%	Pass	
Perfluorohexanoic acid (PFHxA)	S22-Se0024111	NCP	ug/kg	< 5	< 5	<1	30%	Pass	
Perfluoroheptanoic acid (PFHpA)	S22-Se0024111	NCP	ug/kg	< 5	< 5	<1	30%	Pass	
Perfluorooctanoic acid (PFOA)	S22-Se0024111	NCP	ug/kg	< 5	< 5	<1	30%	Pass	
Perfluorononanoic acid (PFNA)	S22-Se0024111	NCP	ug/kg	< 5	< 5	<1	30%	Pass	
Perfluorodecanoic acid (PFDA)	S22-Se0024111	NCP	ug/kg	< 5	< 5	<1	30%	Pass	
Perfluoroundecanoic acid (PFUnDA)	S22-Se0024111	NCP	ug/kg	< 5	< 5	<1	30%	Pass	
Perfluorododecanoic acid (PFDoDA)	S22-Se0024111	NCP	ug/kg	< 5	< 5	<1	30%	Pass	
Perfluorotridecanoic acid (PFTrDA)	S22-Se0024111	NCP	ug/kg	< 5	< 5	<1	30%	Pass	
Perfluorotetradecanoic acid (PFTeDA)	S22-Se0024111	NCP	ug/kg	< 5	< 5	<1	30%	Pass	
Duplicate									
Perfluoroalkyl sulfonamido substances				Result 1	Result 2	RPD			
Perfluorooctane sulfonamide (FOSA)	S22-Se0024111	NCP	ug/kg	< 5	< 5	<1	30%	Pass	
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	S22-Se0024111	NCP	ug/kg	< 5	< 5	<1	30%	Pass	
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	S22-Se0024111	NCP	ug/kg	< 5	< 5	<1	30%	Pass	
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	S22-Se0024111	NCP	ug/kg	< 5	< 5	<1	30%	Pass	

Duplicate									
Perfluoroalkyl sulfonamido substances				Result 1	Result 2	RPD			
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	S22-Se0024111	NCP	ug/kg	< 5	< 5	<1	30%	Pass	
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	S22-Se0024111	NCP	ug/kg	< 10	< 10	<1	30%	Pass	
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	S22-Se0024111	NCP	ug/kg	< 10	< 10	<1	30%	Pass	
Duplicate									
Perfluoroalkyl sulfonic acids (PFSAs)				Result 1	Result 2	RPD			
Perfluorobutanesulfonic acid (PFBS)	S22-Se0024111	NCP	ug/kg	< 5	< 5	<1	30%	Pass	
Perfluorononanesulfonic acid (PFNS)	S22-Se0024111	NCP	ug/kg	< 5	< 5	<1	30%	Pass	
Perfluoropropanesulfonic acid (PFPrS)	S22-Se0024111	NCP	ug/kg	< 5	< 5	<1	30%	Pass	
Perfluoropentanesulfonic acid (PFPeS)	S22-Se0024111	NCP	ug/kg	< 5	< 5	<1	30%	Pass	
Perfluoroheptanesulfonic acid (PFHpS)	S22-Se0024111	NCP	ug/kg	< 5	< 5	<1	30%	Pass	
Perfluorooctanesulfonic acid (PFOS)	S22-Se0024111	NCP	ug/kg	< 5	< 5	<1	30%	Pass	
Perfluorodecanesulfonic acid (PFDS)	S22-Se0024111	NCP	ug/kg	< 5	< 5	<1	30%	Pass	
Duplicate									
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)				Result 1	Result 2	RPD			
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)	S22-Se0024111	NCP	ug/kg	< 5	< 5	<1	30%	Pass	
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	S22-Se0024111	NCP	ug/kg	< 10	< 10	<1	30%	Pass	
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)	S22-Se0024111	NCP	ug/kg	< 5	< 5	<1	30%	Pass	
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	S22-Se0024111	NCP	ug/kg	< 5	< 5	<1	30%	Pass	

Comments

Sample Integrity

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

Qualifier Codes/Comments

Code	Description
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.
N07	Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs
N09	Quantification of linear and branched isomers has been conducted as a single total response using the relative response factor for the corresponding linear/branched standard.
N11	Isotope dilution is used for calibration of each native compound for which an exact labelled analogue is available (Isotope Dilution Quantitation). The isotopically labelled analogues allow identification and recovery correction of the concentration of the associated native PFAS compounds.
N15	Where the native PFAS compound does not have labelled analogue then the quantification is made using the Extracted Internal Standard Analyte with the closest retention time to the analyte and no recovery correction has been made (Internal Standard Quantitation).
Q08	The matrix spike recovery is outside of the recommended acceptance criteria. An acceptable recovery was obtained for the laboratory control sample indicating a sample matrix interference.
Q15	The RPD reported passes Eurofins Environment Testing's QC - Acceptance Criteria as defined in the Internal Quality Control Review and Glossary page of this report.

Authorised by:

Andrew Black	Analytical Services Manager
Chamath JHM Annakkage	Senior Analyst-Asbestos
Gabriele Cordero	Senior Analyst-Metal
Joseph Edouard	Senior Analyst-Organic
Roopesh Rangarajan	Senior Analyst-Organic
Roopesh Rangarajan	Senior Analyst-Volatile

Glenn Jackson
General Manager

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

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

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

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Certificate of Analysis

Environment Testing

NATA Accredited
Accreditation Number 1261
Site Number 18217

Accredited for compliance with ISO/IEC 17025–Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and certificates.

AECOM Aust Pty Ltd Newcastle
18 Warabrook Blvd, PO Box 73
HRMC
NSW 2310

Attention:	Tama Armani
Report	921148-AID
Project Name	60619756 24.3
Received Date	Sep 06, 2022
Date Reported	Sep 21, 2022

Methodology:

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

Project Name 60619756 24.3
Project ID
Date Sampled Aug 24, 2022
Report 921148-AID

Client Sample ID	Eurofins Sample No.	Date Sampled	Sample Description	Result
QC202_220824	22-Se0012958	Aug 24, 2022	Approximate Sample 211g Sample consisted of: Brown fine-grained clayey soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
QC203_220824	22-Se0012959	Aug 24, 2022	Approximate Sample 36g Sample consisted of: Grey fine-grained soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Asbestos - LTM-ASB-8020	Sydney	Sep 12, 2022	Indefinite

eurofins

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

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

Melbourne
6 Monterey Road
Dandenong South
VIC 3175
Tel: +61 3 8564 5000
NATA# 1261 Site# 1254

Geelong
19/8 Lewalan Street
Grovedale
VIC 3216
Tel: +61 3 8564 5000
NATA# 1261 Site# 1254

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

Canberra
Unit 1,2 Dacre Street
Mitchell
ACT 2911
Tel: +61 2 6113 8091

Brisbane
1/21 Smallwood Place
Murarrie
QLD 4172
Tel: +61 7 3902 4600
NATA# 1261 Site# 20794

Newcastle
4/52 Industrial Drive
Mayfield East NSW 2304
PO Box 60 Wickham 2293
Tel: +61 2 4968 8448
NATA# 1261 Site# 25079

Eurofins ARL Pty Ltd
ABN: 91 05 0159 898

Perth
46-48 Banksia Road
Welshpool
WA 6106
Tel: +61 8 6253 4444
NATA# 2377 Site# 2370

Eurofins Environment Testing NZ Ltd
NZBN: 9429046024954

Auckland
35 O'Rorke Road
Penrose,
Auckland 1061
Tel: +64 9 526 45 51
IANZ# 1327

Christchurch
43 Detroit Drive
Rolleston,
Christchurch 7675
Tel: 0800 856 450
IANZ# 1290

Company Name: AECOM Aust Pty Ltd Newcastle
Address: 18 Warabrook Blvd, PO Box 73
HRMC
NSW 2310

Project Name: 60619756 24.3

Order No.: 60619756/211-30
Report #: 921148
Phone: 02 4911 4900
Fax: 02 4968 0005

Received: Sep 12, 2022 2:05 PM
Due: Sep 19, 2022
Priority: 5 Day
Contact Name: Tama Armani

Eurofins Analytical Services Manager : Andrew Black

Sample Detail						Asbestos - AS4964	Acid Herbicides	Moisture Set	Eurofins Suite SVV: SVOC/VOC	Per- and Polyfluoroalkyl Substances (PFASs)	Suite B10B:TRH/BTEXN/PAH/OCP/OPP/PCB/M8
Melbourne Laboratory - NATA # 1261 Site # 1254							X				
Sydney Laboratory - NATA # 1261 Site # 18217						X		X	X	X	X
External Laboratory											
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**						
1	QC202_220824	Aug 24, 2022		Soil	S22-Se0012958	X	X	X	X	X	X
2	QC203_220824	Aug 24, 2022		Sludge	S22-Se0012959	X	X	X	X	X	X
3	QC205_220824	Aug 24, 2022		Soil	S22-Se0012960		X	X			X
Test Counts						2	3	3	2	2	3

Internal Quality Control Review and Glossary General

1. QC data may be available on request.
2. All soil results are reported on a dry basis, unless otherwise stated.
3. Samples were analysed on an 'as received' basis.
4. Information identified on this report with the colour **blue** indicates data provided by customer that may have an impact on the results.
5. Information identified on this report with the colour **orange** indicates sections of the report not covered by the laboratory's scope of NATA accreditation.
6. This report replaces any interim results previously issued.

Holding Times

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

Units

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

Calculations

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

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

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

Terms

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

Comments

Sample Integrity

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

Asbestos Counter/Identifier:

Bennel Jiri	Senior Analyst-Asbestos

Authorised by:

Chamath JHM Annakkage	Senior Analyst-Asbestos

Glenn Jackson
General Manager

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

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

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

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eurofins | Environment Testing

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

Eurofins Environment Testing Australia Pty Ltd

ABN: 50 005 085 521

Melbourne
6 Monterey Road
Dandenong South
VIC 3175
Tel: +61 3 8564 5000
NATA# 1261 Site# 1254

Geelong
19/8 Lewalan Street
Grovedale
VIC 3216
Tel: +61 3 8564 5000
NATA# 1261 Site# 1254

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

Canberra
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Brisbane
1/21 Smallwood Place
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QLD 4172
Tel: +61 7 3902 4600
NATA# 1261 Site# 20794

Newcastle
4/52 Industrial Drive
Mayfield East NSW 2304
PO Box 60 Wickham 2293
Tel: +61 2 4968 8448
NATA# 1261 Site# 25079

Eurofins ARL Pty Ltd

ABN: 91 05 0159 898

Perth
46-48 Banksia Road
Welshpool
WA 6106
Tel: +61 8 6253 4444
NATA# 2377 Site# 2370

Eurofins Environment Testing NZ Ltd

NZBN: 9429046024954

Auckland
35 O'Rorke Road
Penrose,
Auckland 1061
Tel: +64 9 526 45 51
IANZ# 1327

Christchurch
43 Detroit Drive
Rolleston,
Christchurch 7675
Tel: 0800 856 450
IANZ# 1290

Sample Receipt Advice

Company name:	AECOM Aust Pty Ltd Sydney
Contact name:	Peter Dean
Project name:	Not provided
Project ID:	60619756 211-30
Turnaround time:	5 Day
Date/Time received	Sep 12, 2022 11:45 AM
Eurofins reference	922560

Sample Information

✓	A detailed list of analytes logged into our LIMS, is included in the attached summary table.
✓	Sample Temperature of chilled sample on the batch as recorded by Eurofins Sample Receipt : 3.4 degrees Celsius.
✓	All samples have been received as described on the above COC.
✓	COC has been completed correctly.
✓	Attempt to chill was evident.
✓	Appropriately preserved sample containers have been used.
✓	All samples were received in good condition.
✓	Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
✓	Appropriate sample containers have been used.
✓	Sample containers for volatile analysis received with zero headspace.
X	Split sample sent to requested external lab.
X	Some samples have been subcontracted.
N/A	Custody Seals intact (if used).

Notes

Contact

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

Hannah Mawbey on phone : or by email: HannahMawbey@eurofins.com

Results will be delivered electronically via email to Peter Dean - peter.dean@aecom.com.

Note: A copy of these results will also be delivered to the general AECOM Aust Pty Ltd Sydney email address.

eurofins

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

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

Melbourne
6 Monterey Road
Dandenong South
VIC 3175
Tel: +61 3 8564 5000
NATA# 1261 Site# 1254

Geelong
19/8 Lewalan Street
Grovedale
VIC 3216
Tel: +61 3 8564 5000
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179 Magowar Road
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NSW 2145
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Canberra
Unit 1,2 Dacre Street
Mitchell
ACT 2911
Tel: +61 2 6113 8091

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1/21 Smallwood Place
Murarrie
QLD 4172
Tel: +61 7 3902 4600
NATA# 1261 Site# 20794

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4/52 Industrial Drive
Mayfield East NSW 2304
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Tel: +61 2 4968 8448
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Eurofins ARL Pty Ltd
ABN: 91 05 0159 898

Perth
46-48 Banksia Road
Welshpool
WA 6106
Tel: +61 8 6253 4444
NATA# 2377 Site# 2370

Eurofins Environment Testing NZ Ltd
NZBN: 9429046024954

Auckland
35 O'Rorke Road
Penrose,
Auckland 1061
Tel: +64 9 526 45 51
IANZ# 1327

Christchurch
43 Detroit Drive
Rolleston,
Christchurch 7675
Tel: 0800 856 450
IANZ# 1290

Company Name: AECOM Aust Pty Ltd Sydney
Address: Level 21, 420 George St
Sydney
NSW 2000

Project Name:
Project ID: 60619756 211-30

Order No.:
Report #: 922560
Phone: 02 8934 0000
Fax: 02 8934 0001

Received: Sep 12, 2022 11:45 AM
Due: Sep 19, 2022
Priority: 5 Day
Contact Name: Peter Dean

Eurofins Analytical Services Manager : Hannah Mawbey

Sample Detail						Acid Herbicides	Suite B14: OCP/OPP	Eurofins Suite B7	Per- and Polyfluoroalkyl Substances (PFASs)
Melbourne Laboratory - NATA # 1261 Site # 1254						X			
Sydney Laboratory - NATA # 1261 Site # 18217							X	X	X
External Laboratory									
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**				
1	QC204_220826	Aug 26, 2022		Water	S22-Se0024249	X	X	X	X
Test Counts						1	1	1	1

AECOM Aust Pty Ltd Sydney
Level 21, 420 George St
Sydney
NSW 2000

Attention: **Peter Dean**

Report **922560-W**
Project name
Project ID 60619756 211-30
Received Date Sep 12, 2022

Client Sample ID			**QC204_220826**
Sample Matrix			**Water**
Eurofins Sample No.			**S22-Se0024249**
Date Sampled			**Aug 26, 2022**
Test/Reference	LOR	Unit	
Total Recoverable Hydrocarbons			
TRH C6-C9	0.02	mg/L	< 0.02
TRH C10-C14	0.05	mg/L	< 0.05
TRH C15-C28	0.1	mg/L	0.1
TRH C29-C36	0.1	mg/L	< 0.1
TRH C10-C36 (Total)	0.1	mg/L	0.1
Naphthalene[N02]	0.01	mg/L	< 0.01
TRH C6-C10	0.02	mg/L	< 0.02
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	< 0.02
TRH >C10-C16	0.05	mg/L	< 0.05
TRH >C10-C16 less Naphthalene (F2)[N01]	0.05	mg/L	< 0.05
TRH >C16-C34	0.1	mg/L	0.2
TRH >C34-C40	0.1	mg/L	< 0.1
TRH >C10-C40 (total)*	0.1	mg/L	0.2
BTEX			
Benzene	0.001	mg/L	< 0.001
Toluene	0.001	mg/L	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002
o-Xylene	0.001	mg/L	< 0.001
Xylenes - Total*	0.003	mg/L	< 0.003
4-Bromofluorobenzene (surr.)	1	%	80
Polycyclic Aromatic Hydrocarbons			
Acenaphthene	0.001	mg/L	< 0.001
Acenaphthylene	0.001	mg/L	< 0.001
Anthracene	0.001	mg/L	< 0.001
Benz(a)anthracene	0.001	mg/L	< 0.001
Benzo(a)pyrene	0.001	mg/L	< 0.001
Benzo(b&j)fluoranthene[N07]	0.001	mg/L	< 0.001
Benzo(g.h.i)perylene	0.001	mg/L	< 0.001
Benzo(k)fluoranthene	0.001	mg/L	< 0.001
Chrysene	0.001	mg/L	< 0.001
Dibenz(a.h)anthracene	0.001	mg/L	< 0.001
Fluoranthene	0.001	mg/L	< 0.001
Fluorene	0.001	mg/L	< 0.001
Indeno(1.2.3-cd)pyrene	0.001	mg/L	< 0.001

Client Sample ID			QC204_220826
Sample Matrix			Water
Eurofins Sample No.			S22-Se0024249
Date Sampled			Aug 26, 2022
Test/Reference	LOR	Unit	
Polycyclic Aromatic Hydrocarbons			
Naphthalene	0.001	mg/L	< 0.001
Phenanthrene	0.001	mg/L	< 0.001
Pyrene	0.001	mg/L	< 0.001
Total PAH*	0.001	mg/L	< 0.001
2-Fluorobiphenyl (surr.)	1	%	76
p-Terphenyl-d14 (surr.)	1	%	106
Organochlorine Pesticides			
Chlordanes - Total	0.002	mg/L	< 0.002
4.4'-DDD	0.0002	mg/L	< 0.0002
4.4'-DDE	0.0002	mg/L	< 0.0002
4.4'-DDT	0.0002	mg/L	< 0.0002
a-HCH	0.0002	mg/L	< 0.0002
Aldrin	0.0002	mg/L	< 0.0002
b-HCH	0.0002	mg/L	< 0.0002
d-HCH	0.0002	mg/L	< 0.0002
Dieldrin	0.0002	mg/L	< 0.0002
Endosulfan I	0.0002	mg/L	< 0.0002
Endosulfan II	0.0002	mg/L	< 0.0002
Endosulfan sulphate	0.0002	mg/L	< 0.0002
Endrin	0.0002	mg/L	< 0.0002
Endrin aldehyde	0.0002	mg/L	< 0.0002
Endrin ketone	0.0002	mg/L	< 0.0002
g-HCH (Lindane)	0.0002	mg/L	< 0.0002
Heptachlor	0.0002	mg/L	< 0.0002
Heptachlor epoxide	0.0002	mg/L	< 0.0002
Hexachlorobenzene	0.0002	mg/L	< 0.0002
Methoxychlor	0.0002	mg/L	< 0.0002
Toxaphene	0.005	mg/L	< 0.005
Aldrin and Dieldrin (Total)*	0.0002	mg/L	< 0.0002
DDT + DDE + DDD (Total)*	0.0002	mg/L	< 0.0002
Vic EPA IWRG 621 OCP (Total)*	0.002	mg/L	< 0.002
Vic EPA IWRG 621 Other OCP (Total)*	0.002	mg/L	< 0.002
Dibutylchlorendate (surr.)	1	%	77
Tetrachloro-m-xylene (surr.)	1	%	82
Organophosphorus Pesticides			
Azinphos-methyl	0.002	mg/L	< 0.002
Bolstar	0.002	mg/L	< 0.002
Chlorfenvinphos	0.02	mg/L	< 0.02
Chlorpyrifos	0.002	mg/L	< 0.002
Chlorpyrifos-methyl	0.002	mg/L	< 0.002
Coumaphos	0.02	mg/L	< 0.02
Demeton-S	0.002	mg/L	< 0.002
Demeton-O	0.002	mg/L	< 0.002
Diazinon	0.002	mg/L	< 0.002
Dichlorvos	0.002	mg/L	< 0.002
Dimethoate	0.002	mg/L	< 0.002
Disulfoton	0.002	mg/L	< 0.002
EPN	0.002	mg/L	< 0.002
Ethion	0.002	mg/L	< 0.002

DRAFT

Client Sample ID			QC204_220826
Sample Matrix			Water
Eurofins Sample No.			S22-Se0024249
Date Sampled			Aug 26, 2022
Test/Reference	LOR	Unit	
Organophosphorus Pesticides			
Ethoprop	0.002	mg/L	< 0.002
Ethyl parathion	0.002	mg/L	< 0.002
Fenitrothion	0.002	mg/L	< 0.002
Fensulfothion	0.002	mg/L	< 0.002
Fenthion	0.002	mg/L	< 0.002
Malathion	0.002	mg/L	< 0.002
Merphos	0.002	mg/L	< 0.002
Methyl parathion	0.002	mg/L	< 0.002
Mevinphos	0.002	mg/L	< 0.002
Monocrotophos	0.002	mg/L	< 0.002
Naled	0.002	mg/L	< 0.002
Omethoate	0.02	mg/L	< 0.02
Phorate	0.002	mg/L	< 0.002
Pirimiphos-methyl	0.02	mg/L	< 0.02
Pyrazophos	0.002	mg/L	< 0.002
Ronnel	0.002	mg/L	< 0.002
Terbufos	0.002	mg/L	< 0.002
Tetrachlorvinphos	0.002	mg/L	< 0.002
Tokuthion	0.002	mg/L	< 0.002
Trichloronate	0.002	mg/L	< 0.002
Triphenylphosphate (surr.)	1	%	92
Acid Herbicides			
2.4-D	0.001	mg/L	
2.4-DB	0.001	mg/L	
2.4.5-T	0.001	mg/L	
2.4.5-TP	0.001	mg/L	
Actril (loxynil)	0.001	mg/L	
Dicamba	0.001	mg/L	
Dichlorprop	0.001	mg/L	
Dinitro-o-cresol	0.001	mg/L	
Dinoseb	0.001	mg/L	
MCPA	0.001	mg/L	
MCPB	0.001	mg/L	
Mecoprop	0.001	mg/L	
Warfarin (surr.)	0.001	%	
Heavy Metals			
Arsenic	0.001	mg/L	0.002
Cadmium	0.0002	mg/L	< 0.0002
Chromium	0.001	mg/L	< 0.001
Copper	0.001	mg/L	0.002
Lead	0.001	mg/L	< 0.001
Mercury	0.0001	mg/L	< 0.0001
Nickel	0.001	mg/L	0.014
Zinc	0.005	mg/L	0.005
Perfluoroalkyl carboxylic acids (PFCAs)			
Perfluorobutanoic acid (PFBA)[N11]	0.05	ug/L	
Perfluoropentanoic acid (PFPeA)[N11]	0.01	ug/L	
Perfluorohexanoic acid (PFHxA)[N11]	0.01	ug/L	
Perfluoroheptanoic acid (PFHpA)[N11]	0.01	ug/L	

Client Sample ID			QC204_220826
Sample Matrix			Water
Eurofins Sample No.			S22-Se0024249
Date Sampled			Aug 26, 2022
Test/Reference	LOR	Unit	
Perfluoroalkyl carboxylic acids (PFCAs)			
Perfluorooctanoic acid (PFOA)[N11]	0.01	ug/L	
Perfluorononanoic acid (PFNA)[N11]	0.01	ug/L	
Perfluorodecanoic acid (PFDA)[N11]	0.01	ug/L	
Perfluoroundecanoic acid (PFUnDA)[N11]	0.01	ug/L	
Perfluorododecanoic acid (PFDoDA)[N11]	0.01	ug/L	
Perfluorotridecanoic acid (PFTrDA)[N15]	0.01	ug/L	
Perfluorotetradecanoic acid (PFTeDA)[N11]	0.01	ug/L	
13C4-PFBA (surr.)	1	%	
13C5-PFPeA (surr.)	1	%	
13C5-PFHxA (surr.)	1	%	
13C4-PFHpA (surr.)	1	%	
13C8-PFOA (surr.)	1	%	
13C5-PFNA (surr.)	1	%	
13C6-PFDA (surr.)	1	%	
13C2-PFUnDA (surr.)	1	%	
13C2-PFDoDA (surr.)	1	%	
13C2-PFTeDA (surr.)	1	%	
Perfluoroalkyl sulfonamido substances			
Perfluorooctane sulfonamide (FOSA)[N11]	0.05	ug/L	
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)[N11]	0.05	ug/L	
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)[N11]	0.05	ug/L	
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)[N11]	0.05	ug/L	
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)[N11]	0.05	ug/L	
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)[N11]	0.05	ug/L	
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)[N11]	0.05	ug/L	
13C8-FOSA (surr.)	1	%	
D3-N-MeFOSA (surr.)	1	%	
D5-N-EtFOSA (surr.)	1	%	
D7-N-MeFOSE (surr.)	1	%	
D9-N-EtFOSE (surr.)	1	%	
D5-N-EtFOSAA (surr.)	1	%	
D3-N-MeFOSAA (surr.)	1	%	
Perfluoroalkyl sulfonic acids (PFSAs)			
Perfluorobutanesulfonic acid (PFBS)[N11]	0.01	ug/L	
Perfluorononanesulfonic acid (PFNS)[N15]	0.01	ug/L	
Perfluoropropanesulfonic acid (PFPrS)[N15]	0.01	ug/L	
Perfluoropentanesulfonic acid (PFPeS)[N15]	0.01	ug/L	
Perfluorohexanesulfonic acid (PFHxS)[N11]	0.01	ug/L	
Perfluoroheptanesulfonic acid (PFHpS)[N15]	0.01	ug/L	
Perfluorooctanesulfonic acid (PFOS)[N11]	0.01	ug/L	
Perfluorodecanesulfonic acid (PFDS)[N15]	0.01	ug/L	
13C3-PFBS (surr.)	1	%	
18O2-PFHxS (surr.)	1	%	
13C8-PFOS (surr.)	1	%	

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Client Sample ID			QC204_220826
Sample Matrix			**Water**
Eurofins Sample No.			**S22-Se0024249**
Date Sampled			**Aug 26, 2022**
Test/Reference	LOR	Unit	
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)			
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)[N11]	0.01	ug/L	
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)[N11]	0.05	ug/L	
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)[N11]	0.01	ug/L	
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)[N11]	0.01	ug/L	
13C2-4:2 FTSA (surr.)	1	%	
13C2-6:2 FTSA (surr.)	1	%	
13C2-8:2 FTSA (surr.)	1	%	
13C2-10:2 FTSA (surr.)	1	%	
PFASs Summations			
Sum (PFHxS + PFOS)*	0.01	ug/L	-
Sum of US EPA PFAS (PFOS + PFOA)*	0.01	ug/L	-
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	0.01	ug/L	-
Sum of WA DWER PFAS (n=10)*	0.05	ug/L	-
Sum of PFASs (n=30)*	0.1	ug/L	-

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Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Sydney	Sep 13, 2022	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Sydney	Sep 13, 2022	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Sydney	Sep 13, 2022	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Sydney	Sep 13, 2022	14 Days
- Method: LTM-ORG-2010 BTEX and Volatile TRH			
Polycyclic Aromatic Hydrocarbons	Sydney	Sep 13, 2022	7 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Metals M8	Sydney	Sep 13, 2022	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Organochlorine Pesticides	Sydney	Sep 13, 2022	7 Days
- Method: LTM-ORG-2220 OCP & PCB in Soil and Water			
Organophosphorus Pesticides	Sydney	Sep 13, 2022	7 Days
- Method: LTM-ORG-2200 Organophosphorus Pesticides by GC-MS			
Acid Herbicides	Melbourne	Sep 12, 2022	14 Days
- Method: LTM-ORG-2180 Phenoxy Acid Herbicides			
Per- and Polyfluoroalkyl Substances (PFASs)			
Perfluoroalkyl carboxylic acids (PFCAs)	Sydney	Sep 13, 2022	28 Days
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS)			
Perfluoroalkyl sulfonamido substances	Sydney	Sep 13, 2022	28 Days
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS)			
Perfluoroalkyl sulfonic acids (PFSAs)	Sydney	Sep 13, 2022	28 Days
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS)			
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)	Sydney	Sep 13, 2022	28 Days
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS)			
PFASs Summations	Sydney	Sep 12, 2022	
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS)			

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

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

Melbourne
6 Monterey Road
Dandenong South
VIC 3175
Tel: +61 3 8564 5000
NATA# 1261 Site# 1254

Geelong
19/8 Lewalan Street
Grovedale
VIC 3216
Tel: +61 3 8564 5000
NATA# 1261 Site# 1254

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

Canberra
Unit 1,2 Dacre Street
Mitchell
ACT 2911
Tel: +61 2 6113 8091

Brisbane
1/21 Smallwood Place
Murarrie
QLD 4172
Tel: +61 7 3902 4600
NATA# 1261 Site# 20794

Newcastle
4/52 Industrial Drive
Mayfield East NSW 2304
PO Box 60 Wickham 2293
Tel: +61 2 4968 8448
NATA# 1261 Site# 25079

Eurofins ARL Pty Ltd
ABN: 91 05 0159 898

Perth
46-48 Banksia Road
Welshpool
WA 6106
Tel: +61 8 6253 4444
NATA# 2377 Site# 2370

Eurofins Environment Testing NZ Ltd
NZBN: 9429046024954

Auckland
35 O'Rorke Road
Penrose,
Auckland 1061
Tel: +64 9 526 45 51
IANZ# 1327

Christchurch
43 Detroit Drive
Rolleston,
Christchurch 7675
Tel: 0800 856 450
IANZ# 1290

Company Name: AECOM Aust Pty Ltd Sydney
Address: Level 21, 420 George St
Sydney
NSW 2000

Project Name:
Project ID: 60619756 211-30

Order No.:
Report #: 922560
Phone: 02 8934 0000
Fax: 02 8934 0001

Received: Sep 12, 2022 11:45 AM
Due: Sep 19, 2022
Priority: 5 Day
Contact Name: Peter Dean

Eurofins Analytical Services Manager : Hannah Mawbey

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Sample Detail						Acid Herbicides	Suite B14: OCP/OPP	Eurofins Suite B7	Per- and Polyfluoroalkyl Substances (PFASs)
Melbourne Laboratory - NATA # 1261 Site # 1254						X			
Sydney Laboratory - NATA # 1261 Site # 18217							X	X	X
External Laboratory									
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**				
1	QC204_220826	Aug 26, 2022		Water	S22-Se0024249	X	X	X	X
Test Counts						1	1	1	1

Internal Quality Control Review and Glossary

General

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

Holding Times

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

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

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

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

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

Units

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

Terms

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

QC - Acceptance Criteria

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

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

Results <10 times the LOR: No Limit

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

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

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

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

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

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QC Data General Comments

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

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Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/L	< 0.02			0.02	Pass	
TRH C10-C14	mg/L	< 0.05			0.05	Pass	
TRH C15-C28	mg/L	< 0.1			0.1	Pass	
TRH C29-C36	mg/L	< 0.1			0.1	Pass	
Naphthalene	mg/L	< 0.01			0.01	Pass	
TRH C6-C10	mg/L	< 0.02			0.02	Pass	
TRH >C10-C16	mg/L	< 0.05			0.05	Pass	
TRH >C16-C34	mg/L	< 0.1			0.1	Pass	
TRH >C34-C40	mg/L	< 0.1			0.1	Pass	
Method Blank							
BTEX							
Benzene	mg/L	< 0.001			0.001	Pass	
Toluene	mg/L	< 0.001			0.001	Pass	
Ethylbenzene	mg/L	< 0.001			0.001	Pass	
m&p-Xylenes	mg/L	< 0.002			0.002	Pass	
o-Xylene	mg/L	< 0.001			0.001	Pass	
Xylenes - Total*	mg/L	< 0.003			0.003	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/L	< 0.001			0.001	Pass	
Acenaphthylene	mg/L	< 0.001			0.001	Pass	
Anthracene	mg/L	< 0.001			0.001	Pass	
Benz(a)anthracene	mg/L	< 0.001			0.001	Pass	
Benzo(a)pyrene	mg/L	< 0.001			0.001	Pass	
Benzo(b&j)fluoranthene	mg/L	< 0.001			0.001	Pass	
Benzo(g.h.i)perylene	mg/L	< 0.001			0.001	Pass	
Benzo(k)fluoranthene	mg/L	< 0.001			0.001	Pass	
Chrysene	mg/L	< 0.001			0.001	Pass	
Dibenz(a.h)anthracene	mg/L	< 0.001			0.001	Pass	
Fluoranthene	mg/L	< 0.001			0.001	Pass	
Fluorene	mg/L	< 0.001			0.001	Pass	
Indeno(1.2.3-cd)pyrene	mg/L	< 0.001			0.001	Pass	
Naphthalene	mg/L	< 0.001			0.001	Pass	
Phenanthrene	mg/L	< 0.001			0.001	Pass	
Pyrene	mg/L	< 0.001			0.001	Pass	
Method Blank							
Organochlorine Pesticides							
Chlordanes - Total	mg/L	< 0.002			0.002	Pass	
4.4'-DDD	mg/L	< 0.0002			0.0002	Pass	
4.4'-DDE	mg/L	< 0.0002			0.0002	Pass	
4.4'-DDT	mg/L	< 0.0002			0.0002	Pass	
a-HCH	mg/L	< 0.0002			0.0002	Pass	
Aldrin	mg/L	< 0.0002			0.0002	Pass	
b-HCH	mg/L	< 0.0002			0.0002	Pass	
d-HCH	mg/L	< 0.0002			0.0002	Pass	
Dieldrin	mg/L	< 0.0002			0.0002	Pass	
Endosulfan I	mg/L	< 0.0002			0.0002	Pass	
Endosulfan II	mg/L	< 0.0002			0.0002	Pass	
Endosulfan sulphate	mg/L	< 0.0002			0.0002	Pass	
Endrin	mg/L	< 0.0002			0.0002	Pass	

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Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Endrin aldehyde	mg/L	< 0.0002			0.0002	Pass	
Endrin ketone	mg/L	< 0.0002			0.0002	Pass	
g-HCH (Lindane)	mg/L	< 0.0002			0.0002	Pass	
Heptachlor	mg/L	< 0.0002			0.0002	Pass	
Heptachlor epoxide	mg/L	< 0.0002			0.0002	Pass	
Hexachlorobenzene	mg/L	< 0.0002			0.0002	Pass	
Methoxychlor	mg/L	< 0.0002			0.0002	Pass	
Toxaphene	mg/L	< 0.005			0.005	Pass	
Method Blank							
Organophosphorus Pesticides							
Azinphos-methyl	mg/L	< 0.002			0.002	Pass	
Bolstar	mg/L	< 0.002			0.002	Pass	
Chlorfenvinphos	mg/L	< 0.02			0.02	Pass	
Chlorpyrifos	mg/L	< 0.002			0.002	Pass	
Chlorpyrifos-methyl	mg/L	< 0.002			0.002	Pass	
Coumaphos	mg/L	< 0.02			0.02	Pass	
Demeton-S	mg/L	< 0.002			0.002	Pass	
Demeton-O	mg/L	< 0.002			0.002	Pass	
Diazinon	mg/L	< 0.002			0.002	Pass	
Dichlorvos	mg/L	< 0.002			0.002	Pass	
Dimethoate	mg/L	< 0.002			0.002	Pass	
Disulfoton	mg/L	< 0.002			0.002	Pass	
EPN	mg/L	< 0.002			0.002	Pass	
Ethion	mg/L	< 0.002			0.002	Pass	
Ethoprop	mg/L	< 0.002			0.002	Pass	
Ethyl parathion	mg/L	< 0.002			0.002	Pass	
Fenitrothion	mg/L	< 0.002			0.002	Pass	
Fensulfothion	mg/L	< 0.002			0.002	Pass	
Fenthion	mg/L	< 0.002			0.002	Pass	
Malathion	mg/L	< 0.002			0.002	Pass	
Merphos	mg/L	< 0.002			0.002	Pass	
Methyl parathion	mg/L	< 0.002			0.002	Pass	
Mevinphos	mg/L	< 0.002			0.002	Pass	
Monocrotophos	mg/L	< 0.002			0.002	Pass	
Naled	mg/L	< 0.002			0.002	Pass	
Omethoate	mg/L	< 0.02			0.02	Pass	
Phorate	mg/L	< 0.002			0.002	Pass	
Pirimiphos-methyl	mg/L	< 0.02			0.02	Pass	
Pyrazophos	mg/L	< 0.002			0.002	Pass	
Ronnel	mg/L	< 0.002			0.002	Pass	
Terbufos	mg/L	< 0.002			0.002	Pass	
Tetrachlorvinphos	mg/L	< 0.002			0.002	Pass	
Tokuthion	mg/L	< 0.002			0.002	Pass	
Trichloronate	mg/L	< 0.002			0.002	Pass	
Method Blank							
Heavy Metals							
Arsenic	mg/L	< 0.001			0.001	Pass	
Cadmium	mg/L	< 0.0002			0.0002	Pass	
Chromium	mg/L	< 0.001			0.001	Pass	
Copper	mg/L	< 0.001			0.001	Pass	
Lead	mg/L	< 0.001			0.001	Pass	
Mercury	mg/L	< 0.0001			0.0001	Pass	
Nickel	mg/L	< 0.001			0.001	Pass	
Zinc	mg/L	< 0.005			0.005	Pass	

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Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C6-C9	%	95			70-130	Pass	
TRH C10-C14	%	100			70-130	Pass	
Naphthalene	%	79			70-130	Pass	
TRH C6-C10	%	94			70-130	Pass	
TRH >C10-C16	%	98			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	90			70-130	Pass	
Toluene	%	100			70-130	Pass	
Ethylbenzene	%	96			70-130	Pass	
m&p-Xylenes	%	95			70-130	Pass	
o-Xylene	%	95			70-130	Pass	
Xylenes - Total*	%	95			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	75			70-130	Pass	
Acenaphthylene	%	80			70-130	Pass	
Anthracene	%	79			70-130	Pass	
Benz(a)anthracene	%	88			70-130	Pass	
Benzo(a)pyrene	%	82			70-130	Pass	
Benzo(b&j)fluoranthene	%	94			70-130	Pass	
Benzo(g.h.i)perylene	%	95			70-130	Pass	
Benzo(k)fluoranthene	%	82			70-130	Pass	
Chrysene	%	84			70-130	Pass	
Dibenz(a.h)anthracene	%	85			70-130	Pass	
Fluoranthene	%	85			70-130	Pass	
Fluorene	%	77			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	86			70-130	Pass	
Phenanthrene	%	73			70-130	Pass	
Pyrene	%	76			70-130	Pass	
LCS - % Recovery							
Organochlorine Pesticides							
Chlordanes - Total	%	75			70-130	Pass	
4.4'-DDD	%	79			70-130	Pass	
4.4'-DDE	%	76			70-130	Pass	
4.4'-DDT	%	81			70-130	Pass	
a-HCH	%	70			70-130	Pass	
Aldrin	%	71			70-130	Pass	
b-HCH	%	74			70-130	Pass	
d-HCH	%	82			70-130	Pass	
Dieldrin	%	74			70-130	Pass	
Endosulfan I	%	70			70-130	Pass	
Endosulfan II	%	85			70-130	Pass	
Endosulfan sulphate	%	80			70-130	Pass	
Endrin	%	91			70-130	Pass	
Endrin aldehyde	%	73			70-130	Pass	
Endrin ketone	%	85			70-130	Pass	
g-HCH (Lindane)	%	86			70-130	Pass	
Heptachlor	%	72			70-130	Pass	
Heptachlor epoxide	%	82			70-130	Pass	
Hexachlorobenzene	%	72			70-130	Pass	
Methoxychlor	%	87			70-130	Pass	

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Test			Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
LCS - % Recovery									
Organophosphorus Pesticides									
Diazinon			%	81			70-130	Pass	
Dimethoate			%	74			70-130	Pass	
Ethion			%	87			70-130	Pass	
Fenitrothion			%	97			70-130	Pass	
Methyl parathion			%	99			70-130	Pass	
Mevinphos			%	89			70-130	Pass	
LCS - % Recovery									
Heavy Metals									
Arsenic			%	104			80-120	Pass	
Cadmium			%	94			80-120	Pass	
Chromium			%	89			80-120	Pass	
Copper			%	85			80-120	Pass	
Lead			%	86			80-120	Pass	
Mercury			%	93			80-120	Pass	
Nickel			%	88			80-120	Pass	
Zinc			%	88			80-120	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C6-C9	S22-Se0020888	NCP	%	105			70-130	Pass	
TRH C10-C14	S22-Se0027530	NCP	%	90			70-130	Pass	
Naphthalene	S22-Se0020888	NCP	%	99			70-130	Pass	
TRH C6-C10	S22-Se0020888	NCP	%	105			70-130	Pass	
TRH >C10-C16	S22-Se0027530	NCP	%	88			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	S22-Se0020888	NCP	%	97			70-130	Pass	
Toluene	S22-Se0020888	NCP	%	106			70-130	Pass	
Ethylbenzene	S22-Se0020888	NCP	%	104			70-130	Pass	
m&p-Xylenes	S22-Se0020888	NCP	%	100			70-130	Pass	
o-Xylene	S22-Se0020888	NCP	%	97			70-130	Pass	
Xylenes - Total*	S22-Se0020888	NCP	%	99			70-130	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthene	S22-Se0016459	NCP	%	80			70-130	Pass	
Acenaphthylene	S22-Se0016459	NCP	%	78			70-130	Pass	
Anthracene	S22-Se0016459	NCP	%	78			70-130	Pass	
Benzo(a)pyrene	S22-Se0016459	NCP	%	74			70-130	Pass	
Benzo(b&j)fluoranthene	S22-Se0016459	NCP	%	96			70-130	Pass	
Benzo(k)fluoranthene	S22-Se0016459	NCP	%	84			70-130	Pass	
Chrysene	S22-Se0016459	NCP	%	75			70-130	Pass	
Fluoranthene	S22-Se0016459	NCP	%	74			70-130	Pass	
Fluorene	S22-Se0016459	NCP	%	80			70-130	Pass	
Indeno(1.2.3-cd)pyrene	S22-Se0016459	NCP	%	70			70-130	Pass	
Phenanthrene	S22-Se0016459	NCP	%	72			70-130	Pass	
Pyrene	S22-Se0016459	NCP	%	73			70-130	Pass	
Spike - % Recovery									
Organochlorine Pesticides				Result 1					
Chlordanes - Total	S22-Se0016459	NCP	%	154			70-130	Fail	Q08
4.4'-DDD	S22-Se0016459	NCP	%	78			70-130	Pass	
4.4'-DDE	S22-Se0016459	NCP	%	73			70-130	Pass	
4.4'-DDT	S22-Se0016459	NCP	%	81			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
a-HCH	S22-Se0016459	NCP	%	79			70-130	Pass	
Aldrin	S22-Se0016459	NCP	%	74			70-130	Pass	
b-HCH	S22-Se0016459	NCP	%	74			70-130	Pass	
d-HCH	S22-Se0016459	NCP	%	79			70-130	Pass	
Dieldrin	S22-Se0016459	NCP	%	79			70-130	Pass	
Endosulfan I	S22-Se0016459	NCP	%	70			70-130	Pass	
Endosulfan II	S22-Se0016459	NCP	%	83			70-130	Pass	
Endosulfan sulphate	S22-Se0016459	NCP	%	80			70-130	Pass	
Endrin	S22-Se0016459	NCP	%	86			70-130	Pass	
Endrin ketone	S22-Se0016459	NCP	%	82			70-130	Pass	
g-HCH (Lindane)	S22-Se0016459	NCP	%	78			70-130	Pass	
Heptachlor	S22-Se0016459	NCP	%	82			70-130	Pass	
Heptachlor epoxide	S22-Se0016459	NCP	%	73			70-130	Pass	
Hexachlorobenzene	S22-Se0016459	NCP	%	73			70-130	Pass	
Methoxychlor	S22-Se0016459	NCP	%	81			70-130	Pass	
Spike - % Recovery									
Organophosphorus Pesticides				Result 1					
Diazinon	S22-Se0016459	NCP	%	92			70-130	Pass	
Dimethoate	S22-Se0016459	NCP	%	74			70-130	Pass	
Ethion	S22-Se0016459	NCP	%	91			70-130	Pass	
Fenitrothion	S22-Se0016459	NCP	%	94			70-130	Pass	
Methyl parathion	S22-Se0016459	NCP	%	98			70-130	Pass	
Mevinphos	S22-Se0016459	NCP	%	91			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	S22-Se0017875	NCP	%	111			75-125	Pass	
Cadmium	S22-Se0017875	NCP	%	100			75-125	Pass	
Chromium	S22-Se0017875	NCP	%	89			75-125	Pass	
Copper	S22-Se0017875	NCP	%	84			75-125	Pass	
Lead	S22-Se0017875	NCP	%	86			75-125	Pass	
Mercury	S22-Se0017875	NCP	%	94			75-125	Pass	
Nickel	S22-Se0017875	NCP	%	87			75-125	Pass	
Zinc	S22-Se0017875	NCP	%	87			75-125	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	S22-Se0021252	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
TRH C10-C14	S22-Se0018454	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
TRH C15-C28	S22-Se0018454	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH C29-C36	S22-Se0018454	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
Naphthalene	S22-Se0021252	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
TRH C6-C10	S22-Se0021252	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
TRH >C10-C16	S22-Se0018454	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
TRH >C16-C34	S22-Se0018454	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH >C34-C40	S22-Se0018454	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	S22-Se0021252	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Toluene	S22-Se0021252	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Ethylbenzene	S22-Se0021252	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
m&p-Xylenes	S22-Se0021252	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
o-Xylene	S22-Se0021252	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Xylenes - Total*	S22-Se0021252	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass	

Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	S22-Se0016458	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Acenaphthylene	S22-Se0016458	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Anthracene	S22-Se0016458	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benz(a)anthracene	S22-Se0016458	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(a)pyrene	S22-Se0016458	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(b&j)fluoranthene	S22-Se0016458	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(g.h.i)perylene	S22-Se0016458	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(k)fluoranthene	S22-Se0016458	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Chrysene	S22-Se0016458	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Dibenz(a.h)anthracene	S22-Se0016458	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Fluoranthene	S22-Se0016458	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Fluorene	S22-Se0016458	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	S22-Se0016458	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Naphthalene	S22-Se0016458	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Phenanthrene	S22-Se0016458	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Pyrene	S22-Se0016458	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	S22-Se0016458	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
4.4'-DDD	S22-Se0016458	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
4.4'-DDE	S22-Se0016458	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
4.4'-DDT	S22-Se0016458	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Aldrin	S22-Se0016458	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
b-HCH	S22-Se0016458	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
d-HCH	S22-Se0016458	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Dieldrin	S22-Se0016458	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Endosulfan I	S22-Se0016458	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Endosulfan II	S22-Se0016458	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Endosulfan sulphate	S22-Se0016458	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Endrin	S22-Se0016458	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Endrin aldehyde	S22-Se0016458	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Endrin ketone	S22-Se0016458	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Heptachlor	S22-Se0016458	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Heptachlor epoxide	S22-Se0016458	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Hexachlorobenzene	S22-Se0016458	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Methoxychlor	S22-Se0016458	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Toxaphene	S22-Se0016458	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Duplicate									
Organophosphorus Pesticides				Result 1	Result 2	RPD			
Azinphos-methyl	S22-Se0016458	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Bolstar	S22-Se0016458	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Chlorfenvinphos	S22-Se0016458	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
Chlorpyrifos	S22-Se0016458	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Chlorpyrifos-methyl	S22-Se0016458	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Coumaphos	S22-Se0016458	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
Demeton-S	S22-Se0016458	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Demeton-O	S22-Se0016458	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Diazinon	S22-Se0016458	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Dichlorvos	S22-Se0016458	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Dimethoate	S22-Se0016458	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Disulfoton	S22-Se0016458	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
EPN	S22-Se0016458	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Ethion	S22-Se0016458	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Ethoprop	S22-Se0016458	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	

Duplicate									
Organophosphorus Pesticides				Result 1	Result 2	RPD			
Ethyl parathion	S22-Se0016458	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Fenitrothion	S22-Se0016458	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Fensulfothion	S22-Se0016458	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Fenthion	S22-Se0016458	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Malathion	S22-Se0016458	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Merphos	S22-Se0016458	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Methyl parathion	S22-Se0016458	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Mevinphos	S22-Se0016458	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Monocrotophos	S22-Se0016458	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Naled	S22-Se0016458	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Omethoate	S22-Se0016458	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
Phorate	S22-Se0016458	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Pirimiphos-methyl	S22-Se0016458	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
Pyrazophos	S22-Se0016458	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Ronnel	S22-Se0016458	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Terbufos	S22-Se0016458	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Tetrachlorvinphos	S22-Se0016458	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Tokuthion	S22-Se0016458	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Trichloronate	S22-Se0016458	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	S22-Se0029373	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Cadmium	S22-Se0029373	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Chromium	S22-Se0029373	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Copper	S22-Se0029373	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Lead	S22-Se0029373	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Mercury	S22-Se0029373	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Nickel	S22-Se0029373	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Zinc	S22-Se0029373	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	

DRAFT

Comments

Sample Integrity

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

Qualifier Codes/Comments

Code	Description
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.
N07	Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs
N11	Isotope dilution is used for calibration of each native compound for which an exact labelled analogue is available (Isotope Dilution Quantitation). The isotopically labelled analogues allow identification and recovery correction of the concentration of the associated native PFAS compounds.
N15	Where the native PFAS compound does not have labelled analogue then the quantification is made using the Extracted Internal Standard Analyte with the closest retention time to the analyte and no recovery correction has been made (Internal Standard Quantitation).
Q08	The matrix spike recovery is outside of the recommended acceptance criteria. An acceptable recovery was obtained for the laboratory control sample indicating a sample matrix interference.

Authorised by:

Gabriele Cordero	Senior Analyst-Metal
Roopesh Rangarajan	Senior Analyst-Organic
Roopesh Rangarajan	Senior Analyst-Volatile

Glenn Jackson
General Manager

- Indicates Not Requested

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

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

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DRAFT

CHAIN OF CUSTODY RECORD

ABN 50 005 085 521

☐ **Sydney Laboratory** Unit F3 Bld.F, 16 Mars Rd, Lane Cove West, NSW 2066 02 9900 8400 EnviroSampleNSW@eurofins.com

☐ **Brisbane Laboratory** Unit 1, 21 Smallwood Pl., Murarrie, QLD 4172 07 3902 4600 EnviroSampleQLD@eurofins.com

☐ **Perth Laboratory** Unit 2, 91 Leach Highway, Kewdale WA 6105 08 9251 9600 EnviroSampleWA@eurofins.com

☐ **Melbourne Laboratory** 2 Kingston Town Close, Oakleigh, VIC 3166 03 8564 5000 EnviroSampleVic@eurofins.com

Company	AECOM Australia Pty Ltd	Project №	60619758, 211-30	Project Manager	Tama Armani
Address	17 Warabrook Boulevard Warabrook NSW 2304	Project Name	Muswellbrook	Report Format	PDF, Esdat
Contact Name	Peter Dean				
Phone №	0458 114 239				
Special Direction	—				
Purchase Order	60619758, 211-30				
Quote ID №	AECOM MSA 2021				

Relinquished by: P. Dean — 18:10 — 23/11/22 — 4.7°C

Email for Results: Tama.Armani@aecom.com; Peter.Dean@aecom.com

Analysis (Note: Where metals are requested, please specify "Total" or "Filtered"):

№	Client Sample ID	Date	Matrix	TRH C6-C40, BTEXN, PAH, PCB	8 metals	~~BTEX~~ VOC, SVOC	OP/OC Pesticides	PFAS	NOx, Total + reactive phosphorus
1	QCLab-221123	23/11/22	W	X	X	X	X	X	X
2									
3									
4									
5									
6									
7									
8									
9									
10									
	Total Counts								

Containers: 1L Plastic; 250mL Plastic; 125mL Plastic; 200mL Amber Glass; 40mL Vial; 125mL Amber Glass; Jar; Other ( )

Turn Around Requirements: ☐ Overnight (9am)* ☐ 1 Day* ☐ 2 Day* ☐ 3 Day* ☑ 5 Day ☐ Other ( ) * Surcharges apply

Sample Comments / DG Hazard Warning

Method of Shipment: ☐ Courier (#) ☐ Hand Delivered ☐ Postal

Name | Signature | Date | Time

Laboratory Use Only

Received By	Jaidyn Stevenson	SYD | BNE | MEL | PER | ADL | (NEW) | DAR	Signature		Date	23/11/22	Time	8:30	Temperature 12.5
Received By		SYD | BNE | MEL | PER | ADL | NEW | DAR	Signature		Date	/ /	Time	:	Report № 944491

QS3009_R6 Modified by: S. Kojima Approved by: Dr. R Symons Approved on: 2 November 2016

Submission of samples to the laboratory will be deemed as acceptance of Eurofins | mgt Standard Terms and Conditions unless agreed otherwise. A copy of Eurofins | mgt Standard Terms and Conditions is available on request.

eurofins | Environment Testing

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

Eurofins Environment Testing Australia Pty Ltd

ABN: 50 005 085 521

Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
6 Monterey Road	19/8 Lewalan Street	179 Magowar Road	Unit 1,2 Dacre Street	1/21 Smallwood Place	4/52 Industrial Drive
Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield East NSW 2304
VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	PO Box 60 Wickham 2293
Tel: +61 3 8564 5000	Tel: +61 3 8564 5000	Tel: +61 2 9900 8400	Tel: +61 2 6113 8091	Tel: +61 7 3902 4600	Tel: +61 2 4968 8448
NATA# 1261 Site# 1254	NATA# 1261 Site# 1254	NATA# 1261 Site# 18217		NATA# 1261 Site# 20794	NATA# 1261 Site# 25079

Eurofins ARL Pty Ltd

ABN: 91 05 0159 898

Perth
46-48 Banksia Road
Welshpool
WA 6106
Tel: +61 8 6253 4444
NATA# 2377 Site# 2370

Eurofins Environment Testing NZ Ltd

NZBN: 9429046024954

Auckland	Christchurch
35 O'Rorke Road	43 Detroit Drive
Penrose,	Rolleston,
Auckland 1061	Christchurch 7675
Tel: +64 9 526 45 51	Tel: 0800 856 450
IANZ# 1327	IANZ# 1290

Sample Receipt Advice

Company name:	AECOM Aust Pty Ltd Newcastle
Contact name:	Tama Armani
Project name:	MUSWELLBROOK
Project ID:	60619756 211-30
Turnaround time:	5 Day
Date/Time received	Nov 24, 2022 8:30 AM
Eurofins reference	944491

Sample Information

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

Notes

Contact

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

Andrew Black on phone : (+61) 2 9900 8490 or by email: AndrewBlack@eurofins.com

Results will be delivered electronically via email to Tama Armani - tama.armani@aecom.com.

Note: A copy of these results will also be delivered to the general AECOM Aust Pty Ltd Newcastle email address.

eurofins

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

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

Melbourne
6 Monterey Road
Dandenong South
VIC 3175
Tel: +61 3 8564 5000
NATA# 1261 Site# 1254

Geelong
19/8 Lewalan Street
Grovedale
VIC 3216
Tel: +61 3 8564 5000
NATA# 1261 Site# 1254

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

Canberra
Unit 1,2 Dacre Street
Mitchell
ACT 2911
Tel: +61 2 6113 8091

Brisbane
1/21 Smallwood Place
Murarrie
QLD 4172
Tel: +61 7 3902 4600
NATA# 1261 Site# 20794

Newcastle
4/52 Industrial Drive
Mayfield East NSW 2304
PO Box 60 Wickham 2293
Tel: +61 2 4968 8448
NATA# 1261 Site# 25079

Eurofins ARL Pty Ltd
ABN: 91 05 0159 898

Perth
46-48 Banksia Road
Welshpool
WA 6106
Tel: +61 8 6253 4444
NATA# 2377 Site# 2370

Eurofins Environment Testing NZ Ltd
NZBN: 9429046024954

Auckland
35 O'Rorke Road
Penrose,
Auckland 1061
Tel: +64 9 526 45 51
IANZ# 1327

Christchurch
43 Detroit Drive
Rolleston,
Christchurch 7675
Tel: 0800 856 450
IANZ# 1290

Company Name: AECOM Aust Pty Ltd Newcastle
Address: 18 Warabrook Blvd, PO Box 73
HRMC
NSW 2310

Project Name: MUSWELLBROOK
Project ID: 60619756 211-30

Order No.: 60619756, 211-30
Report #: 944491
Phone: 02 4911 4900
Fax: 02 4968 0005

Received: Nov 24, 2022 8:30 AM
Due: Dec 1, 2022
Priority: 5 Day
Contact Name: Tama Armani

Eurofins Analytical Services Manager : Andrew Black

Sample Detail						Nitrate & Nitrite (as N)	Phosphorus reactive (as P)	Organochlorine Pesticides	Organophosphorus Pesticides	Polychlorinated Biphenyls	Metals M8 filtered	Volatile Organics	Semivolatile Organics	Eurofins Suite B4	Per- and Polyfluoroalkyl Substances (PFASs)
Melbourne Laboratory - NATA # 1261 Site # 1254						X									
Sydney Laboratory - NATA # 1261 Site # 18217							X	X	X	X	X	X	X	X	X
External Laboratory															
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**										
1	QC200_221123	Nov 23, 2022		Water	N22-No0061113	X	X	X	X	X	X	X	X	X	X
Test Counts						1	1	1	1	1	1	1	1	1	1

AECOM Aust Pty Ltd Newcastle
18 Warabrook Blvd, PO Box 73
HRMC
NSW 2310

NATA Accredited
Accreditation Number 1261
Site Number 18217

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and certificates.

Attention: **Tama Armani**

Report **944491-W**
Project name MUSWELLBROOK
Project ID 60619756 211-30
Received Date Nov 24, 2022

Client Sample ID			**QC200_221123**
Sample Matrix			**Water**
Eurofins Sample No.			**N22-No0061113**
Date Sampled			**Nov 23, 2022**
Test/Reference	LOR	Unit	
Total Recoverable Hydrocarbons - 1999 NEPM Fractions			
TRH C6-C9	0.02	mg/L	< 0.02
TRH C10-C14	0.05	mg/L	< 0.05
TRH C15-C28	0.1	mg/L	< 0.1
TRH C29-C36	0.1	mg/L	< 0.1
TRH C10-C36 (Total)	0.1	mg/L	< 0.1
BTEX			
Benzene	0.001	mg/L	< 0.001
Toluene	0.001	mg/L	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002
o-Xylene	0.001	mg/L	< 0.001
Xylenes - Total*	0.003	mg/L	< 0.003
4-Bromofluorobenzene (surr.)	1	%	109
Volatile Organics			
1.1-Dichloroethane	0.001	mg/L	< 0.001
1.1-Dichloroethene	0.001	mg/L	< 0.001
1.1.1-Trichloroethane	0.001	mg/L	< 0.001
1.1.1.2-Tetrachloroethane	0.001	mg/L	< 0.001
1.1.2-Trichloroethane	0.001	mg/L	< 0.001
1.1.2.2-Tetrachloroethane	0.001	mg/L	< 0.001
1.2-Dibromoethane	0.001	mg/L	< 0.001
1.2-Dichlorobenzene	0.001	mg/L	< 0.001
1.2-Dichloroethane	0.001	mg/L	< 0.001
1.2-Dichloropropane	0.001	mg/L	< 0.001
1.2.3-Trichloropropane	0.001	mg/L	< 0.001
1.2.4-Trimethylbenzene	0.001	mg/L	< 0.001
1.3-Dichlorobenzene	0.001	mg/L	< 0.001
1.3-Dichloropropane	0.001	mg/L	< 0.001
1.3.5-Trimethylbenzene	0.001	mg/L	< 0.001
1.4-Dichlorobenzene	0.001	mg/L	< 0.001
2-Butanone (MEK)	0.005	mg/L	< 0.005
2-Propanone (Acetone)	0.005	mg/L	< 0.005
4-Chlorotoluene	0.001	mg/L	< 0.001
4-Methyl-2-pentanone (MIBK)	0.005	mg/L	< 0.005
Allyl chloride	0.001	mg/L	< 0.001

Client Sample ID			QC200_221123
Sample Matrix			Water
Eurofins Sample No.			N22-No0061113
Date Sampled			Nov 23, 2022
Test/Reference	LOR	Unit	
Volatile Organics			
Benzene	0.001	mg/L	< 0.001
Bromobenzene	0.001	mg/L	< 0.001
Bromochloromethane	0.001	mg/L	< 0.001
Bromodichloromethane	0.001	mg/L	< 0.001
Bromoform	0.001	mg/L	< 0.001
Bromomethane	0.005	mg/L	< 0.005
Carbon disulfide	0.001	mg/L	< 0.001
Carbon Tetrachloride	0.001	mg/L	< 0.001
Chlorobenzene	0.001	mg/L	< 0.001
Chloroethane	0.005	mg/L	< 0.005
Chloroform	0.005	mg/L	< 0.005
Chloromethane	0.005	mg/L	< 0.005
cis-1.2-Dichloroethene	0.001	mg/L	< 0.001
cis-1.3-Dichloropropene	0.001	mg/L	< 0.001
Dibromochloromethane	0.001	mg/L	< 0.001
Dibromomethane	0.001	mg/L	< 0.001
Dichlorodifluoromethane	0.005	mg/L	< 0.005
Ethylbenzene	0.001	mg/L	< 0.001
Iodomethane	0.001	mg/L	< 0.001
Isopropyl benzene (Cumene)	0.001	mg/L	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002
Methylene Chloride	0.005	mg/L	< 0.005
o-Xylene	0.001	mg/L	< 0.001
Styrene	0.001	mg/L	< 0.001
Tetrachloroethene	0.001	mg/L	< 0.001
Toluene	0.001	mg/L	< 0.001
trans-1.2-Dichloroethene	0.001	mg/L	< 0.001
trans-1.3-Dichloropropene	0.001	mg/L	< 0.001
Trichloroethene	0.001	mg/L	< 0.001
Trichlorofluoromethane	0.005	mg/L	< 0.005
Vinyl chloride	0.005	mg/L	< 0.005
Xylenes - Total*	0.003	mg/L	< 0.003
Total MAH*	0.003	mg/L	< 0.003
Vic EPA IWRG 621 CHC (Total)*	0.005	mg/L	< 0.005
Vic EPA IWRG 621 Other CHC (Total)*	0.005	mg/L	< 0.005
4-Bromofluorobenzene (surr.)	1	%	109
Toluene-d8 (surr.)	1	%	95
Total Recoverable Hydrocarbons - 2013 NEPM Fractions			
Naphthalene[N02]	0.01	mg/L	< 0.01
TRH >C10-C16 less Naphthalene (F2)[N01]	0.05	mg/L	< 0.05
TRH C6-C10	0.02	mg/L	< 0.02
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	< 0.02
Polycyclic Aromatic Hydrocarbons			
Acenaphthene	0.001	mg/L	< 0.001
Acenaphthylene	0.001	mg/L	< 0.001
Anthracene	0.001	mg/L	< 0.001
Benz(a)anthracene	0.001	mg/L	< 0.001
Benzo(a)pyrene	0.001	mg/L	< 0.001
Benzo(b&j)fluoranthene[N07]	0.001	mg/L	< 0.001

Client Sample ID			QC200_221123
Sample Matrix			Water
Eurofins Sample No.			N22-No0061113
Date Sampled			Nov 23, 2022
Test/Reference	LOR	Unit	
Polycyclic Aromatic Hydrocarbons			
Benzo(g.h.i)perylene	0.001	mg/L	< 0.001
Benzo(k)fluoranthene	0.001	mg/L	< 0.001
Chrysene	0.001	mg/L	< 0.001
Dibenz(a.h)anthracene	0.001	mg/L	< 0.001
Fluoranthene	0.001	mg/L	< 0.001
Fluorene	0.001	mg/L	< 0.001
Indeno(1.2.3-cd)pyrene	0.001	mg/L	< 0.001
Naphthalene	0.001	mg/L	< 0.001
Phenanthrene	0.001	mg/L	< 0.001
Pyrene	0.001	mg/L	< 0.001
Total PAH*	0.001	mg/L	< 0.001
2-Fluorobiphenyl (surr.)	1	%	99
p-Terphenyl-d14 (surr.)	1	%	142
Organochlorine Pesticides			
Chlordanes - Total	0.002	mg/L	< 0.002
4.4'-DDD	0.0002	mg/L	< 0.0002
4.4'-DDE	0.0002	mg/L	< 0.0002
4.4'-DDT	0.0002	mg/L	< 0.0002
a-HCH	0.0002	mg/L	< 0.0002
Aldrin	0.0002	mg/L	< 0.0002
b-HCH	0.0002	mg/L	< 0.0002
d-HCH	0.0002	mg/L	< 0.0002
Dieldrin	0.0002	mg/L	< 0.0002
Endosulfan I	0.0002	mg/L	< 0.0002
Endosulfan II	0.0002	mg/L	< 0.0002
Endosulfan sulphate	0.0002	mg/L	< 0.0002
Endrin	0.0002	mg/L	< 0.0002
Endrin aldehyde	0.0002	mg/L	< 0.0002
Endrin ketone	0.0002	mg/L	< 0.0002
g-HCH (Lindane)	0.0002	mg/L	< 0.0002
Heptachlor	0.0002	mg/L	< 0.0002
Heptachlor epoxide	0.0002	mg/L	< 0.0002
Hexachlorobenzene	0.0002	mg/L	< 0.0002
Methoxychlor	0.0002	mg/L	< 0.0002
Toxaphene	0.005	mg/L	< 0.005
Aldrin and Dieldrin (Total)*	0.0002	mg/L	< 0.0002
DDT + DDE + DDD (Total)*	0.0002	mg/L	< 0.0002
Vic EPA IWRG 621 OCP (Total)*	0.002	mg/L	< 0.002
Vic EPA IWRG 621 Other OCP (Total)*	0.002	mg/L	< 0.002
Dibutylchlorendate (surr.)	1	%	[Q09]INT
Tetrachloro-m-xylene (surr.)	1	%	[Q09]INT
Organophosphorus Pesticides			
Azinphos-methyl	0.002	mg/L	< 0.002
Bolstar	0.002	mg/L	< 0.002
Chlorfenvinphos	0.02	mg/L	< 0.02
Chlorpyrifos	0.002	mg/L	< 0.002
Chlorpyrifos-methyl	0.002	mg/L	< 0.002
Coumaphos	0.02	mg/L	< 0.02
Demeton-S	0.002	mg/L	< 0.002

Client Sample ID			QC200_221123
Sample Matrix			Water
Eurofins Sample No.			N22-No0061113
Date Sampled			Nov 23, 2022
Test/Reference	LOR	Unit	
Organophosphorus Pesticides			
Demeton-O	0.002	mg/L	< 0.002
Diazinon	0.002	mg/L	< 0.002
Dichlorvos	0.002	mg/L	< 0.002
Dimethoate	0.002	mg/L	< 0.002
Disulfoton	0.002	mg/L	< 0.002
EPN	0.002	mg/L	< 0.002
Ethion	0.002	mg/L	< 0.002
Ethoprop	0.002	mg/L	< 0.002
Ethyl parathion	0.002	mg/L	< 0.002
Fenitrothion	0.002	mg/L	< 0.002
Fensulfothion	0.002	mg/L	< 0.002
Fenthion	0.002	mg/L	< 0.002
Malathion	0.002	mg/L	< 0.002
Merphos	0.002	mg/L	< 0.002
Methyl parathion	0.002	mg/L	< 0.002
Mevinphos	0.002	mg/L	< 0.002
Monocrotophos	0.002	mg/L	< 0.002
Naled	0.002	mg/L	< 0.002
Omethoate	0.02	mg/L	< 0.02
Phorate	0.002	mg/L	< 0.002
Pirimiphos-methyl	0.02	mg/L	< 0.02
Pyrazophos	0.002	mg/L	< 0.002
Ronnel	0.002	mg/L	< 0.002
Terbufos	0.002	mg/L	< 0.002
Tetrachlorvinphos	0.002	mg/L	< 0.002
Tokuthion	0.002	mg/L	< 0.002
Trichloronate	0.002	mg/L	< 0.002
Triphenylphosphate (surr.)	1	%	[Q09]INT
Polychlorinated Biphenyls			
Aroclor-1016	0.005	mg/L	< 0.005
Aroclor-1221	0.005	mg/L	< 0.005
Aroclor-1232	0.005	mg/L	< 0.005
Aroclor-1242	0.005	mg/L	< 0.005
Aroclor-1248	0.005	mg/L	< 0.005
Aroclor-1254	0.005	mg/L	< 0.005
Aroclor-1260	0.005	mg/L	< 0.005
Total PCB*	0.005	mg/L	< 0.005
Dibutylchlorendate (surr.)	1	%	[Q09]INT
Tetrachloro-m-xylene (surr.)	1	%	[Q09]INT
Total Recoverable Hydrocarbons - 2013 NEPM Fractions			
TRH >C10-C16	0.05	mg/L	< 0.05
TRH >C16-C34	0.1	mg/L	< 0.1
TRH >C34-C40	0.1	mg/L	< 0.1
TRH >C10-C40 (total)*	0.1	mg/L	< 0.1
Semivolatile Organics			
2-Methyl-4.6-dinitrophenol	0.03	mg/L	< 0.03
1-Chloronaphthalene	0.005	mg/L	< 0.005
1-Naphthylamine	0.005	mg/L	< 0.05
1.2-Dichlorobenzene	0.005	mg/L	< 0.005

Client Sample ID			QC200_221123
Sample Matrix			Water
Eurofins Sample No.			N22-No0061113
Date Sampled			Nov 23, 2022
Test/Reference	LOR	Unit	
Semivolatile Organics			
1.2.3-Trichlorobenzene	0.005	mg/L	< 0.005
1.2.3.4-Tetrachlorobenzene	0.005	mg/L	< 0.005
1.2.3.5-Tetrachlorobenzene	0.005	mg/L	< 0.005
1.2.4-Trichlorobenzene	0.005	mg/L	< 0.005
1.2.4.5-Tetrachlorobenzene	0.005	mg/L	< 0.005
1.3-Dichlorobenzene	0.005	mg/L	< 0.005
1.3.5-Trichlorobenzene	0.005	mg/L	< 0.005
1.4-Dichlorobenzene	0.005	mg/L	< 0.005
2-Chloronaphthalene	0.005	mg/L	< 0.005
2-Chlorophenol	0.003	mg/L	< 0.003
2-Fluorobiphenyl (surr.)	1	%	99
2-Methylnaphthalene	0.005	mg/L	< 0.005
2-Methylphenol (o-Cresol)	0.003	mg/L	< 0.003
2-Naphthylamine	0.005	mg/L	< 0.05
2-Nitroaniline	0.005	mg/L	< 0.005
2-Nitrophenol	0.01	mg/L	< 0.01
2-Picoline	0.005	mg/L	< 0.005
2.3.4.6-Tetrachlorophenol	0.01	mg/L	< 0.01
2.4-Dichlorophenol	0.003	mg/L	< 0.003
2.4-Dimethylphenol	0.003	mg/L	< 0.003
2.4-Dinitrophenol	0.03	mg/L	< 0.03
2.4-Dinitrotoluene	0.005	mg/L	< 0.005
2.4.5-Trichlorophenol	0.01	mg/L	< 0.01
2.4.6-Tribromophenol (surr.)	1	%	138
2.4.6-Trichlorophenol	0.01	mg/L	< 0.01
2.6-Dichlorophenol	0.003	mg/L	< 0.003
2.6-Dinitrotoluene	0.005	mg/L	< 0.005
3&4-Methylphenol (m&p-Cresol)	0.006	mg/L	< 0.006
3-Methylcholanthrene	0.005	mg/L	< 0.005
3.3'-Dichlorobenzidine	0.005	mg/L	< 0.005
4-Aminobiphenyl	0.005	mg/L	< 0.005
4-Bromophenyl phenyl ether	0.005	mg/L	< 0.005
4-Chloro-3-methylphenol	0.01	mg/L	< 0.01
4-Chlorophenyl phenyl ether	0.005	mg/L	< 0.005
4-Nitrophenol	0.03	mg/L	< 0.03
4.4'-DDD	0.005	mg/L	< 0.005
4.4'-DDE	0.005	mg/L	< 0.005
4.4'-DDT	0.005	mg/L	< 0.005
7.12-Dimethylbenz(a)anthracene	0.005	mg/L	< 0.5
a-HCH	0.005	mg/L	< 0.005
Acenaphthene	0.001	mg/L	< 0.001
Acenaphthylene	0.001	mg/L	< 0.001
Acetophenone	0.005	mg/L	< 0.005
Aldrin	0.005	mg/L	< 0.005
Aniline	0.005	mg/L	< 0.005
Anthracene	0.001	mg/L	< 0.001
b-HCH	0.005	mg/L	< 0.005
Benz(a)anthracene	0.001	mg/L	< 0.001
Benzo(a)pyrene	0.001	mg/L	< 0.001

Client Sample ID			QC200_221123
Sample Matrix			Water
Eurofins Sample No.			N22-No0061113
Date Sampled			Nov 23, 2022
Test/Reference	LOR	Unit	
Semivolatile Organics			
Benzo(b&j)fluoranthene[N07]	0.001	mg/L	< 0.001
Benzo(g.h.i)perylene	0.001	mg/L	< 0.001
Benzo(k)fluoranthene	0.001	mg/L	< 0.001
Benzyl chloride	0.005	mg/L	< 0.005
Bis(2-chloroethoxy)methane	0.005	mg/L	< 0.005
Bis(2-chloroisopropyl)ether	0.005	mg/L	< 0.005
Bis(2-ethylhexyl)phthalate	0.005	mg/L	< 0.005
Butyl benzyl phthalate	0.005	mg/L	< 0.005
Chrysene	0.001	mg/L	< 0.001
d-HCH	0.005	mg/L	< 0.005
Di-n-butyl phthalate	0.005	mg/L	< 0.005
Di-n-octyl phthalate	0.005	mg/L	< 0.005
Dibenz(a.h)anthracene	0.001	mg/L	< 0.001
Dibenz(a.j)acridine	0.005	mg/L	< 0.005
Dibenzofuran	0.005	mg/L	< 0.005
Dieldrin	0.005	mg/L	< 0.005
Diethyl phthalate	0.005	mg/L	< 0.005
Dimethyl phthalate	0.005	mg/L	< 0.005
Dimethylaminoazobenzene	0.005	mg/L	< 0.005
Diphenylamine	0.005	mg/L	< 0.005
Endosulfan I	0.005	mg/L	< 0.005
Endosulfan II	0.005	mg/L	< 0.005
Endosulfan sulphate	0.005	mg/L	< 0.005
Endrin	0.005	mg/L	< 0.005
Endrin aldehyde	0.005	mg/L	< 0.005
Endrin ketone	0.005	mg/L	< 0.005
Fluoranthene	0.001	mg/L	< 0.001
Fluorene	0.001	mg/L	< 0.001
g-HCH (Lindane)	0.005	mg/L	< 0.005
Heptachlor	0.005	mg/L	< 0.005
Heptachlor epoxide	0.005	mg/L	< 0.005
Hexachlorobenzene	0.005	mg/L	< 0.005
Hexachlorobutadiene	0.005	mg/L	< 0.005
Hexachlorocyclopentadiene	0.005	mg/L	< 0.005
Hexachloroethane	0.005	mg/L	< 0.005
Indeno(1.2.3-cd)pyrene	0.001	mg/L	< 0.001
Methoxychlor	0.005	mg/L	< 0.005
N-Nitrosodibutylamine	0.005	mg/L	< 0.005
N-Nitrosodipropylamine	0.005	mg/L	< 0.005
N-Nitrosopiperidine	0.005	mg/L	< 0.005
Naphthalene	0.001	mg/L	< 0.001
Nitrobenzene	0.005	mg/L	< 0.005
Nitrobenzene-d5 (surr.)	1	%	131
Pentachlorobenzene	0.005	mg/L	< 0.005
Pentachloronitrobenzene	0.005	mg/L	< 0.005
Pentachlorophenol	0.01	mg/L	< 0.01
Phenanthrene	0.001	mg/L	< 0.001
Phenol	0.003	mg/L	< 0.003
Phenol-d6 (surr.)	1	%	82

Client Sample ID			QC200_221123
Sample Matrix			Water
Eurofins Sample No.			N22-No0061113
Date Sampled			Nov 23, 2022
Test/Reference	LOR	Unit	
Semivolatile Organics			
Pronamide	0.005	mg/L	< 0.005
Pyrene	0.001	mg/L	< 0.001
Trifluralin	0.005	mg/L	< 0.005
Nitrate & Nitrite (as N)	0.05	mg/L	0.82
Phosphorus reactive (as P)	0.05	mg/L	0.09
Heavy Metals			
Arsenic (filtered)	0.001	mg/L	< 0.001
Cadmium (filtered)	0.0002	mg/L	0.0004
Chromium (filtered)	0.001	mg/L	< 0.001
Copper (filtered)	0.001	mg/L	0.003
Lead (filtered)	0.001	mg/L	< 0.001
Mercury (filtered)	0.0001	mg/L	< 0.0001
Nickel (filtered)	0.001	mg/L	0.047
Zinc (filtered)	0.005	mg/L	0.11
Perfluoroalkyl carboxylic acids (PFCAs)			
Perfluorobutanoic acid (PFBA)[N11]	0.05	ug/L	< 0.05
Perfluoropentanoic acid (PFPeA)[N11]	0.01	ug/L	< 0.01
Perfluorohexanoic acid (PFHxA)[N11]	0.01	ug/L	< 0.01
Perfluoroheptanoic acid (PFHpA)[N11]	0.01	ug/L	< 0.01
Perfluorooctanoic acid (PFOA)[N11]	0.01	ug/L	< 0.01
Perfluorononanoic acid (PFNA)[N11]	0.01	ug/L	< 0.01
Perfluorodecanoic acid (PFDA)[N11]	0.01	ug/L	< 0.01
Perfluoroundecanoic acid (PFUnDA)[N11]	0.01	ug/L	< 0.01
Perfluorododecanoic acid (PFDoDA)[N11]	0.01	ug/L	< 0.01
Perfluorotridecanoic acid (PFTrDA)[N15]	0.01	ug/L	< 0.01
Perfluorotetradecanoic acid (PFTeDA)[N11]	0.01	ug/L	< 0.01
13C4-PFBA (surr.)	1	%	85
13C5-PFPeA (surr.)	1	%	91
13C5-PFHxA (surr.)	1	%	98
13C4-PFHpA (surr.)	1	%	89
13C8-PFOA (surr.)	1	%	115
13C5-PFNA (surr.)	1	%	87
13C6-PFDA (surr.)	1	%	91
13C2-PFUnDA (surr.)	1	%	83
13C2-PFDoDA (surr.)	1	%	88
13C2-PFTeDA (surr.)	1	%	72
Perfluoroalkyl sulfonamido substances			
Perfluorooctane sulfonamide (FOSA)[N11]	0.05	ug/L	< 0.05
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)[N11]	0.05	ug/L	< 0.05
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)[N11]	0.05	ug/L	< 0.05
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)[N11]	0.05	ug/L	< 0.05
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)[N11]	0.05	ug/L	< 0.05
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)[N11]	0.05	ug/L	< 0.05
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)[N11]	0.05	ug/L	< 0.05

Client Sample ID			QC200_221123
Sample Matrix			Water
Eurofins Sample No.			N22-No0061113
Date Sampled			Nov 23, 2022
Test/Reference	LOR	Unit	
Perfluoroalkyl sulfonamido substances			
13C8-FOSA (surr.)	1	%	56
D3-N-MeFOSA (surr.)	1	%	70
D5-N-EtFOSA (surr.)	1	%	75
D7-N-MeFOSE (surr.)	1	%	51
D9-N-EtFOSE (surr.)	1	%	55
D5-N-EtFOSAA (surr.)	1	%	84
D3-N-MeFOSAA (surr.)	1	%	82
Perfluoroalkyl sulfonic acids (PFSAs)			
Perfluorobutanesulfonic acid (PFBS)[N11]	0.01	ug/L	< 0.01
Perfluorononanesulfonic acid (PFNS)[N15]	0.01	ug/L	< 0.01
Perfluoropropanesulfonic acid (PFPrS)[N15]	0.01	ug/L	< 0.01
Perfluoropentanesulfonic acid (PFPeS)[N15]	0.01	ug/L	< 0.01
Perfluorohexanesulfonic acid (PFHxS)[N11]	0.01	ug/L	< 0.01
Perfluoroheptanesulfonic acid (PFHpS)[N15]	0.01	ug/L	< 0.01
Perfluorooctanesulfonic acid (PFOS)[N11]	0.01	ug/L	< 0.01
Perfluorodecanesulfonic acid (PFDS)[N15]	0.01	ug/L	< 0.01
13C3-PFBS (surr.)	1	%	104
18O2-PFHxS (surr.)	1	%	94
13C8-PFOS (surr.)	1	%	91
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)			
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)[N11]	0.01	ug/L	< 0.01
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)[N11]	0.05	ug/L	< 0.05
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)[N11]	0.01	ug/L	< 0.01
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)[N11]	0.01	ug/L	< 0.01
13C2-4:2 FTSA (surr.)	1	%	85
13C2-6:2 FTSA (surr.)	1	%	88
13C2-8:2 FTSA (surr.)	1	%	83
13C2-10:2 FTSA (surr.)	1	%	89
PFASs Summations			
Sum (PFHxS + PFOS)*	0.01	ug/L	< 0.01
Sum of US EPA PFAS (PFOS + PFOA)*	0.01	ug/L	< 0.01
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	0.01	ug/L	< 0.01
Sum of WA DWER PFAS (n=10)*	0.05	ug/L	< 0.05
Sum of PFASs (n=30)*	0.1	ug/L	< 0.1

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Eurofins Suite B4			
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Sydney	Dec 01, 2022	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Sydney	Dec 01, 2022	14 Days
- Method: LTM-ORG-2010 BTEX and Volatile TRH			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Sydney	Dec 01, 2022	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Polycyclic Aromatic Hydrocarbons	Sydney	Dec 01, 2022	7 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Sydney	Dec 01, 2022	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Volatile Organics	Sydney	Dec 01, 2022	7 Days
- Method: LTM-ORG-2150 VOCs in Soils Liquid and other Aqueous Matrices			
Organochlorine Pesticides	Sydney	Dec 01, 2022	7 Days
- Method: LTM-ORG-2220 OCP & PCB in Soil and Water			
Organophosphorus Pesticides	Sydney	Dec 01, 2022	7 Days
- Method: LTM-ORG-2200 Organophosphorus Pesticides by GC-MS			
Polychlorinated Biphenyls	Sydney	Dec 01, 2022	7 Days
- Method: LTM-ORG-2220 OCP & PCB in Soil and Water			
Semivolatile Organics	Sydney	Dec 01, 2022	7 Day
- Method: LTM-ORG-2190 SVOC in Water & Soil by GC-MS			
Nitrate & Nitrite (as N)	Melbourne	Dec 03, 2022	28 Days
- Method: LTM-INO-4120 Analysis of NOx NO2 NH3 by FIA			
Phosphorus reactive (as P)	Sydney	Dec 01, 2022	28 Days
- Method: E052 Reactive phosphate (as P)			
Metals M8 filtered	Sydney	Dec 01, 2022	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Per- and Polyfluoroalkyl Substances (PFASs)			
Perfluoroalkyl carboxylic acids (PFCAs)	Sydney	Dec 01, 2022	28 Days
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS)			
Perfluoroalkyl sulfonamido substances	Sydney	Dec 01, 2022	28 Days
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS)			
Perfluoroalkyl sulfonic acids (PFSAs)	Sydney	Dec 01, 2022	28 Days
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS)			
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)	Sydney	Dec 01, 2022	28 Days
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS)			
PFASs Summations	Sydney	Nov 25, 2022	
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS)			

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

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

Melbourne
6 Monterey Road
Dandenong South
VIC 3175
Tel: +61 3 8564 5000
NATA# 1261 Site# 1254

Geelong
19/8 Lewalan Street
Grovedale
VIC 3216
Tel: +61 3 8564 5000
NATA# 1261 Site# 1254

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

Canberra
Unit 1,2 Dacre Street
Mitchell
ACT 2911
Tel: +61 2 6113 8091

Brisbane
1/21 Smallwood Place
Murarrie
QLD 4172
Tel: +61 7 3902 4600
NATA# 1261 Site# 20794

Newcastle
4/52 Industrial Drive
Mayfield East NSW 2304
PO Box 60 Wickham 2293
Tel: +61 2 4968 8448
NATA# 1261 Site# 25079

Eurofins ARL Pty Ltd
ABN: 91 05 0159 898

Perth
46-48 Banksia Road
Welshpool
WA 6106
Tel: +61 8 6253 4444
NATA# 2377 Site# 2370

Eurofins Environment Testing NZ Ltd
NZBN: 9429046024954

Auckland
35 O'Rorke Road
Penrose,
Auckland 1061
Tel: +64 9 526 45 51
IANZ# 1327

Christchurch
43 Detroit Drive
Rolleston,
Christchurch 7675
Tel: 0800 856 450
IANZ# 1290

Company Name: AECOM Aust Pty Ltd Newcastle
Address: 18 Warabrook Blvd, PO Box 73
HRMC
NSW 2310

Project Name: MUSWELLBROOK
Project ID: 60619756 211-30

Order No.: 60619756, 211-30
Report #: 944491
Phone: 02 4911 4900
Fax: 02 4968 0005

Received: Nov 24, 2022 8:30 AM
Due: Dec 1, 2022
Priority: 5 Day
Contact Name: Tama Armani

Eurofins Analytical Services Manager : Andrew Black

Sample Detail						Nitrate & Nitrite (as N)	Phosphorus reactive (as P)	Organochlorine Pesticides	Organophosphorus Pesticides	Polychlorinated Biphenyls	Metals M8 filtered	Volatile Organics	Semivolatile Organics	Eurofins Suite B4	Per- and Polyfluoroalkyl Substances (PFASs)
Melbourne Laboratory - NATA # 1261 Site # 1254						X									
Sydney Laboratory - NATA # 1261 Site # 18217							X	X	X	X	X	X	X	X	X
External Laboratory															
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**										
1	QC200_221123	Nov 23, 2022		Water	N22-No0061113	X	X	X	X	X	X	X	X	X	X
Test Counts						1	1	1	1	1	1	1	1	1	1

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Internal Quality Control Review and Glossary

General

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

Holding Times

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

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

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

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

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

Units

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

Terms

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

QC - Acceptance Criteria

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

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

Results <10 times the LOR: No Limit

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

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

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

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

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

QC Data General Comments

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

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C10-C14	mg/L	< 0.05			0.05	Pass	
TRH C15-C28	mg/L	< 0.1			0.1	Pass	
TRH C29-C36	mg/L	< 0.1			0.1	Pass	
Method Blank							
BTEX							
Benzene	mg/L	< 0.001			0.001	Pass	
Toluene	mg/L	< 0.001			0.001	Pass	
Ethylbenzene	mg/L	< 0.001			0.001	Pass	
m&p-Xylenes	mg/L	< 0.002			0.002	Pass	
o-Xylene	mg/L	< 0.001			0.001	Pass	
Xylenes - Total*	mg/L	< 0.003			0.003	Pass	
Method Blank							
Volatile Organics							
1.1-Dichloroethane	mg/L	< 0.001			0.001	Pass	
1.1-Dichloroethene	mg/L	< 0.001			0.001	Pass	
1.1.1-Trichloroethane	mg/L	< 0.001			0.001	Pass	
1.1.1.2-Tetrachloroethane	mg/L	< 0.001			0.001	Pass	
1.1.2-Trichloroethane	mg/L	< 0.001			0.001	Pass	
1.1.2.2-Tetrachloroethane	mg/L	< 0.001			0.001	Pass	
1.2-Dibromoethane	mg/L	< 0.001			0.001	Pass	
1.2-Dichlorobenzene	mg/L	< 0.001			0.001	Pass	
1.2-Dichloroethane	mg/L	< 0.001			0.001	Pass	
1.2-Dichloropropane	mg/L	< 0.001			0.001	Pass	
1.2.3-Trichloropropane	mg/L	< 0.001			0.001	Pass	
1.2.4-Trimethylbenzene	mg/L	< 0.001			0.001	Pass	
1.3-Dichlorobenzene	mg/L	< 0.001			0.001	Pass	
1.3-Dichloropropane	mg/L	< 0.001			0.001	Pass	
1.3.5-Trimethylbenzene	mg/L	< 0.001			0.001	Pass	
1.4-Dichlorobenzene	mg/L	< 0.001			0.001	Pass	
2-Butanone (MEK)	mg/L	< 0.005			0.005	Pass	
2-Propanone (Acetone)	mg/L	< 0.005			0.005	Pass	
4-Chlorotoluene	mg/L	< 0.001			0.001	Pass	
4-Methyl-2-pentanone (MIBK)	mg/L	< 0.005			0.005	Pass	
Allyl chloride	mg/L	< 0.001			0.001	Pass	
Bromobenzene	mg/L	< 0.001			0.001	Pass	
Bromochloromethane	mg/L	< 0.001			0.001	Pass	
Bromodichloromethane	mg/L	< 0.001			0.001	Pass	
Bromoform	mg/L	< 0.001			0.001	Pass	
Bromomethane	mg/L	< 0.005			0.005	Pass	
Carbon disulfide	mg/L	< 0.001			0.001	Pass	
Carbon Tetrachloride	mg/L	< 0.001			0.001	Pass	
Chlorobenzene	mg/L	< 0.001			0.001	Pass	
Chloroethane	mg/L	< 0.005			0.005	Pass	
Chloroform	mg/L	< 0.005			0.005	Pass	
Chloromethane	mg/L	< 0.005			0.005	Pass	
cis-1.2-Dichloroethene	mg/L	< 0.001			0.001	Pass	
cis-1.3-Dichloropropene	mg/L	< 0.001			0.001	Pass	
Dibromochloromethane	mg/L	< 0.001			0.001	Pass	
Dibromomethane	mg/L	< 0.001			0.001	Pass	
Dichlorodifluoromethane	mg/L	< 0.005			0.005	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Iodomethane	mg/L	< 0.001			0.001	Pass	
Isopropyl benzene (Cumene)	mg/L	< 0.001			0.001	Pass	
Methylene Chloride	mg/L	< 0.005			0.005	Pass	
Styrene	mg/L	< 0.001			0.001	Pass	
Tetrachloroethene	mg/L	< 0.001			0.001	Pass	
trans-1.2-Dichloroethene	mg/L	< 0.001			0.001	Pass	
trans-1.3-Dichloropropene	mg/L	< 0.001			0.001	Pass	
Trichloroethene	mg/L	< 0.001			0.001	Pass	
Trichlorofluoromethane	mg/L	< 0.005			0.005	Pass	
Vinyl chloride	mg/L	< 0.005			0.005	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/L	< 0.01			0.01	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/L	< 0.001			0.001	Pass	
Acenaphthylene	mg/L	< 0.001			0.001	Pass	
Anthracene	mg/L	< 0.001			0.001	Pass	
Benz(a)anthracene	mg/L	< 0.001			0.001	Pass	
Benzo(a)pyrene	mg/L	< 0.001			0.001	Pass	
Benzo(b&j)fluoranthene	mg/L	< 0.001			0.001	Pass	
Benzo(g.h.i)perylene	mg/L	< 0.001			0.001	Pass	
Benzo(k)fluoranthene	mg/L	< 0.001			0.001	Pass	
Chrysene	mg/L	< 0.001			0.001	Pass	
Dibenz(a.h)anthracene	mg/L	< 0.001			0.001	Pass	
Fluoranthene	mg/L	< 0.001			0.001	Pass	
Fluorene	mg/L	< 0.001			0.001	Pass	
Indeno(1.2.3-cd)pyrene	mg/L	< 0.001			0.001	Pass	
Naphthalene	mg/L	< 0.001			0.001	Pass	
Phenanthrene	mg/L	< 0.001			0.001	Pass	
Pyrene	mg/L	< 0.001			0.001	Pass	
Method Blank							
Organochlorine Pesticides							
Chlordanes - Total	mg/L	< 0.002			0.002	Pass	
4.4'-DDD	mg/L	< 0.0002			0.0002	Pass	
4.4'-DDE	mg/L	< 0.0002			0.0002	Pass	
4.4'-DDT	mg/L	< 0.0002			0.0002	Pass	
a-HCH	mg/L	< 0.0002			0.0002	Pass	
Aldrin	mg/L	< 0.0002			0.0002	Pass	
b-HCH	mg/L	< 0.0002			0.0002	Pass	
d-HCH	mg/L	< 0.0002			0.0002	Pass	
Dieldrin	mg/L	< 0.0002			0.0002	Pass	
Endosulfan I	mg/L	< 0.0002			0.0002	Pass	
Endosulfan II	mg/L	< 0.0002			0.0002	Pass	
Endosulfan sulphate	mg/L	< 0.0002			0.0002	Pass	
Endrin	mg/L	< 0.0002			0.0002	Pass	
Endrin aldehyde	mg/L	< 0.0002			0.0002	Pass	
Endrin ketone	mg/L	< 0.0002			0.0002	Pass	
g-HCH (Lindane)	mg/L	< 0.0002			0.0002	Pass	
Heptachlor	mg/L	< 0.0002			0.0002	Pass	
Heptachlor epoxide	mg/L	< 0.0002			0.0002	Pass	
Hexachlorobenzene	mg/L	< 0.0002			0.0002	Pass	
Methoxychlor	mg/L	< 0.0002			0.0002	Pass	
Toxaphene	mg/L	< 0.005			0.005	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Organophosphorus Pesticides							
Azinphos-methyl	mg/L	< 0.002			0.002	Pass	
Bolstar	mg/L	< 0.002			0.002	Pass	
Chlorfenvinphos	mg/L	< 0.02			0.02	Pass	
Chlorpyrifos	mg/L	< 0.002			0.002	Pass	
Chlorpyrifos-methyl	mg/L	< 0.002			0.002	Pass	
Coumaphos	mg/L	< 0.02			0.02	Pass	
Demeton-S	mg/L	< 0.002			0.002	Pass	
Demeton-O	mg/L	< 0.002			0.002	Pass	
Diazinon	mg/L	< 0.002			0.002	Pass	
Dichlorvos	mg/L	< 0.002			0.002	Pass	
Dimethoate	mg/L	< 0.002			0.002	Pass	
Disulfoton	mg/L	< 0.002			0.002	Pass	
EPN	mg/L	< 0.002			0.002	Pass	
Ethion	mg/L	< 0.002			0.002	Pass	
Ethoprop	mg/L	< 0.002			0.002	Pass	
Ethyl parathion	mg/L	< 0.002			0.002	Pass	
Fenitrothion	mg/L	< 0.002			0.002	Pass	
Fensulfothion	mg/L	< 0.002			0.002	Pass	
Fenthion	mg/L	< 0.002			0.002	Pass	
Malathion	mg/L	< 0.002			0.002	Pass	
Merphos	mg/L	< 0.002			0.002	Pass	
Methyl parathion	mg/L	< 0.002			0.002	Pass	
Mevinphos	mg/L	< 0.002			0.002	Pass	
Monocrotophos	mg/L	< 0.002			0.002	Pass	
Naled	mg/L	< 0.002			0.002	Pass	
Omethoate	mg/L	< 0.02			0.02	Pass	
Phorate	mg/L	< 0.002			0.002	Pass	
Pirimiphos-methyl	mg/L	< 0.02			0.02	Pass	
Pyrazophos	mg/L	0.002			0.002	Pass	
Ronnel	mg/L	< 0.002			0.002	Pass	
Terbufos	mg/L	< 0.002			0.002	Pass	
Tetrachlorvinphos	mg/L	< 0.002			0.002	Pass	
Tokuthion	mg/L	< 0.002			0.002	Pass	
Trichloronate	mg/L	< 0.002			0.002	Pass	
Method Blank							
Polychlorinated Biphenyls							
Aroclor-1016	mg/L	< 0.005			0.005	Pass	
Aroclor-1221	mg/L	< 0.005			0.005	Pass	
Aroclor-1232	mg/L	< 0.005			0.005	Pass	
Aroclor-1242	mg/L	< 0.005			0.005	Pass	
Aroclor-1248	mg/L	< 0.005			0.005	Pass	
Aroclor-1254	mg/L	< 0.005			0.005	Pass	
Aroclor-1260	mg/L	< 0.005			0.005	Pass	
Total PCB*	mg/L	< 0.005			0.005	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
TRH >C10-C16	mg/L	< 0.05			0.05	Pass	
TRH >C16-C34	mg/L	< 0.1			0.1	Pass	
TRH >C34-C40	mg/L	< 0.1			0.1	Pass	
Method Blank							
Semivolatile Organics							
2-Methyl-4.6-dinitrophenol	mg/L	< 0.03			0.03	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
1-Chloronaphthalene	mg/L	< 0.005			0.005	Pass	
1-Naphthylamine	mg/L	< 0.005			0.005	Pass	
1.2-Dichlorobenzene	mg/L	< 0.005			0.005	Pass	
1.2.3-Trichlorobenzene	mg/L	< 0.005			0.005	Pass	
1.2.3.4-Tetrachlorobenzene	mg/L	< 0.005			0.005	Pass	
1.2.3.5-Tetrachlorobenzene	mg/L	< 0.005			0.005	Pass	
1.2.4-Trichlorobenzene	mg/L	< 0.005			0.005	Pass	
1.2.4.5-Tetrachlorobenzene	mg/L	< 0.005			0.005	Pass	
1.3-Dichlorobenzene	mg/L	< 0.005			0.005	Pass	
1.3.5-Trichlorobenzene	mg/L	< 0.005			0.005	Pass	
1.4-Dichlorobenzene	mg/L	< 0.005			0.005	Pass	
2-Chloronaphthalene	mg/L	< 0.005			0.005	Pass	
2-Chlorophenol	mg/L	< 0.003			0.003	Pass	
2-Methylnaphthalene	mg/L	< 0.005			0.005	Pass	
2-Methylphenol (o-Cresol)	mg/L	< 0.003			0.003	Pass	
2-Naphthylamine	mg/L	< 0.005			0.005	Pass	
2-Nitroaniline	mg/L	< 0.005			0.005	Pass	
2-Nitrophenol	mg/L	< 0.01			0.01	Pass	
2-Picoline	mg/L	< 0.005			0.005	Pass	
2.3.4.6-Tetrachlorophenol	mg/L	< 0.01			0.01	Pass	
2.4-Dichlorophenol	mg/L	< 0.003			0.003	Pass	
2.4-Dimethylphenol	mg/L	< 0.003			0.003	Pass	
2.4-Dinitrophenol	mg/L	< 0.03			0.03	Pass	
2.4-Dinitrotoluene	mg/L	< 0.005			0.005	Pass	
2.4.5-Trichlorophenol	mg/L	< 0.01			0.01	Pass	
2.4.6-Trichlorophenol	mg/L	< 0.01			0.01	Pass	
2.6-Dichlorophenol	mg/L	< 0.003			0.003	Pass	
2.6-Dinitrotoluene	mg/L	< 0.005			0.005	Pass	
3&4-Methylphenol (m&p-Cresol)	mg/L	< 0.006			0.006	Pass	
3-Methylcholanthrene	mg/L	< 0.005			0.005	Pass	
3.3'-Dichlorobenzidine	mg/L	< 0.005			0.005	Pass	
4-Aminobiphenyl	mg/L	< 0.005			0.005	Pass	
4-Bromophenyl phenyl ether	mg/L	< 0.005			0.005	Pass	
4-Chloro-3-methylphenol	mg/L	< 0.01			0.01	Pass	
4-Chlorophenyl phenyl ether	mg/L	< 0.005			0.005	Pass	
4-Nitrophenol	mg/L	< 0.03			0.03	Pass	
4.4'-DDD	mg/L	< 0.005			0.005	Pass	
4.4'-DDE	mg/L	< 0.005			0.005	Pass	
4.4'-DDT	mg/L	< 0.005			0.005	Pass	
7.12-Dimethylbenz(a)anthracene	mg/L	< 0.005			0.005	Pass	
a-HCH	mg/L	< 0.005			0.005	Pass	
Acetophenone	mg/L	< 0.005			0.005	Pass	
Aldrin	mg/L	< 0.005			0.005	Pass	
Aniline	mg/L	< 0.005			0.005	Pass	
b-HCH	mg/L	< 0.005			0.005	Pass	
Benzyl chloride	mg/L	< 0.005			0.005	Pass	
Bis(2-chloroethoxy)methane	mg/L	< 0.005			0.005	Pass	
Bis(2-chloroisopropyl)ether	mg/L	< 0.005			0.005	Pass	
Bis(2-ethylhexyl)phthalate	mg/L	< 0.005			0.005	Pass	
Butyl benzyl phthalate	mg/L	< 0.005			0.005	Pass	
d-HCH	mg/L	< 0.005			0.005	Pass	
Di-n-butyl phthalate	mg/L	< 0.005			0.005	Pass	
Di-n-octyl phthalate	mg/L	< 0.005			0.005	Pass	
Dibenz(a.j)acridine	mg/L	< 0.005			0.005	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Dibenzofuran	mg/L	< 0.005			0.005	Pass	
Dieldrin	mg/L	< 0.005			0.005	Pass	
Diethyl phthalate	mg/L	< 0.005			0.005	Pass	
Dimethyl phthalate	mg/L	< 0.005			0.005	Pass	
Dimethylaminoazobenzene	mg/L	< 0.005			0.005	Pass	
Diphenylamine	mg/L	< 0.005			0.005	Pass	
Endosulfan I	mg/L	< 0.005			0.005	Pass	
Endosulfan II	mg/L	< 0.005			0.005	Pass	
Endosulfan sulphate	mg/L	< 0.005			0.005	Pass	
Endrin	mg/L	< 0.005			0.005	Pass	
Endrin aldehyde	mg/L	< 0.005			0.005	Pass	
Endrin ketone	mg/L	< 0.005			0.005	Pass	
g-HCH (Lindane)	mg/L	< 0.005			0.005	Pass	
Heptachlor	mg/L	< 0.005			0.005	Pass	
Heptachlor epoxide	mg/L	< 0.005			0.005	Pass	
Hexachlorobenzene	mg/L	< 0.005			0.005	Pass	
Hexachlorobutadiene	mg/L	< 0.005			0.005	Pass	
Hexachlorocyclopentadiene	mg/L	< 0.005			0.005	Pass	
Hexachloroethane	mg/L	< 0.005			0.005	Pass	
Methoxychlor	mg/L	< 0.005			0.005	Pass	
N-Nitrosodibutylamine	mg/L	< 0.005			0.005	Pass	
N-Nitrosodipropylamine	mg/L	< 0.005			0.005	Pass	
N-Nitrosopiperidine	mg/L	< 0.005			0.005	Pass	
Nitrobenzene	mg/L	< 0.005			0.005	Pass	
Pentachlorobenzene	mg/L	< 0.005			0.005	Pass	
Pentachloronitrobenzene	mg/L	< 0.005			0.005	Pass	
Pentachlorophenol	mg/L	< 0.01			0.01	Pass	
Phenol	mg/L	< 0.003			0.003	Pass	
Pronamide	mg/L	< 0.005			0.005	Pass	
Trifluralin	mg/L	< 0.005			0.005	Pass	
Method Blank							
Nitrate & Nitrite (as N)	mg/L	< 0.05			0.05	Pass	
Phosphorus reactive (as P)	mg/L	< 0.05			0.05	Pass	
Method Blank							
Heavy Metals							
Arsenic (filtered)	mg/L	< 0.001			0.001	Pass	
Cadmium (filtered)	mg/L	< 0.0002			0.0002	Pass	
Chromium (filtered)	mg/L	< 0.001			0.001	Pass	
Copper (filtered)	mg/L	< 0.001			0.001	Pass	
Lead (filtered)	mg/L	< 0.001			0.001	Pass	
Mercury (filtered)	mg/L	< 0.0001			0.0001	Pass	
Nickel (filtered)	mg/L	< 0.001			0.001	Pass	
Zinc (filtered)	mg/L	< 0.005			0.005	Pass	
Method Blank							
Perfluoroalkyl carboxylic acids (PFCAs)							
Perfluorobutanoic acid (PFBA)	ug/L	< 0.05			0.05	Pass	
Perfluoropentanoic acid (PFPeA)	ug/L	< 0.01			0.01	Pass	
Perfluorohexanoic acid (PFHxA)	ug/L	< 0.01			0.01	Pass	
Perfluoroheptanoic acid (PFHpA)	ug/L	< 0.01			0.01	Pass	
Perfluorooctanoic acid (PFOA)	ug/L	< 0.01			0.01	Pass	
Perfluorononanoic acid (PFNA)	ug/L	< 0.01			0.01	Pass	
Perfluorodecanoic acid (PFDA)	ug/L	< 0.01			0.01	Pass	
Perfluoroundecanoic acid (PFUnDA)	ug/L	< 0.01			0.01	Pass	
Perfluorododecanoic acid (PFDoDA)	ug/L	< 0.01			0.01	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Perfluorotridecanoic acid (PFTrDA)	ug/L	< 0.01			0.01	Pass	
Perfluorotetradecanoic acid (PFTeDA)	ug/L	< 0.01			0.01	Pass	
Method Blank							
Perfluoroalkyl sulfonamido substances							
Perfluorooctane sulfonamide (FOSA)	ug/L	< 0.05			0.05	Pass	
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	ug/L	< 0.05			0.05	Pass	
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	ug/L	< 0.05			0.05	Pass	
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	ug/L	< 0.05			0.05	Pass	
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	ug/L	< 0.05			0.05	Pass	
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	ug/L	< 0.05			0.05	Pass	
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	ug/L	< 0.05			0.05	Pass	
Method Blank							
Perfluoroalkyl sulfonic acids (PFSAs)							
Perfluorobutanesulfonic acid (PFBS)	ug/L	< 0.01			0.01	Pass	
Perfluorononanesulfonic acid (PFNS)	ug/L	< 0.01			0.01	Pass	
Perfluoropropanesulfonic acid (PFPrS)	ug/L	< 0.01			0.01	Pass	
Perfluoropentanesulfonic acid (PFPeS)	ug/L	< 0.01			0.01	Pass	
Perfluorohexanesulfonic acid (PFHxS)	ug/L	< 0.01			0.01	Pass	
Perfluoroheptanesulfonic acid (PFHpS)	ug/L	< 0.01			0.01	Pass	
Perfluorooctanesulfonic acid (PFOS)	ug/L	< 0.01			0.01	Pass	
Perfluorodecanesulfonic acid (PFDS)	ug/L	< 0.01			0.01	Pass	
Method Blank							
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)							
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)	ug/L	< 0.01			0.01	Pass	
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	ug/L	< 0.05			0.05	Pass	
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)	ug/L	< 0.01			0.01	Pass	
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	ug/L	< 0.01			0.01	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	%	128			70-130	Pass	
TRH C10-C14	%	79			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	118			70-130	Pass	
Toluene	%	102			70-130	Pass	
Ethylbenzene	%	105			70-130	Pass	
m&p-Xylenes	%	102			70-130	Pass	
o-Xylene	%	100			70-130	Pass	
Xylenes - Total*	%	101			70-130	Pass	
LCS - % Recovery							
Volatile Organics							
1.1-Dichloroethene	%	104			70-130	Pass	
1.1.1-Trichloroethane	%	104			70-130	Pass	
1.2-Dichlorobenzene	%	113			70-130	Pass	
1.2-Dichloroethane	%	116			70-130	Pass	
Trichloroethene	%	93			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	120			70-130	Pass	
TRH C6-C10	%	122			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	113			70-130	Pass	
Acenaphthylene	%	111			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Anthracene	%	120			70-130	Pass	
Benz(a)anthracene	%	116			70-130	Pass	
Benzo(a)pyrene	%	129			70-130	Pass	
Benzo(b&j)fluoranthene	%	109			70-130	Pass	
Benzo(g.h.i)perylene	%	121			70-130	Pass	
Benzo(k)fluoranthene	%	84			70-130	Pass	
Chrysene	%	109			70-130	Pass	
Dibenz(a.h)anthracene	%	87			70-130	Pass	
Fluoranthene	%	126			70-130	Pass	
Fluorene	%	113			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	129			70-130	Pass	
Naphthalene	%	80			70-130	Pass	
Phenanthrene	%	112			70-130	Pass	
Pyrene	%	125			70-130	Pass	
LCS - % Recovery							
Organochlorine Pesticides							
Chlordanes - Total	%	89			70-130	Pass	
4.4'-DDD	%	95			70-130	Pass	
4.4'-DDE	%	91			70-130	Pass	
4.4'-DDT	%	90			70-130	Pass	
a-HCH	%	97			70-130	Pass	
Aldrin	%	101			70-130	Pass	
b-HCH	%	88			70-130	Pass	
d-HCH	%	98			70-130	Pass	
Dieldrin	%	105			70-130	Pass	
Endosulfan I	%	97			70-130	Pass	
Endosulfan II	%	93			70-130	Pass	
Endosulfan sulphate	%	83			70-130	Pass	
Endrin	%	104			70-130	Pass	
Endrin aldehyde	%	96			70-130	Pass	
Endrin ketone	%	102			70-130	Pass	
g-HCH (Lindane)	%	98			70-130	Pass	
Heptachlor	%	101			70-130	Pass	
Heptachlor epoxide	%	95			70-130	Pass	
Hexachlorobenzene	%	88			70-130	Pass	
Methoxychlor	%	93			70-130	Pass	
LCS - % Recovery							
Organophosphorus Pesticides							
Diazinon	%	93			70-130	Pass	
Dimethoate	%	77			70-130	Pass	
Ethion	%	93			70-130	Pass	
Fenitrothion	%	93			70-130	Pass	
Methyl parathion	%	104			70-130	Pass	
Mevinphos	%	110			70-130	Pass	
LCS - % Recovery							
Polychlorinated Biphenyls							
Aroclor-1016	%	98			70-130	Pass	
Aroclor-1260	%	92			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
TRH >C10-C16	%	73			70-130	Pass	
LCS - % Recovery							
Semivolatile Organics							
2-Methyl-4.6-dinitrophenol	%	128			25-140	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
1.2.4-Trichlorobenzene	%	84			70-130	Pass	
1.4-Dichlorobenzene	%	79			70-130	Pass	
2-Chlorophenol	%	104			25-140	Pass	
2-Methylphenol (o-Cresol)	%	106			25-140	Pass	
2-Nitrophenol	%	112			25-140	Pass	
2.4-Dichlorophenol	%	106			25-140	Pass	
2.4-Dimethylphenol	%	89			25-140	Pass	
2.4-Dinitrophenol	%	123			25-140	Pass	
2.4-Dinitrotoluene	%	120			70-130	Pass	
2.4.5-Trichlorophenol	%	104			25-140	Pass	
2.4.6-Trichlorophenol	%	84			25-140	Pass	
2.6-Dichlorophenol	%	102			25-140	Pass	
3&4-Methylphenol (m&p-Cresol)	%	100			25-140	Pass	
4-Chloro-3-methylphenol	%	108			25-140	Pass	
4-Nitrophenol	%	57			25-140	Pass	
Endrin aldehyde	%	73			70-130	Pass	
N-Nitrosodipropylamine	%	94			70-130	Pass	
Pentachlorophenol	%	100			25-140	Pass	
Phenol	%	68			25-140	Pass	
LCS - % Recovery							
Nitrate & Nitrite (as N)	%	106			70-130	Pass	
Phosphorus reactive (as P)	%	97			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic (filtered)	%	97			80-120	Pass	
Cadmium (filtered)	%	96			80-120	Pass	
Chromium (filtered)	%	104			80-120	Pass	
Copper (filtered)	%	94			80-120	Pass	
Lead (filtered)	%	99			80-120	Pass	
Mercury (filtered)	%	114			80-120	Pass	
Nickel (filtered)	%	96			80-120	Pass	
Zinc (filtered)	%	97			80-120	Pass	
LCS - % Recovery							
Perfluoroalkyl carboxylic acids (PFCAs)							
Perfluorobutanoic acid (PFBA)	%	96			50-150	Pass	
Perfluoropentanoic acid (PFPeA)	%	105			50-150	Pass	
Perfluorohexanoic acid (PFHxA)	%	95			50-150	Pass	
Perfluoroheptanoic acid (PFHpA)	%	100			50-150	Pass	
Perfluorooctanoic acid (PFOA)	%	99			50-150	Pass	
Perfluorononanoic acid (PFNA)	%	102			50-150	Pass	
Perfluorodecanoic acid (PFDA)	%	101			50-150	Pass	
Perfluoroundecanoic acid (PFUnDA)	%	101			50-150	Pass	
Perfluorododecanoic acid (PFDoDA)	%	104			50-150	Pass	
Perfluorotetradecanoic acid (PFTeDA)	%	104			50-150	Pass	
LCS - % Recovery							
Perfluoroalkyl sulfonamido substances							
Perfluorooctane sulfonamide (FOSA)	%	100			50-150	Pass	
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	%	106			50-150	Pass	
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	%	102			50-150	Pass	
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	%	98			50-150	Pass	
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	%	100			50-150	Pass	
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	%	99			50-150	Pass	
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	%	103			50-150	Pass	
LCS - % Recovery							

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Perfluoroalkyl sulfonic acids (PFSAs)							
Perfluorobutanesulfonic acid (PFBS)	%	100			50-150	Pass	
Perfluorononanesulfonic acid (PFNS)	%	107			50-150	Pass	
Perfluoropropanesulfonic acid (PFPrS)	%	100			50-150	Pass	
Perfluoropentanesulfonic acid (PFPeS)	%	99			50-150	Pass	
Perfluorohexanesulfonic acid (PFHxS)	%	98			50-150	Pass	
Perfluoroheptanesulfonic acid (PFHpS)	%	97			50-150	Pass	
Perfluorooctanesulfonic acid (PFOS)	%	97			50-150	Pass	
LCS - % Recovery							
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)							
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)	%	107			50-150	Pass	
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	%	110			50-150	Pass	
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)	%	96			50-150	Pass	
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	%	101			50-150	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1					
TRH C10-C14	S22-No0058937	NCP	%	108			70-130	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthene	S22-No0057064	NCP	%	78			70-130	Pass	
Acenaphthylene	S22-No0057064	NCP	%	82			70-130	Pass	
Anthracene	S22-No0057064	NCP	%	78			70-130	Pass	
Benz(a)anthracene	S22-No0057064	NCP	%	80			70-130	Pass	
Benzo(a)pyrene	S22-No0057064	NCP	%	77			70-130	Pass	
Benzo(b&j)fluoranthene	S22-No0057064	NCP	%	76			70-130	Pass	
Benzo(g.h.i)perylene	S22-No0057064	NCP	%	83			70-130	Pass	
Benzo(k)fluoranthene	S22-No0057064	NCP	%	75			70-130	Pass	
Chrysene	S22-No0057064	NCP	%	74			70-130	Pass	
Dibenz(a.h)anthracene	S22-No0057064	NCP	%	79			70-130	Pass	
Fluoranthene	S22-No0057064	NCP	%	87			70-130	Pass	
Fluorene	S22-No0057064	NCP	%	84			70-130	Pass	
Indeno(1.2.3-cd)pyrene	S22-No0057064	NCP	%	77			70-130	Pass	
Phenanthrene	S22-No0057064	NCP	%	80			70-130	Pass	
Pyrene	S22-No0057064	NCP	%	87			70-130	Pass	
Spike - % Recovery									
Organochlorine Pesticides				Result 1					
Chlordanes - Total	S22-No0059038	NCP	%	87			70-130	Pass	
4.4'-DDD	S22-No0059038	NCP	%	85			70-130	Pass	
4.4'-DDE	S22-No0059038	NCP	%	89			70-130	Pass	
4.4'-DDT	S22-No0059038	NCP	%	76			70-130	Pass	
a-HCH	S22-No0059038	NCP	%	80			70-130	Pass	
Aldrin	S22-No0059038	NCP	%	90			70-130	Pass	
b-HCH	S22-No0059038	NCP	%	75			70-130	Pass	
d-HCH	S22-No0059038	NCP	%	81			70-130	Pass	
Dieldrin	S22-No0059038	NCP	%	96			70-130	Pass	
Endosulfan I	S22-No0059038	NCP	%	92			70-130	Pass	
Endosulfan II	S22-No0059038	NCP	%	86			70-130	Pass	
Endosulfan sulphate	S22-No0059038	NCP	%	75			70-130	Pass	
Endrin	S22-No0059038	NCP	%	89			70-130	Pass	
Endrin aldehyde	S22-No0059038	NCP	%	89			70-130	Pass	
Endrin ketone	S22-No0059038	NCP	%	91			70-130	Pass	
g-HCH (Lindane)	S22-No0059038	NCP	%	96			70-130	Pass	
Heptachlor	S22-No0059038	NCP	%	90			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Heptachlor epoxide	S22-No0059038	NCP	%	90			70-130	Pass	
Hexachlorobenzene	S22-No0059038	NCP	%	74			70-130	Pass	
Methoxychlor	S22-No0059038	NCP	%	79			70-130	Pass	
Spike - % Recovery									
Organophosphorus Pesticides				Result 1					
Diazinon	S22-No0059038	NCP	%	89			70-130	Pass	
Ethion	S22-No0059038	NCP	%	80			70-130	Pass	
Fenitrothion	S22-No0059038	NCP	%	74			70-130	Pass	
Methyl parathion	S22-No0059038	NCP	%	78			70-130	Pass	
Mevinphos	S22-No0059038	NCP	%	88			70-130	Pass	
Spike - % Recovery									
Polychlorinated Biphenyls				Result 1					
Aroclor-1016	S22-No0059038	NCP	%	86			70-130	Pass	
Aroclor-1260	S22-No0059038	NCP	%	80			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
TRH >C10-C16	S22-No0058937	NCP	%	111			70-130	Pass	
Spike - % Recovery									
Semivolatile Organics				Result 1					
Endrin aldehyde	S22-No0059038	NCP	%	89			70-130	Pass	
Spike - % Recovery									
				Result 1					
Nitrate & Nitrite (as N)	B22-No0071426	NCP	%	112			70-130	Pass	
Phosphorus reactive (as P)	R22-No0051550	NCP	%	105			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic (filtered)	S22-No0058742	NCP	%	101			75-125	Pass	
Cadmium (filtered)	S22-No0058742	NCP	%	100			75-125	Pass	
Chromium (filtered)	S22-No0058742	NCP	%	97			75-125	Pass	
Copper (filtered)	S22-No0058742	NCP	%	97			75-125	Pass	
Lead (filtered)	S22-No0058742	NCP	%	100			75-125	Pass	
Mercury (filtered)	S22-No0058742	NCP	%	100			75-125	Pass	
Nickel (filtered)	S22-No0058742	NCP	%	95			75-125	Pass	
Zinc (filtered)	S22-No0058742	NCP	%	104			75-125	Pass	
Spike - % Recovery									
Perfluoroalkyl carboxylic acids (PFCAs)				Result 1					
Perfluorobutanoic acid (PFBA)	S22-No0063387	NCP	%	98			50-150	Pass	
Perfluoropentanoic acid (PFPeA)	S22-No0063387	NCP	%	102			50-150	Pass	
Perfluorohexanoic acid (PFHxA)	S22-No0063387	NCP	%	100			50-150	Pass	
Perfluoroheptanoic acid (PFHpA)	S22-No0063387	NCP	%	104			50-150	Pass	
Perfluorooctanoic acid (PFOA)	S22-No0063387	NCP	%	104			50-150	Pass	
Perfluorononanoic acid (PFNA)	S22-No0063387	NCP	%	104			50-150	Pass	
Perfluorodecanoic acid (PFDA)	S22-No0063387	NCP	%	101			50-150	Pass	
Perfluoroundecanoic acid (PFUnDA)	S22-No0063387	NCP	%	106			50-150	Pass	
Perfluorododecanoic acid (PFDoDA)	S22-No0063387	NCP	%	99			50-150	Pass	
Perfluorotridecanoic acid (PFTrDA)	S22-No0063387	NCP	%	91			50-150	Pass	
Perfluorotetradecanoic acid (PFTeDA)	S22-No0063387	NCP	%	104			50-150	Pass	
Spike - % Recovery									
Perfluoroalkyl sulfonamido substances				Result 1					
Perfluorooctane sulfonamide (FOSA)	S22-No0063387	NCP	%	95			50-150	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	S22-No0063387	NCP	%	104			50-150	Pass	
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	S22-No0063387	NCP	%	99			50-150	Pass	
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	S22-No0063387	NCP	%	95			50-150	Pass	
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	S22-No0063387	NCP	%	103			50-150	Pass	
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	S22-No0063387	NCP	%	91			50-150	Pass	
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	S22-No0063387	NCP	%	106			50-150	Pass	
Spike - % Recovery									
Perfluoroalkyl sulfonic acids (PFSAs)				Result 1					
Perfluorobutanesulfonic acid (PFBS)	S22-No0063387	NCP	%	97			50-150	Pass	
Perfluorononanesulfonic acid (PFNS)	S22-No0063387	NCP	%	102			50-150	Pass	
Perfluoropropanesulfonic acid (PFPrS)	S22-No0063387	NCP	%	95			50-150	Pass	
Perfluoropentanesulfonic acid (PFPeS)	S22-No0063387	NCP	%	91			50-150	Pass	
Perfluoroheptanesulfonic acid (PFHpS)	S22-No0063387	NCP	%	96			50-150	Pass	
Spike - % Recovery									
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)				Result 1					
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)	S22-No0063387	NCP	%	104			50-150	Pass	
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	S22-No0063387	NCP	%	108			50-150	Pass	
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)	S22-No0063387	NCP	%	96			50-150	Pass	
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	S22-No0063387	NCP	%	95			50-150	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C6-C9	S22-No0073485	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
TRH C10-C14	S22-No0067960	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
TRH C15-C28	S22-No0067960	NCP	mg/L	0.1	< 0.1	24	30%	Pass	
TRH C29-C36	S22-No0067960	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	S22-No0073485	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Toluene	S22-No0073485	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Ethylbenzene	S22-No0073485	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
m&p-Xylenes	S22-No0073485	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
o-Xylene	S22-No0073485	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Xylenes - Total*	S22-No0073485	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
Duplicate									
Volatile Organics				Result 1	Result 2	RPD			
1.1-Dichloroethane	S22-No0073485	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
1.1-Dichloroethene	S22-No0073485	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
1.1.1-Trichloroethane	S22-No0073485	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
1.1.1.2-Tetrachloroethane	S22-No0073485	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	

Duplicate									
Volatile Organics				Result 1	Result 2	RPD			
1.1.2-Trichloroethane	S22-No0073485	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
1.1.2.2-Tetrachloroethane	S22-No0073485	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
1.2-Dibromoethane	S22-No0073485	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
1.2-Dichlorobenzene	S22-No0073485	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
1.2-Dichloroethane	S22-No0073485	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
1.2-Dichloropropane	S22-No0073485	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
1.2.3-Trichloropropane	S22-No0073485	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
1.2.4-Trimethylbenzene	S22-No0073485	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
1.3-Dichlorobenzene	S22-No0073485	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
1.3-Dichloropropane	S22-No0073485	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
1.3.5-Trimethylbenzene	S22-No0073485	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
1.4-Dichlorobenzene	S22-No0073485	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
2-Butanone (MEK)	S22-No0073485	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
2-Propanone (Acetone)	S22-No0073485	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
4-Chlorotoluene	S22-No0073485	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
4-Methyl-2-pentanone (MIBK)	S22-No0073485	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Allyl chloride	S22-No0073485	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Bromobenzene	S22-No0073485	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Bromochloromethane	S22-No0073485	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Bromodichloromethane	S22-No0073485	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Bromoform	S22-No0073485	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Bromomethane	S22-No0073485	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Carbon disulfide	S22-No0073485	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Carbon Tetrachloride	S22-No0073485	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Chlorobenzene	S22-No0073485	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Chloroethane	S22-No0073485	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Chloroform	S22-No0073485	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Chloromethane	S22-No0073485	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
cis-1.2-Dichloroethene	S22-No0073485	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
cis-1.3-Dichloropropene	S22-No0073485	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Dibromochloromethane	S22-No0073485	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Dibromomethane	S22-No0073485	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Dichlorodifluoromethane	S22-No0073485	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Iodomethane	S22-No0073485	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Isopropyl benzene (Cumene)	S22-No0073485	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Methylene Chloride	S22-No0073485	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Styrene	S22-No0073485	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Tetrachloroethene	S22-No0073485	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
trans-1.2-Dichloroethene	S22-No0073485	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
trans-1.3-Dichloropropene	S22-No0073485	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Trichloroethene	S22-No0073485	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Trichlorofluoromethane	S22-No0073485	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Vinyl chloride	S22-No0073485	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	S22-No0073485	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
TRH C6-C10	S22-No0073485	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	S22-No0067960	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Acenaphthylene	S22-No0067960	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Anthracene	S22-No0067960	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benz(a)anthracene	S22-No0067960	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(a)pyrene	S22-No0067960	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	

Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Benzo(b&j)fluoranthene	S22-No0067960	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(g.h.i)perylene	S22-No0067960	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(k)fluoranthene	S22-No0067960	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Chrysene	S22-No0067960	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Dibenz(a.h)anthracene	S22-No0067960	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Fluoranthene	S22-No0067960	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Fluorene	S22-No0067960	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	S22-No0067960	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Naphthalene	S22-No0067960	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Phenanthrene	S22-No0067960	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Pyrene	S22-No0067960	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	S22-No0067960	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
4.4'-DDD	S22-No0067960	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
4.4'-DDE	S22-No0067960	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
4.4'-DDT	S22-No0067960	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
a-HCH	S22-No0063752	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Aldrin	S22-No0067960	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
b-HCH	S22-No0067960	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
d-HCH	S22-No0067960	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Dieldrin	S22-No0067960	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Endosulfan I	S22-No0067960	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Endosulfan II	S22-No0067960	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Endosulfan sulphate	S22-No0067960	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Endrin	S22-No0067960	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Endrin aldehyde	S22-No0067960	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Endrin ketone	S22-No0067960	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
g-HCH (Lindane)	S22-No0063752	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Heptachlor	S22-No0067960	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Heptachlor epoxide	S22-No0067960	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Hexachlorobenzene	S22-No0067960	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Methoxychlor	S22-No0067960	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Toxaphene	S22-No0067960	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Duplicate									
Organophosphorus Pesticides				Result 1	Result 2	RPD			
Azinphos-methyl	S22-No0067960	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Bolstar	S22-No0067960	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Chlorfenvinphos	S22-No0067960	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
Chlorpyrifos	S22-No0067960	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Chlorpyrifos-methyl	S22-No0067960	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Coumaphos	S22-No0067960	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
Demeton-S	S22-No0067960	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Demeton-O	S22-No0067960	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Diazinon	S22-No0067960	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Dichlorvos	S22-No0067960	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Dimethoate	S22-No0067960	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Disulfoton	S22-No0067960	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
EPN	S22-No0067960	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Ethion	S22-No0067960	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Ethoprop	S22-No0067960	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Ethyl parathion	S22-No0067960	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Fenitrothion	S22-No0067960	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Fensulfothion	S22-No0067960	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	

Duplicate									
Organophosphorus Pesticides				Result 1	Result 2	RPD			
Fenthion	S22-No0067960	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Malathion	S22-No0067960	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Merphos	S22-No0067960	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Methyl parathion	S22-No0067960	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Mevinphos	S22-No0067960	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Monocrotophos	S22-No0067960	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Naled	S22-No0067960	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Omethoate	S22-No0067960	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
Phorate	S22-No0067960	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Pirimiphos-methyl	S22-No0067960	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
Pyrazophos	S22-No0067960	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Ronnel	S22-No0067960	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Terbufos	S22-No0067960	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Tetrachlorvinphos	S22-No0067960	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Tokuthion	S22-No0067960	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Trichloronate	S22-No0067960	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Duplicate									
Polychlorinated Biphenyls				Result 1	Result 2	RPD			
Aroclor-1016	S22-No0067960	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Aroclor-1221	S22-No0067960	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Aroclor-1232	S22-No0067960	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Aroclor-1242	S22-No0067960	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Aroclor-1248	S22-No0067960	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Aroclor-1254	S22-No0067960	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Aroclor-1260	S22-No0067960	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Total PCB*	S22-No0067960	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
TRH >C10-C16	S22-No0067960	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
TRH >C16-C34	S22-No0067960	NCP	mg/L	0.1	< 0.1	26	30%	Pass	
TRH >C34-C40	S22-No0067960	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
Semivolatile Organics				Result 1	Result 2	RPD			
2-Methyl-4.6-dinitrophenol	S22-No0067960	NCP	mg/L	< 0.03	< 0.03	<1	30%	Pass	
2-Chlorophenol	S22-No0067960	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
2-Methylphenol (o-Cresol)	S22-No0067960	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
2-Nitrophenol	S22-No0067960	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
2.4-Dichlorophenol	S22-No0067960	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
2.4-Dimethylphenol	S22-No0067960	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
2.4-Dinitrophenol	S22-No0067960	NCP	mg/L	< 0.03	< 0.03	<1	30%	Pass	
2.4.5-Trichlorophenol	S22-No0067960	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
2.4.6-Trichlorophenol	S22-No0067960	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
2.6-Dichlorophenol	S22-No0067960	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
3&4-Methylphenol (m&p-Cresol)	S22-No0067960	NCP	mg/L	< 0.006	< 0.006	<1	30%	Pass	
4-Chloro-3-methylphenol	S22-No0067960	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
4-Nitrophenol	S22-No0067960	NCP	mg/L	< 0.03	< 0.03	<1	30%	Pass	
Endrin aldehyde	S22-No0067960	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Pentachlorophenol	S22-No0067960	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
Phenol	S22-No0067960	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Nitrate & Nitrite (as N)	M22-De0005739	NCP	mg/L	49	48	1.2	30%	Pass	
Phosphorus reactive (as P)	R22-No0051549	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass	

Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic (filtered)	B22-No0046054	NCP	mg/L	0.014	0.012	<1	30%	Pass	
Cadmium (filtered)	B22-No0046054	NCP	mg/L	0.0003	0.0003	6.8	30%	Pass	
Chromium (filtered)	B22-No0046054	NCP	mg/L	0.018	0.018	1.6	30%	Pass	
Copper (filtered)	B22-No0046054	NCP	mg/L	0.051	0.053	<1	30%	Pass	
Lead (filtered)	B22-No0046054	NCP	mg/L	0.063	0.068	<1	30%	Pass	
Mercury (filtered)	B22-No0046054	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Nickel (filtered)	B22-No0046054	NCP	mg/L	0.023	0.024	1.8	30%	Pass	
Zinc (filtered)	B22-No0046054	NCP	mg/L	0.26	0.23	2.2	30%	Pass	
Duplicate									
Perfluoroalkyl carboxylic acids (PFCAs)				Result 1	Result 2	RPD			
Perfluorobutanoic acid (PFBA)	S22-No0070361	NCP	ug/L	< 0.05	< 0.05	<1	30%	Pass	
Perfluoropentanoic acid (PFPeA)	S22-No0070361	NCP	ug/L	0.03	0.03	<1	30%	Pass	
Perfluorohexanoic acid (PFHxA)	S22-No0070361	NCP	ug/L	0.02	0.02	3.3	30%	Pass	
Perfluoroheptanoic acid (PFHpA)	S22-No0070361	NCP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
Perfluorooctanoic acid (PFOA)	S22-No0070361	NCP	ug/L	0.02	0.02	<1	30%	Pass	
Perfluorononanoic acid (PFNA)	S22-No0070361	NCP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
Perfluorodecanoic acid (PFDA)	S22-No0070361	NCP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
Perfluoroundecanoic acid (PFUnDA)	S22-No0070361	NCP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
Perfluorododecanoic acid (PFDoDA)	S22-No0070361	NCP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
Perfluorotridecanoic acid (PFTrDA)	S22-No0070361	NCP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
Perfluorotetradecanoic acid (PFTeDA)	S22-No0070361	NCP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
Duplicate									
Perfluoroalkyl sulfonamido substances				Result 1	Result 2	RPD			
Perfluorooctane sulfonamide (FOSA)	S22-No0070361	NCP	ug/L	< 0.05	< 0.05	<1	30%	Pass	
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	S22-No0070361	NCP	ug/L	< 0.05	< 0.05	<1	30%	Pass	
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	S22-No0070361	NCP	ug/L	< 0.05	< 0.05	<1	30%	Pass	
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	S22-No0070361	NCP	ug/L	< 0.05	< 0.05	<1	30%	Pass	
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	S22-No0070361	NCP	ug/L	< 0.05	< 0.05	<1	30%	Pass	
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	S22-No0070361	NCP	ug/L	< 0.05	< 0.05	<1	30%	Pass	
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	S22-No0070361	NCP	ug/L	< 0.05	< 0.05	<1	30%	Pass	
Duplicate									
Perfluoroalkyl sulfonic acids (PFSAs)				Result 1	Result 2	RPD			
Perfluorobutanesulfonic acid (PFBS)	S22-No0070361	NCP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
Perfluorononanesulfonic acid (PFNS)	S22-No0070361	NCP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
Perfluoropropanesulfonic acid (PFPrS)	S22-No0070361	NCP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
Perfluoropentanesulfonic acid (PFPeS)	S22-No0070361	NCP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
Perfluorohexanesulfonic acid (PFHxS)	S22-No0070361	NCP	ug/L	0.02	0.02	1.7	30%	Pass	
Perfluoroheptanesulfonic acid (PFHpS)	S22-No0070361	NCP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
Perfluorooctanesulfonic acid (PFOS)	S22-No0070361	NCP	ug/L	0.09	0.09	2.5	30%	Pass	
Perfluorodecanesulfonic acid (PFDS)	S22-No0070361	NCP	ug/L	< 0.01	< 0.01	<1	30%	Pass	

Duplicate									
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)				Result 1	Result 2	RPD			
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)	S22-No0070361	NCP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	S22-No0070361	NCP	ug/L	< 0.05	< 0.05	<1	30%	Pass	
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)	S22-No0070361	NCP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	S22-No0070361	NCP	ug/L	< 0.01	< 0.01	<1	30%	Pass	

Comments

Sample Integrity

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

Qualifier Codes/Comments

Code	Description
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.
N07	Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs
N11	Isotope dilution is used for calibration of each native compound for which an exact labelled analogue is available (Isotope Dilution Quantitation). The isotopically labelled analogues allow identification and recovery correction of the concentration of the associated native PFAS compounds.
N15	Where the native PFAS compound does not have labelled analogue then the quantification is made using the Extracted Internal Standard Analyte with the closest retention time to the analyte and no recovery correction has been made (Internal Standard Quantitation).
Q09	The Surrogate recovery is outside of the recommended acceptance criteria due to matrix interference. Acceptance criteria were met for all other QC

Authorised by:

Bonnie Pu	Analytical Services Manager
Fang Yee Tan	Senior Analyst-Metal
Mary Makarios	Senior Analyst-Inorganic
Roopesh Rangarajan	Senior Analyst-Organic
Roopesh Rangarajan	Senior Analyst-Volatile
Ryan Phillips	Senior Analyst-Inorganic

Glenn Jackson
General Manager

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

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

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

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CHAIN OF CUSTODY

ALS Laboratory: please tick →

ADELAIDE 21 Burma Road Pooraka SA 5095 Ph: 08 8359 0890 E: adelaide@alsglobal.com
BRISBANE 1 Byth Street Stafford QLD 4053 Ph: 07 3243 7222 E: samples.brisbane@alsglobal.com
CLADSTONE 46 Callemondah Drive Clinton QLD 4680 Ph: 07 4971 9730 E: gladstone@alsglobal.com
MELBOURNE 24 Westall Road Springvale VIC 3171 Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090 Ph: 08 9209 7655 E: samples.perth@alsglobal.com
SYDNEY 277-289 Woodpark Road Smithfield NSW 2164 Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
TOWNSVILLE 14-16 Desma Court Bohle QLD 4818 Ph: 07 4796 0600 E: townsville.environmental@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: wollongong@alsglobal.com

CLIENT: AECOM Australia Pty Ltd	**TURNAROUND REQUIREMENTS :** (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☒ Standard TAT (List due date):	**FOR LABORATORY USE ONLY (Circle)**
OFFICE: Newcastle		☐ Non Standard or urgent TAT (List due date):	Custody Seal Intact? Yes No N/A
PROJECT: Muswellbrook **PROJECT NO.:** 60619756 211-30	**ALS QUOTE NO.:** EN/004/21	**COC SEQUENCE NUMBER (Circle)** COC: 1 2 3 4 5 6 7	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: **PURCHASE ORDER NO.:**	**COUNTRY OF ORIGIN:** AUST	OF: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Tama Armani **CONTACT PH:** 0438 757 116			Other comment:
SAMPLER: P. Dean **SAMPLER MOBILE:** 0458 114 239	**RELINQUISHED BY:** P. Dean **DATE/TIME:** 29/8/22 1550	**RECEIVED BY:** XB **DATE/TIME:** 29/8/22 3:48pm	**RELINQUISHED BY:** XB **DATE/TIME:** 29/8/22 5pm
COC Emailed to ALS? (YES / NO) **EDD FORMAT (or default):**			**RECEIVED BY:** **DATE/TIME:** 29/8/22 7:30
Email Reports to (will default to PM if none other listed): Tama.Armani@aecom.com ; peter.dean@aecom.com			
Email Invoice to (will default to PM if no other addresses are listed): AP_Customerservice.anz@aecom.com			

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE ONLY	SAMPLE DETAILS MATRIX: Solid(S) Water(W)			CONTAINER INFORMATION		ANALYSIS REQUIRED Including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).						Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL BOTTLES	Hold	S-16, S-23	EP231X	EA200	S-18		Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
1	HA01_0.0_0.1_220822	22/8/22	S		3	X	X	X				
2	HA01_0.5_0.6_220822											
3	HA01_1.1_1.2_220822						X	X				
4	HA02_0.0_0.2_220822						X	X				
5	HA02_0.6_0.7_220822											
6	HA02_1.0_1.1_220822											
7	HA02_1.4_1.5_220822						X	X				
8	HA03_0.0_0.1_220822			LAB OF ORIGIN: NEWCASTLE								
9	HA03_0.5_0.6_220822						X	X				
10	HA03_1.0_1.2_220822											
11	HA03_1.4_1.5_220822						X	X				
				TOTAL								

Environmental Division Sydney
Work Order Reference
ES2230767

Telephone : +61-2-8784 8555

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag; LI = Lugols Iodine Preserved Bottles; STT = Sterile Sodium Thiosulfate Preserved Bottles.

CHAIN OF CUSTODY

ALS Laboratory: please tick →

ALS BRISBANE 32 Shand Street Stafford QLD 4053 Ph: 07 3243 7222 E: samples.brisbane@alsglobal.com

ALS GOLDCOAST 46 Cameron St Biggera Waters QLD 4216 Ph: 07 5574 9600 E: goldcoast@alsglobal.com

ALS MELBOURNE 2 Byth Street Stafford QLD 4053 Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com

ALS PERTH 10 Hod Way Malaga WA 6090 Ph: 08 9209 7655 E: samples.perth@alsglobal.com

ALS NEWCASTLE 5/585 Maitland Road Mayfield West NSW 2304 Ph: 02 4014 2500 E: samples.newcastle@alsglobal.com

ALS SYDNEY 277-289 Woodpark Road Smithfield NSW 2164 Ph: 02 8784 8555 E: samples.sydney@alsglobal.com

ALS TOWNSVILLE 14-15 Desma Court Bohle QLD 4818 Ph: 07 4796 0600 E: samples.environmental@alsglobal.com

ALS WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: wollongong@alsglobal.com

CLIENT: AECOM Australia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g. Ultra Trace Organics)	☒ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)
OFFICE: Newcastle		☐ Non Standard or urgent TAT (List due date):	Custody Seal Intact? Yes No N/A
PROJECT: Muswellbrook PROJECT NO.: 60619756, 211-30	ALS QUOTE NO.: EN/004/21	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: PURCHASE ORDER NO.:	COUNTRY OF ORIGIN: AUST	COC: 1 (2) 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Tara Armani CONTACT PH: 0438 757 116		OF: 1 2 3 4 (5) 6 7	Other comment:
SAMPLER: P. Dean SAMPLER MOBILE: 0458 114 239	RELINQUISHED BY: P. Dean	RECEIVED BY: 70'B 3:48pm	RELINQUISHED BY: 70'B 5pm
COC Emailed to ALS? (YES / NO) EDD FORMAT (or default):	DATE/TIME: 29/8/22 1532	DATE/TIME: 29/8/22	DATE/TIME: 29/8/22
Email Reports to (will default to PM if none other listed): Tara.Armani@aecom.com; Peter.Dean@aecom.com			RECEIVED BY: PD DATE/TIME: 29/8/22 1930
Email Invoice to (will default to PM if no other addresses are listed): AP_Customerservice.anz@aecom.com			

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE ONLY	SAMPLE DETAILS MATRIX: Solid(S) Water(W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL BOTTLES	HOLD	S-16, S-23	EP231X	EA200	S-18				Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
12	HA04_0.1_0.2_220822	22/8/22	S		3	X	X	X	X					
13	HA04_0.5_0.6_220822													
14	HA04_1.0_1.1_220822						X	X						
15	HA04_1.4_1.5_220822													
16	HA07_0.05_0.15_220822						X	X						
17	HA07_0.4_0.5_220822						X	X						
18	HA07_1.2_1.3_220822													
19	HA13_0.0_0.2_220822						X	X						
20	HA13_0.5_0.6_220822						X	X						
21	HA13_1.0_1.1_220822	↓												
22	HA06_0.0_0.1_220823	23/8/22					X	X	X					
23	HA06_0.5_0.6_220823													
24	HA06_1.1_1.2_220823	↓	↓		TOTAL	↓	X	X						

LAB OF ORIGIN: NEWCASTLE

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V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag; LI = Lugols Iodine Preserved Bottles; STT = Sterile Sodium Thiosulfate Preserved Bottles.

CHAIN OF CUSTODY

ALS Laboratory: please tick →

ADELAIDE: 21 Burma Road Pooraka SA 5095 Ph: 08 8359 0890 E: adelaide@alsglobal.com

BRISBANE: 32 Shand Street Stafford QLD 4053 Ph: 07 3243 7222 E: samples.brisbane@alsglobal.com

GLADSTONE: 46 Callemondah Drive Clinton QLD 4680 Ph: 07 7471 5699 E: gladstone@alsglobal.com

MELBOURNE: 24 Mercedes Road Keilor Park VIC 3042 Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com

BUNDOORA: 1/20 Sudbury Road Mudgeeraba NSW 2486 Ph: 02 6572 6754 E: mudgee.mail@alsglobal.com

NEWCASTLE: 5/585 Maitland Road Mayfield West NSW 2304 Ph: 02 4014 2500 E: samples.newcastle@alsglobal.com

PERTH: 10 Hod Way Malaga WA 6090 Ph: 08 9209 7655 E: samples.perth@alsglobal.com

SYDNEY: 277-289 Woodpark Road Smithfield NSW 2164 Ph: 02 8784 8555 E: samples.sydney@alsglobal.com

TOWNSVILLE: 14-15 Desma Court Bohle QLD 4818 Ph: 07 4796 0600 E: townsville.environmental@alsglobal.com

WOLLONGONG: 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: wollongong@alsglobal.com

CLIENT: AECOM Australia Pty Ltd	TURNAROUND REQUIREMENTS: (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☒ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)
OFFICE: Newcastle		☐ Non Standard or urgent TAT (List due date):	Custody Seal Intact? Yes No N/A
PROJECT: Muswellbrook PROJECT NO.: 60619752 211-36	ALS QUOTE NO.: EN/004/21	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: PURCHASE ORDER NO.: 3	COUNTRY OF ORIGIN: AUST	COC: 1 2 (3) 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Tama Armani	CONTACT PH: 0438 757 116	OF: 1 2 3 4 (5) 6 7	Other comment:
SAMPLER: P. Dean	SAMPLER MOBILE: 0458 114 289		
COC Emailed to ALS? (YES / NO)	EDD FORMAT (or default):		
Email Reports to (will default to PM if none other listed): Tama.Armani@aecom.com; Peter.Dean@aecom.com			
Email Invoice to (will default to PM if no other addresses are listed): AP_Customerservice.anz@aecom.com			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
P. Dean	TOB	TOB	RJ
DATE/TIME: 29/8/22 1550	DATE/TIME: 29/8/22 3:48pm	DATE/TIME: 29/8/22 5pm	DATE/TIME: 29/8/22 7:39

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE ONLY	SAMPLE DETAILS MATRIX: Solid(S) Water(W)			CONTAINER INFORMATION		ANALYSIS REQUIRED Including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL BOTTLES	HOLD	S-16, S-23	EP231X	EA200	S-18				Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
25	HA09_0.0_0.1_220823	23/8/22	S		3	X	X	X	X					
26	HA09_0.5_0.6_220823													
27	HA09_1.0_1.1_220823						X	X						
28	HA12_0.0_0.1_220823						X	X	X					
29	HA12_0.6_0.7_220823						X	X						
30	HA12_1.3_1.4_220823													
31	HA15_0.0_0.1_220823						X	X	X					
32	HA15_0.4_0.5_220823													
33	HA15_1.1_1.2_220823						X	X						
34	HA18_0.0_0.1_220823						X	X						
35	HA18_0.4_0.5_220823													
36	HA18_1.4_1.5_220823						X	X						
				TOTAL										

LAB OF ORIGIN: NEWCASTLE

Water Contain > = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag; LI = Lugols Iodine Preserved Bottles; STT = Sterile Sodium Thiosulfate Preserved Bottles.

CHAIN OF CUSTODY

ALS Laboratory: please tick →

ALS Laboratory addresses: BRISBANE 2 Byth Street Stafford QLD 4053 Ph: 07 3243 7222 E: samples.brisbane@alsglobal.com; GLADSTONE 46 Callemondah Drive Clinton QLD 4680 Ph: 07 4971 9600 E: gladstone@alsglobal.com; MELBOURNE 4 Westall Road Springvale VIC 3171 Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com; BRISBANE 1/20 Sydney Road Malaga NSW 2480 Ph: 02 4578 8735 E: mailbox.malaga@alsglobal.com; NEWCASTLE 5 Kenton Road Gateshead NSW 2290 Ph: 02 4964 9444 E: samples.newcastle@alsglobal.com; NOWRA 4/19 Cawley Place Nowra NSW 2541 Ph: 02 4423 2063 E: nowra@alsglobal.com; PERTH 10 Hod Way Malaga WA 6090 Ph: 08 9209 7655 E: samples.perth@alsglobal.com; SYDNEY 277-289 Woodpark Road Smithfield NSW 2164 Ph: 02 8784 8555 E: samples.sydney@alsglobal.com; TOWNSVILLE 14-15 Desma Court Bohle QLD 4818 Ph: 07 4796 0600 E: samples.environment@alsglobal.com; WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: wollongong@alsglobal.com

CLIENT: AECOM Australia Pty Ltd	TURNAROUND REQUIREMENTS: (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☒ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)
OFFICE: Newcastle		☐ Non Standard or urgent TAT (List due date):	Custody Seal Intact? Yes No N/A
PROJECT: Muswellbrook PROJECT NO.: 60619756, 21-30	ALS QUOTE NO.: EN/004/21	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 7	Free Ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: PURCHASE ORDER NO.: -	COUNTRY OF ORIGIN: AUST	OF: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Tama Armani CONTACT PH: 0438 757 116			Other comment:
SAMPLER: P. Dean SAMPLER MOBILE: 0458 114 239	RELINQUISHED BY: P. Dean	RECEIVED BY: JOB	RELINQUISHED BY: JOB
COC Emailed to ALS? (YES / NO) EDD FORMAT (or default):	DATE/TIME: 29/8/22 1550	DATE/TIME: 29/8/22 3:48pm	DATE/TIME: 29/8/22 5pm
Email Reports to (will default to PM if none other listed): Tama.Armani@aecom.com; Peter.Dean@aecom.com			RECEIVED BY: DP
Email Invoice to (will default to PM if no other addresses are listed): AP_Customerservice.anz@aecom.com			DATE/TIME: 29/8/22 7:30

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE ONLY	SAMPLE DETAILS MATRIX: Solid(S) Water(W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL BOTTLES	HOLD	S-16, S-23	EP231X	EA200	S-18				Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
37	HA21_0.0_0.1_220823	23/8/22	S		3	X	X	X	X					
38	HA21_0.5_0.6_220823													
39	HA21_1.0_1.1_220823						X	X						
40	HA21_1.4_1.5_220823													
41	HA24_0.0_0.1_220823						X	X	X					
42	HA24_0.5_0.6_220823													
43	HA24_1.1_1.2_220823						X	X						
44	HA23_0.0_0.1_220823						X	X						
45	HA23_0.5_0.6_220823						X	X						
46	HA23_1.0_1.1_220823													
47	HA22_0.0_0.1_220823						X	X	X					
48	HA22_0.5_0.6_220823						X	X	X					
49	HA22_1.2_1.3_220823				TOTAL									

LAB OF ORIGIN: NEWCASTLE

Water Contai... Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag; LI = Lugols Iodine Preserved Bottles; STT = Sterile Sodium Thiosulfate Preserved Bottles.

CHAIN OF CUSTODY

ALS Laboratory: please tick →

ADELAIDE 21 Burma Road Pooraka SA 5095 Ph: 08 8359 0890 E: adelaide@alsglobal.com

BRISBANE 32 Shand Street Stafford QLD 4053 Ph: 07 3243 7222 E: samples.brisbane@alsglobal.com

GLADSTONE 10 Kelleraman Drive Gladstone QLD 4680 Ph: 07 7471 5699 E: gladstone@alsglobal.com

MACKAY 4/11 Barrow Street Mackay QLD 4740 Ph: 07 4944 0177 E: mackay@alsglobal.com

MELBOURNE 3-5 Wesley Road Spencer Vic 3011 Ph: 03 9549 9600 E: samples.melbourne@alsglobal.com

BRISBANE 1/20 Quarry Road Muldoon NSW 2536 Ph: 02 4572 2443 E: muldoon@alsglobal.com

NEWCASTLE 4/585 Maitland Road Mayfield West NSW 2304 Ph: 02 4014 2500 E: samples.newcastle@alsglobal.com

NOWRA 4/13 Geary Place North Nowra NSW 2541 Ph: 02 4224 9000 E: nowra@alsglobal.com

PERTH 10 Hod Way Malaga WA 6090 Ph: 08 9209 7655 E: samples.perth@alsglobal.com

SYDNEY 277-289 Woodpark Road Smithfield NSW 2164 Ph: 02 8784 8555 E: samples.sydney@alsglobal.com

TOWNSVILLE 14-15 Desma Court Bohle QLD 4818 Ph: 07 4796 0600 E: townsville.environmental@alsglobal.com

WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: wollongong@alsglobal.com

CLIENT: AECOM Australia Pty Ltd	TURNAROUND REQUIREMENTS: ☒ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)	
OFFICE: Newcastle	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics) ☐ Non Standard or urgent TAT (List due date):	Custody Seal Intact?	Yes / No / (N/A)
PROJECT: Muswellbrook PROJECT NO.: 60619758 21-30	ALS QUOTE NO.: EN/004/21	Free ice / frozen ice bricks present upon receipt?	(Yes) / No / N/A
ORDER NUMBER: PURCHASE ORDER NO.: -	COUNTRY OF ORIGIN: AUST	Random Sample Temperature on Receipt:	0.3 °C
PROJECT MANAGER: Tama Armani CONTACT PH: 0438 757 116	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 (5) 6 7	Other comment:	
SAMPLER: P. Dean SAMPLER MOBILE: 0458 114 239	OF: 1 2 3 4 (5) 6 7		
COC Emailed to ALS? (YES / NO) EDD FORMAT (or default):			
Email Reports to (will default to PM if none other listed): Tama.Armani@aecom.com; Peter.Dean@aecom.com			
Email Invoice to (will default to PM if no other addresses are listed): AP_Customerservice.anz@aecom.com			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
P. Dean	TOB	TOB	PP
DATE/TIME: 29/8/22 1530	DATE/TIME: 29/8/22 3:48pm	DATE/TIME: 29/8/22 5pm	DATE/TIME: 29/8/22 1730

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE ONLY	SAMPLE DETAILS MATRIX: Solid(S) Water(W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL BOTTLES	Hold	S-16, S-23	EP231X	EA200	S-18				Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
50	HA19_0.0_0.1_220823	23/8/22	S		3	X	X	X						
51	HA19_0.4_0.5_220823	↓	↓		↓	↓								
52	HA19_1.1_1.2_220823						X	X						
53	QC101_220823						X	X	X					
54	QC201_220823						X	X	X					
55	QC501_220823									X				
56	QC600_220823									X				
				LAB OF ORIGIN: NEWCASTLE										
				TOTAL										

Water Containers: Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic
V = VOA Vial HC... Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag; LI = Lugols Iodine Preserved Bottles; STT = Sterile Sodium Thiosulfate Preserved Bottles.

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : **ES2230767**

Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: TAMA ARMANI	Contact	: Sepan Mahamad
Address	: 17 WARABROOK BLVD NEWCASTLE Newcastle 2304	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: tama.armani@aecom.com	E-mail	: Sepan.Mahamad@ALSGlobal.com
Telephone	: ----	Telephone	: +61 2 8784 8555
Facsimile	: ----	Facsimile	: +61-2-8784 8500
Project	: 60619756. 211-30 Muswellbrook	Page	: 1 of 4
Order number	: 60619756	Quote number	: ES2021AECOMAU0044 (EN/004/21)
C-O-C number	: ----	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: ----		
Sampler	: P. Dean		

Dates

Date Samples Received	: 29-Aug-2022 15:49	Issue Date	: 07-Sep-2022
Client Requested Due Date	: 08-Sep-2022	Scheduled Reporting Date	: **08-Sep-2022**

Delivery Details

Mode of Delivery	: Undefined	Security Seal	: Intact.
No. of coolers/boxes	: 10	Temperature	: 0.3'c - Ice present
Receipt Detail	:	No. of samples received / analysed	: 57 / 38

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Proactive Holding Time Report
  - Requested Deliverables
- **Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The laboratory will process these samples unless instructions are received from you indicating you do not wish to proceed. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.**
- **This is an updated SRN for this work order.**
- **06/09/2022: This is an updated SRN for this work order. PFAS analysis has been added to samples 047 & 048.**
- **07/09/2022: This is an updated SRN for this work order. Trip Spike Control has been added to this workorder.**
- **Asbestos analysis will be conducted by ALS Newcastle.**
- Please direct any queries you have regarding this work order to the above ALS laboratory contact.
- Analytical work for this work order will be conducted at ALS Sydney.
- Sample Disposal - Aqueous (3 weeks), Solid (2 months ± 1 week) from receipt of samples.
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.

Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exists.**

Any sample identifications that cannot be displayed entirely in the analysis summary table will be listed below.

ES2230767-016 : [22-Aug-2022] : HA07_0.05-0.15_220822
ES2230767-056 : [15-Aug-2022] : QC600_220823 - Trip Spike 13
ES2230767-057 : [15-Aug-2022] : Trip Spike Control 13

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **SOIL**

Laboratory sample ID	Sampling date / time	Sample ID	(On Hold) SOIL No analysis requested	SOIL - EA055-103 Moisture Content	SOIL - EA200 Asbestos Identification in Soils -	SOIL - EP231X (solids) PFAS - Full Suite (28 analytes)	SOIL - S-16 TRH/BTEXN/PAH/OC/OP/PCB/8Metals	SOIL - S-18 TRH(C6-C9)/BTEXN	SOIL - S-23 SVOC/VOC
ES2230767-001	22-Aug-2022 00:00	HA01_0.0-0.1_220822		✓		✓	✓		✓
ES2230767-002	22-Aug-2022 00:00	HA01_0.5-0.6_220822	✓						
ES2230767-003	22-Aug-2022 00:00	HA01_1.1-1.2_220822		✓		✓	✓		✓
ES2230767-004	22-Aug-2022 00:00	HA02_0.0-0.2_220822		✓		✓	✓		✓
ES2230767-005	22-Aug-2022 00:00	HA02_0.6-0.7_220822	✓						
ES2230767-006	22-Aug-2022 00:00	HA02_1.0-1.1_220822	✓						
ES2230767-007	22-Aug-2022 00:00	HA02_1.4-1.5_220822		✓		✓	✓		✓
ES2230767-008	22-Aug-2022 00:00	HA03_0.0-0.1_220822	✓						
ES2230767-009	22-Aug-2022 00:00	HA03_0.5-0.6_220822		✓		✓	✓		✓
ES2230767-010	22-Aug-2022 00:00	HA03_1.0-1.2_220822	✓						
ES2230767-011	22-Aug-2022 00:00	HA03_1.4-1.5_220822		✓		✓	✓		✓
ES2230767-012	22-Aug-2022 00:00	HA04_0.1-0.2_220822		✓	✓	✓	✓		✓
ES2230767-013	22-Aug-2022 00:00	HA04_0.5-0.6_220822	✓						
ES2230767-014	22-Aug-2022 00:00	HA04_1.0-1.1_220822		✓		✓	✓		✓
ES2230767-015	22-Aug-2022 00:00	HA04_1.4-1.5_220822	✓						
ES2230767-016	22-Aug-2022 00:00	HA07_0.05-0.15_220822		✓		✓	✓		✓
ES2230767-017	22-Aug-2022 00:00	HA07_0.4-0.5_220822		✓		✓	✓		✓
ES2230767-018	22-Aug-2022 00:00	HA07_1.2-1.3_220822	✓						
ES2230767-019	22-Aug-2022 00:00	HA13_0.0-0.2_220822		✓		✓	✓		✓
ES2230767-020	22-Aug-2022 00:00	HA13_0.5-0.6_220822		✓		✓	✓		✓
ES2230767-021	22-Aug-2022 00:00	HA13_1.0-1.1_220822	✓						
ES2230767-022	23-Aug-2022 00:00	HA06_0.0-0.1_220822		✓	✓	✓	✓		✓
ES2230767-023	23-Aug-2022 00:00	HA06_0.5-0.6_220822	✓						
ES2230767-024	23-Aug-2022 00:00	HA06_1.1-1.2_220822		✓		✓	✓		✓
ES2230767-025	23-Aug-2022 00:00	HA09_0.0-0.1_220822		✓	✓	✓	✓		✓
ES2230767-026	23-Aug-2022 00:00	HA09_0.5-0.6_220822	✓						
ES2230767-027	23-Aug-2022 00:00	HA09_1.0-1.2_220822		✓		✓	✓		✓
ES2230767-028	23-Aug-2022 00:00	HA12_0.0-0.1_220822		✓	✓	✓	✓		✓
ES2230767-029	23-Aug-2022 00:00	HA12_0.6-0.7_220822		✓		✓	✓		✓
ES2230767-030	23-Aug-2022 00:00	HA12_1.3-1.4_220822	✓						
ES2230767-031	23-Aug-2022 00:00	HA15_0.0-0.1_220822		✓	✓	✓	✓		✓
ES2230767-032	23-Aug-2022 00:00	HA15_0.4-0.5_220822	✓						

			(On Hold) SOIL No analysis requested	SOIL - EA055-103 Moisture Content	SOIL - EA200 Asbestos Identification in Soils -	SOIL - EP231X (solids) PFAS - Full Suite (28 analytes)	SOIL - S-16 TRH/BTEXN/PAH/OC/OP/PCB/8Metals	SOIL - S-18 TRH(C6-C9)/BTEXN	SOIL - S-23 SVOC/VOC
ES2230767-033	23-Aug-2022 00:00	HA15_1.1-1.2_220822		✓		✓	✓		✓
ES2230767-034	23-Aug-2022 00:00	HA18_0.0-0.1_220823		✓		✓	✓		✓
ES2230767-035	23-Aug-2022 00:00	HA18_0.4.05_220823	✓						
ES2230767-036	23-Aug-2022 00:00	HA18_1.4-1.5_220823		✓		✓	✓		✓
ES2230767-037	23-Aug-2022 00:00	HA21_0.0-0.1_220823		✓	✓	✓	✓		✓
ES2230767-038	23-Aug-2022 00:00	HA21_0.5-0.6_220823	✓						
ES2230767-039	23-Aug-2022 00:00	HA21_1.0-1.1_220823		✓		✓	✓		✓
ES2230767-040	23-Aug-2022 00:00	HA21_1.4-1.5_220823	✓						
ES2230767-041	23-Aug-2022 00:00	HA24_0.0-0.1_220823		✓	✓	✓	✓		✓
ES2230767-042	23-Aug-2022 00:00	HA24_0.5-0.6_220823	✓						
ES2230767-043	23-Aug-2022 00:00	HA24_1.1-1.2_220823		✓		✓	✓		✓
ES2230767-044	23-Aug-2022 00:00	HA23_0.0-0.1_220823		✓		✓	✓		✓
ES2230767-045	23-Aug-2022 00:00	HA23_0.5-0.6_220823		✓		✓	✓		✓
ES2230767-046	23-Aug-2022 00:00	HA23_1.0-1.1_220823	✓						
ES2230767-047	23-Aug-2022 00:00	HA22_0.0-0.1_220823		✓	✓	✓	✓		✓
ES2230767-048	23-Aug-2022 00:00	HA22_0.5-0.6_220823		✓	✓	✓	✓		✓
ES2230767-049	23-Aug-2022 00:00	HA22_1.2-1.3_220823			✓				
ES2230767-050	23-Aug-2022 00:00	HA19_0.0-0.1_220823		✓		✓	✓		✓
ES2230767-051	23-Aug-2022 00:00	HA19_0.4-0.5_220823	✓						
ES2230767-052	23-Aug-2022 00:00	HA19_1.1-1.2_220823		✓		✓	✓		✓
ES2230767-053	23-Aug-2022 00:00	QC101_220823		✓	✓	✓	✓		✓
ES2230767-054	23-Aug-2022 00:00	QC201_220823		✓	✓	✓	✓		✓
ES2230767-055	23-Aug-2022 00:00	QC500_220823		✓				✓	
ES2230767-056	15-Aug-2022 00:00	QC600_220823 Trip S...		✓				✓	

Matrix: **SOIL**

Laboratory sample ID	*Sampling date / time*	*Sample ID*	SOIL - S-18 (NO MOIST) TRH(C6-C9)/BTEXN with No Moisture for TBs
ES2230767-057	15-Aug-2022 00:00	Trip Spike Control 13	✓

Sample(s) have been received within the recommended holding times for the requested analysis.

Requested Deliverables

ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV)	Email	AP_CustomerService.ANZ@aecom.com

PETER DEAN

- *AU Certificate of Analysis - NATA (COA)	Email	peter.dean@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	peter.dean@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	peter.dean@aecom.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	peter.dean@aecom.com
- Chain of Custody (CoC) (COC)	Email	peter.dean@aecom.com
- EDI Format - ENMRG (ENMRG)	Email	peter.dean@aecom.com
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)	Email	peter.dean@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	peter.dean@aecom.com

TAMA ARMANI

- *AU Certificate of Analysis - NATA (COA)	Email	tama.armani@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	tama.armani@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	tama.armani@aecom.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	tama.armani@aecom.com
- Chain of Custody (CoC) (COC)	Email	tama.armani@aecom.com
- EDI Format - ENMRG (ENMRG)	Email	tama.armani@aecom.com
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)	Email	tama.armani@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	tama.armani@aecom.com

ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **ES2230767**	Page	: 1 of 91
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: TAMA ARMANI	Contact	: Sepan Mahamad
Address	: 17 WARABROOK BLVD NEWCASTLE Newcastle 2304	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: +61 2 8784 8555
Project	: 60619756. 211-30 Muswellbrook	Date Samples Received	: 29-Aug-2022 15:49
Order number	: 60619756	Date Analysis Commenced	: 05-Sep-2022
C-O-C number	: ----	Issue Date	: 08-Sep-2022 17:49
Sampler	: P. Dean		
Site	: ----		
Quote number	: EN/004/21		
No. of samples received	: 57		
No. of samples analysed	: 38		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

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

This Certificate of Analysis contains the following information:

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

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

Signatories

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

Signatories	*Position*	*Accreditation Category*
Alana Smylie	Team Leader - Asbestos	Newcastle - Asbestos, Mayfield West, NSW
Alex Rossi	Organic Chemist	Sydney Organics, Smithfield, NSW
Ankit Joshi	Senior Chemist - Inorganics	Sydney Inorganics, Smithfield, NSW
Brendan Schrader	Laboratory Technician	Newcastle - Asbestos, Mayfield West, NSW
Edwandy Fadjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Franco Lentini	LCMS Coordinator	Sydney Organics, Smithfield, NSW
Jake Spooner	Laboratory Technician	Newcastle - Asbestos, Mayfield West, NSW

General Comments

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

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

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

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

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

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

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

- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero, for 'TEQ 1/2LOR' are treated as half the reported LOR, and for 'TEQ LOR' are treated as being equal to the reported LOR. Note: TEQ 1/2LOR and TEQ LOR will calculate as 0.6mg/Kg and 1.2mg/Kg respectively for samples with non-detects for all of the eight TEQ PAHs.
- EP080: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EP068: Where reported, Total Chlordane (sum) is the sum of the reported concentrations of cis-Chlordane and trans-Chlordane at or above the LOR.
- EP068: Where reported, Total OCP is the sum of the reported concentrations of all Organochlorine Pesticides at or above LOR.
- EP074: Where reported, Total Trihalomethanes is the sum of the reported concentrations of all Trihalomethanes at or above the LOR.
- EP074: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EP074: Where reported, Sum of chlorinated hydrocarbons includes carbon tetrachloride, chlorobenzene, chloroform, 1,2-dichlorobenzene, 1,4-dichlorobenzene, 1,2-dichloroethane, 1,1-dichloroethene, cis-1,2-dichlorothene, trans-1,2-dichlorothene, 1,1,1,2-tetrachloroethane, 1,1,2,2-tetrachloroethane, 1,2,4-trichlorobenzene, 1,1,1-trichloroethane, 1,1,2-trichloroethane, trichloroethene, vinyl chloride, hexachlorobutadiene and methylene chloride.
- EP074: Where reported, Total Trimethylbenzenes is the sum of the reported concentrations of 1.2.3-Trimethylbenzene, 1.2.4-Trimethylbenzene and 1.3.5-Trimethylbenzene at or above the LOR.
- EP075(SIM): Where reported, Total Cresol is the sum of the reported concentrations of 2-Methylphenol and 3- & 4-Methylphenol at or above the LOR.
- EP231X: Positive result for analyte Perfluorohexane sulfonic acid (PFHxS) on sample ES2230767_011 has been confirmed by re-extraction and re-analysis.
- EG035: Positive Mercury result ES2230767 #12 has been confirmed by reanalysis.
- EP080: The trip spike and its control have been analysed for volatile TPH and BTEXN only. The trip spike and control were prepared in the lab using reagent grade sand spiked with petrol. The spike was dispatched from the lab and the control retained.
- EP075: Where reported, 'Sum of PAH' is the sum of the USEPA 16 priority PAHs
- EA200 'Am' Amosite (brown asbestos)
- EA200 'Cr' Crocidolite (blue asbestos)
- EA200 'Trace' - Asbestos fibres ("Free Fibres") detected by trace analysis per AS4964. The result can be interpreted that the sample contains detectable 'respirable' asbestos fibres
- EA200: Asbestos Identification Samples were analysed by Polarised Light Microscopy including dispersion staining.
- EA200 Legend
- EA200 'Ch' Chrysotile (white asbestos)
- EA200: 'UMF' Unknown Mineral Fibres. "-" indicates fibres detected may or may not be asbestos fibres. Confirmation by alternative techniques is recommended.

- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero, for 'TEQ 1/2LOR' are treated as half the reported LOR, and for 'TEQ LOR' are treated as being equal to the reported LOR. Note: TEQ 1/2LOR and TEQ LOR will calculate as 0.6mg/Kg and 1.2mg/Kg respectively for samples with non-detects for all of the eight TEQ PAHs.
- EA200: For samples larger than 30g, the <2mm fraction may be sub-sampled prior to trace analysis as outlined in ISO23909:2008(E) Sect 6.3.2-2
- EA200: 'Yes' - Asbestos detected by polarised light microscopy including dispersion staining.
- EA200: 'No*' - No asbestos found, at the reporting limit of 0.1g/kg, by polarised light microscopy including dispersion staining. Asbestos material was detected and positively identified at concentrations estimated to be below 0.1g/kg.
- EA200: 'No' - No asbestos found at the reporting limit 0.1g/kg, by polarised light microscopy including dispersion staining.
- EP231: Stable isotope enriched internal standards are added to samples prior to extraction. Target compounds have a direct analogous internal standard with the exception of PFPeS, PFHpA, PFDS, PFTrDA and 10:2 FTS. These compounds use an internal standard that is chemically related and has a retention time close to that of the target compound. The DQO for internal standard response is 50-150% of that established at initial calibration. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS (Australian HEPA) and also conform to QSM 5.3 (US DoD) requirements.

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	HA01_0.0-0.1_220822	HA01_1.1-1.2_220822	HA02_0.0-0.2_220822	HA02_1.4-1.5_220822	HA03_0.5-0.6_220822
			Sampling date / time	22-Aug-2022 00:00	22-Aug-2022 00:00	22-Aug-2022 00:00	22-Aug-2022 00:00	22-Aug-2022 00:00
Compound	CAS Number	LOR	Unit	ES2230767-001	ES2230767-003	ES2230767-004	ES2230767-007	ES2230767-009
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	13.5	15.2	13.8	10.3	13.0
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	<5	7	<5	9	8
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	19	22	16	30	25
Copper	7440-50-8	5	mg/kg	<5	11	<5	8	10
Lead	7439-92-1	5	mg/kg	9	10	8	12	13
Nickel	7440-02-0	2	mg/kg	10	17	13	16	18
Zinc	7440-66-6	5	mg/kg	15	29	13	22	25
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
^ Total Chlordane (sum)	----	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
^ Endosulfan (sum)	115-29-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	HA01_0.0-0.1_220822	HA01_1.1-1.2_220822	HA02_0.0-0.2_220822	HA02_1.4-1.5_220822	HA03_0.5-0.6_220822
				Sampling date / time	22-Aug-2022 00:00	22-Aug-2022 00:00	22-Aug-2022 00:00	22-Aug-2022 00:00	22-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2230767-001	ES2230767-003	ES2230767-004	ES2230767-007	ES2230767-009
					Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued									
4.4`-DDT	50-29-3	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Endrin ketone	53494-70-5	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Methoxychlor	72-43-5	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
^ **Sum of Aldrin + Dieldrin**	309-00-2/60-57-1	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
^ **Sum of DDD + DDE + DDT**	72-54-8/72-55-9/50-2	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
EP068B: Organophosphorus Pesticides (OP)									
Dichlorvos	62-73-7	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Demeton-S-methyl	919-86-8	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Monocrotophos	6923-22-4	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Dimethoate	60-51-5	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Diazinon	333-41-5	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Parathion-methyl	298-00-0	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Malathion	121-75-5	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Fenthion	55-38-9	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Chlorpyrifos	2921-88-2	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Parathion	56-38-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Pirimphos-ethyl	23505-41-1	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Chlorfenvinphos	470-90-6	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Bromophos-ethyl	4824-78-6	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Fenamiphos	22224-92-6	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Prothiofos	34643-46-4	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Ethion	563-12-2	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Carbophenothion	786-19-6	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Azinphos Methyl	86-50-0	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
EP074A: Monocyclic Aromatic Hydrocarbons									
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
Styrene	100-42-5	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
Isopropylbenzene	98-82-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
n-Propylbenzene	103-65-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	HA01_0.0-0.1_220822	HA01_1.1-1.2_220822	HA02_0.0-0.2_220822	HA02_1.4-1.5_220822	HA03_0.5-0.6_220822
				Sampling date / time	22-Aug-2022 00:00	22-Aug-2022 00:00	22-Aug-2022 00:00	22-Aug-2022 00:00	22-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2230767-001	ES2230767-003	ES2230767-004	ES2230767-007	ES2230767-009
					Result	Result	Result	Result	Result
EP074A: Monocyclic Aromatic Hydrocarbons - Continued									
1.3.5-Trimethylbenzene	108-67-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
sec-Butylbenzene	135-98-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.2.4-Trimethylbenzene	95-63-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
tert-Butylbenzene	98-06-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
p-Isopropyltoluene	99-87-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
n-Butylbenzene	104-51-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
EP074B: Oxygenated Compounds									
Vinyl Acetate	108-05-4	5	mg/kg		<5	<5	<5	<5	<5
2-Butanone (MEK)	78-93-3	5	mg/kg		<5	<5	<5	<5	<5
4-Methyl-2-pentanone (MIBK)	108-10-1	5	mg/kg		<5	<5	<5	<5	<5
2-Hexanone (MBK)	591-78-6	5	mg/kg		<5	<5	<5	<5	<5
EP074C: Sulfonated Compounds									
Carbon disulfide	75-15-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
EP074D: Fumigants									
2.2-Dichloropropane	594-20-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.2-Dichloropropane	78-87-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
cis-1.3-Dichloropropylene	10061-01-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
trans-1.3-Dichloropropylene	10061-02-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.2-Dibromoethane (EDB)	106-93-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
EP074E: Halogenated Aliphatic Compounds									
Dichlorodifluoromethane	75-71-8	5	mg/kg		<5	<5	<5	<5	<5
Chloromethane	74-87-3	5	mg/kg		<5	<5	<5	<5	<5
Vinyl chloride	75-01-4	5	mg/kg		<5	<5	<5	<5	<5
Bromomethane	74-83-9	5	mg/kg		<5	<5	<5	<5	<5
Chloroethane	75-00-3	5	mg/kg		<5	<5	<5	<5	<5
Trichlorofluoromethane	75-69-4	5	mg/kg		<5	<5	<5	<5	<5
1.1-Dichloroethene	75-35-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Iodomethane	74-88-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
trans-1.2-Dichloroethene	156-60-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.1-Dichloroethane	75-34-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
cis-1.2-Dichloroethene	156-59-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.1.1-Trichloroethane	71-55-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.1-Dichloropropylene	563-58-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Carbon Tetrachloride	56-23-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	HA01_0.0-0.1_220822	HA01_1.1-1.2_220822	HA02_0.0-0.2_220822	HA02_1.4-1.5_220822	HA03_0.5-0.6_220822
				Sampling date / time	22-Aug-2022 00:00	22-Aug-2022 00:00	22-Aug-2022 00:00	22-Aug-2022 00:00	22-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2230767-001	ES2230767-003	ES2230767-004	ES2230767-007	ES2230767-009
					Result	Result	Result	Result	Result
EP074E: Halogenated Aliphatic Compounds - Continued									
1.2-Dichloroethane	107-06-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Trichloroethene	79-01-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Dibromomethane	74-95-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.1.2-Trichloroethane	79-00-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.3-Dichloropropane	142-28-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Tetrachloroethene	127-18-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.1.1.2-Tetrachloroethane	630-20-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
trans-1.4-Dichloro-2-butene	110-57-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
cis-1.4-Dichloro-2-butene	1476-11-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.1.2.2-Tetrachloroethane	79-34-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.2.3-Trichloropropane	96-18-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Pentachloroethane	76-01-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
EP074F: Halogenated Aromatic Compounds									
Chlorobenzene	108-90-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Bromobenzene	108-86-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2-Chlorotoluene	95-49-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
4-Chlorotoluene	106-43-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.2.3-Trichlorobenzene	87-61-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
EP074G: Trihalomethanes									
Chloroform	67-66-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Bromodichloromethane	75-27-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Dibromochloromethane	124-48-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Bromoform	75-25-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Pyrene	129-00-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	HA01_0.0-0.1_220822	HA01_1.1-1.2_220822	HA02_0.0-0.2_220822	HA02_1.4-1.5_220822	HA03_0.5-0.6_220822
				Sampling date / time	22-Aug-2022 00:00	22-Aug-2022 00:00	22-Aug-2022 00:00	22-Aug-2022 00:00	22-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2230767-001	ES2230767-003	ES2230767-004	ES2230767-007	ES2230767-009
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Chrysene	218-01-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		**0.6**	**0.6**	**0.6**	**0.6**	**0.6**
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		**1.2**	**1.2**	**1.2**	**1.2**	**1.2**
EP075A: 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	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
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	1	mg/kg		<1	<1	<1	<1	<1
EP075B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2-Methylnaphthalene	91-57-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2-Chloronaphthalene	91-58-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	HA01_0.0-0.1_220822	HA01_1.1-1.2_220822	HA02_0.0-0.2_220822	HA02_1.4-1.5_220822	HA03_0.5-0.6_220822
				Sampling date / time	22-Aug-2022 00:00	22-Aug-2022 00:00	22-Aug-2022 00:00	22-Aug-2022 00:00	22-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2230767-001	ES2230767-003	ES2230767-004	ES2230767-007	ES2230767-009
					Result	Result	Result	Result	Result
EP075B: Polynuclear Aromatic Hydrocarbons - Continued									
Pyrene	129-00-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
N-2-Fluorenyl Acetamide	53-96-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(b+j) & Benzo(k)fluoranthene	205-99-2 207-08-9	1	mg/kg		<1	<1	<1	<1	<1
7.12-Dimethylbenz(a)anthracene	57-97-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
3-Methylcholanthrene	56-49-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of PAHs	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		**0.6**	**0.6**	**0.6**	**0.6**	**0.6**
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		**1.2**	**1.2**	**1.2**	**1.2**	**1.2**
EP075C: Phthalate Esters									
Dimethyl phthalate	131-11-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Diethyl phthalate	84-66-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Di-n-butyl phthalate	84-74-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Butyl benzyl phthalate	85-68-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
bis(2-ethylhexyl) phthalate	117-81-7	5.0	mg/kg		<5.0	<5.0	<5.0	<5.0	<5.0
Di-n-octylphthalate	117-84-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
EP075D: Nitrosamines									
N-Nitrosomethylethylamine	10595-95-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
N-Nitrosodiethylamine	55-18-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
N-Nitrosopyrrolidine	930-55-2	1.0	mg/kg		<1.0	<1.0	<1.0	<1.0	<1.0
N-Nitrosomorpholine	59-89-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
N-Nitrosodi-n-propylamine	621-64-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
N-Nitrosopiperidine	100-75-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
N-Nitrosodibutylamine	924-16-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	1.0	mg/kg		<1.0	<1.0	<1.0	<1.0	<1.0
Methapyrilene	91-80-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
EP075E: Nitroaromatics and Ketones									

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	HA01_0.0-0.1_220822	HA01_1.1-1.2_220822	HA02_0.0-0.2_220822	HA02_1.4-1.5_220822	HA03_0.5-0.6_220822
				Sampling date / time	22-Aug-2022 00:00	22-Aug-2022 00:00	22-Aug-2022 00:00	22-Aug-2022 00:00	22-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2230767-001	ES2230767-003	ES2230767-004	ES2230767-007	ES2230767-009
					Result	Result	Result	Result	Result
EP075E: Nitroaromatics and Ketones - Continued									
2-Picoline	109-06-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Acetophenone	98-86-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Nitrobenzene	98-95-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Isophorone	78-59-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2.6-Dinitrotoluene	606-20-2	1.0	mg/kg		<1.0	<1.0	<1.0	<1.0	<1.0
2.4-Dinitrotoluene	121-14-2	1.0	mg/kg		<1.0	<1.0	<1.0	<1.0	<1.0
1-Naphthylamine	134-32-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
4-Nitroquinoline-N-oxide	56-57-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
5-Nitro-o-toluidine	99-55-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Azobenzene	103-33-3	1	mg/kg		<1	<1	<1	<1	<1
1.3.5-Trinitrobenzene	99-35-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Phenacetin	62-44-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
4-Aminobiphenyl	92-67-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Pentachloronitrobenzene	82-68-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Pronamide	23950-58-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Dimethylaminoazobenzene	60-11-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Chlorobenzilate	510-15-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
EP075F: Haloethers									
Bis(2-chloroethyl) ether	111-44-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Bis(2-chloroethoxy) methane	111-91-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
4-Chlorophenyl phenyl ether	7005-72-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
4-Bromophenyl phenyl ether	101-55-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
EP075G: Chlorinated Hydrocarbons									
1.3-Dichlorobenzene	541-73-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.4-Dichlorobenzene	106-46-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.2-Dichlorobenzene	95-50-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Hexachloroethane	67-72-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Hexachloropropylene	1888-71-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Hexachlorobutadiene	87-68-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Hexachlorocyclopentadiene	77-47-4	2.5	mg/kg		<2.5	<2.5	<2.5	<2.5	<2.5
Pentachlorobenzene	608-93-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Hexachlorobenzene (HCB)	118-74-1	1.0	mg/kg		<1.0	<1.0	<1.0	<1.0	<1.0
EP075H: Anilines and Benzidines									

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	HA01_0.0-0.1_220822	HA01_1.1-1.2_220822	HA02_0.0-0.2_220822	HA02_1.4-1.5_220822	HA03_0.5-0.6_220822
			Sampling date / time	22-Aug-2022 00:00	22-Aug-2022 00:00	22-Aug-2022 00:00	22-Aug-2022 00:00	22-Aug-2022 00:00
Compound	CAS Number	LOR	Unit	ES2230767-001	ES2230767-003	ES2230767-004	ES2230767-007	ES2230767-009
				Result	Result	Result	Result	Result
EP075H: Anilines and Benzidines - Continued								
Aniline	62-53-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
4-Chloroaniline	106-47-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Nitroaniline	88-74-4	1.0	mg/kg	<1.0	<1.0	<1.0	<1.0	<1.0
3-Nitroaniline	99-09-2	1.0	mg/kg	<1.0	<1.0	<1.0	<1.0	<1.0
Dibenzofuran	132-64-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
4-Nitroaniline	100-01-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Carbazole	86-74-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
3.3`-Dichlorobenzidine	91-94-1	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
EP075I: Organochlorine Pesticides								
alpha-BHC	319-84-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
beta-BHC	319-85-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
gamma-BHC	58-89-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
delta-BHC	319-86-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Heptachlor	76-44-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Aldrin	309-00-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Heptachlor epoxide	1024-57-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
alpha-Endosulfan	959-98-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
4.4`-DDE	72-55-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Dieldrin	60-57-1	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Endrin	72-20-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
beta-Endosulfan	33213-65-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
4.4`-DDD	72-54-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Endosulfan sulfate	1031-07-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
4.4`-DDT	50-29-3	1.0	mg/kg	<1.0	<1.0	<1.0	<1.0	<1.0
EP075J: Organophosphorus Pesticides								
Dichlorvos	62-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Dimethoate	60-51-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Diazinon	333-41-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Chlorpyrifos-methyl	5598-13-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Malathion	121-75-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fenthion	55-38-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Chlorpyrifos	2921-88-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Pirimphos-ethyl	23505-41-1	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Chlorfenvinphos	470-90-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	HA01_0.0-0.1_220822	HA01_1.1-1.2_220822	HA02_0.0-0.2_220822	HA02_1.4-1.5_220822	HA03_0.5-0.6_220822
				Sampling date / time	22-Aug-2022 00:00	22-Aug-2022 00:00	22-Aug-2022 00:00	22-Aug-2022 00:00	22-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2230767-001	ES2230767-003	ES2230767-004	ES2230767-007	ES2230767-009
					Result	Result	Result	Result	Result
EP075J: Organophosphorus Pesticides - Continued									
Prothiofos	34643-46-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Ethion	563-12-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
C29 - C36 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
^ **C10 - C36 Fraction (sum)**	----	50	mg/kg		<50	<50	<50	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	<10	<10	<10
^ **C6 - C10 Fraction minus BTEX (F1)**	C6_C10-BTEX	10	mg/kg		<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
>C34 - C40 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
^ **>C10 - C40 Fraction (sum)**	----	50	mg/kg		<50	<50	<50	<50	<50
^ **>C10 - C16 Fraction minus Naphthalene (F2)**	----	50	mg/kg		<50	<50	<50	<50	<50
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ **Sum of BTEX**	----	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
^ **Total Xylenes**	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg		<1	<1	<1	<1	<1
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg		<0.0002	<0.0002	**0.0003**	<0.0002	**0.0021**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	HA01_0.0-0.1_220822	HA01_1.1-1.2_220822	HA02_0.0-0.2_220822	HA02_1.4-1.5_220822	HA03_0.5-0.6_220822
				Sampling date / time	22-Aug-2022 00:00	22-Aug-2022 00:00	22-Aug-2022 00:00	22-Aug-2022 00:00	22-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2230767-001	ES2230767-003	ES2230767-004	ES2230767-007	ES2230767-009
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids - Continued									
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg		<0.0002	<0.0002	**0.0103**	**0.0014**	<0.0002
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg		<0.0002	<0.0002	<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	<0.001	<0.001
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	**0.0002**
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg		<0.0002	<0.0002	**0.0021**	**0.0003**	**0.0006**
Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg		<0.0002	<0.0002	**0.0002**	<0.0002	<0.0002
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	HA01_0.0-0.1_220822	HA01_1.1-1.2_220822	HA02_0.0-0.2_220822	HA02_1.4-1.5_220822	HA03_0.5-0.6_220822
				Sampling date / time	22-Aug-2022 00:00	22-Aug-2022 00:00	22-Aug-2022 00:00	22-Aug-2022 00:00	22-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2230767-001	ES2230767-003	ES2230767-004	ES2230767-007	ES2230767-009
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<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	<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	<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	<0.0005	<0.0005
EP231P: PFAS Sums									
Sum of PFAS	----	0.0002	mg/kg		<0.0002	<0.0002	**0.0129**	**0.0017**	**0.0029**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg		<0.0002	<0.0002	**0.0106**	**0.0014**	**0.0021**
Sum of PFAS (WA DER List)	----	0.0002	mg/kg		<0.0002	<0.0002	**0.0106**	**0.0014**	**0.0023**
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		**97.0**	**108**	**69.8**	**62.3**	**129**
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%		**103**	**92.9**	**95.7**	**101**	**89.0**
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%		**72.9**	**91.1**	**51.2**	**67.4**	**112**
EP074S: VOC Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.5	%		**74.1**	**103**	**109**	**112**	**99.1**
Toluene-D8	2037-26-5	0.5	%		**83.3**	**114**	**123**	**124**	**109**
4-Bromofluorobenzene	460-00-4	0.5	%		**88.5**	**109**	**112**	**116**	**110**
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		**71.6**	**78.0**	**90.3**	**92.5**	**92.0**
2-Chlorophenol-D4	93951-73-6	0.5	%		**84.1**	**82.1**	**83.0**	**81.9**	**82.3**
2.4.6-Tribromophenol	118-79-6	0.5	%		**77.7**	**72.6**	**69.4**	**60.4**	**73.5**
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		**97.4**	**102**	**102**	**98.6**	**102**
Anthracene-d10	1719-06-8	0.5	%		**84.0**	**72.8**	**75.2**	**69.8**	**70.2**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	HA01_0.0-0.1_220822	HA01_1.1-1.2_220822	HA02_0.0-0.2_220822	HA02_1.4-1.5_220822	HA03_0.5-0.6_220822
				Sampling date / time	22-Aug-2022 00:00	22-Aug-2022 00:00	22-Aug-2022 00:00	22-Aug-2022 00:00	22-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2230767-001	ES2230767-003	ES2230767-004	ES2230767-007	ES2230767-009
					Result	Result	Result	Result	Result
EP075(SIM)T: PAH Surrogates - Continued									
4-Terphenyl-d14	1718-51-0	0.5	%		88.5	122	106	97.6	102
EP075S: Acid Extractable Surrogates									
2-Fluorophenol	367-12-4	0.5	%		97.0	100	99.2	93.3	94.8
Phenol-d6	13127-88-3	0.5	%		90.5	88.6	86.4	87.5	82.1
2-Chlorophenol-D4	93951-73-6	0.5	%		100	100	98.0	94.0	96.5
2.4.6-Tribromophenol	118-79-6	0.5	%		39.2	30.8	27.7	28.7	31.8
EP075T: Base/Neutral Extractable Surrogates									
Nitrobenzene-D5	4165-60-0	0.5	%		95.8	95.8	93.6	93.4	90.7
1.2-Dichlorobenzene-D4	2199-69-1	0.5	%		90.5	91.8	91.0	90.4	90.4
2-Fluorobiphenyl	321-60-8	0.5	%		100	102	99.8	99.1	101
Anthracene-d10	1719-06-8	0.5	%		96.0	88.5	86.2	83.4	87.0
4-Terphenyl-d14	1718-51-0	0.5	%		70.8	62.3	58.8	61.7	55.9
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		79.8	111	118	121	106
Toluene-D8	2037-26-5	0.2	%		76.0	93.9	101	102	90.3
4-Bromofluorobenzene	460-00-4	0.2	%		72.0	87.9	89.2	92.3	88.5
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.0002	%		97.5	87.5	92.0	100	102
13C8-PFOA	----	0.0002	%		100	109	103	108	106

Analytical Results

Sub-Matrix: SOIL
(Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Sample ID	HA03_1.4-1.5_220822	HA04_0.1-0.2_220822	HA04_1.0-1.1_220822	HA07_0.05-0.15_220822	HA07_0.4-0.5_220822
				Sampling date / time	22-Aug-2022 00:00	22-Aug-2022 00:00	22-Aug-2022 00:00	22-Aug-2022 00:00	22-Aug-2022 00:00
					ES2230767-011	ES2230767-012	ES2230767-014	ES2230767-016	ES2230767-017
					Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%		9.6	45.3	15.5	15.5	14.4
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		----	118	----	----	----
APPROVED IDENTIFIER:	----	-	--		----	J.SPOONER	----	----	----
EG005(ED093)T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg		6	60	8	6	8
Cadmium	7440-43-9	1	mg/kg		<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg		24	16	26	21	26
Copper	7440-50-8	5	mg/kg		9	132	11	<5	10
Lead	7439-92-1	5	mg/kg		10	18	12	10	13
Nickel	7440-02-0	2	mg/kg		18	89	23	5	17
Zinc	7440-66-6	5	mg/kg		25	124	26	9	27
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		<0.1	0.5	<0.1	<0.1	<0.1
EP066: Polychlorinated Biphenyls (PCB)									
Total Polychlorinated biphenyls	----	0.1	mg/kg		<0.1	<0.1	<0.1	<0.1	<0.1
EP068A: Organochlorine Pesticides (OC)									
alpha-BHC	319-84-6	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
beta-BHC	319-85-7	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
gamma-BHC	58-89-9	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
delta-BHC	319-86-8	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor	76-44-8	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Aldrin	309-00-2	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor epoxide	1024-57-3	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
^ Total Chlordane (sum)	----	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
trans-Chlordane	5103-74-2	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
alpha-Endosulfan	959-98-8	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
cis-Chlordane	5103-71-9	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: SOIL
(Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Sample ID	HA03_1.4-1.5_220822	HA04_0.1-0.2_220822	HA04_1.0-1.1_220822	HA07_0.05-0.15_220822	HA07_0.4-0.5_220822
				Sampling date / time	22-Aug-2022 00:00	22-Aug-2022 00:00	22-Aug-2022 00:00	22-Aug-2022 00:00	22-Aug-2022 00:00
					ES2230767-011	ES2230767-012	ES2230767-014	ES2230767-016	ES2230767-017
					Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued									
Dieldrin	60-57-1	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDE	72-55-9	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Endrin	72-20-8	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
beta-Endosulfan	33213-65-9	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
^ **Endosulfan (sum)**	115-29-7	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDD	72-54-8	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Endrin aldehyde	7421-93-4	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Endosulfan sulfate	1031-07-8	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDT	50-29-3	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Endrin ketone	53494-70-5	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Methoxychlor	72-43-5	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
^ **Sum of Aldrin + Dieldrin**	309-00-2/60-57-1	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
^ **Sum of DDD + DDE + DDT**	72-54-8/72-55-9/50-2	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
EP068B: Organophosphorus Pesticides (OP)									
Dichlorvos	62-73-7	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Demeton-S-methyl	919-86-8	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Monocrotophos	6923-22-4	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Dimethoate	60-51-5	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Diazinon	333-41-5	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Parathion-methyl	298-00-0	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Malathion	121-75-5	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Fenthion	55-38-9	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Chlorpyrifos	2921-88-2	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Parathion	56-38-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Pirimphos-ethyl	23505-41-1	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Chlorfenvinphos	470-90-6	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Bromophos-ethyl	4824-78-6	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Fenamiphos	22224-92-6	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Prothiofos	34643-46-4	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Ethion	563-12-2	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Carbophenothion	786-19-6	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Azinphos Methyl	86-50-0	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: **SOIL**
(Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Sample ID	HA03_1.4-1.5_220822	HA04_0.1-0.2_220822	HA04_1.0-1.1_220822	HA07_0.05-0.15_220822	HA07_0.4-0.5_220822
				Sampling date / time	22-Aug-2022 00:00	22-Aug-2022 00:00	22-Aug-2022 00:00	22-Aug-2022 00:00	22-Aug-2022 00:00
					ES2230767-011	ES2230767-012	ES2230767-014	ES2230767-016	ES2230767-017
					Result	Result	Result	Result	Result
EP074A: Monocyclic Aromatic Hydrocarbons									
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
Styrene	100-42-5	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
Isopropylbenzene	98-82-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
n-Propylbenzene	103-65-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.3.5-Trimethylbenzene	108-67-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
sec-Butylbenzene	135-98-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.2.4-Trimethylbenzene	95-63-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
tert-Butylbenzene	98-06-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
p-Isopropyltoluene	99-87-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
n-Butylbenzene	104-51-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
EP074B: Oxygenated Compounds									
Vinyl Acetate	108-05-4	5	mg/kg		<5	<5	<5	<5	<5
2-Butanone (MEK)	78-93-3	5	mg/kg		<5	<5	<5	<5	<5
4-Methyl-2-pentanone (MIBK)	108-10-1	5	mg/kg		<5	<5	<5	<5	<5
2-Hexanone (MBK)	591-78-6	5	mg/kg		<5	<5	<5	<5	<5
EP074C: Sulfonated Compounds									
Carbon disulfide	75-15-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
EP074D: Fumigants									
2.2-Dichloropropane	594-20-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.2-Dichloropropane	78-87-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
cis-1.3-Dichloropropylene	10061-01-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
trans-1.3-Dichloropropylene	10061-02-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.2-Dibromoethane (EDB)	106-93-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
EP074E: Halogenated Aliphatic Compounds									
Dichlorodifluoromethane	75-71-8	5	mg/kg		<5	<5	<5	<5	<5
Chloromethane	74-87-3	5	mg/kg		<5	<5	<5	<5	<5
Vinyl chloride	75-01-4	5	mg/kg		<5	<5	<5	<5	<5
Bromomethane	74-83-9	5	mg/kg		<5	<5	<5	<5	<5
Chloroethane	75-00-3	5	mg/kg		<5	<5	<5	<5	<5
Trichlorofluoromethane	75-69-4	5	mg/kg		<5	<5	<5	<5	<5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	HA03_1.4-1.5_220822	HA04_0.1-0.2_220822	HA04_1.0-1.1_220822	HA07_0.05-0.15_220822	HA07_0.4-0.5_220822
				Sampling date / time	22-Aug-2022 00:00	22-Aug-2022 00:00	22-Aug-2022 00:00	22-Aug-2022 00:00	22-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2230767-011	ES2230767-012	ES2230767-014	ES2230767-016	ES2230767-017
					Result	Result	Result	Result	Result
EP074E: Halogenated Aliphatic Compounds - Continued									
1.1-Dichloroethene	75-35-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Iodomethane	74-88-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
trans-1.2-Dichloroethene	156-60-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.1-Dichloroethane	75-34-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
cis-1.2-Dichloroethene	156-59-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.1.1-Trichloroethane	71-55-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.1-Dichloropropylene	563-58-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Carbon Tetrachloride	56-23-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.2-Dichloroethane	107-06-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Trichloroethene	79-01-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Dibromomethane	74-95-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.1.2-Trichloroethane	79-00-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.3-Dichloropropane	142-28-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Tetrachloroethene	127-18-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.1.1.2-Tetrachloroethane	630-20-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
trans-1.4-Dichloro-2-butene	110-57-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
cis-1.4-Dichloro-2-butene	1476-11-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.1.2.2-Tetrachloroethane	79-34-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.2.3-Trichloropropane	96-18-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Pentachloroethane	76-01-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
EP074F: Halogenated Aromatic Compounds									
Chlorobenzene	108-90-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Bromobenzene	108-86-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2-Chlorotoluene	95-49-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
4-Chlorotoluene	106-43-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.2.3-Trichlorobenzene	87-61-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
EP074G: Trihalomethanes									
Chloroform	67-66-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Bromodichloromethane	75-27-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Dibromochloromethane	124-48-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Bromoform	75-25-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5

Analytical Results

Sub-Matrix: SOIL
(Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Sample ID	HA03_1.4-1.5_220822	HA04_0.1-0.2_220822	HA04_1.0-1.1_220822	HA07_0.05-0.15_220822	HA07_0.4-0.5_220822
				Sampling date / time	22-Aug-2022 00:00	22-Aug-2022 00:00	22-Aug-2022 00:00	22-Aug-2022 00:00	22-Aug-2022 00:00
					ES2230767-011	ES2230767-012	ES2230767-014	ES2230767-016	ES2230767-017
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Acenaphthylene	208-96-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Pyrene	129-00-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		**0.6**	**0.6**	**0.6**	**0.6**	**0.6**
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		**1.2**	**1.2**	**1.2**	**1.2**	**1.2**
EP075A: 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	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
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	1	mg/kg		<1	<1	<1	<1	<1
EP075B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	HA03_1.4-1.5_220822	HA04_0.1-0.2_220822	HA04_1.0-1.1_220822	HA07_0.05-0.15_220822	HA07_0.4-0.5_220822
				Sampling date / time	22-Aug-2022 00:00	22-Aug-2022 00:00	22-Aug-2022 00:00	22-Aug-2022 00:00	22-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2230767-011	ES2230767-012	ES2230767-014	ES2230767-016	ES2230767-017
					Result	Result	Result	Result	Result
EP075B: Polynuclear Aromatic Hydrocarbons - Continued									
2-Methylnaphthalene	91-57-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2-Chloronaphthalene	91-58-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Pyrene	129-00-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
N-2-Fluorenyl Acetamide	53-96-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(b+j) & Benzo(k)fluoranthene	205-99-2 207-08-9	1	mg/kg		<1	<1	<1	<1	<1
7.12-Dimethylbenz(a)anthracene	57-97-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
3-Methylcholanthrene	56-49-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of PAHs	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		**0.6**	**0.6**	**0.6**	**0.6**	**0.6**
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		**1.2**	**1.2**	**1.2**	**1.2**	**1.2**
EP075C: Phthalate Esters									
Dimethyl phthalate	131-11-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Diethyl phthalate	84-66-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Di-n-butyl phthalate	84-74-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Butyl benzyl phthalate	85-68-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
bis(2-ethylhexyl) phthalate	117-81-7	5.0	mg/kg		<5.0	<5.0	<5.0	<5.0	<5.0
Di-n-octylphthalate	117-84-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
EP075D: Nitrosamines									
N-Nitrosomethylethylamine	10595-95-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
N-Nitrosodiethylamine	55-18-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	HA03_1.4-1.5_220822	HA04_0.1-0.2_220822	HA04_1.0-1.1_220822	HA07_0.05-0.15_220822	HA07_0.4-0.5_220822
				Sampling date / time	22-Aug-2022 00:00	22-Aug-2022 00:00	22-Aug-2022 00:00	22-Aug-2022 00:00	22-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2230767-011	ES2230767-012	ES2230767-014	ES2230767-016	ES2230767-017
					Result	Result	Result	Result	Result
EP075D: Nitrosamines - Continued									
N-Nitrosopyrrolidine	930-55-2	1.0	mg/kg		<1.0	<1.0	<1.0	<1.0	<1.0
N-Nitrosomorpholine	59-89-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
N-Nitrosodi-n-propylamine	621-64-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
N-Nitrosopiperidine	100-75-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
N-Nitrosodibutylamine	924-16-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	1.0	mg/kg		<1.0	<1.0	<1.0	<1.0	<1.0
Methapyrilene	91-80-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
EP075E: Nitroaromatics and Ketones									
2-Picoline	109-06-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Acetophenone	98-86-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Nitrobenzene	98-95-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Isophorone	78-59-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2.6-Dinitrotoluene	606-20-2	1.0	mg/kg		<1.0	<1.0	<1.0	<1.0	<1.0
2.4-Dinitrotoluene	121-14-2	1.0	mg/kg		<1.0	<1.0	<1.0	<1.0	<1.0
1-Naphthylamine	134-32-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
4-Nitroquinoline-N-oxide	56-57-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
5-Nitro-o-toluidine	99-55-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Azobenzene	103-33-3	1	mg/kg		<1	<1	<1	<1	<1
1.3.5-Trinitrobenzene	99-35-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Phenacetin	62-44-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
4-Aminobiphenyl	92-67-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Pentachloronitrobenzene	82-68-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Pronamide	23950-58-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Dimethylaminoazobenzene	60-11-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Chlorobenzilate	510-15-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
EP075F: Haloethers									
Bis(2-chloroethyl) ether	111-44-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Bis(2-chloroethoxy) methane	111-91-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
4-Chlorophenyl phenyl ether	7005-72-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
4-Bromophenyl phenyl ether	101-55-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
EP075G: Chlorinated Hydrocarbons									
1.3-Dichlorobenzene	541-73-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.4-Dichlorobenzene	106-46-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5

Analytical Results

Sub-Matrix: **SOIL**
(Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Sample ID	HA03_1.4-1.5_220822	HA04_0.1-0.2_220822	HA04_1.0-1.1_220822	HA07_0.05-0.15_220822	HA07_0.4-0.5_220822
				Sampling date / time	22-Aug-2022 00:00	22-Aug-2022 00:00	22-Aug-2022 00:00	22-Aug-2022 00:00	22-Aug-2022 00:00
					ES2230767-011	ES2230767-012	ES2230767-014	ES2230767-016	ES2230767-017
					Result	Result	Result	Result	Result
EP075G: Chlorinated Hydrocarbons - Continued									
1.2-Dichlorobenzene	95-50-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Hexachloroethane	67-72-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Hexachloropropylene	1888-71-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Hexachlorobutadiene	87-68-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Hexachlorocyclopentadiene	77-47-4	2.5	mg/kg		<2.5	<2.5	<2.5	<2.5	<2.5
Pentachlorobenzene	608-93-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Hexachlorobenzene (HCB)	118-74-1	1.0	mg/kg		<1.0	<1.0	<1.0	<1.0	<1.0
EP075H: Anilines and Benzidines									
Aniline	62-53-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
4-Chloroaniline	106-47-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2-Nitroaniline	88-74-4	1.0	mg/kg		<1.0	<1.0	<1.0	<1.0	<1.0
3-Nitroaniline	99-09-2	1.0	mg/kg		<1.0	<1.0	<1.0	<1.0	<1.0
Dibenzofuran	132-64-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
4-Nitroaniline	100-01-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Carbazole	86-74-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
3.3`-Dichlorobenzidine	91-94-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
EP075I: Organochlorine Pesticides									
alpha-BHC	319-84-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
beta-BHC	319-85-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
gamma-BHC	58-89-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
delta-BHC	319-86-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Heptachlor	76-44-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Aldrin	309-00-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Heptachlor epoxide	1024-57-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
alpha-Endosulfan	959-98-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
4.4`-DDE	72-55-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Dieldrin	60-57-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Endrin	72-20-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
beta-Endosulfan	33213-65-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
4.4`-DDD	72-54-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Endosulfan sulfate	1031-07-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
4.4`-DDT	50-29-3	1.0	mg/kg		<1.0	<1.0	<1.0	<1.0	<1.0
EP075J: Organophosphorus Pesticides									

Analytical Results

Sub-Matrix: **SOIL**
(Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Sample ID	HA03_1.4-1.5_220822	HA04_0.1-0.2_220822	HA04_1.0-1.1_220822	HA07_0.05-0.15_220822	HA07_0.4-0.5_220822
				Sampling date / time	22-Aug-2022 00:00	22-Aug-2022 00:00	22-Aug-2022 00:00	22-Aug-2022 00:00	22-Aug-2022 00:00
					ES2230767-011	ES2230767-012	ES2230767-014	ES2230767-016	ES2230767-017
					Result	Result	Result	Result	Result
EP075J: Organophosphorus Pesticides - Continued									
Dichlorvos	62-73-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Dimethoate	60-51-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Diazinon	333-41-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Chlorpyrifos-methyl	5598-13-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Malathion	121-75-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Fenthion	55-38-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Chlorpyrifos	2921-88-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Pirimphos-ethyl	23505-41-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Chlorfenvinphos	470-90-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Prothiofos	34643-46-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Ethion	563-12-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
C29 - C36 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
^ **C10 - C36 Fraction (sum)**	----	50	mg/kg		<50	<50	<50	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	<10	<10	<10
^ **C6 - C10 Fraction minus BTEX (F1)**	C6_C10-BTEX	10	mg/kg		<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
>C34 - C40 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
^ **>C10 - C40 Fraction (sum)**	----	50	mg/kg		<50	<50	<50	<50	<50
^ **>C10 - C16 Fraction minus Naphthalene (F2)**	----	50	mg/kg		<50	<50	<50	<50	<50
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ **Sum of BTEX**	----	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2

Analytical Results

Sub-Matrix: **SOIL**
(Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Sample ID	HA03_1.4-1.5_220822	HA04_0.1-0.2_220822	HA04_1.0-1.1_220822	HA07_0.05-0.15_220822	HA07_0.4-0.5_220822
				Sampling date / time	22-Aug-2022 00:00	22-Aug-2022 00:00	22-Aug-2022 00:00	22-Aug-2022 00:00	22-Aug-2022 00:00
					ES2230767-011	ES2230767-012	ES2230767-014	ES2230767-016	ES2230767-017
					Result	Result	Result	Result	Result
EP080: BTEXN - Continued									
^ **Total Xylenes**	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg		<1	<1	<1	<1	<1
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg		<0.0002	**0.0003**	<0.0002	<0.0002	<0.0002
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg		**0.0003**	**0.0145**	**0.0022**	**0.0007**	**0.0022**
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg		<0.0002	**0.0010**	<0.0002	<0.0002	<0.0002
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg		<0.0002	**0.0753**	**0.0006**	**0.0006**	<0.0002
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg		<0.0002	<0.0002	<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	<0.001	<0.001
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg		<0.0002	**0.0004**	<0.0002	<0.0002	<0.0002
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg		<0.0002	**0.0006**	**0.0003**	**0.0003**	<0.0002
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg		<0.0002	**0.0004**	<0.0002	<0.0002	<0.0002
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg		<0.0002	**0.0005**	<0.0002	**0.0002**	<0.0002
Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg		<0.0002	**0.0266**	**0.0006**	**0.0044**	**0.0006**
Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg		<0.0002	**0.0004**	<0.0002	<0.0002	<0.0002
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg		<0.0002	**0.0136**	<0.0002	<0.0002	<0.0002
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg		<0.0002	**0.0002**	<0.0002	<0.0002	<0.0002
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	HA03_1.4-1.5_220822	HA04_0.1-0.2_220822	HA04_1.0-1.1_220822	HA07_0.05-0.15_220822	HA07_0.4-0.5_220822
				Sampling date / time	22-Aug-2022 00:00	22-Aug-2022 00:00	22-Aug-2022 00:00	22-Aug-2022 00:00	22-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2230767-011	ES2230767-012	ES2230767-014	ES2230767-016	ES2230767-017
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<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	<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	<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	<0.0005	<0.0005
EP231P: PFAS Sums									
Sum of PFAS	----	0.0002	mg/kg		**0.0003**	**0.134**	**0.0037**	**0.0062**	**0.0028**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg		**0.0003**	**0.0898**	**0.0028**	**0.0013**	**0.0022**
Sum of PFAS (WA DER List)	----	0.0002	mg/kg		**0.0003**	**0.0917**	**0.0031**	**0.0018**	**0.0022**
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		**120**	**123**	**107**	**118**	**113**
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%		**98.1**	**108**	**93.0**	**84.6**	**93.5**
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%		**84.1**	**114**	**92.4**	**75.4**	**87.8**
EP074S: VOC Surrogates									

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	HA03_1.4-1.5_220822	HA04_0.1-0.2_220822	HA04_1.0-1.1_220822	HA07_0.05-0.15_220822	HA07_0.4-0.5_220822
				Sampling date / time	22-Aug-2022 00:00	22-Aug-2022 00:00	22-Aug-2022 00:00	22-Aug-2022 00:00	22-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2230767-011	ES2230767-012	ES2230767-014	ES2230767-016	ES2230767-017
					Result	Result	Result	Result	Result
EP074S: VOC Surrogates - Continued									
1.2-Dichloroethane-D4	17060-07-0	0.5	%		106	99.0	105	111	108
Toluene-D8	2037-26-5	0.5	%		121	106	114	128	122
4-Bromofluorobenzene	460-00-4	0.5	%		112	91.4	107	114	112
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		87.7	70.1	79.2	86.9	89.4
2-Chlorophenol-D4	93951-73-6	0.5	%		77.9	67.1	79.3	79.1	77.4
2.4.6-Tribromophenol	118-79-6	0.5	%		67.0	40.2	62.6	65.3	67.6
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		93.6	98.8	97.1	94.9	95.1
Anthracene-d10	1719-06-8	0.5	%		69.2	71.5	72.4	72.5	67.9
4-Terphenyl-d14	1718-51-0	0.5	%		91.9	92.7	100	94.4	93.4
EP075S: Acid Extractable Surrogates									
2-Fluorophenol	367-12-4	0.5	%		97.8	65.0	100	105	107
Phenol-d6	13127-88-3	0.5	%		91.0	72.8	93.6	95.2	96.4
2-Chlorophenol-D4	93951-73-6	0.5	%		102	80.1	105	104	108
2.4.6-Tribromophenol	118-79-6	0.5	%		35.2	24.7	36.4	32.8	37.9
EP075T: Base/Neutral Extractable Surrogates									
Nitrobenzene-D5	4165-60-0	0.5	%		95.4	96.0	98.0	98.0	90.4
1.2-Dichlorobenzene-D4	2199-69-1	0.5	%		93.4	98.2	99.0	98.0	95.2
2-Fluorobiphenyl	321-60-8	0.5	%		105	109	107	101	105
Anthracene-d10	1719-06-8	0.5	%		94.0	90.1	96.2	97.3	95.7
4-Terphenyl-d14	1718-51-0	0.5	%		62.0	73.4	69.4	65.9	65.1
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		113	106	112	120	117
Toluene-D8	2037-26-5	0.2	%		100	87.1	94.4	106	101
4-Bromofluorobenzene	460-00-4	0.2	%		90.0	72.3	85.2	94.1	89.8
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.0002	%		96.0	95.0	94.0	99.0	104
13C8-PFOA	----	0.0002	%		105	99.0	99.5	106	100

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	HA13_0.0-0.2_220822	HA13_0.5-0.6_220822	HA06_0.0-0.1_220822	HA06_1.1-1.2_220822	HA09_0.0-0.1_220822
			Sampling date / time	22-Aug-2022 00:00	22-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00
Compound	CAS Number	LOR	Unit	ES2230767-019	ES2230767-020	ES2230767-022	ES2230767-024	ES2230767-025
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	14.3	21.6	16.7	14.4	14.2
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	----	----	No	----	No
Asbestos (Trace)	1332-21-4	5	Fibres	----	----	No	----	No
Asbestos Type	1332-21-4	-	--	----	----	-	----	-
Synthetic Mineral Fibre	----	0.1	g/kg	----	----	No	----	No
Organic Fibre	----	0.1	g/kg	----	----	No	----	No
Sample weight (dry)	----	0.01	g	----	----	244	----	180
APPROVED IDENTIFIER:	----	-	--	----	----	J.SPOONER	----	J.SPOONER
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	6	6	6	7	5
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	23	18	29	35	30
Copper	7440-50-8	5	mg/kg	10	7	7	11	8
Lead	7439-92-1	5	mg/kg	11	10	11	10	9
Nickel	7440-02-0	2	mg/kg	18	9	14	19	10
Zinc	7440-66-6	5	mg/kg	26	16	15	23	14
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
^ Total Chlordane (sum)	----	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	HA13_0.0-0.2_220822	HA13_0.5-0.6_220822	HA06_0.0-0.1_220822	HA06_1.1-1.2_220822	HA09_0.0-0.1_220822
				Sampling date / time	22-Aug-2022 00:00	22-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2230767-019	ES2230767-020	ES2230767-022	ES2230767-024	ES2230767-025
					Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued									
Dieldrin	60-57-1	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDE	72-55-9	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Endrin	72-20-8	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
beta-Endosulfan	33213-65-9	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
^ **Endosulfan (sum)**	115-29-7	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDD	72-54-8	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Endrin aldehyde	7421-93-4	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Endosulfan sulfate	1031-07-8	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDT	50-29-3	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Endrin ketone	53494-70-5	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Methoxychlor	72-43-5	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
^ **Sum of Aldrin + Dieldrin**	309-00-2/60-57-1	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
^ **Sum of DDD + DDE + DDT**	72-54-8/72-55-9/50-2	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
EP068B: Organophosphorus Pesticides (OP)									
Dichlorvos	62-73-7	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Demeton-S-methyl	919-86-8	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Monocrotophos	6923-22-4	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Dimethoate	60-51-5	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Diazinon	333-41-5	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Parathion-methyl	298-00-0	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Malathion	121-75-5	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Fenthion	55-38-9	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Chlorpyrifos	2921-88-2	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Parathion	56-38-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Pirimphos-ethyl	23505-41-1	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Chlorfenvinphos	470-90-6	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Bromophos-ethyl	4824-78-6	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Fenamiphos	22224-92-6	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Prothiofos	34643-46-4	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Ethion	563-12-2	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Carbophenothion	786-19-6	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Azinphos Methyl	86-50-0	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
EP074A: Monocyclic Aromatic Hydrocarbons									

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	HA13_0.0-0.2_220822	HA13_0.5-0.6_220822	HA06_0.0-0.1_220822	HA06_1.1-1.2_220822	HA09_0.0-0.1_220822
				Sampling date / time	22-Aug-2022 00:00	22-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2230767-019	ES2230767-020	ES2230767-022	ES2230767-024	ES2230767-025
					Result	Result	Result	Result	Result
EP074A: Monocyclic Aromatic Hydrocarbons - Continued									
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
Styrene	100-42-5	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
Isopropylbenzene	98-82-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
n-Propylbenzene	103-65-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.3.5-Trimethylbenzene	108-67-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
sec-Butylbenzene	135-98-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.2.4-Trimethylbenzene	95-63-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
tert-Butylbenzene	98-06-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
p-Isopropyltoluene	99-87-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
n-Butylbenzene	104-51-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
EP074B: Oxygenated Compounds									
Vinyl Acetate	108-05-4	5	mg/kg		<5	<5	<5	<5	<5
2-Butanone (MEK)	78-93-3	5	mg/kg		<5	<5	<5	<5	<5
4-Methyl-2-pentanone (MIBK)	108-10-1	5	mg/kg		<5	<5	<5	<5	<5
2-Hexanone (MBK)	591-78-6	5	mg/kg		<5	<5	<5	<5	<5
EP074C: Sulfonated Compounds									
Carbon disulfide	75-15-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
EP074D: Fumigants									
2.2-Dichloropropane	594-20-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.2-Dichloropropane	78-87-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
cis-1.3-Dichloropropylene	10061-01-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
trans-1.3-Dichloropropylene	10061-02-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.2-Dibromoethane (EDB)	106-93-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
EP074E: Halogenated Aliphatic Compounds									
Dichlorodifluoromethane	75-71-8	5	mg/kg		<5	<5	<5	<5	<5
Chloromethane	74-87-3	5	mg/kg		<5	<5	<5	<5	<5
Vinyl chloride	75-01-4	5	mg/kg		<5	<5	<5	<5	<5
Bromomethane	74-83-9	5	mg/kg		<5	<5	<5	<5	<5
Chloroethane	75-00-3	5	mg/kg		<5	<5	<5	<5	<5
Trichlorofluoromethane	75-69-4	5	mg/kg		<5	<5	<5	<5	<5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	HA13_0.0-0.2_220822	HA13_0.5-0.6_220822	HA06_0.0-0.1_220822	HA06_1.1-1.2_220822	HA09_0.0-0.1_220822
				Sampling date / time	22-Aug-2022 00:00	22-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2230767-019	ES2230767-020	ES2230767-022	ES2230767-024	ES2230767-025
					Result	Result	Result	Result	Result
EP074E: Halogenated Aliphatic Compounds - Continued									
1.1-Dichloroethene	75-35-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Iodomethane	74-88-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
trans-1.2-Dichloroethene	156-60-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.1-Dichloroethane	75-34-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
cis-1.2-Dichloroethene	156-59-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.1.1-Trichloroethane	71-55-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.1-Dichloropropylene	563-58-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Carbon Tetrachloride	56-23-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.2-Dichloroethane	107-06-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Trichloroethene	79-01-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Dibromomethane	74-95-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.1.2-Trichloroethane	79-00-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.3-Dichloropropane	142-28-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Tetrachloroethene	127-18-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.1.1.2-Tetrachloroethane	630-20-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
trans-1.4-Dichloro-2-butene	110-57-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
cis-1.4-Dichloro-2-butene	1476-11-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.1.2.2-Tetrachloroethane	79-34-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.2.3-Trichloropropane	96-18-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Pentachloroethane	76-01-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
EP074F: Halogenated Aromatic Compounds									
Chlorobenzene	108-90-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Bromobenzene	108-86-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2-Chlorotoluene	95-49-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
4-Chlorotoluene	106-43-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.2.3-Trichlorobenzene	87-61-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
EP074G: Trihalomethanes									
Chloroform	67-66-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Bromodichloromethane	75-27-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Dibromochloromethane	124-48-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Bromoform	75-25-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	HA13_0.0-0.2_220822	HA13_0.5-0.6_220822	HA06_0.0-0.1_220822	HA06_1.1-1.2_220822	HA09_0.0-0.1_220822
				Sampling date / time	22-Aug-2022 00:00	22-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2230767-019	ES2230767-020	ES2230767-022	ES2230767-024	ES2230767-025
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Acenaphthylene	208-96-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Pyrene	129-00-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		**0.6**	**0.6**	**0.6**	**0.6**	**0.6**
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		**1.2**	**1.2**	**1.2**	**1.2**	**1.2**
EP075A: 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	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
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	1	mg/kg		<1	<1	<1	<1	<1
EP075B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	HA13_0.0-0.2_220822	HA13_0.5-0.6_220822	HA06_0.0-0.1_220822	HA06_1.1-1.2_220822	HA09_0.0-0.1_220822
				Sampling date / time	22-Aug-2022 00:00	22-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2230767-019	ES2230767-020	ES2230767-022	ES2230767-024	ES2230767-025
					Result	Result	Result	Result	Result
EP075B: Polynuclear Aromatic Hydrocarbons - Continued									
2-Methylnaphthalene	91-57-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2-Chloronaphthalene	91-58-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Pyrene	129-00-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
N-2-Fluorenyl Acetamide	53-96-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(b+j) & Benzo(k)fluoranthene	205-99-2 207-08-9	1	mg/kg		<1	<1	<1	<1	<1
7.12-Dimethylbenz(a)anthracene	57-97-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
3-Methylcholanthrene	56-49-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of PAHs	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		**0.6**	**0.6**	**0.6**	**0.6**	**0.6**
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		**1.2**	**1.2**	**1.2**	**1.2**	**1.2**
EP075C: Phthalate Esters									
Dimethyl phthalate	131-11-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Diethyl phthalate	84-66-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Di-n-butyl phthalate	84-74-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Butyl benzyl phthalate	85-68-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
bis(2-ethylhexyl) phthalate	117-81-7	5.0	mg/kg		<5.0	<5.0	<5.0	<5.0	<5.0
Di-n-octylphthalate	117-84-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
EP075D: Nitrosamines									
N-Nitrosomethylethylamine	10595-95-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
N-Nitrosodiethylamine	55-18-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
N-Nitrosopyrrolidine	930-55-2	1.0	mg/kg		<1.0	<1.0	<1.0	<1.0	<1.0

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	HA13_0.0-0.2_220822	HA13_0.5-0.6_220822	HA06_0.0-0.1_220822	HA06_1.1-1.2_220822	HA09_0.0-0.1_220822
				Sampling date / time	22-Aug-2022 00:00	22-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2230767-019	ES2230767-020	ES2230767-022	ES2230767-024	ES2230767-025
					Result	Result	Result	Result	Result
EP075D: Nitrosamines - Continued									
N-Nitrosomorpholine	59-89-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
N-Nitrosodi-n-propylamine	621-64-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
N-Nitrosopiperidine	100-75-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
N-Nitrosodibutylamine	924-16-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	1.0	mg/kg		<1.0	<1.0	<1.0	<1.0	<1.0
Methapyrilene	91-80-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
EP075E: Nitroaromatics and Ketones									
2-Picoline	109-06-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Acetophenone	98-86-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Nitrobenzene	98-95-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Isophorone	78-59-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2.6-Dinitrotoluene	606-20-2	1.0	mg/kg		<1.0	<1.0	<1.0	<1.0	<1.0
2.4-Dinitrotoluene	121-14-2	1.0	mg/kg		<1.0	<1.0	<1.0	<1.0	<1.0
1-Naphthylamine	134-32-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
4-Nitroquinoline-N-oxide	56-57-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
5-Nitro-o-toluidine	99-55-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Azobenzene	103-33-3	1	mg/kg		<1	<1	<1	<1	<1
1.3.5-Trinitrobenzene	99-35-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Phenacetin	62-44-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
4-Aminobiphenyl	92-67-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Pentachloronitrobenzene	82-68-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Pronamide	23950-58-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Dimethylaminoazobenzene	60-11-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Chlorobenzilate	510-15-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
EP075F: Haloethers									
Bis(2-chloroethyl) ether	111-44-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Bis(2-chloroethoxy) methane	111-91-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
4-Chlorophenyl phenyl ether	7005-72-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
4-Bromophenyl phenyl ether	101-55-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
EP075G: Chlorinated Hydrocarbons									
1.3-Dichlorobenzene	541-73-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.4-Dichlorobenzene	106-46-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.2-Dichlorobenzene	95-50-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	HA13_0.0-0.2_220822	HA13_0.5-0.6_220822	HA06_0.0-0.1_220822	HA06_1.1-1.2_220822	HA09_0.0-0.1_220822
				Sampling date / time	22-Aug-2022 00:00	22-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2230767-019	ES2230767-020	ES2230767-022	ES2230767-024	ES2230767-025
					Result	Result	Result	Result	Result
EP075G: Chlorinated Hydrocarbons - Continued									
Hexachloroethane	67-72-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Hexachloropropylene	1888-71-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Hexachlorobutadiene	87-68-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Hexachlorocyclopentadiene	77-47-4	2.5	mg/kg		<2.5	<2.5	<2.5	<2.5	<2.5
Pentachlorobenzene	608-93-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Hexachlorobenzene (HCB)	118-74-1	1.0	mg/kg		<1.0	<1.0	<1.0	<1.0	<1.0
EP075H: Anilines and Benzidines									
Aniline	62-53-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
4-Chloroaniline	106-47-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2-Nitroaniline	88-74-4	1.0	mg/kg		<1.0	<1.0	<1.0	<1.0	<1.0
3-Nitroaniline	99-09-2	1.0	mg/kg		<1.0	<1.0	<1.0	<1.0	<1.0
Dibenzofuran	132-64-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
4-Nitroaniline	100-01-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Carbazole	86-74-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
3.3`-Dichlorobenzidine	91-94-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
EP075I: Organochlorine Pesticides									
alpha-BHC	319-84-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
beta-BHC	319-85-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
gamma-BHC	58-89-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
delta-BHC	319-86-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Heptachlor	76-44-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Aldrin	309-00-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Heptachlor epoxide	1024-57-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
alpha-Endosulfan	959-98-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
4.4`-DDE	72-55-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Dieldrin	60-57-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Endrin	72-20-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
beta-Endosulfan	33213-65-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
4.4`-DDD	72-54-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Endosulfan sulfate	1031-07-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
4.4`-DDT	50-29-3	1.0	mg/kg		<1.0	<1.0	<1.0	<1.0	<1.0
EP075J: Organophosphorus Pesticides									
Dichlorvos	62-73-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	HA13_0.0-0.2_220822	HA13_0.5-0.6_220822	HA06_0.0-0.1_220822	HA06_1.1-1.2_220822	HA09_0.0-0.1_220822
				Sampling date / time	22-Aug-2022 00:00	22-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2230767-019	ES2230767-020	ES2230767-022	ES2230767-024	ES2230767-025
					Result	Result	Result	Result	Result
EP075J: Organophosphorus Pesticides - Continued									
Dimethoate	60-51-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Diazinon	333-41-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Chlorpyrifos-methyl	5598-13-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Malathion	121-75-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Fenthion	55-38-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Chlorpyrifos	2921-88-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Pirimphos-ethyl	23505-41-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Chlorfenvinphos	470-90-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Prothiofos	34643-46-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Ethion	563-12-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
C29 - C36 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg		<50	<50	<50	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
>C34 - C40 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		<50	<50	<50	<50	<50
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		<50	<50	<50	<50	<50
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ 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

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	HA13_0.0-0.2_220822	HA13_0.5-0.6_220822	HA06_0.0-0.1_220822	HA06_1.1-1.2_220822	HA09_0.0-0.1_220822
				Sampling date / time	22-Aug-2022 00:00	22-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2230767-019	ES2230767-020	ES2230767-022	ES2230767-024	ES2230767-025
					Result	Result	Result	Result	Result
EP080: BTEXN - Continued									
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg		<0.0002	<0.0002	**0.0006**	<0.0002	<0.0002
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg		<0.0002	<0.0002	<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	<0.001	<0.001
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg		<0.0002	<0.0002	**0.0005**	<0.0002	<0.0002
Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	HA13_0.0-0.2_220822	HA13_0.5-0.6_220822	HA06_0.0-0.1_220822	HA06_1.1-1.2_220822	HA09_0.0-0.1_220822
				Sampling date / time	22-Aug-2022 00:00	22-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2230767-019	ES2230767-020	ES2230767-022	ES2230767-024	ES2230767-025
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<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	<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	<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	<0.0005	<0.0005
EP231P: PFAS Sums									
Sum of PFAS	----	0.0002	mg/kg		<0.0002	<0.0002	**0.0011**	<0.0002	<0.0002
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg		<0.0002	<0.0002	**0.0006**	<0.0002	<0.0002
Sum of PFAS (WA DER List)	----	0.0002	mg/kg		<0.0002	<0.0002	**0.0006**	<0.0002	<0.0002
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		**111**	**117**	**121**	**129**	**105**
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%		**95.9**	**69.2**	**87.0**	**89.5**	**91.8**
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%		**88.9**	**63.2**	**79.5**	**77.4**	**89.0**
EP074S: VOC Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.5	%		**103**	**111**	**113**	**108**	**112**
Toluene-D8	2037-26-5	0.5	%		**107**	**121**	**125**	**116**	**126**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	HA13_0.0-0.2_220822	HA13_0.5-0.6_220822	HA06_0.0-0.1_220822	HA06_1.1-1.2_220822	HA09_0.0-0.1_220822
				Sampling date / time	22-Aug-2022 00:00	22-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2230767-019	ES2230767-020	ES2230767-022	ES2230767-024	ES2230767-025
					Result	Result	Result	Result	Result
EP074S: VOC Surrogates - Continued									
4-Bromofluorobenzene	460-00-4	0.5	%		105	111	113	110	112
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		90.2	87.8	92.0	92.5	68.3
2-Chlorophenol-D4	93951-73-6	0.5	%		79.9	76.2	80.4	81.9	81.0
2.4.6-Tribromophenol	118-79-6	0.5	%		69.7	54.7	64.7	68.8	69.6
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		96.9	83.2	96.1	100.0	98.1
Anthracene-d10	1719-06-8	0.5	%		72.2	69.8	76.3	75.5	67.1
4-Terphenyl-d14	1718-51-0	0.5	%		95.9	77.6	90.0	95.0	93.2
EP075S: Acid Extractable Surrogates									
2-Fluorophenol	367-12-4	0.5	%		105	95.0	107	104	106
Phenol-d6	13127-88-3	0.5	%		94.0	88.2	96.3	95.8	97.9
2-Chlorophenol-D4	93951-73-6	0.5	%		105	97.2	107	105	109
2.4.6-Tribromophenol	118-79-6	0.5	%		37.3	54.2	61.4	62.7	77.0
EP075T: Base/Neutral Extractable Surrogates									
Nitrobenzene-D5	4165-60-0	0.5	%		93.8	88.1	102	99.6	98.2
1.2-Dichlorobenzene-D4	2199-69-1	0.5	%		96.0	86.1	95.1	99.4	98.2
2-Fluorobiphenyl	321-60-8	0.5	%		106	88.1	107	108	103
Anthracene-d10	1719-06-8	0.5	%		99.7	88.1	106	101	104
4-Terphenyl-d14	1718-51-0	0.5	%		62.9	80.3	92.4	87.4	96.1
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		112	120	122	117	121
Toluene-D8	2037-26-5	0.2	%		88.7	99.8	103	95.3	103
4-Bromofluorobenzene	460-00-4	0.2	%		84.6	88.3	90.2	88.3	88.9
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.0002	%		94.5	112	94.5	90.0	95.5
13C8-PFOA	----	0.0002	%		104	100	102	100	100

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	HA09_1.0-1.2_220822	HA12_0.0-0.1_220822	HA12_0.6-0.7_220822	HA15_0.0-0.1_220822	HA15_1.1-1.2_220822
			Sampling date / time	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00
Compound	CAS Number	LOR	Unit	ES2230767-027	ES2230767-028	ES2230767-029	ES2230767-031	ES2230767-033
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	30.6	1.7	16.7	14.8	18.5
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	----	No	----	No	----
Asbestos (Trace)	1332-21-4	5	Fibres	----	No	----	No	----
Asbestos Type	1332-21-4	-	--	----	-	----	-	----
Synthetic Mineral Fibre	----	0.1	g/kg	----	No	----	No	----
Organic Fibre	----	0.1	g/kg	----	No	----	No	----
Sample weight (dry)	----	0.01	g	----	262	----	171	----
APPROVED IDENTIFIER:	----	-	--	----	J.SPOONER	----	B.SCHRADER	----
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	7	<5	6	<5	6
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	32	5	30	12	29
Copper	7440-50-8	5	mg/kg	12	15	10	<5	11
Lead	7439-92-1	5	mg/kg	11	<5	10	7	11
Nickel	7440-02-0	2	mg/kg	29	40	23	6	26
Zinc	7440-66-6	5	mg/kg	26	12	21	6	22
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
^ Total Chlordane (sum)	----	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	HA09_1.0-1.2_220822	HA12_0.0-0.1_220822	HA12_0.6-0.7_220822	HA15_0.0-0.1_220822	HA15_1.1-1.2_220822
				Sampling date / time	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2230767-027	ES2230767-028	ES2230767-029	ES2230767-031	ES2230767-033
					Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued									
Dieldrin	60-57-1	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDE	72-55-9	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Endrin	72-20-8	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
beta-Endosulfan	33213-65-9	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
^ Endosulfan (sum)	115-29-7	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDD	72-54-8	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Endrin aldehyde	7421-93-4	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Endosulfan sulfate	1031-07-8	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDT	50-29-3	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Endrin ketone	53494-70-5	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Methoxychlor	72-43-5	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
EP068B: Organophosphorus Pesticides (OP)									
Dichlorvos	62-73-7	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Demeton-S-methyl	919-86-8	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Monocrotophos	6923-22-4	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Dimethoate	60-51-5	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Diazinon	333-41-5	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Parathion-methyl	298-00-0	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Malathion	121-75-5	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Fenthion	55-38-9	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Chlorpyrifos	2921-88-2	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Parathion	56-38-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Pirimphos-ethyl	23505-41-1	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Chlorfenvinphos	470-90-6	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Bromophos-ethyl	4824-78-6	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Fenamiphos	22224-92-6	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Prothiofos	34643-46-4	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Ethion	563-12-2	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Carbophenothion	786-19-6	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Azinphos Methyl	86-50-0	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
EP074A: Monocyclic Aromatic Hydrocarbons									

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	HA09_1.0-1.2_220822	HA12_0.0-0.1_220822	HA12_0.6-0.7_220822	HA15_0.0-0.1_220822	HA15_1.1-1.2_220822
				Sampling date / time	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2230767-027	ES2230767-028	ES2230767-029	ES2230767-031	ES2230767-033
					Result	Result	Result	Result	Result
EP074A: Monocyclic Aromatic Hydrocarbons - Continued									
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
Styrene	100-42-5	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
Isopropylbenzene	98-82-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
n-Propylbenzene	103-65-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.3.5-Trimethylbenzene	108-67-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
sec-Butylbenzene	135-98-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.2.4-Trimethylbenzene	95-63-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
tert-Butylbenzene	98-06-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
p-Isopropyltoluene	99-87-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
n-Butylbenzene	104-51-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
EP074B: Oxygenated Compounds									
Vinyl Acetate	108-05-4	5	mg/kg		<5	<5	<5	<5	<5
2-Butanone (MEK)	78-93-3	5	mg/kg		<5	<5	<5	<5	<5
4-Methyl-2-pentanone (MIBK)	108-10-1	5	mg/kg		<5	<5	<5	<5	<5
2-Hexanone (MBK)	591-78-6	5	mg/kg		<5	<5	<5	<5	<5
EP074C: Sulfonated Compounds									
Carbon disulfide	75-15-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
EP074D: Fumigants									
2.2-Dichloropropane	594-20-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.2-Dichloropropane	78-87-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
cis-1.3-Dichloropropylene	10061-01-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
trans-1.3-Dichloropropylene	10061-02-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.2-Dibromoethane (EDB)	106-93-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
EP074E: Halogenated Aliphatic Compounds									
Dichlorodifluoromethane	75-71-8	5	mg/kg		<5	<5	<5	<5	<5
Chloromethane	74-87-3	5	mg/kg		<5	<5	<5	<5	<5
Vinyl chloride	75-01-4	5	mg/kg		<5	<5	<5	<5	<5
Bromomethane	74-83-9	5	mg/kg		<5	<5	<5	<5	<5
Chloroethane	75-00-3	5	mg/kg		<5	<5	<5	<5	<5
Trichlorofluoromethane	75-69-4	5	mg/kg		<5	<5	<5	<5	<5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	HA09_1.0-1.2_220822	HA12_0.0-0.1_220822	HA12_0.6-0.7_220822	HA15_0.0-0.1_220822	HA15_1.1-1.2_220822
				Sampling date / time	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2230767-027	ES2230767-028	ES2230767-029	ES2230767-031	ES2230767-033
					Result	Result	Result	Result	Result
EP074E: Halogenated Aliphatic Compounds - Continued									
1.1-Dichloroethene	75-35-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Iodomethane	74-88-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
trans-1.2-Dichloroethene	156-60-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.1-Dichloroethane	75-34-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
cis-1.2-Dichloroethene	156-59-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.1.1-Trichloroethane	71-55-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.1-Dichloropropylene	563-58-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Carbon Tetrachloride	56-23-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.2-Dichloroethane	107-06-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Trichloroethene	79-01-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Dibromomethane	74-95-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.1.2-Trichloroethane	79-00-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.3-Dichloropropane	142-28-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Tetrachloroethene	127-18-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.1.1.2-Tetrachloroethane	630-20-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
trans-1.4-Dichloro-2-butene	110-57-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
cis-1.4-Dichloro-2-butene	1476-11-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.1.2.2-Tetrachloroethane	79-34-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.2.3-Trichloropropane	96-18-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Pentachloroethane	76-01-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
EP074F: Halogenated Aromatic Compounds									
Chlorobenzene	108-90-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Bromobenzene	108-86-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2-Chlorotoluene	95-49-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
4-Chlorotoluene	106-43-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.2.3-Trichlorobenzene	87-61-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
EP074G: Trihalomethanes									
Chloroform	67-66-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Bromodichloromethane	75-27-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Dibromochloromethane	124-48-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Bromoform	75-25-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	HA09_1.0-1.2_220822	HA12_0.0-0.1_220822	HA12_0.6-0.7_220822	HA15_0.0-0.1_220822	HA15_1.1-1.2_220822
				Sampling date / time	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2230767-027	ES2230767-028	ES2230767-029	ES2230767-031	ES2230767-033
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Acenaphthylene	208-96-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Pyrene	129-00-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		**0.6**	**0.6**	**0.6**	**0.6**	**0.6**
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		**1.2**	**1.2**	**1.2**	**1.2**	**1.2**
EP075A: 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	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
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	1	mg/kg		<1	<1	<1	<1	<1
EP075B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	HA09_1.0-1.2_220822	HA12_0.0-0.1_220822	HA12_0.6-0.7_220822	HA15_0.0-0.1_220822	HA15_1.1-1.2_220822
				Sampling date / time	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2230767-027	ES2230767-028	ES2230767-029	ES2230767-031	ES2230767-033
					Result	Result	Result	Result	Result
EP075B: Polynuclear Aromatic Hydrocarbons - Continued									
2-Methylnaphthalene	91-57-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2-Chloronaphthalene	91-58-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Pyrene	129-00-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
N-2-Fluorenyl Acetamide	53-96-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(b+j) & Benzo(k)fluoranthene	205-99-2 207-08-9	1	mg/kg		<1	<1	<1	<1	<1
7.12-Dimethylbenz(a)anthracene	57-97-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
3-Methylcholanthrene	56-49-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of PAHs	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		**0.6**	**0.6**	**0.6**	**0.6**	**0.6**
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		**1.2**	**1.2**	**1.2**	**1.2**	**1.2**
EP075C: Phthalate Esters									
Dimethyl phthalate	131-11-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Diethyl phthalate	84-66-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Di-n-butyl phthalate	84-74-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Butyl benzyl phthalate	85-68-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
bis(2-ethylhexyl) phthalate	117-81-7	5.0	mg/kg		<5.0	<5.0	<5.0	<5.0	<5.0
Di-n-octylphthalate	117-84-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
EP075D: Nitrosamines									
N-Nitrosomethylethylamine	10595-95-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
N-Nitrosodiethylamine	55-18-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
N-Nitrosopyrrolidine	930-55-2	1.0	mg/kg		<1.0	<1.0	<1.0	<1.0	<1.0

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	HA09_1.0-1.2_220822	HA12_0.0-0.1_220822	HA12_0.6-0.7_220822	HA15_0.0-0.1_220822	HA15_1.1-1.2_220822
				Sampling date / time	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2230767-027	ES2230767-028	ES2230767-029	ES2230767-031	ES2230767-033
					Result	Result	Result	Result	Result
EP075D: Nitrosamines - Continued									
N-Nitrosomorpholine	59-89-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
N-Nitrosodi-n-propylamine	621-64-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
N-Nitrosopiperidine	100-75-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
N-Nitrosodibutylamine	924-16-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	1.0	mg/kg		<1.0	<1.0	<1.0	<1.0	<1.0
Methapyrilene	91-80-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
EP075E: Nitroaromatics and Ketones									
2-Picoline	109-06-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Acetophenone	98-86-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Nitrobenzene	98-95-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Isophorone	78-59-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2.6-Dinitrotoluene	606-20-2	1.0	mg/kg		<1.0	<1.0	<1.0	<1.0	<1.0
2.4-Dinitrotoluene	121-14-2	1.0	mg/kg		<1.0	<1.0	<1.0	<1.0	<1.0
1-Naphthylamine	134-32-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
4-Nitroquinoline-N-oxide	56-57-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
5-Nitro-o-toluidine	99-55-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Azobenzene	103-33-3	1	mg/kg		<1	<1	<1	<1	<1
1.3.5-Trinitrobenzene	99-35-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Phenacetin	62-44-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
4-Aminobiphenyl	92-67-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Pentachloronitrobenzene	82-68-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Pronamide	23950-58-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Dimethylaminoazobenzene	60-11-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Chlorobenzilate	510-15-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
EP075F: Haloethers									
Bis(2-chloroethyl) ether	111-44-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Bis(2-chloroethoxy) methane	111-91-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
4-Chlorophenyl phenyl ether	7005-72-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
4-Bromophenyl phenyl ether	101-55-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
EP075G: Chlorinated Hydrocarbons									
1.3-Dichlorobenzene	541-73-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.4-Dichlorobenzene	106-46-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.2-Dichlorobenzene	95-50-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5

Analytical Results

Sub-Matrix: **SOIL**
(Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Sample ID	HA09_1.0-1.2_220822	HA12_0.0-0.1_220822	HA12_0.6-0.7_220822	HA15_0.0-0.1_220822	HA15_1.1-1.2_220822
				Sampling date / time	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00
					ES2230767-027	ES2230767-028	ES2230767-029	ES2230767-031	ES2230767-033
					Result	Result	Result	Result	Result
EP075G: Chlorinated Hydrocarbons - Continued									
Hexachloroethane	67-72-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Hexachloropropylene	1888-71-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Hexachlorobutadiene	87-68-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Hexachlorocyclopentadiene	77-47-4	2.5	mg/kg		<2.5	<2.5	<2.5	<2.5	<2.5
Pentachlorobenzene	608-93-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Hexachlorobenzene (HCB)	118-74-1	1.0	mg/kg		<1.0	<1.0	<1.0	<1.0	<1.0
EP075H: Anilines and Benzidines									
Aniline	62-53-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
4-Chloroaniline	106-47-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2-Nitroaniline	88-74-4	1.0	mg/kg		<1.0	<1.0	<1.0	<1.0	<1.0
3-Nitroaniline	99-09-2	1.0	mg/kg		<1.0	<1.0	<1.0	<1.0	<1.0
Dibenzofuran	132-64-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
4-Nitroaniline	100-01-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Carbazole	86-74-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
3.3`-Dichlorobenzidine	91-94-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
EP075I: Organochlorine Pesticides									
alpha-BHC	319-84-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
beta-BHC	319-85-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
gamma-BHC	58-89-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
delta-BHC	319-86-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Heptachlor	76-44-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Aldrin	309-00-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Heptachlor epoxide	1024-57-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
alpha-Endosulfan	959-98-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
4.4`-DDE	72-55-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Dieldrin	60-57-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Endrin	72-20-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
beta-Endosulfan	33213-65-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
4.4`-DDD	72-54-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Endosulfan sulfate	1031-07-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
4.4`-DDT	50-29-3	1.0	mg/kg		<1.0	<1.0	<1.0	<1.0	<1.0
EP075J: Organophosphorus Pesticides									
Dichlorvos	62-73-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	HA09_1.0-1.2_220822	HA12_0.0-0.1_220822	HA12_0.6-0.7_220822	HA15_0.0-0.1_220822	HA15_1.1-1.2_220822
				Sampling date / time	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2230767-027	ES2230767-028	ES2230767-029	ES2230767-031	ES2230767-033
					Result	Result	Result	Result	Result
EP075J: Organophosphorus Pesticides - Continued									
Dimethoate	60-51-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Diazinon	333-41-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Chlorpyrifos-methyl	5598-13-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Malathion	121-75-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Fenthion	55-38-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Chlorpyrifos	2921-88-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Pirimphos-ethyl	23505-41-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Chlorfenvinphos	470-90-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Prothiofos	34643-46-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Ethion	563-12-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
C29 - C36 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg		<50	<50	<50	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
>C34 - C40 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		<50	<50	<50	<50	<50
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		<50	<50	<50	<50	<50
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ 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

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	HA09_1.0-1.2_220822	HA12_0.0-0.1_220822	HA12_0.6-0.7_220822	HA15_0.0-0.1_220822	HA15_1.1-1.2_220822
				Sampling date / time	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2230767-027	ES2230767-028	ES2230767-029	ES2230767-031	ES2230767-033
					Result	Result	Result	Result	Result
EP080: BTEXN - Continued									
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg		<0.0002	<0.0002	<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	<0.001	<0.001
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	HA09_1.0-1.2_220822	HA12_0.0-0.1_220822	HA12_0.6-0.7_220822	HA15_0.0-0.1_220822	HA15_1.1-1.2_220822
				Sampling date / time	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2230767-027	ES2230767-028	ES2230767-029	ES2230767-031	ES2230767-033
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<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	<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	<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	<0.0005	<0.0005
EP231P: PFAS Sums									
Sum of PFAS	----	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Sum of PFAS (WA DER List)	----	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		**92.4**	**126**	**103**	**85.2**	**81.7**
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%		**96.4**	**95.5**	**100**	**101**	**90.4**
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%		**90.4**	**50.1**	**80.4**	**94.1**	**76.3**
EP074S: VOC Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.5	%		**100.0**	**117**	**112**	**107**	**99.9**
Toluene-D8	2037-26-5	0.5	%		**108**	**127**	**120**	**119**	**113**

Analytical Results

Sub-Matrix: **SOIL**
(Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Sample ID	HA09_1.0-1.2_220822	HA12_0.0-0.1_220822	HA12_0.6-0.7_220822	HA15_0.0-0.1_220822	HA15_1.1-1.2_220822
				Sampling date / time	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00
					ES2230767-027	ES2230767-028	ES2230767-029	ES2230767-031	ES2230767-033
					Result	Result	Result	Result	Result
EP074S: VOC Surrogates - Continued									
4-Bromofluorobenzene	460-00-4	0.5	%		**100**	**114**	**111**	**105**	**104**
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		**69.5**	**63.4**	**69.4**	**67.8**	**67.7**
2-Chlorophenol-D4	93951-73-6	0.5	%		**80.4**	**72.4**	**82.8**	**80.7**	**80.4**
2.4.6-Tribromophenol	118-79-6	0.5	%		**72.0**	**56.4**	**67.4**	**68.9**	**66.8**
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		**99.0**	**88.6**	**99.7**	**98.5**	**97.4**
Anthracene-d10	1719-06-8	0.5	%		**75.1**	**72.1**	**79.6**	**75.4**	**76.5**
4-Terphenyl-d14	1718-51-0	0.5	%		**91.6**	**81.6**	**92.4**	**91.3**	**92.0**
EP075S: Acid Extractable Surrogates									
2-Fluorophenol	367-12-4	0.5	%		**100**	**103**	**107**	**96.1**	**104**
Phenol-d6	13127-88-3	0.5	%		**96.6**	**99.1**	**99.6**	**93.0**	**100.0**
2-Chlorophenol-D4	93951-73-6	0.5	%		**108**	**110**	**111**	**103**	**109**
2.4.6-Tribromophenol	118-79-6	0.5	%		**71.7**	**70.0**	**72.6**	**77.1**	**71.2**
EP075T: Base/Neutral Extractable Surrogates									
Nitrobenzene-D5	4165-60-0	0.5	%		**96.7**	**104**	**103**	**96.4**	**102**
1.2-Dichlorobenzene-D4	2199-69-1	0.5	%		**96.1**	**100**	**101**	**95.2**	**97.2**
2-Fluorobiphenyl	321-60-8	0.5	%		**110**	**104**	**115**	**110**	**110**
Anthracene-d10	1719-06-8	0.5	%		**109**	**104**	**106**	**105**	**104**
4-Terphenyl-d14	1718-51-0	0.5	%		**98.3**	**91.3**	**96.2**	**99.9**	**95.4**
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		**108**	**126**	**122**	**115**	**108**
Toluene-D8	2037-26-5	0.2	%		**88.9**	**105**	**98.7**	**98.3**	**93.1**
4-Bromofluorobenzene	460-00-4	0.2	%		**79.4**	**92.8**	**88.3**	**84.2**	**84.6**
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.0002	%		**98.5**	**107**	**86.5**	**95.5**	**95.0**
13C8-PFOA	----	0.0002	%		**102**	**108**	**99.5**	**105**	**92.0**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	HA18_0.0-0.1_220823	HA18_1.4-1.5_220823	HA21_0.0-0.1_220823	HA21_1.0-1.1_220823	HA24_0.0-0.1_220823
			Sampling date / time	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00
Compound	CAS Number	LOR	Unit	ES2230767-034	ES2230767-036	ES2230767-037	ES2230767-039	ES2230767-041
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	20.0	25.7	29.0	16.4	23.3
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	----	----	No	----	No
Asbestos (Trace)	1332-21-4	5	Fibres	----	----	No	----	No
Asbestos Type	1332-21-4	-	--	----	----	-	----	-
Synthetic Mineral Fibre	----	0.1	g/kg	----	----	No	----	No
Organic Fibre	----	0.1	g/kg	----	----	No	----	No
Sample weight (dry)	----	0.01	g	----	----	179	----	170
APPROVED IDENTIFIER:	----	-	--	----	----	J.SPOONER	----	J.SPOONER
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	<5	7	8	7	10
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	19	28	34	21	29
Copper	7440-50-8	5	mg/kg	<5	10	10	10	8
Lead	7439-92-1	5	mg/kg	12	14	13	12	15
Nickel	7440-02-0	2	mg/kg	13	26	29	20	37
Zinc	7440-66-6	5	mg/kg	15	26	27	21	28
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
^ Total Chlordane (sum)	----	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	HA18_0.0-0.1_220823	HA18_1.4-1.5_220823	HA21_0.0-0.1_220823	HA21_1.0-1.1_220823	HA24_0.0-0.1_220823
			Sampling date / time	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00
Compound	CAS Number	LOR	Unit	ES2230767-034	ES2230767-036	ES2230767-037	ES2230767-039	ES2230767-041
				Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued								
Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
^ Endosulfan (sum)	115-29-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
EP068B: Organophosphorus Pesticides (OP)								
Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
EP074A: Monocyclic Aromatic Hydrocarbons								

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	HA18_0.0-0.1_220823	HA18_1.4-1.5_220823	HA21_0.0-0.1_220823	HA21_1.0-1.1_220823	HA24_0.0-0.1_220823
				Sampling date / time	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2230767-034	ES2230767-036	ES2230767-037	ES2230767-039	ES2230767-041
					Result	Result	Result	Result	Result
EP074A: Monocyclic Aromatic Hydrocarbons - Continued									
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
Styrene	100-42-5	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
Isopropylbenzene	98-82-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
n-Propylbenzene	103-65-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.3.5-Trimethylbenzene	108-67-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
sec-Butylbenzene	135-98-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.2.4-Trimethylbenzene	95-63-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
tert-Butylbenzene	98-06-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
p-Isopropyltoluene	99-87-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
n-Butylbenzene	104-51-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
EP074B: Oxygenated Compounds									
Vinyl Acetate	108-05-4	5	mg/kg		<5	<5	<5	<5	<5
2-Butanone (MEK)	78-93-3	5	mg/kg		<5	<5	<5	<5	<5
4-Methyl-2-pentanone (MIBK)	108-10-1	5	mg/kg		<5	<5	<5	<5	<5
2-Hexanone (MBK)	591-78-6	5	mg/kg		<5	<5	<5	<5	<5
EP074C: Sulfonated Compounds									
Carbon disulfide	75-15-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
EP074D: Fumigants									
2.2-Dichloropropane	594-20-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.2-Dichloropropane	78-87-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
cis-1.3-Dichloropropylene	10061-01-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
trans-1.3-Dichloropropylene	10061-02-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.2-Dibromoethane (EDB)	106-93-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
EP074E: Halogenated Aliphatic Compounds									
Dichlorodifluoromethane	75-71-8	5	mg/kg		<5	<5	<5	<5	<5
Chloromethane	74-87-3	5	mg/kg		<5	<5	<5	<5	<5
Vinyl chloride	75-01-4	5	mg/kg		<5	<5	<5	<5	<5
Bromomethane	74-83-9	5	mg/kg		<5	<5	<5	<5	<5
Chloroethane	75-00-3	5	mg/kg		<5	<5	<5	<5	<5
Trichlorofluoromethane	75-69-4	5	mg/kg		<5	<5	<5	<5	<5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	HA18_0.0-0.1_220823	HA18_1.4-1.5_220823	HA21_0.0-0.1_220823	HA21_1.0-1.1_220823	HA24_0.0-0.1_220823
				Sampling date / time	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2230767-034	ES2230767-036	ES2230767-037	ES2230767-039	ES2230767-041
					Result	Result	Result	Result	Result
EP074E: Halogenated Aliphatic Compounds - Continued									
1.1-Dichloroethene	75-35-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Iodomethane	74-88-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
trans-1.2-Dichloroethene	156-60-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.1-Dichloroethane	75-34-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
cis-1.2-Dichloroethene	156-59-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.1.1-Trichloroethane	71-55-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.1-Dichloropropylene	563-58-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Carbon Tetrachloride	56-23-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.2-Dichloroethane	107-06-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Trichloroethene	79-01-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Dibromomethane	74-95-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.1.2-Trichloroethane	79-00-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.3-Dichloropropane	142-28-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Tetrachloroethene	127-18-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.1.1.2-Tetrachloroethane	630-20-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
trans-1.4-Dichloro-2-butene	110-57-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
cis-1.4-Dichloro-2-butene	1476-11-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.1.2.2-Tetrachloroethane	79-34-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.2.3-Trichloropropane	96-18-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Pentachloroethane	76-01-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
EP074F: Halogenated Aromatic Compounds									
Chlorobenzene	108-90-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Bromobenzene	108-86-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2-Chlorotoluene	95-49-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
4-Chlorotoluene	106-43-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.2.3-Trichlorobenzene	87-61-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
EP074G: Trihalomethanes									
Chloroform	67-66-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Bromodichloromethane	75-27-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Dibromochloromethane	124-48-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Bromoform	75-25-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	HA18_0.0-0.1_220823	HA18_1.4-1.5_220823	HA21_0.0-0.1_220823	HA21_1.0-1.1_220823	HA24_0.0-0.1_220823
				Sampling date / time	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2230767-034	ES2230767-036	ES2230767-037	ES2230767-039	ES2230767-041
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Acenaphthylene	208-96-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Pyrene	129-00-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		**0.6**	**0.6**	**0.6**	**0.6**	**0.6**
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		**1.2**	**1.2**	**1.2**	**1.2**	**1.2**
EP075A: 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	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
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	1	mg/kg		<1	<1	<1	<1	<1
EP075B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	HA18_0.0-0.1_220823	HA18_1.4-1.5_220823	HA21_0.0-0.1_220823	HA21_1.0-1.1_220823	HA24_0.0-0.1_220823
				Sampling date / time	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2230767-034	ES2230767-036	ES2230767-037	ES2230767-039	ES2230767-041
					Result	Result	Result	Result	Result
EP075B: Polynuclear Aromatic Hydrocarbons - Continued									
2-Methylnaphthalene	91-57-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2-Chloronaphthalene	91-58-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Pyrene	129-00-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
N-2-Fluorenyl Acetamide	53-96-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(b+j) & Benzo(k)fluoranthene	205-99-2 207-08-9	1	mg/kg		<1	<1	<1	<1	<1
7.12-Dimethylbenz(a)anthracene	57-97-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
3-Methylcholanthrene	56-49-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of PAHs	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		**0.6**	**0.6**	**0.6**	**0.6**	**0.6**
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		**1.2**	**1.2**	**1.2**	**1.2**	**1.2**
EP075C: Phthalate Esters									
Dimethyl phthalate	131-11-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Diethyl phthalate	84-66-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Di-n-butyl phthalate	84-74-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Butyl benzyl phthalate	85-68-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
bis(2-ethylhexyl) phthalate	117-81-7	5.0	mg/kg		<5.0	<5.0	<5.0	<5.0	<5.0
Di-n-octylphthalate	117-84-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
EP075D: Nitrosamines									
N-Nitrosomethylethylamine	10595-95-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
N-Nitrosodiethylamine	55-18-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
N-Nitrosopyrrolidine	930-55-2	1.0	mg/kg		<1.0	<1.0	<1.0	<1.0	<1.0

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	HA18_0.0-0.1_220823	HA18_1.4-1.5_220823	HA21_0.0-0.1_220823	HA21_1.0-1.1_220823	HA24_0.0-0.1_220823
				Sampling date / time	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2230767-034	ES2230767-036	ES2230767-037	ES2230767-039	ES2230767-041
					Result	Result	Result	Result	Result
EP075D: Nitrosamines - Continued									
N-Nitrosomorpholine	59-89-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
N-Nitrosodi-n-propylamine	621-64-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
N-Nitrosopiperidine	100-75-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
N-Nitrosodibutylamine	924-16-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	1.0	mg/kg		<1.0	<1.0	<1.0	<1.0	<1.0
Methapyrilene	91-80-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
EP075E: Nitroaromatics and Ketones									
2-Picoline	109-06-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Acetophenone	98-86-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Nitrobenzene	98-95-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Isophorone	78-59-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2.6-Dinitrotoluene	606-20-2	1.0	mg/kg		<1.0	<1.0	<1.0	<1.0	<1.0
2.4-Dinitrotoluene	121-14-2	1.0	mg/kg		<1.0	<1.0	<1.0	<1.0	<1.0
1-Naphthylamine	134-32-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
4-Nitroquinoline-N-oxide	56-57-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
5-Nitro-o-toluidine	99-55-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Azobenzene	103-33-3	1	mg/kg		<1	<1	<1	<1	<1
1.3.5-Trinitrobenzene	99-35-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Phenacetin	62-44-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
4-Aminobiphenyl	92-67-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Pentachloronitrobenzene	82-68-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Pronamide	23950-58-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Dimethylaminoazobenzene	60-11-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Chlorobenzilate	510-15-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
EP075F: Haloethers									
Bis(2-chloroethyl) ether	111-44-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Bis(2-chloroethoxy) methane	111-91-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
4-Chlorophenyl phenyl ether	7005-72-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
4-Bromophenyl phenyl ether	101-55-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
EP075G: Chlorinated Hydrocarbons									
1.3-Dichlorobenzene	541-73-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.4-Dichlorobenzene	106-46-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.2-Dichlorobenzene	95-50-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	HA18_0.0-0.1_220823	HA18_1.4-1.5_220823	HA21_0.0-0.1_220823	HA21_1.0-1.1_220823	HA24_0.0-0.1_220823
				Sampling date / time	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2230767-034	ES2230767-036	ES2230767-037	ES2230767-039	ES2230767-041
					Result	Result	Result	Result	Result
EP075G: Chlorinated Hydrocarbons - Continued									
Hexachloroethane	67-72-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Hexachloropropylene	1888-71-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Hexachlorobutadiene	87-68-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Hexachlorocyclopentadiene	77-47-4	2.5	mg/kg		<2.5	<2.5	<2.5	<2.5	<2.5
Pentachlorobenzene	608-93-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Hexachlorobenzene (HCB)	118-74-1	1.0	mg/kg		<1.0	<1.0	<1.0	<1.0	<1.0
EP075H: Anilines and Benzidines									
Aniline	62-53-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
4-Chloroaniline	106-47-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2-Nitroaniline	88-74-4	1.0	mg/kg		<1.0	<1.0	<1.0	<1.0	<1.0
3-Nitroaniline	99-09-2	1.0	mg/kg		<1.0	<1.0	<1.0	<1.0	<1.0
Dibenzofuran	132-64-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
4-Nitroaniline	100-01-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Carbazole	86-74-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
3.3`-Dichlorobenzidine	91-94-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
EP075I: Organochlorine Pesticides									
alpha-BHC	319-84-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
beta-BHC	319-85-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
gamma-BHC	58-89-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
delta-BHC	319-86-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Heptachlor	76-44-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Aldrin	309-00-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Heptachlor epoxide	1024-57-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
alpha-Endosulfan	959-98-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
4.4`-DDE	72-55-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Dieldrin	60-57-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Endrin	72-20-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
beta-Endosulfan	33213-65-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
4.4`-DDD	72-54-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Endosulfan sulfate	1031-07-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
4.4`-DDT	50-29-3	1.0	mg/kg		<1.0	<1.0	<1.0	<1.0	<1.0
EP075J: Organophosphorus Pesticides									
Dichlorvos	62-73-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	HA18_0.0-0.1_220823	HA18_1.4-1.5_220823	HA21_0.0-0.1_220823	HA21_1.0-1.1_220823	HA24_0.0-0.1_220823
				Sampling date / time	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2230767-034	ES2230767-036	ES2230767-037	ES2230767-039	ES2230767-041
					Result	Result	Result	Result	Result
EP075J: Organophosphorus Pesticides - Continued									
Dimethoate	60-51-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Diazinon	333-41-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Chlorpyrifos-methyl	5598-13-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Malathion	121-75-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Fenthion	55-38-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Chlorpyrifos	2921-88-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Pirimphos-ethyl	23505-41-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Chlorfenvinphos	470-90-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Prothiofos	34643-46-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Ethion	563-12-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
C29 - C36 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg		<50	<50	<50	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
>C34 - C40 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		<50	<50	<50	<50	<50
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		<50	<50	<50	<50	<50
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ 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

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	HA18_0.0-0.1_220823	HA18_1.4-1.5_220823	HA21_0.0-0.1_220823	HA21_1.0-1.1_220823	HA24_0.0-0.1_220823
				Sampling date / time	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2230767-034	ES2230767-036	ES2230767-037	ES2230767-039	ES2230767-041
					Result	Result	Result	Result	Result
EP080: BTEXN - Continued									
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg		<0.0002	<0.0002	<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	<0.001	<0.001
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	HA18_0.0-0.1_220823	HA18_1.4-1.5_220823	HA21_0.0-0.1_220823	HA21_1.0-1.1_220823	HA24_0.0-0.1_220823
				Sampling date / time	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2230767-034	ES2230767-036	ES2230767-037	ES2230767-039	ES2230767-041
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<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	<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	<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	<0.0005	<0.0005
EP231P: PFAS Sums									
Sum of PFAS	----	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Sum of PFAS (WA DER List)	----	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		**72.8**	**80.5**	**82.7**	**73.2**	**70.1**
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%		**80.3**	**57.8**	**91.0**	**87.9**	**79.7**
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%		**68.0**	**54.8**	**71.8**	**68.7**	**64.0**
EP074S: VOC Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.5	%		**79.8**	**83.7**	**86.5**	**79.1**	**83.5**
Toluene-D8	2037-26-5	0.5	%		**99.0**	**87.9**	**95.1**	**94.8**	**89.9**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	HA18_0.0-0.1_220823	HA18_1.4-1.5_220823	HA21_0.0-0.1_220823	HA21_1.0-1.1_220823	HA24_0.0-0.1_220823
				Sampling date / time	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2230767-034	ES2230767-036	ES2230767-037	ES2230767-039	ES2230767-041
					Result	Result	Result	Result	Result
EP074S: VOC Surrogates - Continued									
4-Bromofluorobenzene	460-00-4	0.5	%		89.4	96.0	96.9	94.7	99.9
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		83.1	98.9	97.8	87.0	95.4
2-Chlorophenol-D4	93951-73-6	0.5	%		85.5	95.4	80.9	82.2	84.6
2.4.6-Tribromophenol	118-79-6	0.5	%		84.8	99.9	91.9	69.5	83.3
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		103	100.0	101	99.9	100
Anthracene-d10	1719-06-8	0.5	%		98.0	102	101	100	96.4
4-Terphenyl-d14	1718-51-0	0.5	%		88.5	94.5	92.2	95.1	90.2
EP075S: Acid Extractable Surrogates									
2-Fluorophenol	367-12-4	0.5	%		99.8	101	102	106	99.5
Phenol-d6	13127-88-3	0.5	%		91.1	94.5	93.6	98.6	93.7
2-Chlorophenol-D4	93951-73-6	0.5	%		100	104	104	107	101
2.4.6-Tribromophenol	118-79-6	0.5	%		77.9	58.6	50.9	62.9	58.0
EP075T: Base/Neutral Extractable Surrogates									
Nitrobenzene-D5	4165-60-0	0.5	%		97.5	100	98.6	101	94.6
1.2-Dichlorobenzene-D4	2199-69-1	0.5	%		92.3	95.3	94.0	98.2	92.4
2-Fluorobiphenyl	321-60-8	0.5	%		100	103	106	108	103
Anthracene-d10	1719-06-8	0.5	%		98.5	100	102	101	99.8
4-Terphenyl-d14	1718-51-0	0.5	%		92.2	90.8	83.1	89.0	86.6
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		84.1	79.4	82.2	82.4	78.7
Toluene-D8	2037-26-5	0.2	%		96.0	85.0	92.2	92.0	81.1
4-Bromofluorobenzene	460-00-4	0.2	%		92.6	103	103	103	91.3
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.0002	%		95.0	89.0	92.0	94.5	87.0
13C8-PFOA	----	0.0002	%		97.0	101	102	95.5	97.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	HA24_1.1-1.2_220823	HA23_0.0-0.1_220823	HA23_0.5-0.6_220823	HA22_0.0-0.1_220823	HA22_0.5-0.6_220823
			Sampling date / time	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00
Compound	CAS Number	LOR	Unit	ES2230767-043	ES2230767-044	ES2230767-045	ES2230767-047	ES2230767-048
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	14.5	19.3	20.5	20.1	16.1
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	----	----	----	No	No
Asbestos (Trace)	1332-21-4	5	Fibres	----	----	----	No	No
Asbestos Type	1332-21-4	-	--	----	----	----	-	-
Synthetic Mineral Fibre	----	0.1	g/kg	----	----	----	No	No
Organic Fibre	----	0.1	g/kg	----	----	----	No	No
Sample weight (dry)	----	0.01	g	----	----	----	207	168
APPROVED IDENTIFIER:	----	-	--	----	----	----	B.SCHRADER	J.SPOONER
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	14	10	10	8	7
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	23	28	31	17	23
Copper	7440-50-8	5	mg/kg	7	8	10	7	10
Lead	7439-92-1	5	mg/kg	12	12	14	9	12
Nickel	7440-02-0	2	mg/kg	23	27	23	12	31
Zinc	7440-66-6	5	mg/kg	40	23	24	19	21
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
^ Total Chlordane (sum)	----	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	HA24_1.1-1.2_220823	HA23_0.0-0.1_220823	HA23_0.5-0.6_220823	HA22_0.0-0.1_220823	HA22_0.5-0.6_220823
				Sampling date / time	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2230767-043	ES2230767-044	ES2230767-045	ES2230767-047	ES2230767-048
					Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued									
Dieldrin	60-57-1	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDE	72-55-9	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Endrin	72-20-8	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
beta-Endosulfan	33213-65-9	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
^ **Endosulfan (sum)**	115-29-7	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDD	72-54-8	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Endrin aldehyde	7421-93-4	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Endosulfan sulfate	1031-07-8	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDT	50-29-3	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Endrin ketone	53494-70-5	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Methoxychlor	72-43-5	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
^ **Sum of Aldrin + Dieldrin**	309-00-2/60-57-1	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
^ **Sum of DDD + DDE + DDT**	72-54-8/72-55-9/50-2	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
EP068B: Organophosphorus Pesticides (OP)									
Dichlorvos	62-73-7	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Demeton-S-methyl	919-86-8	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Monocrotophos	6923-22-4	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Dimethoate	60-51-5	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Diazinon	333-41-5	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Parathion-methyl	298-00-0	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Malathion	121-75-5	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Fenthion	55-38-9	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Chlorpyrifos	2921-88-2	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Parathion	56-38-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Pirimphos-ethyl	23505-41-1	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Chlorfenvinphos	470-90-6	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Bromophos-ethyl	4824-78-6	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Fenamiphos	22224-92-6	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Prothiofos	34643-46-4	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Ethion	563-12-2	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Carbophenothion	786-19-6	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Azinphos Methyl	86-50-0	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
EP074A: Monocyclic Aromatic Hydrocarbons									

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	HA24_1.1-1.2_220823	HA23_0.0-0.1_220823	HA23_0.5-0.6_220823	HA22_0.0-0.1_220823	HA22_0.5-0.6_220823
				Sampling date / time	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2230767-043	ES2230767-044	ES2230767-045	ES2230767-047	ES2230767-048
					Result	Result	Result	Result	Result
EP074A: Monocyclic Aromatic Hydrocarbons - Continued									
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
Styrene	100-42-5	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
Isopropylbenzene	98-82-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
n-Propylbenzene	103-65-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.3.5-Trimethylbenzene	108-67-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
sec-Butylbenzene	135-98-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.2.4-Trimethylbenzene	95-63-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
tert-Butylbenzene	98-06-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
p-Isopropyltoluene	99-87-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
n-Butylbenzene	104-51-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
EP074B: Oxygenated Compounds									
Vinyl Acetate	108-05-4	5	mg/kg		<5	<5	<5	<5	<5
2-Butanone (MEK)	78-93-3	5	mg/kg		<5	<5	<5	<5	<5
4-Methyl-2-pentanone (MIBK)	108-10-1	5	mg/kg		<5	<5	<5	<5	<5
2-Hexanone (MBK)	591-78-6	5	mg/kg		<5	<5	<5	<5	<5
EP074C: Sulfonated Compounds									
Carbon disulfide	75-15-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
EP074D: Fumigants									
2.2-Dichloropropane	594-20-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.2-Dichloropropane	78-87-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
cis-1.3-Dichloropropylene	10061-01-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
trans-1.3-Dichloropropylene	10061-02-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.2-Dibromoethane (EDB)	106-93-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
EP074E: Halogenated Aliphatic Compounds									
Dichlorodifluoromethane	75-71-8	5	mg/kg		<5	<5	<5	<5	<5
Chloromethane	74-87-3	5	mg/kg		<5	<5	<5	<5	<5
Vinyl chloride	75-01-4	5	mg/kg		<5	<5	<5	<5	<5
Bromomethane	74-83-9	5	mg/kg		<5	<5	<5	<5	<5
Chloroethane	75-00-3	5	mg/kg		<5	<5	<5	<5	<5
Trichlorofluoromethane	75-69-4	5	mg/kg		<5	<5	<5	<5	<5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	HA24_1.1-1.2_220823	HA23_0.0-0.1_220823	HA23_0.5-0.6_220823	HA22_0.0-0.1_220823	HA22_0.5-0.6_220823
				Sampling date / time	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2230767-043	ES2230767-044	ES2230767-045	ES2230767-047	ES2230767-048
					Result	Result	Result	Result	Result
EP074E: Halogenated Aliphatic Compounds - Continued									
1.1-Dichloroethene	75-35-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Iodomethane	74-88-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
trans-1.2-Dichloroethene	156-60-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.1-Dichloroethane	75-34-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
cis-1.2-Dichloroethene	156-59-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.1.1-Trichloroethane	71-55-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.1-Dichloropropylene	563-58-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Carbon Tetrachloride	56-23-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.2-Dichloroethane	107-06-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Trichloroethene	79-01-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Dibromomethane	74-95-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.1.2-Trichloroethane	79-00-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.3-Dichloropropane	142-28-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Tetrachloroethene	127-18-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.1.1.2-Tetrachloroethane	630-20-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
trans-1.4-Dichloro-2-butene	110-57-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
cis-1.4-Dichloro-2-butene	1476-11-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.1.2.2-Tetrachloroethane	79-34-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.2.3-Trichloropropane	96-18-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Pentachloroethane	76-01-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
EP074F: Halogenated Aromatic Compounds									
Chlorobenzene	108-90-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Bromobenzene	108-86-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2-Chlorotoluene	95-49-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
4-Chlorotoluene	106-43-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.2.3-Trichlorobenzene	87-61-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
EP074G: Trihalomethanes									
Chloroform	67-66-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Bromodichloromethane	75-27-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Dibromochloromethane	124-48-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Bromoform	75-25-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	HA24_1.1-1.2_220823	HA23_0.0-0.1_220823	HA23_0.5-0.6_220823	HA22_0.0-0.1_220823	HA22_0.5-0.6_220823
				Sampling date / time	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2230767-043	ES2230767-044	ES2230767-045	ES2230767-047	ES2230767-048
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Acenaphthylene	208-96-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Pyrene	129-00-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		**0.6**	**0.6**	**0.6**	**0.6**	**0.6**
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		**1.2**	**1.2**	**1.2**	**1.2**	**1.2**
EP075A: 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	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
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	1	mg/kg		<1	<1	<1	<1	<1
EP075B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	HA24_1.1-1.2_220823	HA23_0.0-0.1_220823	HA23_0.5-0.6_220823	HA22_0.0-0.1_220823	HA22_0.5-0.6_220823
				Sampling date / time	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2230767-043	ES2230767-044	ES2230767-045	ES2230767-047	ES2230767-048
					Result	Result	Result	Result	Result
EP075B: Polynuclear Aromatic Hydrocarbons - Continued									
2-Methylnaphthalene	91-57-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2-Chloronaphthalene	91-58-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Pyrene	129-00-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
N-2-Fluorenyl Acetamide	53-96-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(b+j) & Benzo(k)fluoranthene	205-99-2 207-08-9	1	mg/kg		<1	<1	<1	<1	<1
7.12-Dimethylbenz(a)anthracene	57-97-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
3-Methylcholanthrene	56-49-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of PAHs	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		**0.6**	**0.6**	**0.6**	**0.6**	**0.6**
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		**1.2**	**1.2**	**1.2**	**1.2**	**1.2**
EP075C: Phthalate Esters									
Dimethyl phthalate	131-11-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Diethyl phthalate	84-66-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Di-n-butyl phthalate	84-74-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Butyl benzyl phthalate	85-68-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
bis(2-ethylhexyl) phthalate	117-81-7	5.0	mg/kg		<5.0	<5.0	<5.0	<5.0	<5.0
Di-n-octylphthalate	117-84-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
EP075D: Nitrosamines									
N-Nitrosomethylethylamine	10595-95-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
N-Nitrosodiethylamine	55-18-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
N-Nitrosopyrrolidine	930-55-2	1.0	mg/kg		<1.0	<1.0	<1.0	<1.0	<1.0

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	HA24_1.1-1.2_220823	HA23_0.0-0.1_220823	HA23_0.5-0.6_220823	HA22_0.0-0.1_220823	HA22_0.5-0.6_220823
				Sampling date / time	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2230767-043	ES2230767-044	ES2230767-045	ES2230767-047	ES2230767-048
					Result	Result	Result	Result	Result
EP075D: Nitrosamines - Continued									
N-Nitrosomorpholine	59-89-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
N-Nitrosodi-n-propylamine	621-64-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
N-Nitrosopiperidine	100-75-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
N-Nitrosodibutylamine	924-16-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	1.0	mg/kg		<1.0	<1.0	<1.0	<1.0	<1.0
Methapyrilene	91-80-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
EP075E: Nitroaromatics and Ketones									
2-Picoline	109-06-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Acetophenone	98-86-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Nitrobenzene	98-95-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Isophorone	78-59-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2.6-Dinitrotoluene	606-20-2	1.0	mg/kg		<1.0	<1.0	<1.0	<1.0	<1.0
2.4-Dinitrotoluene	121-14-2	1.0	mg/kg		<1.0	<1.0	<1.0	<1.0	<1.0
1-Naphthylamine	134-32-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
4-Nitroquinoline-N-oxide	56-57-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
5-Nitro-o-toluidine	99-55-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Azobenzene	103-33-3	1	mg/kg		<1	<1	<1	<1	<1
1.3.5-Trinitrobenzene	99-35-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Phenacetin	62-44-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
4-Aminobiphenyl	92-67-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Pentachloronitrobenzene	82-68-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Pronamide	23950-58-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Dimethylaminoazobenzene	60-11-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Chlorobenzilate	510-15-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
EP075F: Haloethers									
Bis(2-chloroethyl) ether	111-44-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Bis(2-chloroethoxy) methane	111-91-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
4-Chlorophenyl phenyl ether	7005-72-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
4-Bromophenyl phenyl ether	101-55-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
EP075G: Chlorinated Hydrocarbons									
1.3-Dichlorobenzene	541-73-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.4-Dichlorobenzene	106-46-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.2-Dichlorobenzene	95-50-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	HA24_1.1-1.2_220823	HA23_0.0-0.1_220823	HA23_0.5-0.6_220823	HA22_0.0-0.1_220823	HA22_0.5-0.6_220823
				Sampling date / time	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2230767-043	ES2230767-044	ES2230767-045	ES2230767-047	ES2230767-048
					Result	Result	Result	Result	Result
EP075G: Chlorinated Hydrocarbons - Continued									
Hexachloroethane	67-72-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Hexachloropropylene	1888-71-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Hexachlorobutadiene	87-68-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Hexachlorocyclopentadiene	77-47-4	2.5	mg/kg		<2.5	<2.5	<2.5	<2.5	<2.5
Pentachlorobenzene	608-93-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Hexachlorobenzene (HCB)	118-74-1	1.0	mg/kg		<1.0	<1.0	<1.0	<1.0	<1.0
EP075H: Anilines and Benzidines									
Aniline	62-53-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
4-Chloroaniline	106-47-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2-Nitroaniline	88-74-4	1.0	mg/kg		<1.0	<1.0	<1.0	<1.0	<1.0
3-Nitroaniline	99-09-2	1.0	mg/kg		<1.0	<1.0	<1.0	<1.0	<1.0
Dibenzofuran	132-64-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
4-Nitroaniline	100-01-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Carbazole	86-74-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
3.3`-Dichlorobenzidine	91-94-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
EP075I: Organochlorine Pesticides									
alpha-BHC	319-84-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
beta-BHC	319-85-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
gamma-BHC	58-89-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
delta-BHC	319-86-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Heptachlor	76-44-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Aldrin	309-00-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Heptachlor epoxide	1024-57-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
alpha-Endosulfan	959-98-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
4.4`-DDE	72-55-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Dieldrin	60-57-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Endrin	72-20-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
beta-Endosulfan	33213-65-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
4.4`-DDD	72-54-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Endosulfan sulfate	1031-07-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
4.4`-DDT	50-29-3	1.0	mg/kg		<1.0	<1.0	<1.0	<1.0	<1.0
EP075J: Organophosphorus Pesticides									
Dichlorvos	62-73-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	HA24_1.1-1.2_220823	HA23_0.0-0.1_220823	HA23_0.5-0.6_220823	HA22_0.0-0.1_220823	HA22_0.5-0.6_220823
				Sampling date / time	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2230767-043	ES2230767-044	ES2230767-045	ES2230767-047	ES2230767-048
					Result	Result	Result	Result	Result
EP075J: Organophosphorus Pesticides - Continued									
Dimethoate	60-51-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Diazinon	333-41-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Chlorpyrifos-methyl	5598-13-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Malathion	121-75-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Fenthion	55-38-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Chlorpyrifos	2921-88-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Pirimphos-ethyl	23505-41-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Chlorfenvinphos	470-90-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Prothiofos	34643-46-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Ethion	563-12-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
C29 - C36 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg		<50	<50	<50	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
>C34 - C40 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		<50	<50	<50	<50	<50
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		<50	<50	<50	<50	<50
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ 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

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	HA24_1.1-1.2_220823	HA23_0.0-0.1_220823	HA23_0.5-0.6_220823	HA22_0.0-0.1_220823	HA22_0.5-0.6_220823
				Sampling date / time	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2230767-043	ES2230767-044	ES2230767-045	ES2230767-047	ES2230767-048
					Result	Result	Result	Result	Result
EP080: BTEXN - Continued									
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	**0.0003**
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	**0.0006**	<0.0002
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg		<0.0002	<0.0002	<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	<0.001	<0.001
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	**0.0006**	<0.0002
Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	HA24_1.1-1.2_220823	HA23_0.0-0.1_220823	HA23_0.5-0.6_220823	HA22_0.0-0.1_220823	HA22_0.5-0.6_220823
				Sampling date / time	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2230767-043	ES2230767-044	ES2230767-045	ES2230767-047	ES2230767-048
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<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	<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	<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	<0.0005	<0.0005
EP231P: PFAS Sums									
Sum of PFAS	----	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	**0.0012**	**0.0003**
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	**0.0006**	**0.0003**
Sum of PFAS (WA DER List)	----	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	**0.0006**	**0.0003**
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		**78.8**	**85.7**	**66.3**	**72.3**	**63.1**
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%		**100**	**102**	**81.8**	**83.1**	**70.9**
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%		**77.0**	**75.8**	**62.5**	**62.9**	**53.9**
EP074S: VOC Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.5	%		**84.2**	**91.1**	**94.4**	**96.1**	**111**
Toluene-D8	2037-26-5	0.5	%		**100**	**106**	**99.5**	**106**	**125**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	HA24_1.1-1.2_220823	HA23_0.0-0.1_220823	HA23_0.5-0.6_220823	HA22_0.0-0.1_220823	HA22_0.5-0.6_220823
				Sampling date / time	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2230767-043	ES2230767-044	ES2230767-045	ES2230767-047	ES2230767-048
					Result	Result	Result	Result	Result
EP074S: VOC Surrogates - Continued									
4-Bromofluorobenzene	460-00-4	0.5	%		98.8	99.7	95.7	97.5	111
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		88.2	84.0	95.9	84.5	85.7
2-Chlorophenol-D4	93951-73-6	0.5	%		80.8	83.9	85.1	84.1	84.0
2.4.6-Tribromophenol	118-79-6	0.5	%		87.8	76.2	78.1	79.2	70.2
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		101	104	99.0	89.9	97.1
Anthracene-d10	1719-06-8	0.5	%		103	98.5	96.4	96.4	92.4
4-Terphenyl-d14	1718-51-0	0.5	%		95.0	91.2	88.7	92.2	90.1
EP075S: Acid Extractable Surrogates									
2-Fluorophenol	367-12-4	0.5	%		102	96.1	92.9	101	88.7
Phenol-d6	13127-88-3	0.5	%		94.7	91.2	91.2	91.1	84.6
2-Chlorophenol-D4	93951-73-6	0.5	%		106	99.9	100	101	91.0
2.4.6-Tribromophenol	118-79-6	0.5	%		62.6	59.5	54.4	46.5	41.6
EP075T: Base/Neutral Extractable Surrogates									
Nitrobenzene-D5	4165-60-0	0.5	%		99.3	93.1	90.8	92.2	89.7
1.2-Dichlorobenzene-D4	2199-69-1	0.5	%		95.4	90.3	88.7	90.9	83.7
2-Fluorobiphenyl	321-60-8	0.5	%		105	102	100.0	102	97.2
Anthracene-d10	1719-06-8	0.5	%		102	97.8	98.4	99.0	91.9
4-Terphenyl-d14	1718-51-0	0.5	%		90.3	81.9	79.8	81.5	74.4
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		88.7	96.3	88.6	90.2	81.8
Toluene-D8	2037-26-5	0.2	%		97.1	103	89.8	95.8	90.8
4-Bromofluorobenzene	460-00-4	0.2	%		106	107	87.0	88.0	101
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.0002	%		99.5	102	91.5	100	102
13C8-PFOA	----	0.0002	%		99.5	102	99.5	96.5	100

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	HA22_1.2-1.3_220823	HA19_0.0-0.1_220823	HA19_1.1-1.2_220823	QC101_220823	QC201_220823
			Sampling date / time	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00
Compound	CAS Number	LOR	Unit	ES2230767-049	ES2230767-050	ES2230767-052	ES2230767-053	ES2230767-054
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	----	19.3	9.5	3.1	2.6
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	164	----	----	254	298
APPROVED IDENTIFIER:	----	-	--	A. SMYLIE	----	----	J.SPOONER	J.SPOONER
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	----	7	6	<5	<5
Cadmium	7440-43-9	1	mg/kg	----	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	----	22	32	2	6
Copper	7440-50-8	5	mg/kg	----	9	7	12	<5
Lead	7439-92-1	5	mg/kg	----	10	10	<5	<5
Nickel	7440-02-0	2	mg/kg	----	16	15	6	8
Zinc	7440-66-6	5	mg/kg	----	23	17	10	10
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	----	<0.1	<0.1	<0.1	<0.1
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.1	mg/kg	----	<0.1	<0.1	<0.1	<0.1
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05
beta-BHC	319-85-7	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05
gamma-BHC	58-89-9	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05
delta-BHC	319-86-8	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05
Heptachlor	76-44-8	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05
Aldrin	309-00-2	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05
Heptachlor epoxide	1024-57-3	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05
^ Total Chlordane (sum)	----	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05
trans-Chlordane	5103-74-2	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05
alpha-Endosulfan	959-98-8	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05
cis-Chlordane	5103-71-9	0.05	mg/kg	----	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	HA22_1.2-1.3_220823	HA19_0.0-0.1_220823	HA19_1.1-1.2_220823	QC101_220823	QC201_220823
				Sampling date / time	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2230767-049	ES2230767-050	ES2230767-052	ES2230767-053	ES2230767-054
					Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued									
Dieldrin	60-57-1	0.05	mg/kg		----	<0.05	<0.05	<0.05	<0.05
4.4`-DDE	72-55-9	0.05	mg/kg		----	<0.05	<0.05	<0.05	<0.05
Endrin	72-20-8	0.05	mg/kg		----	<0.05	<0.05	<0.05	<0.05
beta-Endosulfan	33213-65-9	0.05	mg/kg		----	<0.05	<0.05	<0.05	<0.05
^ **Endosulfan (sum)**	115-29-7	0.05	mg/kg		----	<0.05	<0.05	<0.05	<0.05
4.4`-DDD	72-54-8	0.05	mg/kg		----	<0.05	<0.05	<0.05	<0.05
Endrin aldehyde	7421-93-4	0.05	mg/kg		----	<0.05	<0.05	<0.05	<0.05
Endosulfan sulfate	1031-07-8	0.05	mg/kg		----	<0.05	<0.05	<0.05	<0.05
4.4`-DDT	50-29-3	0.2	mg/kg		----	<0.2	<0.2	<0.2	<0.2
Endrin ketone	53494-70-5	0.05	mg/kg		----	<0.05	<0.05	<0.05	<0.05
Methoxychlor	72-43-5	0.2	mg/kg		----	<0.2	<0.2	<0.2	<0.2
^ **Sum of Aldrin + Dieldrin**	309-00-2/60-57-1	0.05	mg/kg		----	<0.05	<0.05	<0.05	<0.05
^ **Sum of DDD + DDE + DDT**	72-54-8/72-55-9/50-2	0.05	mg/kg		----	<0.05	<0.05	<0.05	<0.05
EP068B: Organophosphorus Pesticides (OP)									
Dichlorvos	62-73-7	0.05	mg/kg		----	<0.05	<0.05	<0.05	<0.05
Demeton-S-methyl	919-86-8	0.05	mg/kg		----	<0.05	<0.05	<0.05	<0.05
Monocrotophos	6923-22-4	0.2	mg/kg		----	<0.2	<0.2	<0.2	<0.2
Dimethoate	60-51-5	0.05	mg/kg		----	<0.05	<0.05	<0.05	<0.05
Diazinon	333-41-5	0.05	mg/kg		----	<0.05	<0.05	<0.05	<0.05
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg		----	<0.05	<0.05	<0.05	<0.05
Parathion-methyl	298-00-0	0.2	mg/kg		----	<0.2	<0.2	<0.2	<0.2
Malathion	121-75-5	0.05	mg/kg		----	<0.05	<0.05	<0.05	<0.05
Fenthion	55-38-9	0.05	mg/kg		----	<0.05	<0.05	<0.05	<0.05
Chlorpyrifos	2921-88-2	0.05	mg/kg		----	<0.05	<0.05	<0.05	<0.05
Parathion	56-38-2	0.2	mg/kg		----	<0.2	<0.2	<0.2	<0.2
Pirimphos-ethyl	23505-41-1	0.05	mg/kg		----	<0.05	<0.05	<0.05	<0.05
Chlorfenvinphos	470-90-6	0.05	mg/kg		----	<0.05	<0.05	<0.05	<0.05
Bromophos-ethyl	4824-78-6	0.05	mg/kg		----	<0.05	<0.05	<0.05	<0.05
Fenamiphos	22224-92-6	0.05	mg/kg		----	<0.05	<0.05	<0.05	<0.05
Prothiofos	34643-46-4	0.05	mg/kg		----	<0.05	<0.05	<0.05	<0.05
Ethion	563-12-2	0.05	mg/kg		----	<0.05	<0.05	<0.05	<0.05
Carbophenothion	786-19-6	0.05	mg/kg		----	<0.05	<0.05	<0.05	<0.05
Azinphos Methyl	86-50-0	0.05	mg/kg		----	<0.05	<0.05	<0.05	<0.05
EP074A: Monocyclic Aromatic Hydrocarbons									

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	HA22_1.2-1.3_220823	HA19_0.0-0.1_220823	HA19_1.1-1.2_220823	QC101_220823	QC201_220823
				Sampling date / time	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2230767-049	ES2230767-050	ES2230767-052	ES2230767-053	ES2230767-054
					Result	Result	Result	Result	Result
EP074A: Monocyclic Aromatic Hydrocarbons - Continued									
Benzene	71-43-2	0.2	mg/kg		----	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
Styrene	100-42-5	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
Isopropylbenzene	98-82-8	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
n-Propylbenzene	103-65-1	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
1.3.5-Trimethylbenzene	108-67-8	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
sec-Butylbenzene	135-98-8	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
1.2.4-Trimethylbenzene	95-63-6	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
tert-Butylbenzene	98-06-6	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
p-Isopropyltoluene	99-87-6	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
n-Butylbenzene	104-51-8	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
EP074B: Oxygenated Compounds									
Vinyl Acetate	108-05-4	5	mg/kg		----	<5	<5	<5	<5
2-Butanone (MEK)	78-93-3	5	mg/kg		----	<5	<5	<5	<5
4-Methyl-2-pentanone (MIBK)	108-10-1	5	mg/kg		----	<5	<5	<5	<5
2-Hexanone (MBK)	591-78-6	5	mg/kg		----	<5	<5	<5	<5
EP074C: Sulfonated Compounds									
Carbon disulfide	75-15-0	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
EP074D: Fumigants									
2.2-Dichloropropane	594-20-7	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
1.2-Dichloropropane	78-87-5	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
cis-1.3-Dichloropropylene	10061-01-5	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
trans-1.3-Dichloropropylene	10061-02-6	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
1.2-Dibromoethane (EDB)	106-93-4	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
EP074E: Halogenated Aliphatic Compounds									
Dichlorodifluoromethane	75-71-8	5	mg/kg		----	<5	<5	<5	<5
Chloromethane	74-87-3	5	mg/kg		----	<5	<5	<5	<5
Vinyl chloride	75-01-4	5	mg/kg		----	<5	<5	<5	<5
Bromomethane	74-83-9	5	mg/kg		----	<5	<5	<5	<5
Chloroethane	75-00-3	5	mg/kg		----	<5	<5	<5	<5
Trichlorofluoromethane	75-69-4	5	mg/kg		----	<5	<5	<5	<5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	HA22_1.2-1.3_220823	HA19_0.0-0.1_220823	HA19_1.1-1.2_220823	QC101_220823	QC201_220823
				Sampling date / time	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2230767-049	ES2230767-050	ES2230767-052	ES2230767-053	ES2230767-054
					Result	Result	Result	Result	Result
EP074E: Halogenated Aliphatic Compounds - Continued									
1.1-Dichloroethene	75-35-4	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
Iodomethane	74-88-4	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
trans-1.2-Dichloroethene	156-60-5	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
1.1-Dichloroethane	75-34-3	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
cis-1.2-Dichloroethene	156-59-2	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
1.1.1-Trichloroethane	71-55-6	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
1.1-Dichloropropylene	563-58-6	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
Carbon Tetrachloride	56-23-5	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
1.2-Dichloroethane	107-06-2	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
Trichloroethene	79-01-6	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
Dibromomethane	74-95-3	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
1.1.2-Trichloroethane	79-00-5	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
1.3-Dichloropropane	142-28-9	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
Tetrachloroethene	127-18-4	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
1.1.1.2-Tetrachloroethane	630-20-6	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
trans-1.4-Dichloro-2-butene	110-57-6	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
cis-1.4-Dichloro-2-butene	1476-11-5	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
1.1.2.2-Tetrachloroethane	79-34-5	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
1.2.3-Trichloropropane	96-18-4	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
Pentachloroethane	76-01-7	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
1.2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
EP074F: Halogenated Aromatic Compounds									
Chlorobenzene	108-90-7	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
Bromobenzene	108-86-1	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
2-Chlorotoluene	95-49-8	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
4-Chlorotoluene	106-43-4	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
1.2.3-Trichlorobenzene	87-61-6	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
EP074G: Trihalomethanes									
Chloroform	67-66-3	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
Bromodichloromethane	75-27-4	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
Dibromochloromethane	124-48-1	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
Bromoform	75-25-2	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	HA22_1.2-1.3_220823	HA19_0.0-0.1_220823	HA19_1.1-1.2_220823	QC101_220823	QC201_220823
				Sampling date / time	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2230767-049	ES2230767-050	ES2230767-052	ES2230767-053	ES2230767-054
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Acenaphthylene	208-96-8	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
Pyrene	129-00-0	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		----	**0.6**	**0.6**	**0.6**	**0.6**
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		----	**1.2**	**1.2**	**1.2**	**1.2**
EP075A: Phenolic Compounds									
Phenol	108-95-2	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
3- & 4-Methylphenol	1319-77-3	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
2-Nitrophenol	88-75-5	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
2.4-Dichlorophenol	120-83-2	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
Pentachlorophenol	87-86-5	1	mg/kg		----	<1	<1	<1	<1
EP075B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	HA22_1.2-1.3_220823	HA19_0.0-0.1_220823	HA19_1.1-1.2_220823	QC101_220823	QC201_220823
				Sampling date / time	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2230767-049	ES2230767-050	ES2230767-052	ES2230767-053	ES2230767-054
					Result	Result	Result	Result	Result
EP075B: Polynuclear Aromatic Hydrocarbons - Continued									
2-Methylnaphthalene	91-57-6	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
2-Chloronaphthalene	91-58-7	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
Pyrene	129-00-0	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
N-2-Fluorenyl Acetamide	53-96-3	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
Benzo(b+j) & Benzo(k)fluoranthene	205-99-2 207-08-9	1	mg/kg		----	<1	<1	<1	<1
7.12-Dimethylbenz(a)anthracene	57-97-6	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
3-Methylcholanthrene	56-49-5	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
^ Sum of PAHs	----	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		----	**0.6**	**0.6**	**0.6**	**0.6**
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		----	**1.2**	**1.2**	**1.2**	**1.2**
EP075C: Phthalate Esters									
Dimethyl phthalate	131-11-3	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
Diethyl phthalate	84-66-2	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
Di-n-butyl phthalate	84-74-2	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
Butyl benzyl phthalate	85-68-7	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
bis(2-ethylhexyl) phthalate	117-81-7	5.0	mg/kg		----	<5.0	<5.0	<5.0	<5.0
Di-n-octylphthalate	117-84-0	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
EP075D: Nitrosamines									
N-Nitrosomethylethylamine	10595-95-6	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
N-Nitrosodiethylamine	55-18-5	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
N-Nitrosopyrrolidine	930-55-2	1.0	mg/kg		----	<1.0	<1.0	<1.0	<1.0

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	HA22_1.2-1.3_220823	HA19_0.0-0.1_220823	HA19_1.1-1.2_220823	QC101_220823	QC201_220823
				Sampling date / time	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2230767-049	ES2230767-050	ES2230767-052	ES2230767-053	ES2230767-054
					Result	Result	Result	Result	Result
EP075D: Nitrosamines - Continued									
N-Nitrosomorpholine	59-89-2	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
N-Nitrosodi-n-propylamine	621-64-7	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
N-Nitrosopiperidine	100-75-4	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
N-Nitrosodibutylamine	924-16-3	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	1.0	mg/kg		----	<1.0	<1.0	<1.0	<1.0
Methapyrilene	91-80-5	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
EP075E: Nitroaromatics and Ketones									
2-Picoline	109-06-8	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
Acetophenone	98-86-2	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
Nitrobenzene	98-95-3	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
Isophorone	78-59-1	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
2.6-Dinitrotoluene	606-20-2	1.0	mg/kg		----	<1.0	<1.0	<1.0	<1.0
2.4-Dinitrotoluene	121-14-2	1.0	mg/kg		----	<1.0	<1.0	<1.0	<1.0
1-Naphthylamine	134-32-7	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
4-Nitroquinoline-N-oxide	56-57-5	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
5-Nitro-o-toluidine	99-55-8	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
Azobenzene	103-33-3	1	mg/kg		----	<1	<1	<1	<1
1.3.5-Trinitrobenzene	99-35-4	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
Phenacetin	62-44-2	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
4-Aminobiphenyl	92-67-1	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
Pentachloronitrobenzene	82-68-8	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
Pronamide	23950-58-5	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
Dimethylaminoazobenzene	60-11-7	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
Chlorobenzilate	510-15-6	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
EP075F: Haloethers									
Bis(2-chloroethyl) ether	111-44-4	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
Bis(2-chloroethoxy) methane	111-91-1	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
4-Chlorophenyl phenyl ether	7005-72-3	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
4-Bromophenyl phenyl ether	101-55-3	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
EP075G: Chlorinated Hydrocarbons									
1.3-Dichlorobenzene	541-73-1	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
1.4-Dichlorobenzene	106-46-7	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
1.2-Dichlorobenzene	95-50-1	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5

Analytical Results

Sub-Matrix: **SOIL**
(Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Sample ID	HA22_1.2-1.3_220823	HA19_0.0-0.1_220823	HA19_1.1-1.2_220823	QC101_220823	QC201_220823
				Sampling date / time	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00
					ES2230767-049	ES2230767-050	ES2230767-052	ES2230767-053	ES2230767-054
					Result	Result	Result	Result	Result
EP075G: Chlorinated Hydrocarbons - Continued									
Hexachloroethane	67-72-1	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
Hexachloropropylene	1888-71-7	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
Hexachlorobutadiene	87-68-3	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
Hexachlorocyclopentadiene	77-47-4	2.5	mg/kg		----	<2.5	<2.5	<2.5	<2.5
Pentachlorobenzene	608-93-5	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
Hexachlorobenzene (HCB)	118-74-1	1.0	mg/kg		----	<1.0	<1.0	<1.0	<1.0
EP075H: Anilines and Benzidines									
Aniline	62-53-3	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
4-Chloroaniline	106-47-8	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
2-Nitroaniline	88-74-4	1.0	mg/kg		----	<1.0	<1.0	<1.0	<1.0
3-Nitroaniline	99-09-2	1.0	mg/kg		----	<1.0	<1.0	<1.0	<1.0
Dibenzofuran	132-64-9	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
4-Nitroaniline	100-01-6	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
Carbazole	86-74-8	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
3.3`-Dichlorobenzidine	91-94-1	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
EP075I: Organochlorine Pesticides									
alpha-BHC	319-84-6	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
beta-BHC	319-85-7	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
gamma-BHC	58-89-9	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
delta-BHC	319-86-8	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
Heptachlor	76-44-8	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
Aldrin	309-00-2	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
Heptachlor epoxide	1024-57-3	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
alpha-Endosulfan	959-98-8	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
4.4`-DDE	72-55-9	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
Dieldrin	60-57-1	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
Endrin	72-20-8	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
beta-Endosulfan	33213-65-9	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
4.4`-DDD	72-54-8	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
Endosulfan sulfate	1031-07-8	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
4.4`-DDT	50-29-3	1.0	mg/kg		----	<1.0	<1.0	<1.0	<1.0
EP075J: Organophosphorus Pesticides									
Dichlorvos	62-73-7	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	HA22_1.2-1.3_220823	HA19_0.0-0.1_220823	HA19_1.1-1.2_220823	QC101_220823	QC201_220823
				Sampling date / time	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2230767-049	ES2230767-050	ES2230767-052	ES2230767-053	ES2230767-054
					Result	Result	Result	Result	Result
EP075J: Organophosphorus Pesticides - Continued									
Dimethoate	60-51-5	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
Diazinon	333-41-5	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
Chlorpyrifos-methyl	5598-13-0	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
Malathion	121-75-5	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
Fenthion	55-38-9	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
Chlorpyrifos	2921-88-2	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
Pirimphos-ethyl	23505-41-1	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
Chlorfenvinphos	470-90-6	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
Prothiofos	34643-46-4	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
Ethion	563-12-2	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		----	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg		----	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg		----	<100	<100	<100	<100
C29 - C36 Fraction	----	100	mg/kg		----	<100	<100	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg		----	<50	<50	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		----	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		----	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg		----	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg		----	<100	<100	<100	<100
>C34 - C40 Fraction	----	100	mg/kg		----	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		----	<50	<50	<50	<50
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		----	<50	<50	<50	<50
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		----	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg		----	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	----	0.5	mg/kg		----	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg		----	<1	<1	<1	<1

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	HA22_1.2-1.3_220823	HA19_0.0-0.1_220823	HA19_1.1-1.2_220823	QC101_220823	QC201_220823
				Sampling date / time	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2230767-049	ES2230767-050	ES2230767-052	ES2230767-053	ES2230767-054
					Result	Result	Result	Result	Result
EP080: BTEXN - Continued									
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg		----	<0.0002	<0.0002	<0.0002	<0.0002
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg		----	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg		----	<0.0002	<0.0002	<0.0002	<0.0002
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg		----	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg		----	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg		----	<0.0002	<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	<0.001
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg		----	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg		----	<0.0002	<0.0002	<0.0002	<0.0002
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg		----	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg		----	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg		----	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg		----	<0.0002	<0.0002	<0.0002	<0.0002
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg		----	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg		----	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg		----	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg		----	<0.0005	<0.0005	<0.0005	<0.0005
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg		----	<0.0002	<0.0002	<0.0002	<0.0002
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg		----	<0.0005	<0.0005	<0.0005	<0.0005

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	HA22_1.2-1.3_220823	HA19_0.0-0.1_220823	HA19_1.1-1.2_220823	QC101_220823	QC201_220823
				Sampling date / time	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2230767-049	ES2230767-050	ES2230767-052	ES2230767-053	ES2230767-054
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg		----	<0.0005	<0.0005	<0.0005	<0.0005
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg		----	<0.0005	<0.0005	<0.0005	<0.0005
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg		----	<0.0005	<0.0005	<0.0005	<0.0005
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg		----	<0.0002	<0.0002	<0.0002	<0.0002
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg		----	<0.0002	<0.0002	<0.0002	<0.0002
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg		----	<0.0005	<0.0005	<0.0005	<0.0005
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg		----	<0.0005	<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	<0.0005
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg		----	<0.0005	<0.0005	<0.0005	<0.0005
EP231P: PFAS Sums									
Sum of PFAS	----	0.0002	mg/kg		----	<0.0002	<0.0002	<0.0002	<0.0002
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg		----	<0.0002	<0.0002	<0.0002	<0.0002
Sum of PFAS (WA DER List)	----	0.0002	mg/kg		----	<0.0002	<0.0002	<0.0002	<0.0002
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		----	**77.3**	**80.9**	**120**	**102**
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%		----	**88.0**	**80.7**	**85.7**	**86.1**
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%		----	**67.5**	**63.4**	**53.2**	**54.4**
EP074S: VOC Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.5	%		----	**84.0**	**88.9**	**81.7**	**88.3**
Toluene-D8	2037-26-5	0.5	%		----	**95.4**	**104**	**93.4**	**100**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	HA22_1.2-1.3_220823	HA19_0.0-0.1_220823	HA19_1.1-1.2_220823	QC101_220823	QC201_220823
				Sampling date / time	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00	23-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2230767-049	ES2230767-050	ES2230767-052	ES2230767-053	ES2230767-054
					Result	Result	Result	Result	Result
EP074S: VOC Surrogates - Continued									
4-Bromofluorobenzene	460-00-4	0.5	%		----	89.6	94.5	91.6	95.4
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		----	83.5	85.0	82.5	85.8
2-Chlorophenol-D4	93951-73-6	0.5	%		----	90.9	94.6	87.3	88.1
2.4.6-Tribromophenol	118-79-6	0.5	%		----	75.6	70.7	56.7	63.2
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		----	96.9	104	92.2	95.8
Anthracene-d10	1719-06-8	0.5	%		----	99.2	102	98.3	98.3
4-Terphenyl-d14	1718-51-0	0.5	%		----	95.8	109	93.1	104
EP075S: Acid Extractable Surrogates									
2-Fluorophenol	367-12-4	0.5	%		----	96.8	103	99.9	98.8
Phenol-d6	13127-88-3	0.5	%		----	93.4	93.9	93.0	89.0
2-Chlorophenol-D4	93951-73-6	0.5	%		----	102	103	101	99.8
2.4.6-Tribromophenol	118-79-6	0.5	%		----	51.3	48.3	41.7	40.0
EP075T: Base/Neutral Extractable Surrogates									
Nitrobenzene-D5	4165-60-0	0.5	%		----	96.4	96.5	96.6	95.9
1.2-Dichlorobenzene-D4	2199-69-1	0.5	%		----	93.8	94.0	92.7	91.3
2-Fluorobiphenyl	321-60-8	0.5	%		----	103	103	102	102
Anthracene-d10	1719-06-8	0.5	%		----	96.7	98.2	94.8	94.7
4-Terphenyl-d14	1718-51-0	0.5	%		----	77.1	75.5	74.4	70.5
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		----	88.6	93.7	86.4	93.0
Toluene-D8	2037-26-5	0.2	%		----	92.5	100	90.4	97.3
4-Bromofluorobenzene	460-00-4	0.2	%		----	95.8	99.0	96.9	100
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.0002	%		----	86.0	94.0	95.0	92.0
13C8-PFOA	----	0.0002	%		----	104	106	99.5	100

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	QC500_220823	QC600_220823 Trip Spike 13	Trip Spike Control 13	----	----
			Sampling date / time	23-Aug-2022 00:00	15-Aug-2022 00:00	15-Aug-2022 00:00	----	----
Compound	CAS Number	LOR	Unit	ES2230767-055	ES2230767-056	ES2230767-057	--------	--------
				Result	Result	Result	----	----
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	**12.9**	**6.0**	**----**	**----**	**----**
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	**39**	**39**	**----**	**----**
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	10	mg/kg	<10	**51**	**52**	**----**	**----**
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	<10	**26**	**28**	**----**	**----**
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	**6.4**	**6.0**	**----**	**----**
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	**5.6**	**5.5**	**----**	**----**
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	**8.5**	**8.4**	**----**	**----**
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	**4.0**	**3.8**	**----**	**----**
^ Sum of BTEX	----	0.2	mg/kg	<0.2	**24.5**	**23.7**	**----**	**----**
^ Total Xylenes	----	0.5	mg/kg	<0.5	**12.5**	**12.2**	**----**	**----**
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	**----**	**----**
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.2	%	**97.1**	**94.0**	**112**	**----**	**----**
Toluene-D8	2037-26-5	0.2	%	**94.9**	**95.9**	**124**	**----**	**----**
4-Bromofluorobenzene	460-00-4	0.2	%	**99.3**	**89.1**	**99.6**	**----**	**----**

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	HA04_0.1-0.2_220822 - 22-Aug-2022 00:00	Soil sample.
EA200: Description	HA06_0.0-0.1_220822 - 23-Aug-2022 00:00	Soil sample.
EA200: Description	HA09_0.0-0.1_220822 - 23-Aug-2022 00:00	Soil sample.
EA200: Description	HA12_0.0-0.1_220822 - 23-Aug-2022 00:00	Soil sample.
EA200: Description	HA15_0.0-0.1_220822 - 23-Aug-2022 00:00	A soil sample.
EA200: Description	HA21_0.0-0.1_220823 - 23-Aug-2022 00:00	Soil sample.
EA200: Description	HA24_0.0-0.1_220823 - 23-Aug-2022 00:00	Soil sample.
EA200: Description	HA22_0.0-0.1_220823 - 23-Aug-2022 00:00	A soil sample.
EA200: Description	HA22_0.5-0.6_220823 - 23-Aug-2022 00:00	Soil sample.
EA200: Description	HA22_1.2-1.3_220823 - 23-Aug-2022 00:00	Soil sample.
EA200: Description	QC101_220823 - 23-Aug-2022 00:00	Soil sample.
EA200: Description	QC201_220823 - 23-Aug-2022 00:00	Soil sample.

Surrogate Control Limits

Sub-Matrix: **SOIL**

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

Inter-Laboratory Testing

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

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

ALS Environmental

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **ES2230767**	Page	: 1 of 29
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: TAMA ARMANI	Telephone	: +61 2 8784 8555
Project	: 60619756. 211-30 Muswellbrook	Date Samples Received	: 29-Aug-2022
Site	: ----	Issue Date	: 08-Sep-2022
Sampler	: P. Dean	No. of samples received	: 57
Order number	: 60619756	No. of samples analysed	: 38

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

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

Summary of Outliers

Outliers : Quality Control Samples

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

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **NO Matrix Spike outliers occur.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **Analysis Holding Time Outliers exist - please see following pages for full details.**

Outliers : Frequency of Quality Control Samples

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

Outliers : Analysis Holding Time Compliance

Matrix: **SOIL**

Method / Container / Client Sample ID(s)		Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Days overdue	Date analysed	Due for analysis	Days overdue
EA055: Moisture Content (Dried @ 105-110°C)							
Soil Glass Jar - Unpreserved							
QC600_220823 - Trip Spike 13		----	----	----	05-Sep-2022	29-Aug-2022	**7**
EP074A: Monocyclic Aromatic Hydrocarbons							
Soil Glass Jar - Unpreserved							
HA01_0.0-0.1_220822,	HA01_1.1-1.2_220822,	05-Sep-2022	29-Aug-2022	**7**	05-Sep-2022	29-Aug-2022	**7**
HA02_0.0-0.2_220822,	HA02_1.4-1.5_220822,						
HA03_0.5-0.6_220822,	HA03_1.4-1.5_220822,						
HA04_0.1-0.2_220822,	HA04_1.0-1.1_220822,						
HA07_0.05-0.15_220822,	HA07_0.4-0.5_220822,						
HA13_0.0-0.2_220822,	HA13_0.5-0.6_220822						
Soil Glass Jar - Unpreserved							
HA06_0.0-0.1_220822,	HA06_1.1-1.2_220822,	05-Sep-2022	30-Aug-2022	**6**	05-Sep-2022	30-Aug-2022	**6**
HA09_0.0-0.1_220822,	HA09_1.0-1.2_220822,						
HA12_0.0-0.1_220822,	HA12_0.6-0.7_220822,						
HA15_0.0-0.1_220822,	HA15_1.1-1.2_220822						
Soil Glass Jar - Unpreserved							
HA18_0.0-0.1_220823,	HA18_1.4-1.5_220823,	05-Sep-2022	30-Aug-2022	**6**	06-Sep-2022	30-Aug-2022	**7**
HA21_0.0-0.1_220823,	HA21_1.0-1.1_220823,						
HA24_0.0-0.1_220823,	HA24_1.1-1.2_220823,						
HA23_0.0-0.1_220823,	HA23_0.5-0.6_220823,						
HA22_0.0-0.1_220823,	HA22_0.5-0.6_220823,						
HA19_0.0-0.1_220823,	HA19_1.1-1.2_220823,						
QC101_220823,	QC201_220823						
EP074B: Oxygenated Compounds							
Soil Glass Jar - Unpreserved							
HA01_0.0-0.1_220822,	HA01_1.1-1.2_220822,	05-Sep-2022	29-Aug-2022	**7**	05-Sep-2022	29-Aug-2022	**7**
HA02_0.0-0.2_220822,	HA02_1.4-1.5_220822,						
HA03_0.5-0.6_220822,	HA03_1.4-1.5_220822,						
HA04_0.1-0.2_220822,	HA04_1.0-1.1_220822,						
HA07_0.05-0.15_220822,	HA07_0.4-0.5_220822,						
HA13_0.0-0.2_220822,	HA13_0.5-0.6_220822						
Soil Glass Jar - Unpreserved							
HA06_0.0-0.1_220822,	HA06_1.1-1.2_220822,	05-Sep-2022	30-Aug-2022	**6**	05-Sep-2022	30-Aug-2022	**6**
HA09_0.0-0.1_220822,	HA09_1.0-1.2_220822,						
HA12_0.0-0.1_220822,	HA12_0.6-0.7_220822,						
HA15_0.0-0.1_220822,	HA15_1.1-1.2_220822						

Matrix: **SOIL**

Method / Container / Client Sample ID(s)		Extraction / Preparation: Date extracted	Extraction / Preparation: Due for extraction	Extraction / Preparation: Days overdue	Analysis: Date analysed	Analysis: Due for analysis	Analysis: Days overdue
EP074B: Oxygenated Compounds - Analysis Holding Time Compliance							
Soil Glass Jar - Unpreserved							
HA18_0.0-0.1_220823,	HA18_1.4-1.5_220823,	05-Sep-2022	30-Aug-2022	**6**	06-Sep-2022	30-Aug-2022	**7**
HA21_0.0-0.1_220823,	HA21_1.0-1.1_220823,						
HA24_0.0-0.1_220823,	HA24_1.1-1.2_220823,						
HA23_0.0-0.1_220823,	HA23_0.5-0.6_220823,						
HA22_0.0-0.1_220823,	HA22_0.5-0.6_220823,						
HA19_0.0-0.1_220823,	HA19_1.1-1.2_220823,						
QC101_220823,	QC201_220823						
EP074C: Sulfonated Compounds							
Soil Glass Jar - Unpreserved							
HA01_0.0-0.1_220822,	HA01_1.1-1.2_220822,	05-Sep-2022	29-Aug-2022	**7**	05-Sep-2022	29-Aug-2022	**7**
HA02_0.0-0.2_220822,	HA02_1.4-1.5_220822,						
HA03_0.5-0.6_220822,	HA03_1.4-1.5_220822,						
HA04_0.1-0.2_220822,	HA04_1.0-1.1_220822,						
HA07_0.05-0.15_220822,	HA07_0.4-0.5_220822,						
HA13_0.0-0.2_220822,	HA13_0.5-0.6_220822						
Soil Glass Jar - Unpreserved							
HA06_0.0-0.1_220822,	HA06_1.1-1.2_220822,	05-Sep-2022	30-Aug-2022	**6**	05-Sep-2022	30-Aug-2022	**6**
HA09_0.0-0.1_220822,	HA09_1.0-1.2_220822,						
HA12_0.0-0.1_220822,	HA12_0.6-0.7_220822,						
HA15_0.0-0.1_220822,	HA15_1.1-1.2_220822						
Soil Glass Jar - Unpreserved							
HA18_0.0-0.1_220823,	HA18_1.4-1.5_220823,	05-Sep-2022	30-Aug-2022	**6**	06-Sep-2022	30-Aug-2022	**7**
HA21_0.0-0.1_220823,	HA21_1.0-1.1_220823,						
HA24_0.0-0.1_220823,	HA24_1.1-1.2_220823,						
HA23_0.0-0.1_220823,	HA23_0.5-0.6_220823,						
HA22_0.0-0.1_220823,	HA22_0.5-0.6_220823,						
HA19_0.0-0.1_220823,	HA19_1.1-1.2_220823,						
QC101_220823,	QC201_220823						
EP074D: Fumigants							
Soil Glass Jar - Unpreserved							
HA01_0.0-0.1_220822,	HA01_1.1-1.2_220822,	05-Sep-2022	29-Aug-2022	**7**	05-Sep-2022	29-Aug-2022	**7**
HA02_0.0-0.2_220822,	HA02_1.4-1.5_220822,						
HA03_0.5-0.6_220822,	HA03_1.4-1.5_220822,						
HA04_0.1-0.2_220822,	HA04_1.0-1.1_220822,						
HA07_0.05-0.15_220822,	HA07_0.4-0.5_220822,						
HA13_0.0-0.2_220822,	HA13_0.5-0.6_220822						

Matrix: **SOIL**

Method / Container / Client Sample ID(s)		Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Days overdue	Date analysed	Due for analysis	Days overdue
EP074D: Fumigants - Analysis Holding Time Compliance							
Soil Glass Jar - Unpreserved							
HA06_0.0-0.1_220822,	HA06_1.1-1.2_220822,	05-Sep-2022	30-Aug-2022	6	05-Sep-2022	30-Aug-2022	6
HA09_0.0-0.1_220822,	HA09_1.0-1.2_220822,						
HA12_0.0-0.1_220822,	HA12_0.6-0.7_220822,						
HA15_0.0-0.1_220822,	HA15_1.1-1.2_220822						
Soil Glass Jar - Unpreserved							
HA18_0.0-0.1_220823,	HA18_1.4-1.5_220823,	05-Sep-2022	30-Aug-2022	6	06-Sep-2022	30-Aug-2022	7
HA21_0.0-0.1_220823,	HA21_1.0-1.1_220823,						
HA24_0.0-0.1_220823,	HA24_1.1-1.2_220823,						
HA23_0.0-0.1_220823,	HA23_0.5-0.6_220823,						
HA22_0.0-0.1_220823,	HA22_0.5-0.6_220823,						
HA19_0.0-0.1_220823,	HA19_1.1-1.2_220823,						
QC101_220823,	QC201_220823						
EP074E: Halogenated Aliphatic Compounds							
Soil Glass Jar - Unpreserved							
HA01_0.0-0.1_220822,	HA01_1.1-1.2_220822,	05-Sep-2022	29-Aug-2022	7	05-Sep-2022	29-Aug-2022	7
HA02_0.0-0.2_220822,	HA02_1.4-1.5_220822,						
HA03_0.5-0.6_220822,	HA03_1.4-1.5_220822,						
HA04_0.1-0.2_220822,	HA04_1.0-1.1_220822,						
HA07_0.05-0.15_220822,	HA07_0.4-0.5_220822,						
HA13_0.0-0.2_220822,	HA13_0.5-0.6_220822						
Soil Glass Jar - Unpreserved							
HA06_0.0-0.1_220822,	HA06_1.1-1.2_220822,	05-Sep-2022	30-Aug-2022	6	05-Sep-2022	30-Aug-2022	6
HA09_0.0-0.1_220822,	HA09_1.0-1.2_220822,						
HA12_0.0-0.1_220822,	HA12_0.6-0.7_220822,						
HA15_0.0-0.1_220822,	HA15_1.1-1.2_220822						
Soil Glass Jar - Unpreserved							
HA18_0.0-0.1_220823,	HA18_1.4-1.5_220823,	05-Sep-2022	30-Aug-2022	6	06-Sep-2022	30-Aug-2022	7
HA21_0.0-0.1_220823,	HA21_1.0-1.1_220823,						
HA24_0.0-0.1_220823,	HA24_1.1-1.2_220823,						
HA23_0.0-0.1_220823,	HA23_0.5-0.6_220823,						
HA22_0.0-0.1_220823,	HA22_0.5-0.6_220823,						
HA19_0.0-0.1_220823,	HA19_1.1-1.2_220823,						
QC101_220823,	QC201_220823						
EP074F: Halogenated Aromatic Compounds							

Matrix: **SOIL**

Method / Container / Client Sample ID(s)		Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Days overdue	Date analysed	Due for analysis	Days overdue
EP074F: Halogenated Aromatic Compounds - Analysis Holding Time Compliance							
Soil Glass Jar - Unpreserved							
HA01_0.0-0.1_220822,	HA01_1.1-1.2_220822,	05-Sep-2022	29-Aug-2022	**7**	05-Sep-2022	29-Aug-2022	**7**
HA02_0.0-0.2_220822,	HA02_1.4-1.5_220822,						
HA03_0.5-0.6_220822,	HA03_1.4-1.5_220822,						
HA04_0.1-0.2_220822,	HA04_1.0-1.1_220822,						
HA07_0.05-0.15_220822,	HA07_0.4-0.5_220822,						
HA13_0.0-0.2_220822,	HA13_0.5-0.6_220822						
Soil Glass Jar - Unpreserved							
HA06_0.0-0.1_220822,	HA06_1.1-1.2_220822,	05-Sep-2022	30-Aug-2022	**6**	05-Sep-2022	30-Aug-2022	**6**
HA09_0.0-0.1_220822,	HA09_1.0-1.2_220822,						
HA12_0.0-0.1_220822,	HA12_0.6-0.7_220822,						
HA15_0.0-0.1_220822,	HA15_1.1-1.2_220822						
Soil Glass Jar - Unpreserved							
HA18_0.0-0.1_220823,	HA18_1.4-1.5_220823,	05-Sep-2022	30-Aug-2022	**6**	06-Sep-2022	30-Aug-2022	**7**
HA21_0.0-0.1_220823,	HA21_1.0-1.1_220823,						
HA24_0.0-0.1_220823,	HA24_1.1-1.2_220823,						
HA23_0.0-0.1_220823,	HA23_0.5-0.6_220823,						
HA22_0.0-0.1_220823,	HA22_0.5-0.6_220823,						
HA19_0.0-0.1_220823,	HA19_1.1-1.2_220823,						
QC101_220823,	QC201_220823						
EP074G: Trihalomethanes							
Soil Glass Jar - Unpreserved							
HA01_0.0-0.1_220822,	HA01_1.1-1.2_220822,	05-Sep-2022	29-Aug-2022	**7**	05-Sep-2022	29-Aug-2022	**7**
HA02_0.0-0.2_220822,	HA02_1.4-1.5_220822,						
HA03_0.5-0.6_220822,	HA03_1.4-1.5_220822,						
HA04_0.1-0.2_220822,	HA04_1.0-1.1_220822,						
HA07_0.05-0.15_220822,	HA07_0.4-0.5_220822,						
HA13_0.0-0.2_220822,	HA13_0.5-0.6_220822						
Soil Glass Jar - Unpreserved							
HA06_0.0-0.1_220822,	HA06_1.1-1.2_220822,	05-Sep-2022	30-Aug-2022	**6**	05-Sep-2022	30-Aug-2022	**6**
HA09_0.0-0.1_220822,	HA09_1.0-1.2_220822,						
HA12_0.0-0.1_220822,	HA12_0.6-0.7_220822,						
HA15_0.0-0.1_220822,	HA15_1.1-1.2_220822						
Soil Glass Jar - Unpreserved							
HA18_0.0-0.1_220823,	HA18_1.4-1.5_220823,	05-Sep-2022	30-Aug-2022	**6**	06-Sep-2022	30-Aug-2022	**7**
HA21_0.0-0.1_220823,	HA21_1.0-1.1_220823,						
HA24_0.0-0.1_220823,	HA24_1.1-1.2_220823,						
HA23_0.0-0.1_220823,	HA23_0.5-0.6_220823,						
HA22_0.0-0.1_220823,	HA22_0.5-0.6_220823,						
HA19_0.0-0.1_220823,	HA19_1.1-1.2_220823,						
QC101_220823,	QC201_220823						

Matrix: **SOIL**

Method / Container / Client Sample ID(s)	Extraction / Preparation: Date extracted	Extraction / Preparation: Due for extraction	Extraction / Preparation: Days overdue	Analysis: Date analysed	Analysis: Due for analysis	Analysis: Days overdue
EP080/071: Total Petroleum Hydrocarbons						
Soil Glass Jar - Unpreserved						
QC600_220823 - Trip Spike 13	05-Sep-2022	29-Aug-2022	**7**	06-Sep-2022	29-Aug-2022	**8**
Soil Glass Jar - Unpreserved						
Trip Spike Control 13	07-Sep-2022	29-Aug-2022	**9**	07-Sep-2022	29-Aug-2022	**9**
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions						
Soil Glass Jar - Unpreserved						
QC600_220823 - Trip Spike 13	05-Sep-2022	29-Aug-2022	**7**	06-Sep-2022	29-Aug-2022	**8**
Soil Glass Jar - Unpreserved						
Trip Spike Control 13	07-Sep-2022	29-Aug-2022	**9**	07-Sep-2022	29-Aug-2022	**9**
EP080: BTEXN						
Soil Glass Jar - Unpreserved						
QC600_220823 - Trip Spike 13	05-Sep-2022	29-Aug-2022	**7**	06-Sep-2022	29-Aug-2022	**8**
Soil Glass Jar - Unpreserved						
Trip Spike Control 13	07-Sep-2022	29-Aug-2022	**9**	07-Sep-2022	29-Aug-2022	**9**

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: Date extracted	Extraction / Preparation: Due for extraction	Extraction / Preparation: Evaluation	Analysis: Date analysed	Analysis: Due for analysis	Analysis: Evaluation
EA055: Moisture Content (Dried @ 105-110°C)							
Soil Glass Jar - Unpreserved (EA055)							
QC600_220823 - Trip Spike 13	**15-Aug-2022**	**----**	----	----	**05-Sep-2022**	29-Aug-2022	×
Soil Glass Jar - Unpreserved (EA055)							
HA01_0.0-0.1_220822, HA01_1.1-1.2_220822, HA02_0.0-0.2_220822, HA02_1.4-1.5_220822, HA03_0.5-0.6_220822, HA03_1.4-1.5_220822, HA04_0.1-0.2_220822, HA04_1.0-1.1_220822, HA07_0.05-0.15_220822, HA07_0.4-0.5_220822, HA13_0.0-0.2_220822, HA13_0.5-0.6_220822	**22-Aug-2022**	**----**	----	----	**05-Sep-2022**	05-Sep-2022	✓
Soil Glass Jar - Unpreserved (EA055)							

Matrix: **SOIL**

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

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA055: Moisture Content (Dried @ 105-110°C) - Continued							
HA06_0.0-0.1_220822, HA06_1.1-1.2_220822, HA09_0.0-0.1_220822, HA09_1.0-1.2_220822, HA12_0.0-0.1_220822, HA12_0.6-0.7_220822, HA15_0.0-0.1_220822, HA15_1.1-1.2_220822, HA18_0.0-0.1_220823, HA18_1.4-1.5_220823, HA21_0.0-0.1_220823, HA21_1.0-1.1_220823, HA24_0.0-0.1_220823, HA24_1.1-1.2_220823, HA23_0.0-0.1_220823, HA23_0.5-0.6_220823, HA22_0.0-0.1_220823, HA22_0.5-0.6_220823, HA19_0.0-0.1_220823, HA19_1.1-1.2_220823, QC101_220823, QC201_220823, QC500_220823	**23-Aug-2022**	**----**	----	----	**05-Sep-2022**	06-Sep-2022	✓
EA200: AS 4964 - 2004 Identification of Asbestos in Soils							
Snap Lock Bag (EA200) HA04_0.1-0.2_220822	**22-Aug-2022**	**----**	----	----	**06-Sep-2022**	18-Feb-2023	✓
Snap Lock Bag (EA200) HA06_0.0-0.1_220822, HA09_0.0-0.1_220822, HA12_0.0-0.1_220822, HA15_0.0-0.1_220822, HA21_0.0-0.1_220823, HA24_0.0-0.1_220823, HA22_0.0-0.1_220823, HA22_0.5-0.6_220823, HA22_1.2-1.3_220823, QC101_220823, QC201_220823	**23-Aug-2022**	**----**	----	----	**06-Sep-2022**	19-Feb-2023	✓

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
EG005(ED093)T: Total Metals by ICP-AES								
Soil Glass Jar - Unpreserved (EG005T)								
HA01_0.0-0.1_220822,	HA01_1.1-1.2_220822,	**22-Aug-2022**	**05-Sep-2022**	18-Feb-2023	✓	**06-Sep-2022**	18-Feb-2023	✓
HA02_0.0-0.2_220822,	HA02_1.4-1.5_220822,							
HA03_0.5-0.6_220822,	HA03_1.4-1.5_220822,							
HA04_0.1-0.2_220822,	HA04_1.0-1.1_220822,							
HA07_0.05-0.15_220822,	HA07_0.4-0.5_220822,							
HA13_0.0-0.2_220822,	HA13_0.5-0.6_220822							
Soil Glass Jar - Unpreserved (EG005T)								
HA06_0.0-0.1_220822,	HA06_1.1-1.2_220822,	**23-Aug-2022**	**05-Sep-2022**	19-Feb-2023	✓	**06-Sep-2022**	19-Feb-2023	✓
HA09_0.0-0.1_220822,	HA09_1.0-1.2_220822,							
HA12_0.0-0.1_220822,	HA12_0.6-0.7_220822,							
HA15_0.0-0.1_220822,	HA15_1.1-1.2_220822,							
HA18_0.0-0.1_220823,	HA18_1.4-1.5_220823,							
HA21_0.0-0.1_220823,	HA21_1.0-1.1_220823,							
HA24_0.0-0.1_220823,	HA24_1.1-1.2_220823,							
HA23_0.0-0.1_220823,	HA23_0.5-0.6_220823,							
HA22_0.0-0.1_220823,	HA22_0.5-0.6_220823,							
HA19_0.0-0.1_220823,	HA19_1.1-1.2_220823,							
QC101_220823,	QC201_220823							
EG035T: Total Recoverable Mercury by FIMS								
Soil Glass Jar - Unpreserved (EG035T)								
HA01_0.0-0.1_220822,	HA01_1.1-1.2_220822,	**22-Aug-2022**	**05-Sep-2022**	19-Sep-2022	✓	**07-Sep-2022**	19-Sep-2022	✓
HA02_0.0-0.2_220822,	HA02_1.4-1.5_220822,							
HA03_0.5-0.6_220822,	HA03_1.4-1.5_220822,							
HA04_0.1-0.2_220822,	HA04_1.0-1.1_220822,							
HA07_0.05-0.15_220822,	HA07_0.4-0.5_220822,							
HA13_0.0-0.2_220822,	HA13_0.5-0.6_220822							
Soil Glass Jar - Unpreserved (EG035T)								
HA06_0.0-0.1_220822,	HA06_1.1-1.2_220822,	**23-Aug-2022**	**05-Sep-2022**	20-Sep-2022	✓	**07-Sep-2022**	20-Sep-2022	✓
HA09_0.0-0.1_220822,	HA09_1.0-1.2_220822,							
HA12_0.0-0.1_220822,	HA12_0.6-0.7_220822,							
HA15_0.0-0.1_220822,	HA15_1.1-1.2_220822,							
HA18_0.0-0.1_220823,	HA18_1.4-1.5_220823,							
HA21_0.0-0.1_220823,	HA21_1.0-1.1_220823,							
HA24_0.0-0.1_220823,	HA24_1.1-1.2_220823,							
HA23_0.0-0.1_220823,	HA23_0.5-0.6_220823,							
HA22_0.0-0.1_220823,	HA22_0.5-0.6_220823,							
HA19_0.0-0.1_220823,	HA19_1.1-1.2_220823,							
QC101_220823,	QC201_220823							

Matrix: **SOIL**

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

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP066: Polychlorinated Biphenyls (PCB)								
Soil Glass Jar - Unpreserved (EP066)								
HA01_0.0-0.1_220822,	HA01_1.1-1.2_220822,	**22-Aug-2022**	**05-Sep-2022**	05-Sep-2022	✓	**06-Sep-2022**	15-Oct-2022	✓
HA02_0.0-0.2_220822,	HA02_1.4-1.5_220822,							
HA03_0.5-0.6_220822,	HA03_1.4-1.5_220822,							
HA04_0.1-0.2_220822,	HA04_1.0-1.1_220822,							
HA07_0.05-0.15_220822,	HA07_0.4-0.5_220822,							
HA13_0.0-0.2_220822,	HA13_0.5-0.6_220822							
Soil Glass Jar - Unpreserved (EP066)								
HA06_0.0-0.1_220822,	HA06_1.1-1.2_220822,	**23-Aug-2022**	**05-Sep-2022**	06-Sep-2022	✓	**06-Sep-2022**	15-Oct-2022	✓
HA09_0.0-0.1_220822,	HA09_1.0-1.2_220822,							
HA12_0.0-0.1_220822,	HA12_0.6-0.7_220822,							
HA15_0.0-0.1_220822,	HA15_1.1-1.2_220822,							
HA18_0.0-0.1_220823,	HA18_1.4-1.5_220823,							
HA21_0.0-0.1_220823,	HA21_1.0-1.1_220823,							
HA24_0.0-0.1_220823,	HA24_1.1-1.2_220823,							
HA23_0.0-0.1_220823,	HA23_0.5-0.6_220823,							
HA22_0.0-0.1_220823,	HA22_0.5-0.6_220823,							
HA19_0.0-0.1_220823,	HA19_1.1-1.2_220823,							
QC101_220823,	QC201_220823							
EP068A: Organochlorine Pesticides (OC)								
Soil Glass Jar - Unpreserved (EP068)								
HA01_0.0-0.1_220822,	HA01_1.1-1.2_220822,	**22-Aug-2022**	**05-Sep-2022**	05-Sep-2022	✓	**06-Sep-2022**	15-Oct-2022	✓
HA02_0.0-0.2_220822,	HA02_1.4-1.5_220822,							
HA03_0.5-0.6_220822,	HA03_1.4-1.5_220822,							
HA04_0.1-0.2_220822,	HA04_1.0-1.1_220822,							
HA07_0.05-0.15_220822,	HA07_0.4-0.5_220822,							
HA13_0.0-0.2_220822,	HA13_0.5-0.6_220822							
Soil Glass Jar - Unpreserved (EP068)								
HA06_0.0-0.1_220822,	HA06_1.1-1.2_220822,	**23-Aug-2022**	**05-Sep-2022**	06-Sep-2022	✓	**06-Sep-2022**	15-Oct-2022	✓
HA09_0.0-0.1_220822,	HA09_1.0-1.2_220822,							
HA12_0.0-0.1_220822,	HA12_0.6-0.7_220822,							
HA15_0.0-0.1_220822,	HA15_1.1-1.2_220822,							
HA18_0.0-0.1_220823,	HA18_1.4-1.5_220823,							
HA21_0.0-0.1_220823,	HA21_1.0-1.1_220823,							
HA24_0.0-0.1_220823,	HA24_1.1-1.2_220823,							
HA23_0.0-0.1_220823,	HA23_0.5-0.6_220823,							
HA22_0.0-0.1_220823,	HA22_0.5-0.6_220823,							
HA19_0.0-0.1_220823,	HA19_1.1-1.2_220823,							
QC101_220823,	QC201_220823							

Matrix: **SOIL**

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

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP068B: Organophosphorus Pesticides (OP)								
Soil Glass Jar - Unpreserved (EP068)								
HA01_0.0-0.1_220822,	HA01_1.1-1.2_220822,	**22-Aug-2022**	**05-Sep-2022**	05-Sep-2022	✓	**06-Sep-2022**	15-Oct-2022	✓
HA02_0.0-0.2_220822,	HA02_1.4-1.5_220822,							
HA03_0.5-0.6_220822,	HA03_1.4-1.5_220822,							
HA04_0.1-0.2_220822,	HA04_1.0-1.1_220822,							
HA07_0.05-0.15_220822,	HA07_0.4-0.5_220822,							
HA13_0.0-0.2_220822,	HA13_0.5-0.6_220822							
Soil Glass Jar - Unpreserved (EP068)								
HA06_0.0-0.1_220822,	HA06_1.1-1.2_220822,	**23-Aug-2022**	**05-Sep-2022**	06-Sep-2022	✓	**06-Sep-2022**	15-Oct-2022	✓
HA09_0.0-0.1_220822,	HA09_1.0-1.2_220822,							
HA12_0.0-0.1_220822,	HA12_0.6-0.7_220822,							
HA15_0.0-0.1_220822,	HA15_1.1-1.2_220822,							
HA18_0.0-0.1_220823,	HA18_1.4-1.5_220823,							
HA21_0.0-0.1_220823,	HA21_1.0-1.1_220823,							
HA24_0.0-0.1_220823,	HA24_1.1-1.2_220823,							
HA23_0.0-0.1_220823,	HA23_0.5-0.6_220823,							
HA22_0.0-0.1_220823,	HA22_0.5-0.6_220823,							
HA19_0.0-0.1_220823,	HA19_1.1-1.2_220823,							
QC101_220823,	QC201_220823							
EP074A: Monocyclic Aromatic Hydrocarbons								
Soil Glass Jar - Unpreserved (EP074)								
HA01_0.0-0.1_220822,	HA01_1.1-1.2_220822,	**22-Aug-2022**	**05-Sep-2022**	29-Aug-2022	×	**05-Sep-2022**	29-Aug-2022	×
HA02_0.0-0.2_220822,	HA02_1.4-1.5_220822,							
HA03_0.5-0.6_220822,	HA03_1.4-1.5_220822,							
HA04_0.1-0.2_220822,	HA04_1.0-1.1_220822,							
HA07_0.05-0.15_220822,	HA07_0.4-0.5_220822,							
HA13_0.0-0.2_220822,	HA13_0.5-0.6_220822							
Soil Glass Jar - Unpreserved (EP074)								
HA06_0.0-0.1_220822,	HA06_1.1-1.2_220822,	**23-Aug-2022**	**05-Sep-2022**	30-Aug-2022	×	**05-Sep-2022**	30-Aug-2022	×
HA09_0.0-0.1_220822,	HA09_1.0-1.2_220822,							
HA12_0.0-0.1_220822,	HA12_0.6-0.7_220822,							
HA15_0.0-0.1_220822,	HA15_1.1-1.2_220822							
Soil Glass Jar - Unpreserved (EP074)								
HA18_0.0-0.1_220823,	HA18_1.4-1.5_220823,	**23-Aug-2022**	**05-Sep-2022**	30-Aug-2022	×	**06-Sep-2022**	30-Aug-2022	×
HA21_0.0-0.1_220823,	HA21_1.0-1.1_220823,							
HA24_0.0-0.1_220823,	HA24_1.1-1.2_220823,							
HA23_0.0-0.1_220823,	HA23_0.5-0.6_220823,							
HA22_0.0-0.1_220823,	HA22_0.5-0.6_220823,							
HA19_0.0-0.1_220823,	HA19_1.1-1.2_220823,							
QC101_220823,	QC201_220823							

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
EP074B: Oxygenated Compounds								
Soil Glass Jar - Unpreserved (EP074)								
HA01_0.0-0.1_220822,	HA01_1.1-1.2_220822,	**22-Aug-2022**	**05-Sep-2022**	29-Aug-2022	×	**05-Sep-2022**	29-Aug-2022	×
HA02_0.0-0.2_220822,	HA02_1.4-1.5_220822,							
HA03_0.5-0.6_220822,	HA03_1.4-1.5_220822,							
HA04_0.1-0.2_220822,	HA04_1.0-1.1_220822,							
HA07_0.05-0.15_220822,	HA07_0.4-0.5_220822,							
HA13_0.0-0.2_220822,	HA13_0.5-0.6_220822							
Soil Glass Jar - Unpreserved (EP074)								
HA06_0.0-0.1_220822,	HA06_1.1-1.2_220822,	**23-Aug-2022**	**05-Sep-2022**	30-Aug-2022	×	**05-Sep-2022**	30-Aug-2022	×
HA09_0.0-0.1_220822,	HA09_1.0-1.2_220822,							
HA12_0.0-0.1_220822,	HA12_0.6-0.7_220822,							
HA15_0.0-0.1_220822,	HA15_1.1-1.2_220822							
Soil Glass Jar - Unpreserved (EP074)								
HA18_0.0-0.1_220823,	HA18_1.4-1.5_220823,	**23-Aug-2022**	**05-Sep-2022**	30-Aug-2022	×	**06-Sep-2022**	30-Aug-2022	×
HA21_0.0-0.1_220823,	HA21_1.0-1.1_220823,							
HA24_0.0-0.1_220823,	HA24_1.1-1.2_220823,							
HA23_0.0-0.1_220823,	HA23_0.5-0.6_220823,							
HA22_0.0-0.1_220823,	HA22_0.5-0.6_220823,							
HA19_0.0-0.1_220823,	HA19_1.1-1.2_220823,							
QC101_220823,	QC201_220823							
EP074C: Sulfonated Compounds								
Soil Glass Jar - Unpreserved (EP074)								
HA01_0.0-0.1_220822,	HA01_1.1-1.2_220822,	**22-Aug-2022**	**05-Sep-2022**	29-Aug-2022	×	**05-Sep-2022**	29-Aug-2022	×
HA02_0.0-0.2_220822,	HA02_1.4-1.5_220822,							
HA03_0.5-0.6_220822,	HA03_1.4-1.5_220822,							
HA04_0.1-0.2_220822,	HA04_1.0-1.1_220822,							
HA07_0.05-0.15_220822,	HA07_0.4-0.5_220822,							
HA13_0.0-0.2_220822,	HA13_0.5-0.6_220822							
Soil Glass Jar - Unpreserved (EP074)								
HA06_0.0-0.1_220822,	HA06_1.1-1.2_220822,	**23-Aug-2022**	**05-Sep-2022**	30-Aug-2022	×	**05-Sep-2022**	30-Aug-2022	×
HA09_0.0-0.1_220822,	HA09_1.0-1.2_220822,							
HA12_0.0-0.1_220822,	HA12_0.6-0.7_220822,							
HA15_0.0-0.1_220822,	HA15_1.1-1.2_220822							
Soil Glass Jar - Unpreserved (EP074)								
HA18_0.0-0.1_220823,	HA18_1.4-1.5_220823,	**23-Aug-2022**	**05-Sep-2022**	30-Aug-2022	×	**06-Sep-2022**	30-Aug-2022	×
HA21_0.0-0.1_220823,	HA21_1.0-1.1_220823,							
HA24_0.0-0.1_220823,	HA24_1.1-1.2_220823,							
HA23_0.0-0.1_220823,	HA23_0.5-0.6_220823,							
HA22_0.0-0.1_220823,	HA22_0.5-0.6_220823,							
HA19_0.0-0.1_220823,	HA19_1.1-1.2_220823,							
QC101_220823,	QC201_220823							

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
EP074D: Fumigants								
Soil Glass Jar - Unpreserved (EP074)								
HA01_0.0-0.1_220822,	HA01_1.1-1.2_220822,	**22-Aug-2022**	**05-Sep-2022**	29-Aug-2022	×	**05-Sep-2022**	29-Aug-2022	×
HA02_0.0-0.2_220822,	HA02_1.4-1.5_220822,							
HA03_0.5-0.6_220822,	HA03_1.4-1.5_220822,							
HA04_0.1-0.2_220822,	HA04_1.0-1.1_220822,							
HA07_0.05-0.15_220822,	HA07_0.4-0.5_220822,							
HA13_0.0-0.2_220822,	HA13_0.5-0.6_220822							
Soil Glass Jar - Unpreserved (EP074)								
HA06_0.0-0.1_220822,	HA06_1.1-1.2_220822,	**23-Aug-2022**	**05-Sep-2022**	30-Aug-2022	×	**05-Sep-2022**	30-Aug-2022	×
HA09_0.0-0.1_220822,	HA09_1.0-1.2_220822,							
HA12_0.0-0.1_220822,	HA12_0.6-0.7_220822,							
HA15_0.0-0.1_220822,	HA15_1.1-1.2_220822							
Soil Glass Jar - Unpreserved (EP074)								
HA18_0.0-0.1_220823,	HA18_1.4-1.5_220823,	**23-Aug-2022**	**05-Sep-2022**	30-Aug-2022	×	**06-Sep-2022**	30-Aug-2022	×
HA21_0.0-0.1_220823,	HA21_1.0-1.1_220823,							
HA24_0.0-0.1_220823,	HA24_1.1-1.2_220823,							
HA23_0.0-0.1_220823,	HA23_0.5-0.6_220823,							
HA22_0.0-0.1_220823,	HA22_0.5-0.6_220823,							
HA19_0.0-0.1_220823,	HA19_1.1-1.2_220823,							
QC101_220823,	QC201_220823							
EP074E: Halogenated Aliphatic Compounds								
Soil Glass Jar - Unpreserved (EP074)								
HA01_0.0-0.1_220822,	HA01_1.1-1.2_220822,	**22-Aug-2022**	**05-Sep-2022**	29-Aug-2022	×	**05-Sep-2022**	29-Aug-2022	×
HA02_0.0-0.2_220822,	HA02_1.4-1.5_220822,							
HA03_0.5-0.6_220822,	HA03_1.4-1.5_220822,							
HA04_0.1-0.2_220822,	HA04_1.0-1.1_220822,							
HA07_0.05-0.15_220822,	HA07_0.4-0.5_220822,							
HA13_0.0-0.2_220822,	HA13_0.5-0.6_220822							
Soil Glass Jar - Unpreserved (EP074)								
HA06_0.0-0.1_220822,	HA06_1.1-1.2_220822,	**23-Aug-2022**	**05-Sep-2022**	30-Aug-2022	×	**05-Sep-2022**	30-Aug-2022	×
HA09_0.0-0.1_220822,	HA09_1.0-1.2_220822,							
HA12_0.0-0.1_220822,	HA12_0.6-0.7_220822,							
HA15_0.0-0.1_220822,	HA15_1.1-1.2_220822							
Soil Glass Jar - Unpreserved (EP074)								
HA18_0.0-0.1_220823,	HA18_1.4-1.5_220823,	**23-Aug-2022**	**05-Sep-2022**	30-Aug-2022	×	**06-Sep-2022**	30-Aug-2022	×
HA21_0.0-0.1_220823,	HA21_1.0-1.1_220823,							
HA24_0.0-0.1_220823,	HA24_1.1-1.2_220823,							
HA23_0.0-0.1_220823,	HA23_0.5-0.6_220823,							
HA22_0.0-0.1_220823,	HA22_0.5-0.6_220823,							
HA19_0.0-0.1_220823,	HA19_1.1-1.2_220823,							
QC101_220823,	QC201_220823							

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
EP074F: Halogenated Aromatic Compounds								
Soil Glass Jar - Unpreserved (EP074)								
HA01_0.0-0.1_220822,	HA01_1.1-1.2_220822,	**22-Aug-2022**	**05-Sep-2022**	29-Aug-2022	×	**05-Sep-2022**	29-Aug-2022	×
HA02_0.0-0.2_220822,	HA02_1.4-1.5_220822,							
HA03_0.5-0.6_220822,	HA03_1.4-1.5_220822,							
HA04_0.1-0.2_220822,	HA04_1.0-1.1_220822,							
HA07_0.05-0.15_220822,	HA07_0.4-0.5_220822,							
HA13_0.0-0.2_220822,	HA13_0.5-0.6_220822							
Soil Glass Jar - Unpreserved (EP074)								
HA06_0.0-0.1_220822,	HA06_1.1-1.2_220822,	**23-Aug-2022**	**05-Sep-2022**	30-Aug-2022	×	**05-Sep-2022**	30-Aug-2022	×
HA09_0.0-0.1_220822,	HA09_1.0-1.2_220822,							
HA12_0.0-0.1_220822,	HA12_0.6-0.7_220822,							
HA15_0.0-0.1_220822,	HA15_1.1-1.2_220822							
Soil Glass Jar - Unpreserved (EP074)								
HA18_0.0-0.1_220823,	HA18_1.4-1.5_220823,	**23-Aug-2022**	**05-Sep-2022**	30-Aug-2022	×	**06-Sep-2022**	30-Aug-2022	×
HA21_0.0-0.1_220823,	HA21_1.0-1.1_220823,							
HA24_0.0-0.1_220823,	HA24_1.1-1.2_220823,							
HA23_0.0-0.1_220823,	HA23_0.5-0.6_220823,							
HA22_0.0-0.1_220823,	HA22_0.5-0.6_220823,							
HA19_0.0-0.1_220823,	HA19_1.1-1.2_220823,							
QC101_220823,	QC201_220823							
EP074G: Trihalomethanes								
Soil Glass Jar - Unpreserved (EP074)								
HA01_0.0-0.1_220822,	HA01_1.1-1.2_220822,	**22-Aug-2022**	**05-Sep-2022**	29-Aug-2022	×	**05-Sep-2022**	29-Aug-2022	×
HA02_0.0-0.2_220822,	HA02_1.4-1.5_220822,							
HA03_0.5-0.6_220822,	HA03_1.4-1.5_220822,							
HA04_0.1-0.2_220822,	HA04_1.0-1.1_220822,							
HA07_0.05-0.15_220822,	HA07_0.4-0.5_220822,							
HA13_0.0-0.2_220822,	HA13_0.5-0.6_220822							
Soil Glass Jar - Unpreserved (EP074)								
HA06_0.0-0.1_220822,	HA06_1.1-1.2_220822,	**23-Aug-2022**	**05-Sep-2022**	30-Aug-2022	×	**05-Sep-2022**	30-Aug-2022	×
HA09_0.0-0.1_220822,	HA09_1.0-1.2_220822,							
HA12_0.0-0.1_220822,	HA12_0.6-0.7_220822,							
HA15_0.0-0.1_220822,	HA15_1.1-1.2_220822							
Soil Glass Jar - Unpreserved (EP074)								
HA18_0.0-0.1_220823,	HA18_1.4-1.5_220823,	**23-Aug-2022**	**05-Sep-2022**	30-Aug-2022	×	**06-Sep-2022**	30-Aug-2022	×
HA21_0.0-0.1_220823,	HA21_1.0-1.1_220823,							
HA24_0.0-0.1_220823,	HA24_1.1-1.2_220823,							
HA23_0.0-0.1_220823,	HA23_0.5-0.6_220823,							
HA22_0.0-0.1_220823,	HA22_0.5-0.6_220823,							
HA19_0.0-0.1_220823,	HA19_1.1-1.2_220823,							
QC101_220823,	QC201_220823							

Matrix: **SOIL**

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

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Soil Glass Jar - Unpreserved (EP075(SIM))								
HA01_0.0-0.1_220822,	HA01_1.1-1.2_220822,	**22-Aug-2022**	**05-Sep-2022**	05-Sep-2022	✓	**06-Sep-2022**	15-Oct-2022	✓
HA02_0.0-0.2_220822,	HA02_1.4-1.5_220822,							
HA03_0.5-0.6_220822,	HA03_1.4-1.5_220822,							
HA04_0.1-0.2_220822,	HA04_1.0-1.1_220822,							
HA07_0.05-0.15_220822,	HA07_0.4-0.5_220822,							
HA13_0.0-0.2_220822,	HA13_0.5-0.6_220822							
Soil Glass Jar - Unpreserved (EP075(SIM))								
HA06_0.0-0.1_220822,	HA06_1.1-1.2_220822,	**23-Aug-2022**	**05-Sep-2022**	06-Sep-2022	✓	**06-Sep-2022**	15-Oct-2022	✓
HA09_0.0-0.1_220822,	HA09_1.0-1.2_220822,							
HA12_0.0-0.1_220822,	HA12_0.6-0.7_220822,							
HA15_0.0-0.1_220822,	HA15_1.1-1.2_220822,							
HA18_0.0-0.1_220823,	HA18_1.4-1.5_220823,							
HA21_0.0-0.1_220823,	HA21_1.0-1.1_220823,							
HA24_0.0-0.1_220823,	HA24_1.1-1.2_220823,							
HA23_0.0-0.1_220823,	HA23_0.5-0.6_220823,							
HA22_0.0-0.1_220823,	HA22_0.5-0.6_220823,							
HA19_0.0-0.1_220823,	HA19_1.1-1.2_220823,							
QC101_220823,	QC201_220823							
EP075A: Phenolic Compounds								
Soil Glass Jar - Unpreserved (EP075)								
HA01_0.0-0.1_220822,	HA01_1.1-1.2_220822,	**22-Aug-2022**	**05-Sep-2022**	05-Sep-2022	✓	**06-Sep-2022**	15-Oct-2022	✓
HA02_0.0-0.2_220822,	HA02_1.4-1.5_220822,							
HA03_0.5-0.6_220822,	HA03_1.4-1.5_220822,							
HA04_0.1-0.2_220822,	HA04_1.0-1.1_220822,							
HA07_0.05-0.15_220822,	HA07_0.4-0.5_220822,							
HA13_0.0-0.2_220822,	HA13_0.5-0.6_220822							
Soil Glass Jar - Unpreserved (EP075)								
HA06_0.0-0.1_220822,	HA06_1.1-1.2_220822,	**23-Aug-2022**	**05-Sep-2022**	06-Sep-2022	✓	**06-Sep-2022**	15-Oct-2022	✓
HA09_0.0-0.1_220822,	HA09_1.0-1.2_220822,							
HA12_0.0-0.1_220822,	HA12_0.6-0.7_220822,							
HA15_0.0-0.1_220822,	HA15_1.1-1.2_220822,							
HA18_0.0-0.1_220823,	HA18_1.4-1.5_220823,							
HA21_0.0-0.1_220823,	HA21_1.0-1.1_220823,							
HA24_0.0-0.1_220823,	HA24_1.1-1.2_220823,							
HA23_0.0-0.1_220823,	HA23_0.5-0.6_220823,							
HA22_0.0-0.1_220823,	HA22_0.5-0.6_220823,							
HA19_0.0-0.1_220823,	HA19_1.1-1.2_220823,							
QC101_220823,	QC201_220823							

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)								
HA01_0.0-0.1_220822,	HA01_1.1-1.2_220822,	**22-Aug-2022**	**05-Sep-2022**	05-Sep-2022	✓	**06-Sep-2022**	15-Oct-2022	✓
HA02_0.0-0.2_220822,	HA02_1.4-1.5_220822,							
HA03_0.5-0.6_220822,	HA03_1.4-1.5_220822,							
HA04_0.1-0.2_220822,	HA04_1.0-1.1_220822,							
HA07_0.05-0.15_220822,	HA07_0.4-0.5_220822,							
HA13_0.0-0.2_220822,	HA13_0.5-0.6_220822							
Soil Glass Jar - Unpreserved (EP075)								
HA06_0.0-0.1_220822,	HA06_1.1-1.2_220822,	**23-Aug-2022**	**05-Sep-2022**	06-Sep-2022	✓	**06-Sep-2022**	15-Oct-2022	✓
HA09_0.0-0.1_220822,	HA09_1.0-1.2_220822,							
HA12_0.0-0.1_220822,	HA12_0.6-0.7_220822,							
HA15_0.0-0.1_220822,	HA15_1.1-1.2_220822,							
HA18_0.0-0.1_220823,	HA18_1.4-1.5_220823,							
HA21_0.0-0.1_220823,	HA21_1.0-1.1_220823,							
HA24_0.0-0.1_220823,	HA24_1.1-1.2_220823,							
HA23_0.0-0.1_220823,	HA23_0.5-0.6_220823,							
HA22_0.0-0.1_220823,	HA22_0.5-0.6_220823,							
HA19_0.0-0.1_220823,	HA19_1.1-1.2_220823,							
QC101_220823,	QC201_220823							
EP075C: Phthalate Esters								
Soil Glass Jar - Unpreserved (EP075)								
HA01_0.0-0.1_220822,	HA01_1.1-1.2_220822,	**22-Aug-2022**	**05-Sep-2022**	05-Sep-2022	✓	**06-Sep-2022**	15-Oct-2022	✓
HA02_0.0-0.2_220822,	HA02_1.4-1.5_220822,							
HA03_0.5-0.6_220822,	HA03_1.4-1.5_220822,							
HA04_0.1-0.2_220822,	HA04_1.0-1.1_220822,							
HA07_0.05-0.15_220822,	HA07_0.4-0.5_220822,							
HA13_0.0-0.2_220822,	HA13_0.5-0.6_220822							
Soil Glass Jar - Unpreserved (EP075)								
HA06_0.0-0.1_220822,	HA06_1.1-1.2_220822,	**23-Aug-2022**	**05-Sep-2022**	06-Sep-2022	✓	**06-Sep-2022**	15-Oct-2022	✓
HA09_0.0-0.1_220822,	HA09_1.0-1.2_220822,							
HA12_0.0-0.1_220822,	HA12_0.6-0.7_220822,							
HA15_0.0-0.1_220822,	HA15_1.1-1.2_220822,							
HA18_0.0-0.1_220823,	HA18_1.4-1.5_220823,							
HA21_0.0-0.1_220823,	HA21_1.0-1.1_220823,							
HA24_0.0-0.1_220823,	HA24_1.1-1.2_220823,							
HA23_0.0-0.1_220823,	HA23_0.5-0.6_220823,							
HA22_0.0-0.1_220823,	HA22_0.5-0.6_220823,							
HA19_0.0-0.1_220823,	HA19_1.1-1.2_220823,							
QC101_220823,	QC201_220823							

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
EP075D: Nitrosamines								
Soil Glass Jar - Unpreserved (EP075)								
HA01_0.0-0.1_220822,	HA01_1.1-1.2_220822,	**22-Aug-2022**	**05-Sep-2022**	05-Sep-2022	✓	**06-Sep-2022**	15-Oct-2022	✓
HA02_0.0-0.2_220822,	HA02_1.4-1.5_220822,							
HA03_0.5-0.6_220822,	HA03_1.4-1.5_220822,							
HA04_0.1-0.2_220822,	HA04_1.0-1.1_220822,							
HA07_0.05-0.15_220822,	HA07_0.4-0.5_220822,							
HA13_0.0-0.2_220822,	HA13_0.5-0.6_220822							
Soil Glass Jar - Unpreserved (EP075)								
HA06_0.0-0.1_220822,	HA06_1.1-1.2_220822,	**23-Aug-2022**	**05-Sep-2022**	06-Sep-2022	✓	**06-Sep-2022**	15-Oct-2022	✓
HA09_0.0-0.1_220822,	HA09_1.0-1.2_220822,							
HA12_0.0-0.1_220822,	HA12_0.6-0.7_220822,							
HA15_0.0-0.1_220822,	HA15_1.1-1.2_220822,							
HA18_0.0-0.1_220823,	HA18_1.4-1.5_220823,							
HA21_0.0-0.1_220823,	HA21_1.0-1.1_220823,							
HA24_0.0-0.1_220823,	HA24_1.1-1.2_220823,							
HA23_0.0-0.1_220823,	HA23_0.5-0.6_220823,							
HA22_0.0-0.1_220823,	HA22_0.5-0.6_220823,							
HA19_0.0-0.1_220823,	HA19_1.1-1.2_220823,							
QC101_220823,	QC201_220823							
EP075E: Nitroaromatics and Ketones								
Soil Glass Jar - Unpreserved (EP075)								
HA01_0.0-0.1_220822,	HA01_1.1-1.2_220822,	**22-Aug-2022**	**05-Sep-2022**	05-Sep-2022	✓	**06-Sep-2022**	15-Oct-2022	✓
HA02_0.0-0.2_220822,	HA02_1.4-1.5_220822,							
HA03_0.5-0.6_220822,	HA03_1.4-1.5_220822,							
HA04_0.1-0.2_220822,	HA04_1.0-1.1_220822,							
HA07_0.05-0.15_220822,	HA07_0.4-0.5_220822,							
HA13_0.0-0.2_220822,	HA13_0.5-0.6_220822							
Soil Glass Jar - Unpreserved (EP075)								
HA06_0.0-0.1_220822,	HA06_1.1-1.2_220822,	**23-Aug-2022**	**05-Sep-2022**	06-Sep-2022	✓	**06-Sep-2022**	15-Oct-2022	✓
HA09_0.0-0.1_220822,	HA09_1.0-1.2_220822,							
HA12_0.0-0.1_220822,	HA12_0.6-0.7_220822,							
HA15_0.0-0.1_220822,	HA15_1.1-1.2_220822,							
HA18_0.0-0.1_220823,	HA18_1.4-1.5_220823,							
HA21_0.0-0.1_220823,	HA21_1.0-1.1_220823,							
HA24_0.0-0.1_220823,	HA24_1.1-1.2_220823,							
HA23_0.0-0.1_220823,	HA23_0.5-0.6_220823,							
HA22_0.0-0.1_220823,	HA22_0.5-0.6_220823,							
HA19_0.0-0.1_220823,	HA19_1.1-1.2_220823,							
QC101_220823,	QC201_220823							

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)								
HA01_0.0-0.1_220822,	HA01_1.1-1.2_220822,	**22-Aug-2022**	**05-Sep-2022**	05-Sep-2022	✓	**06-Sep-2022**	15-Oct-2022	✓
HA02_0.0-0.2_220822,	HA02_1.4-1.5_220822,							
HA03_0.5-0.6_220822,	HA03_1.4-1.5_220822,							
HA04_0.1-0.2_220822,	HA04_1.0-1.1_220822,							
HA07_0.05-0.15_220822,	HA07_0.4-0.5_220822,							
HA13_0.0-0.2_220822,	HA13_0.5-0.6_220822							
Soil Glass Jar - Unpreserved (EP075)								
HA06_0.0-0.1_220822,	HA06_1.1-1.2_220822,	**23-Aug-2022**	**05-Sep-2022**	06-Sep-2022	✓	**06-Sep-2022**	15-Oct-2022	✓
HA09_0.0-0.1_220822,	HA09_1.0-1.2_220822,							
HA12_0.0-0.1_220822,	HA12_0.6-0.7_220822,							
HA15_0.0-0.1_220822,	HA15_1.1-1.2_220822,							
HA18_0.0-0.1_220823,	HA18_1.4-1.5_220823,							
HA21_0.0-0.1_220823,	HA21_1.0-1.1_220823,							
HA24_0.0-0.1_220823,	HA24_1.1-1.2_220823,							
HA23_0.0-0.1_220823,	HA23_0.5-0.6_220823,							
HA22_0.0-0.1_220823,	HA22_0.5-0.6_220823,							
HA19_0.0-0.1_220823,	HA19_1.1-1.2_220823,							
QC101_220823,	QC201_220823							
EP075G: Chlorinated Hydrocarbons								
Soil Glass Jar - Unpreserved (EP075)								
HA01_0.0-0.1_220822,	HA01_1.1-1.2_220822,	**22-Aug-2022**	**05-Sep-2022**	05-Sep-2022	✓	**06-Sep-2022**	15-Oct-2022	✓
HA02_0.0-0.2_220822,	HA02_1.4-1.5_220822,							
HA03_0.5-0.6_220822,	HA03_1.4-1.5_220822,							
HA04_0.1-0.2_220822,	HA04_1.0-1.1_220822,							
HA07_0.05-0.15_220822,	HA07_0.4-0.5_220822,							
HA13_0.0-0.2_220822,	HA13_0.5-0.6_220822							
Soil Glass Jar - Unpreserved (EP075)								
HA06_0.0-0.1_220822,	HA06_1.1-1.2_220822,	**23-Aug-2022**	**05-Sep-2022**	06-Sep-2022	✓	**06-Sep-2022**	15-Oct-2022	✓
HA09_0.0-0.1_220822,	HA09_1.0-1.2_220822,							
HA12_0.0-0.1_220822,	HA12_0.6-0.7_220822,							
HA15_0.0-0.1_220822,	HA15_1.1-1.2_220822,							
HA18_0.0-0.1_220823,	HA18_1.4-1.5_220823,							
HA21_0.0-0.1_220823,	HA21_1.0-1.1_220823,							
HA24_0.0-0.1_220823,	HA24_1.1-1.2_220823,							
HA23_0.0-0.1_220823,	HA23_0.5-0.6_220823,							
HA22_0.0-0.1_220823,	HA22_0.5-0.6_220823,							
HA19_0.0-0.1_220823,	HA19_1.1-1.2_220823,							
QC101_220823,	QC201_220823							

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
EP075H: Anilines and Benzidines								
Soil Glass Jar - Unpreserved (EP075)								
HA01_0.0-0.1_220822,	HA01_1.1-1.2_220822,	**22-Aug-2022**	**05-Sep-2022**	05-Sep-2022	✓	**06-Sep-2022**	15-Oct-2022	✓
HA02_0.0-0.2_220822,	HA02_1.4-1.5_220822,							
HA03_0.5-0.6_220822,	HA03_1.4-1.5_220822,							
HA04_0.1-0.2_220822,	HA04_1.0-1.1_220822,							
HA07_0.05-0.15_220822,	HA07_0.4-0.5_220822,							
HA13_0.0-0.2_220822,	HA13_0.5-0.6_220822							
Soil Glass Jar - Unpreserved (EP075)								
HA06_0.0-0.1_220822,	HA06_1.1-1.2_220822,	**23-Aug-2022**	**05-Sep-2022**	06-Sep-2022	✓	**06-Sep-2022**	15-Oct-2022	✓
HA09_0.0-0.1_220822,	HA09_1.0-1.2_220822,							
HA12_0.0-0.1_220822,	HA12_0.6-0.7_220822,							
HA15_0.0-0.1_220822,	HA15_1.1-1.2_220822,							
HA18_0.0-0.1_220823,	HA18_1.4-1.5_220823,							
HA21_0.0-0.1_220823,	HA21_1.0-1.1_220823,							
HA24_0.0-0.1_220823,	HA24_1.1-1.2_220823,							
HA23_0.0-0.1_220823,	HA23_0.5-0.6_220823,							
HA22_0.0-0.1_220823,	HA22_0.5-0.6_220823,							
HA19_0.0-0.1_220823,	HA19_1.1-1.2_220823,							
QC101_220823,	QC201_220823							
EP075I: Organochlorine Pesticides								
Soil Glass Jar - Unpreserved (EP075)								
HA01_0.0-0.1_220822,	HA01_1.1-1.2_220822,	**22-Aug-2022**	**05-Sep-2022**	05-Sep-2022	✓	**06-Sep-2022**	15-Oct-2022	✓
HA02_0.0-0.2_220822,	HA02_1.4-1.5_220822,							
HA03_0.5-0.6_220822,	HA03_1.4-1.5_220822,							
HA04_0.1-0.2_220822,	HA04_1.0-1.1_220822,							
HA07_0.05-0.15_220822,	HA07_0.4-0.5_220822,							
HA13_0.0-0.2_220822,	HA13_0.5-0.6_220822							
Soil Glass Jar - Unpreserved (EP075)								
HA06_0.0-0.1_220822,	HA06_1.1-1.2_220822,	**23-Aug-2022**	**05-Sep-2022**	06-Sep-2022	✓	**06-Sep-2022**	15-Oct-2022	✓
HA09_0.0-0.1_220822,	HA09_1.0-1.2_220822,							
HA12_0.0-0.1_220822,	HA12_0.6-0.7_220822,							
HA15_0.0-0.1_220822,	HA15_1.1-1.2_220822,							
HA18_0.0-0.1_220823,	HA18_1.4-1.5_220823,							
HA21_0.0-0.1_220823,	HA21_1.0-1.1_220823,							
HA24_0.0-0.1_220823,	HA24_1.1-1.2_220823,							
HA23_0.0-0.1_220823,	HA23_0.5-0.6_220823,							
HA22_0.0-0.1_220823,	HA22_0.5-0.6_220823,							
HA19_0.0-0.1_220823,	HA19_1.1-1.2_220823,							
QC101_220823,	QC201_220823							

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
EP075J: Organophosphorus Pesticides								
Soil Glass Jar - Unpreserved (EP075)								
HA01_0.0-0.1_220822,	HA01_1.1-1.2_220822,	**22-Aug-2022**	**05-Sep-2022**	05-Sep-2022	✓	**06-Sep-2022**	15-Oct-2022	✓
HA02_0.0-0.2_220822,	HA02_1.4-1.5_220822,							
HA03_0.5-0.6_220822,	HA03_1.4-1.5_220822,							
HA04_0.1-0.2_220822,	HA04_1.0-1.1_220822,							
HA07_0.05-0.15_220822,	HA07_0.4-0.5_220822,							
HA13_0.0-0.2_220822,	HA13_0.5-0.6_220822							
Soil Glass Jar - Unpreserved (EP075)								
HA06_0.0-0.1_220822,	HA06_1.1-1.2_220822,	**23-Aug-2022**	**05-Sep-2022**	06-Sep-2022	✓	**06-Sep-2022**	15-Oct-2022	✓
HA09_0.0-0.1_220822,	HA09_1.0-1.2_220822,							
HA12_0.0-0.1_220822,	HA12_0.6-0.7_220822,							
HA15_0.0-0.1_220822,	HA15_1.1-1.2_220822,							
HA18_0.0-0.1_220823,	HA18_1.4-1.5_220823,							
HA21_0.0-0.1_220823,	HA21_1.0-1.1_220823,							
HA24_0.0-0.1_220823,	HA24_1.1-1.2_220823,							
HA23_0.0-0.1_220823,	HA23_0.5-0.6_220823,							
HA22_0.0-0.1_220823,	HA22_0.5-0.6_220823,							
HA19_0.0-0.1_220823,	HA19_1.1-1.2_220823,							
QC101_220823,	QC201_220823							

Matrix: **SOIL**

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

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080/071: Total Petroleum Hydrocarbons								
Soil Glass Jar - Unpreserved (EP080)								
QC600_220823 - Trip Spike 13		**15-Aug-2022**	**05-Sep-2022**	29-Aug-2022	×	**06-Sep-2022**	29-Aug-2022	×
Soil Glass Jar - Unpreserved (EP080)								
Trip Spike Control 13		**15-Aug-2022**	**07-Sep-2022**	29-Aug-2022	×	**07-Sep-2022**	29-Aug-2022	×
Soil Glass Jar - Unpreserved (EP080)								
HA01_0.0-0.1_220822,	HA01_1.1-1.2_220822,	**22-Aug-2022**	**05-Sep-2022**	05-Sep-2022	✓	**05-Sep-2022**	05-Sep-2022	✓
HA02_0.0-0.2_220822,	HA02_1.4-1.5_220822,							
HA03_0.5-0.6_220822,	HA03_1.4-1.5_220822,							
HA04_0.1-0.2_220822,	HA04_1.0-1.1_220822,							
HA07_0.05-0.15_220822,	HA07_0.4-0.5_220822,							
HA13_0.0-0.2_220822,	HA13_0.5-0.6_220822							
Soil Glass Jar - Unpreserved (EP071)								
HA01_0.0-0.1_220822,	HA01_1.1-1.2_220822,	**22-Aug-2022**	**05-Sep-2022**	05-Sep-2022	✓	**06-Sep-2022**	15-Oct-2022	✓
HA02_0.0-0.2_220822,	HA02_1.4-1.5_220822,							
HA03_0.5-0.6_220822,	HA03_1.4-1.5_220822,							
HA04_0.1-0.2_220822,	HA04_1.0-1.1_220822,							
HA07_0.05-0.15_220822,	HA07_0.4-0.5_220822,							
HA13_0.0-0.2_220822,	HA13_0.5-0.6_220822							
Soil Glass Jar - Unpreserved (EP080)								
HA06_0.0-0.1_220822,	HA06_1.1-1.2_220822,	**23-Aug-2022**	**05-Sep-2022**	06-Sep-2022	✓	**05-Sep-2022**	06-Sep-2022	✓
HA09_0.0-0.1_220822,	HA09_1.0-1.2_220822,							
HA12_0.0-0.1_220822,	HA12_0.6-0.7_220822,							
HA15_0.0-0.1_220822,	HA15_1.1-1.2_220822							
Soil Glass Jar - Unpreserved (EP080)								
HA06_0.0-0.1_220822,	HA06_1.1-1.2_220822,	**23-Aug-2022**	**05-Sep-2022**	06-Sep-2022	✓	**06-Sep-2022**	06-Sep-2022	✓
HA09_0.0-0.1_220822,	HA09_1.0-1.2_220822,							
HA12_0.0-0.1_220822,	HA12_0.6-0.7_220822,							
HA15_0.0-0.1_220822,	HA15_1.1-1.2_220822,							
HA18_0.0-0.1_220823,	HA18_1.4-1.5_220823,							
HA21_0.0-0.1_220823,	HA21_1.0-1.1_220823,							
HA24_0.0-0.1_220823,	HA24_1.1-1.2_220823,							
HA23_0.0-0.1_220823,	HA23_0.5-0.6_220823,							
HA22_0.0-0.1_220823,	HA22_0.5-0.6_220823,							
HA19_0.0-0.1_220823,	HA19_1.1-1.2_220823,							
QC101_220823,	QC201_220823,							
QC500_220823								

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)								
QC600_220823 - Trip Spike 13		**15-Aug-2022**	**05-Sep-2022**	29-Aug-2022	×	**06-Sep-2022**	29-Aug-2022	×
Soil Glass Jar - Unpreserved (EP080)								
Trip Spike Control 13		**15-Aug-2022**	**07-Sep-2022**	29-Aug-2022	×	**07-Sep-2022**	29-Aug-2022	×
Soil Glass Jar - Unpreserved (EP080)								
HA01_0.0-0.1_220822,	HA01_1.1-1.2_220822,	**22-Aug-2022**	**05-Sep-2022**	05-Sep-2022	✓	**05-Sep-2022**	05-Sep-2022	✓
HA02_0.0-0.2_220822,	HA02_1.4-1.5_220822,							
HA03_0.5-0.6_220822,	HA03_1.4-1.5_220822,							
HA04_0.1-0.2_220822,	HA04_1.0-1.1_220822,							
HA07_0.05-0.15_220822,	HA07_0.4-0.5_220822,							
HA13_0.0-0.2_220822,	HA13_0.5-0.6_220822							
Soil Glass Jar - Unpreserved (EP071)								
HA01_0.0-0.1_220822,	HA01_1.1-1.2_220822,	**22-Aug-2022**	**05-Sep-2022**	05-Sep-2022	✓	**06-Sep-2022**	15-Oct-2022	✓
HA02_0.0-0.2_220822,	HA02_1.4-1.5_220822,							
HA03_0.5-0.6_220822,	HA03_1.4-1.5_220822,							
HA04_0.1-0.2_220822,	HA04_1.0-1.1_220822,							
HA07_0.05-0.15_220822,	HA07_0.4-0.5_220822,							
HA13_0.0-0.2_220822,	HA13_0.5-0.6_220822							
Soil Glass Jar - Unpreserved (EP080)								
HA06_0.0-0.1_220822,	HA06_1.1-1.2_220822,	**23-Aug-2022**	**05-Sep-2022**	06-Sep-2022	✓	**05-Sep-2022**	06-Sep-2022	✓
HA09_0.0-0.1_220822,	HA09_1.0-1.2_220822,							
HA12_0.0-0.1_220822,	HA12_0.6-0.7_220822,							
HA15_0.0-0.1_220822,	HA15_1.1-1.2_220822							
Soil Glass Jar - Unpreserved (EP080)								
HA06_0.0-0.1_220822,	HA06_1.1-1.2_220822,	**23-Aug-2022**	**05-Sep-2022**	06-Sep-2022	✓	**06-Sep-2022**	06-Sep-2022	✓
HA09_0.0-0.1_220822,	HA09_1.0-1.2_220822,							
HA12_0.0-0.1_220822,	HA12_0.6-0.7_220822,							
HA15_0.0-0.1_220822,	HA15_1.1-1.2_220822,							
HA18_0.0-0.1_220823,	HA18_1.4-1.5_220823,							
HA21_0.0-0.1_220823,	HA21_1.0-1.1_220823,							
HA24_0.0-0.1_220823,	HA24_1.1-1.2_220823,							
HA23_0.0-0.1_220823,	HA23_0.5-0.6_220823,							
HA22_0.0-0.1_220823,	HA22_0.5-0.6_220823,							
HA19_0.0-0.1_220823,	HA19_1.1-1.2_220823,							
QC101_220823,	QC201_220823,							
QC500_220823								

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: BTEXN							
Soil Glass Jar - Unpreserved (EP080)							
QC600_220823 - Trip Spike 13	**15-Aug-2022**	**05-Sep-2022**	29-Aug-2022	×	**06-Sep-2022**	29-Aug-2022	×
Soil Glass Jar - Unpreserved (EP080)							
Trip Spike Control 13	**15-Aug-2022**	**07-Sep-2022**	29-Aug-2022	×	**07-Sep-2022**	29-Aug-2022	×
Soil Glass Jar - Unpreserved (EP080)							
HA01_0.0-0.1_220822, HA01_1.1-1.2_220822, HA02_0.0-0.2_220822, HA02_1.4-1.5_220822, HA03_0.5-0.6_220822, HA03_1.4-1.5_220822, HA04_0.1-0.2_220822, HA04_1.0-1.1_220822, HA07_0.05-0.15_220822, HA07_0.4-0.5_220822, HA13_0.0-0.2_220822, HA13_0.5-0.6_220822	**22-Aug-2022**	**05-Sep-2022**	05-Sep-2022	✓	**05-Sep-2022**	05-Sep-2022	✓
Soil Glass Jar - Unpreserved (EP080)							
HA06_0.0-0.1_220822, HA06_1.1-1.2_220822, HA09_0.0-0.1_220822, HA09_1.0-1.2_220822, HA12_0.0-0.1_220822, HA12_0.6-0.7_220822, HA15_0.0-0.1_220822, HA15_1.1-1.2_220822	**23-Aug-2022**	**05-Sep-2022**	06-Sep-2022	✓	**05-Sep-2022**	06-Sep-2022	✓
Soil Glass Jar - Unpreserved (EP080)							
HA18_0.0-0.1_220823, HA18_1.4-1.5_220823, HA21_0.0-0.1_220823, HA21_1.0-1.1_220823, HA24_0.0-0.1_220823, HA24_1.1-1.2_220823, HA23_0.0-0.1_220823, HA23_0.5-0.6_220823, HA22_0.0-0.1_220823, HA22_0.5-0.6_220823, HA19_0.0-0.1_220823, HA19_1.1-1.2_220823, QC101_220823, QC201_220823, QC500_220823	**23-Aug-2022**	**05-Sep-2022**	06-Sep-2022	✓	**06-Sep-2022**	06-Sep-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
EP231A: Perfluoroalkyl Sulfonic Acids								
HDPE Soil Jar (EP231X)								
HA01_0.0-0.1_220822,	HA01_1.1-1.2_220822,	**22-Aug-2022**	**05-Sep-2022**	18-Feb-2023	✓	**06-Sep-2022**	15-Oct-2022	✓
HA02_0.0-0.2_220822,	HA02_1.4-1.5_220822,							
HA03_0.5-0.6_220822,	HA03_1.4-1.5_220822,							
HA04_0.1-0.2_220822,	HA04_1.0-1.1_220822,							
HA07_0.05-0.15_220822,	HA07_0.4-0.5_220822,							
HA13_0.0-0.2_220822,	HA13_0.5-0.6_220822							
HDPE Soil Jar (EP231X)								
HA06_0.0-0.1_220822,	HA06_1.1-1.2_220822,	**23-Aug-2022**	**05-Sep-2022**	19-Feb-2023	✓	**06-Sep-2022**	15-Oct-2022	✓
HA09_0.0-0.1_220822,	HA09_1.0-1.2_220822,							
HA12_0.0-0.1_220822,	HA12_0.6-0.7_220822,							
HA15_0.0-0.1_220822,	HA15_1.1-1.2_220822							
HDPE Soil Jar (EP231X)								
HA18_0.0-0.1_220823,	HA18_1.4-1.5_220823,	**23-Aug-2022**	**06-Sep-2022**	19-Feb-2023	✓	**07-Sep-2022**	16-Oct-2022	✓
HA21_0.0-0.1_220823,	HA21_1.0-1.1_220823,							
HA24_0.0-0.1_220823,	HA24_1.1-1.2_220823,							
HA23_0.0-0.1_220823,	HA23_0.5-0.6_220823,							
HA22_0.0-0.1_220823,	HA22_0.5-0.6_220823,							
HA19_0.0-0.1_220823,	HA19_1.1-1.2_220823,							
QC101_220823,	QC201_220823							
EP231B: Perfluoroalkyl Carboxylic Acids								
HDPE Soil Jar (EP231X)								
HA01_0.0-0.1_220822,	HA01_1.1-1.2_220822,	**22-Aug-2022**	**05-Sep-2022**	18-Feb-2023	✓	**06-Sep-2022**	15-Oct-2022	✓
HA02_0.0-0.2_220822,	HA02_1.4-1.5_220822,							
HA03_0.5-0.6_220822,	HA03_1.4-1.5_220822,							
HA04_0.1-0.2_220822,	HA04_1.0-1.1_220822,							
HA07_0.05-0.15_220822,	HA07_0.4-0.5_220822,							
HA13_0.0-0.2_220822,	HA13_0.5-0.6_220822							
HDPE Soil Jar (EP231X)								
HA06_0.0-0.1_220822,	HA06_1.1-1.2_220822,	**23-Aug-2022**	**05-Sep-2022**	19-Feb-2023	✓	**06-Sep-2022**	15-Oct-2022	✓
HA09_0.0-0.1_220822,	HA09_1.0-1.2_220822,							
HA12_0.0-0.1_220822,	HA12_0.6-0.7_220822,							
HA15_0.0-0.1_220822,	HA15_1.1-1.2_220822							
HDPE Soil Jar (EP231X)								
HA18_0.0-0.1_220823,	HA18_1.4-1.5_220823,	**23-Aug-2022**	**06-Sep-2022**	19-Feb-2023	✓	**07-Sep-2022**	16-Oct-2022	✓
HA21_0.0-0.1_220823,	HA21_1.0-1.1_220823,							
HA24_0.0-0.1_220823,	HA24_1.1-1.2_220823,							
HA23_0.0-0.1_220823,	HA23_0.5-0.6_220823,							
HA22_0.0-0.1_220823,	HA22_0.5-0.6_220823,							
HA19_0.0-0.1_220823,	HA19_1.1-1.2_220823,							
QC101_220823,	QC201_220823							

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
EP231C: Perfluoroalkyl Sulfonamides								
HDPE Soil Jar (EP231X)								
HA01_0.0-0.1_220822,	HA01_1.1-1.2_220822,	**22-Aug-2022**	**05-Sep-2022**	18-Feb-2023	✓	**06-Sep-2022**	15-Oct-2022	✓
HA02_0.0-0.2_220822,	HA02_1.4-1.5_220822,							
HA03_0.5-0.6_220822,	HA03_1.4-1.5_220822,							
HA04_0.1-0.2_220822,	HA04_1.0-1.1_220822,							
HA07_0.05-0.15_220822,	HA07_0.4-0.5_220822,							
HA13_0.0-0.2_220822,	HA13_0.5-0.6_220822							
HDPE Soil Jar (EP231X)								
HA06_0.0-0.1_220822,	HA06_1.1-1.2_220822,	**23-Aug-2022**	**05-Sep-2022**	19-Feb-2023	✓	**06-Sep-2022**	15-Oct-2022	✓
HA09_0.0-0.1_220822,	HA09_1.0-1.2_220822,							
HA12_0.0-0.1_220822,	HA12_0.6-0.7_220822,							
HA15_0.0-0.1_220822,	HA15_1.1-1.2_220822							
HDPE Soil Jar (EP231X)								
HA18_0.0-0.1_220823,	HA18_1.4-1.5_220823,	**23-Aug-2022**	**06-Sep-2022**	19-Feb-2023	✓	**07-Sep-2022**	16-Oct-2022	✓
HA21_0.0-0.1_220823,	HA21_1.0-1.1_220823,							
HA24_0.0-0.1_220823,	HA24_1.1-1.2_220823,							
HA23_0.0-0.1_220823,	HA23_0.5-0.6_220823,							
HA22_0.0-0.1_220823,	HA22_0.5-0.6_220823,							
HA19_0.0-0.1_220823,	HA19_1.1-1.2_220823,							
QC101_220823,	QC201_220823							
EP231D: (n:2) Fluorotelomer Sulfonic Acids								
HDPE Soil Jar (EP231X)								
HA01_0.0-0.1_220822,	HA01_1.1-1.2_220822,	**22-Aug-2022**	**05-Sep-2022**	18-Feb-2023	✓	**06-Sep-2022**	15-Oct-2022	✓
HA02_0.0-0.2_220822,	HA02_1.4-1.5_220822,							
HA03_0.5-0.6_220822,	HA03_1.4-1.5_220822,							
HA04_0.1-0.2_220822,	HA04_1.0-1.1_220822,							
HA07_0.05-0.15_220822,	HA07_0.4-0.5_220822,							
HA13_0.0-0.2_220822,	HA13_0.5-0.6_220822							
HDPE Soil Jar (EP231X)								
HA06_0.0-0.1_220822,	HA06_1.1-1.2_220822,	**23-Aug-2022**	**05-Sep-2022**	19-Feb-2023	✓	**06-Sep-2022**	15-Oct-2022	✓
HA09_0.0-0.1_220822,	HA09_1.0-1.2_220822,							
HA12_0.0-0.1_220822,	HA12_0.6-0.7_220822,							
HA15_0.0-0.1_220822,	HA15_1.1-1.2_220822							
HDPE Soil Jar (EP231X)								
HA18_0.0-0.1_220823,	HA18_1.4-1.5_220823,	**23-Aug-2022**	**06-Sep-2022**	19-Feb-2023	✓	**07-Sep-2022**	16-Oct-2022	✓
HA21_0.0-0.1_220823,	HA21_1.0-1.1_220823,							
HA24_0.0-0.1_220823,	HA24_1.1-1.2_220823,							
HA23_0.0-0.1_220823,	HA23_0.5-0.6_220823,							
HA22_0.0-0.1_220823,	HA22_0.5-0.6_220823,							
HA19_0.0-0.1_220823,	HA19_1.1-1.2_220823,							
QC101_220823,	QC201_220823							

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
EP231P: PFAS Sums								
HDPE Soil Jar (EP231X)								
HA01_0.0-0.1_220822,	HA01_1.1-1.2_220822,	**22-Aug-2022**	**05-Sep-2022**	18-Feb-2023	✓	**06-Sep-2022**	15-Oct-2022	✓
HA02_0.0-0.2_220822,	HA02_1.4-1.5_220822,							
HA03_0.5-0.6_220822,	HA03_1.4-1.5_220822,							
HA04_0.1-0.2_220822,	HA04_1.0-1.1_220822,							
HA07_0.05-0.15_220822,	HA07_0.4-0.5_220822,							
HA13_0.0-0.2_220822,	HA13_0.5-0.6_220822							
HDPE Soil Jar (EP231X)								
HA06_0.0-0.1_220822,	HA06_1.1-1.2_220822,	**23-Aug-2022**	**05-Sep-2022**	19-Feb-2023	✓	**06-Sep-2022**	15-Oct-2022	✓
HA09_0.0-0.1_220822,	HA09_1.0-1.2_220822,							
HA12_0.0-0.1_220822,	HA12_0.6-0.7_220822,							
HA15_0.0-0.1_220822,	HA15_1.1-1.2_220822							
HDPE Soil Jar (EP231X)								
HA18_0.0-0.1_220823,	HA18_1.4-1.5_220823,	**23-Aug-2022**	**06-Sep-2022**	19-Feb-2023	✓	**07-Sep-2022**	16-Oct-2022	✓
HA21_0.0-0.1_220823,	HA21_1.0-1.1_220823,							
HA24_0.0-0.1_220823,	HA24_1.1-1.2_220823,							
HA23_0.0-0.1_220823,	HA23_0.5-0.6_220823,							
HA22_0.0-0.1_220823,	HA22_0.5-0.6_220823,							
HA19_0.0-0.1_220823,	HA19_1.1-1.2_220823,							
QC101_220823,	QC201_220823							

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		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Moisture Content	EA055	6	54	**11.11**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	4	34	**11.76**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	5	46	**10.87**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	4	34	**11.76**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	4	34	**11.76**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Semivolatile Organic Compounds	EP075	4	34	**11.76**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	5	42	**11.90**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	4	34	**11.76**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	4	34	**11.76**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	7	68	**10.29**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Volatile Organic Compounds	EP074	4	39	**10.26**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
PAH/Phenols (SIM)	EP075(SIM)	2	34	**5.88**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	3	46	**6.52**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	2	34	**5.88**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	2	34	**5.88**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Semivolatile Organic Compounds	EP075	2	34	**5.88**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	3	42	**7.14**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	2	34	**5.88**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	2	34	**5.88**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	4	68	**5.88**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Volatile Organic Compounds	EP074	2	39	**5.13**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
PAH/Phenols (SIM)	EP075(SIM)	2	34	**5.88**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	3	46	**6.52**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	2	34	**5.88**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	2	34	**5.88**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Semivolatile Organic Compounds	EP075	2	34	**5.88**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	3	42	**7.14**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	2	34	**5.88**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	2	34	**5.88**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	4	68	**5.88**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Volatile Organic Compounds	EP074	2	39	**5.13**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
PAH/Phenols (SIM)	EP075(SIM)	2	34	**5.88**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	3	46	**6.52**	**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		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Matrix Spikes (MS) - Continued							
Pesticides by GCMS	EP068	2	34	**5.88**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	2	34	**5.88**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Semivolatile Organic Compounds	EP075	2	34	**5.88**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	3	42	**7.14**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	2	34	**5.88**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	2	34	**5.88**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	4	68	**5.88**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Volatile Organic Compounds	EP074	2	39	**5.13**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

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

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055	SOIL	In house: A gravimetric procedure based on weight loss over a 12 hour drying period at 105-110 degrees C. This method is compliant with NEPM Schedule B(3).
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 (SnCl2) (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 SnCl2 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)
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.

Analytical Methods	Method	Matrix	Method Descriptions
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
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.

ALS Environmental

QUALITY CONTROL REPORT

Work Order	: **ES2230767**	Page	: 1 of 62
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: TAMA ARMANI	Contact	: Sepan Mahamad
Address	: 17 WARABROOK BLVD NEWCASTLE Newcastle 2304	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: +61 2 8784 8555
Project	: 60619756. 211-30 Muswellbrook	Date Samples Received	: 29-Aug-2022
Order number	: 60619756	Date Analysis Commenced	: 05-Sep-2022
C-O-C number	: ----	Issue Date	: 08-Sep-2022
Sampler	: P. Dean		
Site	: ----		
Quote number	: EN/004/21		
No. of samples received	: 57		
No. of samples analysed	: 38		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

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

This Quality Control Report contains the following information:

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

Signatories

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

Signatories	*Position*	*Accreditation Category*
Alana Smylie	Team Leader - Asbestos	Newcastle - Asbestos, Mayfield West, NSW
Alex Rossi	Organic Chemist	Sydney Organics, Smithfield, NSW
Ankit Joshi	Senior Chemist - Inorganics	Sydney Inorganics, Smithfield, NSW
Brendan Schrader	Laboratory Technician	Newcastle - Asbestos, Mayfield West, NSW
Edwandy Fadjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Franco Lentini	LCMS Coordinator	Sydney Organics, Smithfield, NSW
Jake Spooner	Laboratory Technician	Newcastle - Asbestos, Mayfield West, NSW

General Comments

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

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

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

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: 4560450)									
ES2230767-001	HA01_0.0-0.1_220822	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	19	19	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	10	9	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	<5	<5	0.0	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	9	9	0.0	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	15	15	0.0	No Limit
ES2230767-019	HA13_0.0-0.2_220822	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	23	25	6.7	0% - 50%
		EG005T: Nickel	7440-02-0	2	mg/kg	18	23	23.3	0% - 50%
		EG005T: Arsenic	7440-38-2	5	mg/kg	6	6	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	10	9	0.0	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	11	11	0.0	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	26	26	0.0	No Limit
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 4560452)									
ES2230767-034	HA18_0.0-0.1_220823	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	19	21	10.3	0% - 50%
		EG005T: Nickel	7440-02-0	2	mg/kg	13	16	17.2	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	12	23	60.6	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	15	21	30.5	No Limit
ES2230767-050	HA19_0.0-0.1_220823	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	22	23	0.0	0% - 50%

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 4560452) - continued									
ES2230767-050	HA19_0.0-0.1_220823	EG005T: Nickel	7440-02-0	2	mg/kg	16	11	35.3	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	7	10	32.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	9	11	17.1	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	10	10	0.0	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	23	22	4.6	No Limit
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 4560454)									
ES2230767-004	HA02_0.0-0.2_220822	EA055: Moisture Content	----	0.1	%	13.8	14.0	1.9	0% - 50%
ES2230767-024	HA06_1.1-1.2_220822	EA055: Moisture Content	----	0.1	%	14.4	14.2	1.7	0% - 50%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 4560455)									
ES2230767-037	HA21_0.0-0.1_220823	EA055: Moisture Content	----	0.1	%	29.0	29.5	1.6	0% - 20%
ES2230767-054	QC201_220823	EA055: Moisture Content	----	0.1	%	2.6	2.4	7.0	No Limit
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 4560698)									
ES2231063-001	Anonymous	EA055: Moisture Content	----	0.1	%	1.0	1.1	0.0	0% - 50%
ES2231063-012	Anonymous	EA055: Moisture Content	----	0.1	%	7.0	7.3	4.0	0% - 20%
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 4560451)									
ES2230767-001	HA01_0.0-0.1_220822	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
ES2230767-019	HA13_0.0-0.2_220822	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 4560453)									
ES2230767-034	HA18_0.0-0.1_220823	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
ES2230767-050	HA19_0.0-0.1_220823	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 4565825)									
ES2228395-001	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EP066: Polychlorinated Biphenyls (PCB) (QC Lot: 4560307)									
ES2230767-001	HA01_0.0-0.1_220822	EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
ES2230767-019	HA13_0.0-0.2_220822	EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EP066: Polychlorinated Biphenyls (PCB) (QC Lot: 4560320)									
ES2230767-034	HA18_0.0-0.1_220823	EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
ES2230767-050	HA19_0.0-0.1_220823	EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EP068A: Organochlorine Pesticides (OC) (QC Lot: 4560306)									
ES2230767-001	HA01_0.0-0.1_220822	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

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: 4560306) - continued									
ES2230767-001	HA01_0.0-0.1_220822	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
ES2230767-019	HA13_0.0-0.2_220822	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
EP068A: Organochlorine Pesticides (OC) (QC Lot: 4560319)									
ES2230767-034	HA18_0.0-0.1_220823	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

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: 4560319) - continued									
ES2230767-034	HA18_0.0-0.1_220823	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
ES2230767-050	HA19_0.0-0.1_220823	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: 4560306)									
ES2230767-001	HA01_0.0-0.1_220822	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

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: 4560306) - continued									
ES2230767-001	HA01_0.0-0.1_220822	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
ES2230767-019	HA13_0.0-0.2_220822	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
EP068B: Organophosphorus Pesticides (OP) (QC Lot: 4560319)									
ES2230767-034	HA18_0.0-0.1_220823	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

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: 4560319) - continued									
ES2230767-034	HA18_0.0-0.1_220823	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
ES2230767-050	HA19_0.0-0.1_220823	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
EP074A: Monocyclic Aromatic Hydrocarbons (QC Lot: 4560344)									
ES2230767-001	HA01_0.0-0.1_220822	EP074: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP074: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: meta- & para-Xylene	108-38-3 106-42-3	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 (%)
EP074A: Monocyclic Aromatic Hydrocarbons (QC Lot: 4560344) - continued									
ES2230767-001	HA01_0.0-0.1_220822	EP074: Styrene	100-42-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: ortho-Xylene	95-47-6	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
ES2230767-019	HA13_0.0-0.2_220822	EP074: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP074: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: meta- & para-Xylene	108-38-3 106-42-3	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: ortho-Xylene	95-47-6	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
EP074A: Monocyclic Aromatic Hydrocarbons (QC Lot: 4560347)									
ES2230767-034	HA18_0.0-0.1_220823	EP074: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP074: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: meta- & para-Xylene	108-38-3 106-42-3	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: ortho-Xylene	95-47-6	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

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 (%)*
EP074A: Monocyclic Aromatic Hydrocarbons (QC Lot: 4560347) - continued									
ES2230767-034	HA18_0.0-0.1_220823	EP074: n-Butylbenzene	104-51-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
ES2230767-050	HA19_0.0-0.1_220823	EP074: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP074: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: meta- & para-Xylene	108-38-3 106-42-3	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: ortho-Xylene	95-47-6	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: 4560344)									
ES2230767-001	HA01_0.0-0.1_220822	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
ES2230767-019	HA13_0.0-0.2_220822	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
EP074B: Oxygenated Compounds (QC Lot: 4560347)									
ES2230767-034	HA18_0.0-0.1_220823	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
ES2230767-050	HA19_0.0-0.1_220823	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: 4560344)									
ES2230767-001	HA01_0.0-0.1_220822	EP074: Carbon disulfide	75-15-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
ES2230767-019	HA13_0.0-0.2_220822	EP074: Carbon disulfide	75-15-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP074C: Sulfonated Compounds (QC Lot: 4560347)									
ES2230767-034	HA18_0.0-0.1_220823	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: 4560347) - continued									
ES2230767-050	HA19_0.0-0.1_220823	EP074: Carbon disulfide	75-15-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP074D: Fumigants (QC Lot: 4560344)									
ES2230767-001	HA01_0.0-0.1_220822	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
ES2230767-019	HA13_0.0-0.2_220822	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
EP074D: Fumigants (QC Lot: 4560347)									
ES2230767-034	HA18_0.0-0.1_220823	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
ES2230767-050	HA19_0.0-0.1_220823	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: 4560344)									
ES2230767-001	HA01_0.0-0.1_220822	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

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: 4560344) - continued									
ES2230767-001	HA01_0.0-0.1_220822	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
ES2230767-019	HA13_0.0-0.2_220822	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
EP074E: Halogenated Aliphatic Compounds (QC Lot: 4560347)									
ES2230767-034	HA18_0.0-0.1_220823	EP074: 1.1-Dichloroethene	75-35-4	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: 4560347) - continued									
ES2230767-034	HA18_0.0-0.1_220823	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
ES2230767-050	HA19_0.0-0.1_220823	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

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: 4560347) - continued									
ES2230767-050	HA19_0.0-0.1_220823	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: 4560344)									
ES2230767-001	HA01_0.0-0.1_220822	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
ES2230767-019	HA13_0.0-0.2_220822	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
EP074F: Halogenated Aromatic Compounds (QC Lot: 4560347)									
ES2230767-034	HA18_0.0-0.1_220823	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
ES2230767-050	HA19_0.0-0.1_220823	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: 4560344)									
ES2230767-001	HA01_0.0-0.1_220822	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

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: 4560344) - continued									
ES2230767-019	HA13_0.0-0.2_220822	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
EP074G: Trihalomethanes (QC Lot: 4560347)									
ES2230767-034	HA18_0.0-0.1_220823	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
ES2230767-050	HA19_0.0-0.1_220823	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)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4560305)									
ES2230767-001	HA01_0.0-0.1_220822	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	205-99-2 205-82-3	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
ES2230767-019	HA13_0.0-0.2_220822	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

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: 4560305) - continued									
ES2230767-019	HA13_0.0-0.2_220822	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	205-99-2 205-82-3	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
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4560318)									
ES2230767-034	HA18_0.0-0.1_220823	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	205-99-2 205-82-3	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
ES2230767-050	HA19_0.0-0.1_220823	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

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: 4560318) - continued									
ES2230767-050	HA19_0.0-0.1_220823	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	205-99-2 205-82-3	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
EP075A: Phenolic Compounds (QC Lot: 4560308)									
ES2230767-001	HA01_0.0-0.1_220822	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
ES2230767-019	HA13_0.0-0.2_220822	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

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: 4560321)									
ES2230767-034	HA18_0.0-0.1_220823	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
ES2230767-050	HA19_0.0-0.1_220823	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: 4560308)									
ES2230767-001	HA01_0.0-0.1_220822	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	<0.5	<0.5	0.0	No Limit
		EP075: Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Pyrene	129-00-0	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: Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Chrysene	218-01-9	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: Benzo(a)pyrene	50-32-8	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 (%)*
EP075B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4560308) - continued									
ES2230767-001	HA01_0.0-0.1_220822	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	<0.5	<0.5	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	<0.5	<0.5	0.0	No Limit
		EP075: Benzo(b+j) & Benzo(k)fluoranthene	205-99-2 207-08-9	1	mg/kg	<1	<1	0.0	No Limit
ES2230767-019	HA13_0.0-0.2_220822	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	<0.5	<0.5	0.0	No Limit
		EP075: Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Pyrene	129-00-0	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: Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Chrysene	218-01-9	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: Benzo(a)pyrene	50-32-8	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
		EP075: Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	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	<0.5	<0.5	0.0	No Limit
		EP075: Benzo(b+j) & Benzo(k)fluoranthene	205-99-2 207-08-9	1	mg/kg	<1	<1	0.0	No Limit
EP075B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4560321)									
ES2230767-034	HA18_0.0-0.1_220823	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	<0.5	<0.5	0.0	No Limit
		EP075: Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Pyrene	129-00-0	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: 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 (%)*
EP075B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4560321) - continued									
ES2230767-034	HA18_0.0-0.1_220823	EP075: Chrysene	218-01-9	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: Benzo(a)pyrene	50-32-8	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
		EP075: Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	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	<0.5	<0.5	0.0	No Limit
		EP075: Benzo(b+j) & Benzo(k)fluoranthene	205-99-2 207-08-9	1	mg/kg	<1	<1	0.0	No Limit
ES2230767-050	HA19_0.0-0.1_220823	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	<0.5	<0.5	0.0	No Limit
		EP075: Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Pyrene	129-00-0	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: Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075: Chrysene	218-01-9	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: Benzo(a)pyrene	50-32-8	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
		EP075: Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	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	<0.5	<0.5	0.0	No Limit
		EP075: Benzo(b+j) & Benzo(k)fluoranthene	205-99-2 207-08-9	1	mg/kg	<1	<1	0.0	No Limit
EP075C: Phthalate Esters (QC Lot: 4560308)									
ES2230767-001	HA01_0.0-0.1_220822	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
ES2230767-019	HA13_0.0-0.2_220822	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

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: 4560308) - continued									
ES2230767-019	HA13_0.0-0.2_220822	EP075: Di-n-octylphthalate	117-84-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075C: Phthalate Esters (QC Lot: 4560321)									
ES2230767-034	HA18_0.0-0.1_220823	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
ES2230767-050	HA19_0.0-0.1_220823	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: 4560308)									
ES2230767-001	HA01_0.0-0.1_220822	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
ES2230767-019	HA13_0.0-0.2_220822	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
EP075D: Nitrosamines (QC Lot: 4560321)									
ES2230767-034	HA18_0.0-0.1_220823	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

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: 4560321) - continued									
ES2230767-034	HA18_0.0-0.1_220823	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
ES2230767-050	HA19_0.0-0.1_220823	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: 4560308)									
ES2230767-001	HA01_0.0-0.1_220822	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
ES2230767-019	HA13_0.0-0.2_220822	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

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: 4560308) - continued									
ES2230767-019	HA13_0.0-0.2_220822	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
EP075E: Nitroaromatics and Ketones (QC Lot: 4560321)									
ES2230767-034	HA18_0.0-0.1_220823	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
ES2230767-050	HA19_0.0-0.1_220823	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

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: 4560321) - continued									
ES2230767-050	HA19_0.0-0.1_220823	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: 4560308)									
ES2230767-001	HA01_0.0-0.1_220822	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
ES2230767-019	HA13_0.0-0.2_220822	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
EP075F: Haloethers (QC Lot: 4560321)									
ES2230767-034	HA18_0.0-0.1_220823	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
ES2230767-050	HA19_0.0-0.1_220823	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: 4560308)									
ES2230767-001	HA01_0.0-0.1_220822	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
ES2230767-019	HA13_0.0-0.2_220822	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

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: 4560308) - continued									
ES2230767-019	HA13_0.0-0.2_220822	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
EP075G: Chlorinated Hydrocarbons (QC Lot: 4560321)									
ES2230767-034	HA18_0.0-0.1_220823	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
ES2230767-050	HA19_0.0-0.1_220823	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: 4560308)									
ES2230767-001	HA01_0.0-0.1_220822	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
ES2230767-019	HA13_0.0-0.2_220822	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

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: 4560308) - continued									
ES2230767-019	HA13_0.0-0.2_220822	EP075: 3.3`-Dichlorobenzidine	91-94-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075H: Anilines and Benzidines (QC Lot: 4560321)									
ES2230767-034	HA18_0.0-0.1_220823	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
ES2230767-050	HA19_0.0-0.1_220823	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: 4560308)									
ES2230767-001	HA01_0.0-0.1_220822	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
ES2230767-019	HA13_0.0-0.2_220822	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

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: 4560308) - continued									
ES2230767-019	HA13_0.0-0.2_220822	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
EP075I: Organochlorine Pesticides (QC Lot: 4560321)									
ES2230767-034	HA18_0.0-0.1_220823	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
ES2230767-050	HA19_0.0-0.1_220823	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

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 (%)*
EP075J: Organophosphorus Pesticides (QC Lot: 4560308)									
ES2230767-001	HA01_0.0-0.1_220822	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
ES2230767-019	HA13_0.0-0.2_220822	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
EP075J: Organophosphorus Pesticides (QC Lot: 4560321)									
ES2230767-034	HA18_0.0-0.1_220823	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
ES2230767-050	HA19_0.0-0.1_220823	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

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 (%)*
EP075J: Organophosphorus Pesticides (QC Lot: 4560321) - continued									
ES2230767-050	HA19_0.0-0.1_220823	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: 4560304)									
ES2230767-001	HA01_0.0-0.1_220822	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
ES2230767-019	HA13_0.0-0.2_220822	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: 4560317)									
ES2230767-034	HA18_0.0-0.1_220823	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
ES2230767-050	HA19_0.0-0.1_220823	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: 4560343)									
ES2230767-001	HA01_0.0-0.1_220822	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
ES2230767-019	HA13_0.0-0.2_220822	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4560346)									
ES2230767-034	HA18_0.0-0.1_220823	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
ES2230767-050	HA19_0.0-0.1_220823	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4561257)									
ES2231653-001	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
ES2231653-002	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4565633)									
ES2228395-001	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4560304)									
ES2230767-001	HA01_0.0-0.1_220822	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
ES2230767-019	HA13_0.0-0.2_220822	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: 4560317)									
ES2230767-034	HA18_0.0-0.1_220823	EP071: >C16 - C34 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: 4560317) - continued									
ES2230767-034	HA18_0.0-0.1_220823	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
ES2230767-050	HA19_0.0-0.1_220823	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: 4560343)									
ES2230767-001	HA01_0.0-0.1_220822	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
ES2230767-019	HA13_0.0-0.2_220822	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: 4560346)									
ES2230767-034	HA18_0.0-0.1_220823	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
ES2230767-050	HA19_0.0-0.1_220823	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: 4561257)									
ES2231653-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
ES2231653-002	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: 4565633)									
ES2228395-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
EP080: BTEXN (QC Lot: 4560343)									
ES2230767-001	HA01_0.0-0.1_220822	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
ES2230767-019	HA13_0.0-0.2_220822	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: 4560346)									
ES2230767-034	HA18_0.0-0.1_220823	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

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: 4560346) - continued									
ES2230767-050	HA19_0.0-0.1_220823	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: 4561257)									
ES2231653-001	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
ES2231653-002	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: 4565633)									
ES2228395-001	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
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 4560882)									
ES2230767-001	HA01_0.0-0.1_220822	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
ES2230767-019	HA13_0.0-0.2_220822	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

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: 4560882) - continued									
ES2230767-019	HA13_0.0-0.2_220822	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: 4561489)									
ES2230470-005	Anonymous	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
ES2230767-037	HA21_0.0-0.1_220823	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
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 4563772)									
ES2230767-047	HA22_0.0-0.1_220823	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	0.0006	0.0006	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: 4560882)									
ES2230767-001	HA01_0.0-0.1_220822	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
ES2230767-019	HA13_0.0-0.2_220822	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

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: 4560882) - continued									
ES2230767-019	HA13_0.0-0.2_220822	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: 4561489)									
ES2230470-005	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
ES2230767-037	HA21_0.0-0.1_220823	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: 4563772)									
ES2230767-047	HA22_0.0-0.1_220823	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	0.0006	0.0005	16.8	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

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: 4563772) - continued									
ES2230767-047	HA22_0.0-0.1_220823	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	<0.001	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 4560882)									
ES2230767-001	HA01_0.0-0.1_220822	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
ES2230767-019	HA13_0.0-0.2_220822	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
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 4561489)									
ES2230470-005	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
		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

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: 4561489) - continued									
ES2230470-005	Anonymous	EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
ES2230767-037	HA21_0.0-0.1_220823	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
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 4563772)									
ES2230767-047	HA22_0.0-0.1_220823	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: 4560882)									
ES2230767-001	HA01_0.0-0.1_220822	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
ES2230767-019	HA13_0.0-0.2_220822	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	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 (%)*
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 4560882) - continued									
ES2230767-019	HA13_0.0-0.2_220822	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: 4561489)									
ES2230470-005	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
ES2230767-037	HA21_0.0-0.1_220823	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: 4563772)									
ES2230767-047	HA22_0.0-0.1_220823	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 Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 4560450)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	121.1 mg/kg	93.8	88.0	113
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	0.74 mg/kg	94.1	70.0	130
EG005T: Chromium	7440-47-3	2	mg/kg	<2	19.6 mg/kg	105	68.0	132
EG005T: Copper	7440-50-8	5	mg/kg	<5	52.9 mg/kg	106	89.0	111
EG005T: Lead	7439-92-1	5	mg/kg	<5	60.8 mg/kg	96.0	82.0	119
EG005T: Nickel	7440-02-0	2	mg/kg	<2	15.3 mg/kg	96.3	80.0	120
EG005T: Zinc	7440-66-6	5	mg/kg	<5	139.3 mg/kg	89.1	66.0	133
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 4560452)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	121.1 mg/kg	101	88.0	113
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	0.74 mg/kg	97.4	70.0	130
EG005T: Chromium	7440-47-3	2	mg/kg	<2	19.6 mg/kg	104	68.0	132
EG005T: Copper	7440-50-8	5	mg/kg	<5	52.9 mg/kg	102	89.0	111
EG005T: Lead	7439-92-1	5	mg/kg	<5	60.8 mg/kg	97.9	82.0	119
EG005T: Nickel	7440-02-0	2	mg/kg	<2	15.3 mg/kg	96.9	80.0	120
EG005T: Zinc	7440-66-6	5	mg/kg	<5	139.3 mg/kg	90.1	66.0	133
EG035T: Total Recoverable Mercury by FIMS (QCLot: 4560451)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	0.087 mg/kg	89.1	70.0	125
EG035T: Total Recoverable Mercury by FIMS (QCLot: 4560453)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	0.087 mg/kg	89.6	70.0	125
EG035T: Total Recoverable Mercury by FIMS (QCLot: 4565825)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	0.087 mg/kg	102	70.0	125
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 4560307)								
EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	1 mg/kg	109	62.0	126
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 4560320)								
EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	1 mg/kg	110	62.0	126
EP068A: Organochlorine Pesticides (OC) (QCLot: 4560306)								
EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	0.5 mg/kg	89.8	69.0	113
EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	0.5 mg/kg	94.2	65.0	117
EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	0.5 mg/kg	90.4	67.0	119
EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	0.5 mg/kg	88.0	68.0	116
EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	89.8	65.0	117
EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	0.5 mg/kg	86.4	67.0	115
EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	0.5 mg/kg	91.6	69.0	115

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP068A: Organochlorine Pesticides (OC) (QCLot: 4560306) - continued								
EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	0.5 mg/kg	88.0	62.0	118
EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	0.5 mg/kg	88.7	63.0	117
EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	0.5 mg/kg	89.2	66.0	116
EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	0.5 mg/kg	88.3	64.0	116
EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	0.5 mg/kg	87.3	66.0	116
EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	0.5 mg/kg	88.4	67.0	115
EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	0.5 mg/kg	85.0	67.0	123
EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	0.5 mg/kg	87.9	69.0	115
EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	0.5 mg/kg	89.2	69.0	121
EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	0.5 mg/kg	97.2	56.0	120
EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	0.5 mg/kg	86.8	62.0	124
EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	0.5 mg/kg	89.0	66.0	120
EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	0.5 mg/kg	92.5	64.0	122
EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	0.5 mg/kg	75.8	54.0	130
EP068A: Organochlorine Pesticides (OC) (QCLot: 4560319)								
EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	0.5 mg/kg	88.7	69.0	113
EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	0.5 mg/kg	93.8	65.0	117
EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	0.5 mg/kg	89.8	67.0	119
EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	0.5 mg/kg	87.5	68.0	116
EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	92.1	65.0	117
EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	0.5 mg/kg	88.3	67.0	115
EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	0.5 mg/kg	90.4	69.0	115
EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	0.5 mg/kg	93.2	62.0	118
EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	0.5 mg/kg	90.9	63.0	117
EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	0.5 mg/kg	88.1	66.0	116
EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	0.5 mg/kg	89.6	64.0	116
EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	0.5 mg/kg	88.8	66.0	116
EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	0.5 mg/kg	89.2	67.0	115
EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	0.5 mg/kg	87.6	67.0	123
EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	0.5 mg/kg	89.1	69.0	115
EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	0.5 mg/kg	90.8	69.0	121
EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	0.5 mg/kg	97.2	56.0	120
EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	0.5 mg/kg	90.6	62.0	124
EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	0.5 mg/kg	85.4	66.0	120
EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	0.5 mg/kg	93.2	64.0	122
EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	0.5 mg/kg	83.6	54.0	130
EP068B: Organophosphorus Pesticides (OP) (QCLot: 4560306)								
EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	0.5 mg/kg	80.1	59.0	119
EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	80.5	62.0	128

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP068B: Organophosphorus Pesticides (OP) (QCLot: 4560306) - continued								
EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	0.5 mg/kg	86.2	54.0	126
EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	0.5 mg/kg	76.6	67.0	119
EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	0.5 mg/kg	84.2	70.0	120
EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	0.5 mg/kg	85.5	72.0	120
EP068: Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	0.5 mg/kg	83.1	68.0	120
EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	0.5 mg/kg	78.3	68.0	122
EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	0.5 mg/kg	86.5	69.0	117
EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	0.5 mg/kg	88.7	76.0	118
EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	0.5 mg/kg	86.5	64.0	122
EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	0.5 mg/kg	91.2	70.0	116
EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	0.5 mg/kg	85.7	69.0	121
EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	0.5 mg/kg	87.6	66.0	118
EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	0.5 mg/kg	83.9	68.0	124
EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	0.5 mg/kg	83.7	62.0	112
EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	0.5 mg/kg	82.2	68.0	120
EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	0.5 mg/kg	83.6	65.0	127
EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	0.5 mg/kg	55.2	41.0	123
EP068B: Organophosphorus Pesticides (OP) (QCLot: 4560319)								
EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	0.5 mg/kg	80.4	59.0	119
EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	85.6	62.0	128
EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	0.5 mg/kg	78.0	54.0	126
EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	0.5 mg/kg	79.5	67.0	119
EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	0.5 mg/kg	84.8	70.0	120
EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	0.5 mg/kg	86.1	72.0	120
EP068: Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	0.5 mg/kg	82.6	68.0	120
EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	0.5 mg/kg	79.3	68.0	122
EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	0.5 mg/kg	87.6	69.0	117
EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	0.5 mg/kg	84.7	76.0	118
EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	0.5 mg/kg	87.3	64.0	122
EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	0.5 mg/kg	91.3	70.0	116
EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	0.5 mg/kg	91.3	69.0	121
EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	0.5 mg/kg	85.1	66.0	118
EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	0.5 mg/kg	86.5	68.0	124
EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	0.5 mg/kg	84.2	62.0	112
EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	0.5 mg/kg	85.1	68.0	120
EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	0.5 mg/kg	88.4	65.0	127
EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	0.5 mg/kg	63.1	41.0	123
EP074A: Monocyclic Aromatic Hydrocarbons (QCLot: 4560344)								
EP074: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	94.1	71.0	121

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP074A: Monocyclic Aromatic Hydrocarbons (QCLot: 4560344) - continued								
EP074: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	95.1	65.0	131
EP074: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	96.2	72.0	114
EP074: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	2 mg/kg	94.6	70.0	116
EP074: Styrene	100-42-5	0.5	mg/kg	<0.5	1 mg/kg	95.0	67.0	113
EP074: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	94.2	75.0	115
EP074: Isopropylbenzene	98-82-8	0.5	mg/kg	<0.5	1 mg/kg	95.6	65.0	117
EP074: n-Propylbenzene	103-65-1	0.5	mg/kg	<0.5	1 mg/kg	93.0	66.0	122
EP074: 1.3.5-Trimethylbenzene	108-67-8	0.5	mg/kg	<0.5	1 mg/kg	91.3	68.0	118
EP074: sec-Butylbenzene	135-98-8	0.5	mg/kg	<0.5	1 mg/kg	93.1	69.0	119
EP074: 1.2.4-Trimethylbenzene	95-63-6	0.5	mg/kg	<0.5	1 mg/kg	92.4	69.0	117
EP074: tert-Butylbenzene	98-06-6	0.5	mg/kg	<0.5	1 mg/kg	93.4	69.0	115
EP074: p-Isopropyltoluene	99-87-6	0.5	mg/kg	<0.5	1 mg/kg	95.1	66.0	118
EP074: n-Butylbenzene	104-51-8	0.5	mg/kg	<0.5	1 mg/kg	95.0	59.0	125
EP074A: Monocyclic Aromatic Hydrocarbons (QCLot: 4560347)								
EP074: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	98.5	71.0	121
EP074: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	98.4	65.0	131
EP074: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	97.1	72.0	114
EP074: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	2 mg/kg	97.8	70.0	116
EP074: Styrene	100-42-5	0.5	mg/kg	<0.5	1 mg/kg	95.6	67.0	113
EP074: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	97.7	75.0	115
EP074: Isopropylbenzene	98-82-8	0.5	mg/kg	<0.5	1 mg/kg	96.9	65.0	117
EP074: n-Propylbenzene	103-65-1	0.5	mg/kg	<0.5	1 mg/kg	97.6	66.0	122
EP074: 1.3.5-Trimethylbenzene	108-67-8	0.5	mg/kg	<0.5	1 mg/kg	97.4	68.0	118
EP074: sec-Butylbenzene	135-98-8	0.5	mg/kg	<0.5	1 mg/kg	98.3	69.0	119
EP074: 1.2.4-Trimethylbenzene	95-63-6	0.5	mg/kg	<0.5	1 mg/kg	97.3	69.0	117
EP074: tert-Butylbenzene	98-06-6	0.5	mg/kg	<0.5	1 mg/kg	98.7	69.0	115
EP074: p-Isopropyltoluene	99-87-6	0.5	mg/kg	<0.5	1 mg/kg	97.3	66.0	118
EP074: n-Butylbenzene	104-51-8	0.5	mg/kg	<0.5	1 mg/kg	98.0	59.0	125
EP074B: Oxygenated Compounds (QCLot: 4560344)								
EP074: Vinyl Acetate	108-05-4	5	mg/kg	<5	10 mg/kg	71.7	29.6	156
EP074: 2-Butanone (MEK)	78-93-3	5	mg/kg	<5	10 mg/kg	89.2	58.0	136
EP074: 4-Methyl-2-pentanone (MIBK)	108-10-1	5	mg/kg	<5	10 mg/kg	87.4	62.0	132
EP074: 2-Hexanone (MBK)	591-78-6	5	mg/kg	<5	10 mg/kg	88.5	54.0	136
EP074B: Oxygenated Compounds (QCLot: 4560347)								
EP074: Vinyl Acetate	108-05-4	5	mg/kg	<5	10 mg/kg	96.9	29.6	156
EP074: 2-Butanone (MEK)	78-93-3	5	mg/kg	<5	10 mg/kg	99.1	58.0	136

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP074B: Oxygenated Compounds (QCLot: 4560347) - continued								
EP074: 4-Methyl-2-pentanone (MIBK)	108-10-1	5	mg/kg	<5	10 mg/kg	94.4	62.0	132
EP074: 2-Hexanone (MBK)	591-78-6	5	mg/kg	<5	10 mg/kg	91.8	54.0	136
EP074C: Sulfonated Compounds (QCLot: 4560344)								
EP074: Carbon disulfide	75-15-0	0.5	mg/kg	<0.5	1 mg/kg	83.0	54.0	126
EP074C: Sulfonated Compounds (QCLot: 4560347)								
EP074: Carbon disulfide	75-15-0	0.5	mg/kg	<0.5	1 mg/kg	94.5	54.0	126
EP074D: Fumigants (QCLot: 4560344)								
EP074: 2.2-Dichloropropane	594-20-7	0.5	mg/kg	<0.5	1 mg/kg	93.3	60.0	126
EP074: 1.2-Dichloropropane	78-87-5	0.5	mg/kg	<0.5	1 mg/kg	93.0	68.0	124
EP074: cis-1.3-Dichloropropylene	10061-01-5	0.5	mg/kg	<0.5	1 mg/kg	92.8	51.0	119
EP074: trans-1.3-Dichloropropylene	10061-02-6	0.5	mg/kg	<0.5	1 mg/kg	93.1	52.0	114
EP074: 1.2-Dibromoethane (EDB)	106-93-4	0.5	mg/kg	<0.5	1 mg/kg	91.6	63.0	115
EP074D: Fumigants (QCLot: 4560347)								
EP074: 2.2-Dichloropropane	594-20-7	0.5	mg/kg	<0.5	1 mg/kg	97.5	60.0	126
EP074: 1.2-Dichloropropane	78-87-5	0.5	mg/kg	<0.5	1 mg/kg	99.4	68.0	124
EP074: cis-1.3-Dichloropropylene	10061-01-5	0.5	mg/kg	<0.5	1 mg/kg	97.2	51.0	119
EP074: trans-1.3-Dichloropropylene	10061-02-6	0.5	mg/kg	<0.5	1 mg/kg	96.4	52.0	114
EP074: 1.2-Dibromoethane (EDB)	106-93-4	0.5	mg/kg	<0.5	1 mg/kg	98.1	63.0	115
EP074E: Halogenated Aliphatic Compounds (QCLot: 4560344)								
EP074: Dichlorodifluoromethane	75-71-8	5	mg/kg	<5	10 mg/kg	43.0	30.0	148
EP074: Chloromethane	74-87-3	5	mg/kg	<5	10 mg/kg	71.3	41.0	141
EP074: Vinyl chloride	75-01-4	5	mg/kg	<5	10 mg/kg	81.0	43.0	147
EP074: Bromomethane	74-83-9	5	mg/kg	<5	10 mg/kg	81.2	47.0	141
EP074: Chloroethane	75-00-3	5	mg/kg	<5	10 mg/kg	87.8	49.0	143
EP074: Trichlorofluoromethane	75-69-4	5	mg/kg	<5	10 mg/kg	85.6	49.0	135
EP074: 1.1-Dichloroethene	75-35-4	0.5	mg/kg	<0.5	1 mg/kg	89.0	54.0	126
EP074: Iodomethane	74-88-4	0.5	mg/kg	<0.5	1 mg/kg	50.8	43.0	129
EP074: trans-1.2-Dichloroethene	156-60-5	0.5	mg/kg	<0.5	1 mg/kg	91.3	64.0	120
EP074: 1.1-Dichloroethane	75-34-3	0.5	mg/kg	<0.5	1 mg/kg	92.6	67.0	125
EP074: cis-1.2-Dichloroethene	156-59-2	0.5	mg/kg	<0.5	1 mg/kg	95.2	69.0	121
EP074: 1.1.1-Trichloroethane	71-55-6	0.5	mg/kg	<0.5	1 mg/kg	93.0	65.0	117
EP074: 1.1-Dichloropropylene	563-58-6	0.5	mg/kg	<0.5	1 mg/kg	90.9	65.0	123
EP074: Carbon Tetrachloride	56-23-5	0.5	mg/kg	<0.5	1 mg/kg	91.5	59.0	125
EP074: 1.2-Dichloroethane	107-06-2	0.5	mg/kg	<0.5	1 mg/kg	94.5	65.0	125
EP074: Trichloroethene	79-01-6	0.5	mg/kg	<0.5	1 mg/kg	93.8	70.0	118
EP074: Dibromomethane	74-95-3	0.5	mg/kg	<0.5	1 mg/kg	91.4	68.0	118
EP074: 1.1.2-Trichloroethane	79-00-5	0.5	mg/kg	<0.5	1 mg/kg	94.3	64.0	126
EP074: 1.3-Dichloropropane	142-28-9	0.5	mg/kg	<0.5	1 mg/kg	95.9	68.0	122

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP074E: Halogenated Aliphatic Compounds (QCLot: 4560344) - continued								
EP074: Tetrachloroethene	127-18-4	0.5	mg/kg	<0.5	1 mg/kg	94.4	67.0	143
EP074: 1.1.1.2-Tetrachloroethane	630-20-6	0.5	mg/kg	<0.5	1 mg/kg	92.4	62.0	122
EP074: trans-1.4-Dichloro-2-butene	110-57-6	0.5	mg/kg	<0.5	1 mg/kg	102	54.0	128
EP074: cis-1.4-Dichloro-2-butene	1476-11-5	0.5	mg/kg	<0.5	1 mg/kg	98.9	55.0	129
EP074: 1.1.2.2-Tetrachloroethane	79-34-5	0.5	mg/kg	<0.5	1 mg/kg	95.1	65.0	121
EP074: 1.2.3-Trichloropropane	96-18-4	0.5	mg/kg	<0.5	1 mg/kg	91.4	61.0	125
EP074: Pentachloroethane	76-01-7	0.5	mg/kg	<0.5	1 mg/kg	92.2	19.8	134
EP074: 1.2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg	<0.5	1 mg/kg	90.6	53.0	129
EP074E: Halogenated Aliphatic Compounds (QCLot: 4560347)								
EP074: Dichlorodifluoromethane	75-71-8	5	mg/kg	<5	10 mg/kg	92.4	30.0	148
EP074: Chloromethane	74-87-3	5	mg/kg	<5	10 mg/kg	97.2	41.0	141
EP074: Vinyl chloride	75-01-4	5	mg/kg	<5	10 mg/kg	95.4	43.0	147
EP074: Bromomethane	74-83-9	5	mg/kg	<5	10 mg/kg	98.0	47.0	141
EP074: Chloroethane	75-00-3	5	mg/kg	<5	10 mg/kg	96.6	49.0	143
EP074: Trichlorofluoromethane	75-69-4	5	mg/kg	<5	10 mg/kg	95.6	49.0	135
EP074: 1.1-Dichloroethene	75-35-4	0.5	mg/kg	<0.5	1 mg/kg	97.3	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	97.3	64.0	120
EP074: 1.1-Dichloroethane	75-34-3	0.5	mg/kg	<0.5	1 mg/kg	97.5	67.0	125
EP074: cis-1.2-Dichloroethene	156-59-2	0.5	mg/kg	<0.5	1 mg/kg	97.5	69.0	121
EP074: 1.1.1-Trichloroethane	71-55-6	0.5	mg/kg	<0.5	1 mg/kg	97.3	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	95.9	59.0	125
EP074: 1.2-Dichloroethane	107-06-2	0.5	mg/kg	<0.5	1 mg/kg	100	65.0	125
EP074: Trichloroethene	79-01-6	0.5	mg/kg	<0.5	1 mg/kg	97.5	70.0	118
EP074: Dibromomethane	74-95-3	0.5	mg/kg	<0.5	1 mg/kg	99.0	68.0	118
EP074: 1.1.2-Trichloroethane	79-00-5	0.5	mg/kg	<0.5	1 mg/kg	98.9	64.0	126
EP074: 1.3-Dichloropropane	142-28-9	0.5	mg/kg	<0.5	1 mg/kg	98.3	68.0	122
EP074: Tetrachloroethene	127-18-4	0.5	mg/kg	<0.5	1 mg/kg	96.4	67.0	143
EP074: 1.1.1.2-Tetrachloroethane	630-20-6	0.5	mg/kg	<0.5	1 mg/kg	97.4	62.0	122
EP074: trans-1.4-Dichloro-2-butene	110-57-6	0.5	mg/kg	<0.5	1 mg/kg	97.8	54.0	128
EP074: cis-1.4-Dichloro-2-butene	1476-11-5	0.5	mg/kg	<0.5	1 mg/kg	101	55.0	129
EP074: 1.1.2.2-Tetrachloroethane	79-34-5	0.5	mg/kg	<0.5	1 mg/kg	99.3	65.0	121
EP074: 1.2.3-Trichloropropane	96-18-4	0.5	mg/kg	<0.5	1 mg/kg	102	61.0	125
EP074: Pentachloroethane	76-01-7	0.5	mg/kg	<0.5	1 mg/kg	98.8	19.8	134
EP074: 1.2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg	<0.5	1 mg/kg	98.7	53.0	129
EP074F: Halogenated Aromatic Compounds (QCLot: 4560344)								
EP074: Chlorobenzene	108-90-7	0.5	mg/kg	<0.5	1 mg/kg	98.6	68.0	116
EP074: Bromobenzene	108-86-1	0.5	mg/kg	<0.5	1 mg/kg	95.1	70.0	114

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP074F: Halogenated Aromatic Compounds (QCLot: 4560344) - continued								
EP074: 2-Chlorotoluene	95-49-8	0.5	mg/kg	<0.5	1 mg/kg	94.7	68.0	122
EP074: 4-Chlorotoluene	106-43-4	0.5	mg/kg	<0.5	1 mg/kg	94.2	67.0	123
EP074: 1.2.3-Trichlorobenzene	87-61-6	0.5	mg/kg	<0.5	1 mg/kg	100	52.0	122
EP074F: Halogenated Aromatic Compounds (QCLot: 4560347)								
EP074: Chlorobenzene	108-90-7	0.5	mg/kg	<0.5	1 mg/kg	98.0	68.0	116
EP074: Bromobenzene	108-86-1	0.5	mg/kg	<0.5	1 mg/kg	98.9	70.0	114
EP074: 2-Chlorotoluene	95-49-8	0.5	mg/kg	<0.5	1 mg/kg	97.4	68.0	122
EP074: 4-Chlorotoluene	106-43-4	0.5	mg/kg	<0.5	1 mg/kg	98.8	67.0	123
EP074: 1.2.3-Trichlorobenzene	87-61-6	0.5	mg/kg	<0.5	1 mg/kg	104	52.0	122
EP074G: Trihalomethanes (QCLot: 4560344)								
EP074: Chloroform	67-66-3	0.5	mg/kg	<0.5	1 mg/kg	93.7	66.0	124
EP074: Bromodichloromethane	75-27-4	0.5	mg/kg	<0.5	1 mg/kg	91.4	61.0	121
EP074: Dibromochloromethane	124-48-1	0.5	mg/kg	<0.5	1 mg/kg	93.1	63.0	121
EP074: Bromoform	75-25-2	0.5	mg/kg	<0.5	1 mg/kg	91.7	60.0	126
EP074G: Trihalomethanes (QCLot: 4560347)								
EP074: Chloroform	67-66-3	0.5	mg/kg	<0.5	1 mg/kg	99.0	66.0	124
EP074: Bromodichloromethane	75-27-4	0.5	mg/kg	<0.5	1 mg/kg	97.0	61.0	121
EP074: Dibromochloromethane	124-48-1	0.5	mg/kg	<0.5	1 mg/kg	96.5	63.0	121
EP074: Bromoform	75-25-2	0.5	mg/kg	<0.5	1 mg/kg	95.6	60.0	126
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4560305)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	6 mg/kg	97.7	77.0	125
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	6 mg/kg	113	72.0	124
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	6 mg/kg	104	73.0	127
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	6 mg/kg	112	72.0	126
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	6 mg/kg	100	75.0	127
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	6 mg/kg	106	77.0	127
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	6 mg/kg	106	73.0	127
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	6 mg/kg	102	74.0	128
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	6 mg/kg	101	69.0	123
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	6 mg/kg	99.5	75.0	127
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	6 mg/kg	105	68.0	116
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	95.0	70.0	126
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	6 mg/kg	92.8	61.0	121
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	6 mg/kg	90.0	62.0	118
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	6 mg/kg	92.9	63.0	121
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4560318)								

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4560318) - continued								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	6 mg/kg	90.5	77.0	125
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	6 mg/kg	104	72.0	124
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	6 mg/kg	95.6	73.0	127
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	6 mg/kg	90.5	72.0	126
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	6 mg/kg	95.0	75.0	127
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	6 mg/kg	101	77.0	127
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	6 mg/kg	97.0	73.0	127
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	6 mg/kg	89.1	74.0	128
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	6 mg/kg	87.4	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	205-99-2 205-82-3	0.5	mg/kg	<0.5	6 mg/kg	97.5	68.0	116
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	6 mg/kg	99.7	74.0	126
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	6 mg/kg	88.9	70.0	126
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	6 mg/kg	73.3	61.0	121
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	6 mg/kg	71.2	62.0	118
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	6 mg/kg	83.1	63.0	121
EP075A: Phenolic Compounds (QCLot: 4560308)								
EP075: Phenol	108-95-2	0.5	mg/kg	<0.5	1.5 mg/kg	105	64.0	114
EP075: 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	1.5 mg/kg	102	57.0	115
EP075: 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	1.5 mg/kg	99.7	55.0	117
EP075: 3- & 4-Methylphenol	1319-77-3	0.5	mg/kg	<0.5	1.5 mg/kg	104	46.0	122
EP075: 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	1.5 mg/kg	97.9	47.0	117
EP075: 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	1.5 mg/kg	104	13.7	108
EP075: 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	1.5 mg/kg	102	47.0	105
EP075: 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	1.5 mg/kg	96.0	48.0	110
EP075: 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	1.5 mg/kg	99.0	57.0	113
EP075: 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	1.5 mg/kg	89.3	49.0	109
EP075: 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	1.5 mg/kg	90.1	49.0	107
EP075: Pentachlorophenol	87-86-5	1	mg/kg	<1	3 mg/kg	36.8	12.0	76.0
EP075A: Phenolic Compounds (QCLot: 4560321)								
EP075: Phenol	108-95-2	0.5	mg/kg	<0.5	1.5 mg/kg	102	64.0	114
EP075: 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	1.5 mg/kg	98.8	57.0	115
EP075: 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	1.5 mg/kg	102	55.0	117
EP075: 3- & 4-Methylphenol	1319-77-3	0.5	mg/kg	<0.5	1.5 mg/kg	102	46.0	122
EP075: 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	1.5 mg/kg	95.3	47.0	117
EP075: 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	1.5 mg/kg	101	13.7	108
EP075: 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	1.5 mg/kg	96.8	47.0	105
EP075: 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	1.5 mg/kg	94.1	48.0	110

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP075A: Phenolic Compounds (QCLot: 4560321) - continued								
EP075: 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	1.5 mg/kg	100	57.0	113
EP075: 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	1.5 mg/kg	90.1	49.0	109
EP075: 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	1.5 mg/kg	86.9	49.0	107
EP075: Pentachlorophenol	87-86-5	1	mg/kg	<1	3 mg/kg	38.4	12.0	76.0
EP075B: Polynuclear Aromatic Hydrocarbons (QCLot: 4560308)								
EP075: Naphthalene	91-20-3	0.5	mg/kg	<0.5	1.5 mg/kg	101	62.0	118
EP075: 2-Methylnaphthalene	91-57-6	0.5	mg/kg	<0.5	1.5 mg/kg	99.1	58.0	116
EP075: 2-Chloronaphthalene	91-58-7	0.5	mg/kg	<0.5	1.5 mg/kg	97.0	54.0	112
EP075: Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	1.5 mg/kg	98.9	56.0	114
EP075: Acenaphthene	83-32-9	0.5	mg/kg	<0.5	1.5 mg/kg	98.8	62.0	112
EP075: Fluorene	86-73-7	0.5	mg/kg	<0.5	1.5 mg/kg	100	59.0	115
EP075: Phenanthrene	85-01-8	0.5	mg/kg	<0.5	1.5 mg/kg	96.0	63.0	113
EP075: Anthracene	120-12-7	0.5	mg/kg	<0.5	1.5 mg/kg	97.9	57.0	111
EP075: Fluoranthene	206-44-0	0.5	mg/kg	<0.5	1.5 mg/kg	98.5	58.0	114
EP075: Pyrene	129-00-0	0.5	mg/kg	<0.5	1.5 mg/kg	99.4	57.0	117
EP075: N-2-Fluorenyl Acetamide	53-96-3	0.5	mg/kg	<0.5	1.5 mg/kg	96.6	58.0	114
EP075: Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	1.5 mg/kg	103	59.0	115
EP075: Chrysene	218-01-9	0.5	mg/kg	<0.5	1.5 mg/kg	97.6	61.0	117
EP075: Benzo(b+j) & Benzo(k)fluoranthene	205-99-2 207-08-9	1	mg/kg	<1	3 mg/kg	95.4	57.0	119
EP075: 7.12-Dimethylbenz(a)anthracene	57-97-6	0.5	mg/kg	<0.5	1.5 mg/kg	98.2	48.1	106
EP075: Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	1.5 mg/kg	95.2	56.0	116
EP075: 3-Methylcholanthrene	56-49-5	0.5	mg/kg	<0.5	1.5 mg/kg	88.0	50.0	116
EP075: Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	1.5 mg/kg	87.9	55.0	117
EP075: Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	1.5 mg/kg	86.2	53.0	119
EP075: Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	1.5 mg/kg	89.0	56.0	120
EP075B: Polynuclear Aromatic Hydrocarbons (QCLot: 4560321)								
EP075: Naphthalene	91-20-3	0.5	mg/kg	<0.5	1.5 mg/kg	99.6	62.0	118
EP075: 2-Methylnaphthalene	91-57-6	0.5	mg/kg	<0.5	1.5 mg/kg	101	58.0	116
EP075: 2-Chloronaphthalene	91-58-7	0.5	mg/kg	<0.5	1.5 mg/kg	97.9	54.0	112
EP075: Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	1.5 mg/kg	101	56.0	114
EP075: Acenaphthene	83-32-9	0.5	mg/kg	<0.5	1.5 mg/kg	98.5	62.0	112
EP075: Fluorene	86-73-7	0.5	mg/kg	<0.5	1.5 mg/kg	99.7	59.0	115
EP075: Phenanthrene	85-01-8	0.5	mg/kg	<0.5	1.5 mg/kg	94.3	63.0	113
EP075: Anthracene	120-12-7	0.5	mg/kg	<0.5	1.5 mg/kg	95.2	57.0	111
EP075: Fluoranthene	206-44-0	0.5	mg/kg	<0.5	1.5 mg/kg	98.6	58.0	114
EP075: Pyrene	129-00-0	0.5	mg/kg	<0.5	1.5 mg/kg	100	57.0	117
EP075: N-2-Fluorenyl Acetamide	53-96-3	0.5	mg/kg	<0.5	1.5 mg/kg	94.4	58.0	114
EP075: Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	1.5 mg/kg	101	59.0	115

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP075B: Polynuclear Aromatic Hydrocarbons (QCLot: 4560321) - continued								
EP075: Chrysene	218-01-9	0.5	mg/kg	<0.5	1.5 mg/kg	97.6	61.0	117
EP075: Benzo(b+j) & Benzo(k)fluoranthene	205-99-2 207-08-9	1	mg/kg	<1	3 mg/kg	95.1	57.0	119
EP075: 7.12-Dimethylbenz(a)anthracene	57-97-6	0.5	mg/kg	<0.5	1.5 mg/kg	99.3	48.1	106
EP075: Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	1.5 mg/kg	96.1	56.0	116
EP075: 3-Methylcholanthrene	56-49-5	0.5	mg/kg	<0.5	1.5 mg/kg	88.8	50.0	116
EP075: Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	1.5 mg/kg	87.9	55.0	117
EP075: Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	1.5 mg/kg	88.8	53.0	119
EP075: Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	1.5 mg/kg	88.4	56.0	120
EP075C: Phthalate Esters (QCLot: 4560308)								
EP075: Dimethyl phthalate	131-11-3	0.5	mg/kg	<0.5	1.5 mg/kg	102	60.0	118
EP075: Diethyl phthalate	84-66-2	0.5	mg/kg	<0.5	1.5 mg/kg	97.7	65.0	115
EP075: Di-n-butyl phthalate	84-74-2	0.5	mg/kg	<0.5	1.5 mg/kg	95.3	65.0	121
EP075: Butyl benzyl phthalate	85-68-7	0.5	mg/kg	<0.5	1.5 mg/kg	97.8	62.0	116
EP075: bis(2-ethylhexyl) phthalate	117-81-7	----	mg/kg	----	1.5 mg/kg	93.8	69.0	133
EP075: Di-n-octylphthalate	117-84-0	0.5	mg/kg	<0.5	1.5 mg/kg	88.0	62.0	124
EP075C: Phthalate Esters (QCLot: 4560321)								
EP075: Dimethyl phthalate	131-11-3	0.5	mg/kg	<0.5	1.5 mg/kg	102	60.0	118
EP075: Diethyl phthalate	84-66-2	0.5	mg/kg	<0.5	1.5 mg/kg	99.2	65.0	115
EP075: Di-n-butyl phthalate	84-74-2	0.5	mg/kg	<0.5	1.5 mg/kg	92.3	65.0	121
EP075: Butyl benzyl phthalate	85-68-7	0.5	mg/kg	<0.5	1.5 mg/kg	97.3	62.0	116
EP075: bis(2-ethylhexyl) phthalate	117-81-7	----	mg/kg	----	1.5 mg/kg	93.6	69.0	133
EP075: Di-n-octylphthalate	117-84-0	0.5	mg/kg	<0.5	1.5 mg/kg	87.7	62.0	124
EP075D: Nitrosamines (QCLot: 4560308)								
EP075: N-Nitrosomethylethylamine	10595-95-6	0.5	mg/kg	<0.5	1.5 mg/kg	111	39.4	124
EP075: N-Nitrosodiethylamine	55-18-5	0.5	mg/kg	<0.5	1.5 mg/kg	102	59.0	117
EP075: N-Nitrosopyrrolidine	930-55-2	0.5	mg/kg	<0.5	1.5 mg/kg	116	53.0	125
EP075: N-Nitrosomorpholine	59-89-2	0.5	mg/kg	<0.5	1.5 mg/kg	113	65.0	121
EP075: N-Nitrosodi-n-propylamine	621-64-7	0.5	mg/kg	<0.5	1.5 mg/kg	108	59.0	123
EP075: N-Nitrosopiperidine	100-75-4	0.5	mg/kg	<0.5	1.5 mg/kg	112	57.0	115
EP075: N-Nitrosodibutylamine	924-16-3	0.5	mg/kg	<0.5	1.5 mg/kg	102	57.0	119
EP075: N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	0.5	mg/kg	<0.6	3 mg/kg	98.5	42.0	112
EP075: Methapyrilene	91-80-5	0.5	mg/kg	<0.5	1.5 mg/kg	45.4	16.3	123
EP075D: Nitrosamines (QCLot: 4560321)								
EP075: N-Nitrosomethylethylamine	10595-95-6	0.5	mg/kg	<0.5	1.5 mg/kg	102	39.4	124
EP075: N-Nitrosodiethylamine	55-18-5	0.5	mg/kg	<0.5	1.5 mg/kg	99.5	59.0	117
EP075: N-Nitrosopyrrolidine	930-55-2	0.5	mg/kg	<0.5	1.5 mg/kg	112	53.0	125

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP075D: Nitrosamines (QCLot: 4560321) - continued								
EP075: N-Nitrosomorpholine	59-89-2	0.5	mg/kg	<0.5	1.5 mg/kg	109	65.0	121
EP075: N-Nitrosodi-n-propylamine	621-64-7	0.5	mg/kg	<0.5	1.5 mg/kg	106	59.0	123
EP075: N-Nitrosopiperidine	100-75-4	0.5	mg/kg	<0.5	1.5 mg/kg	106	57.0	115
EP075: N-Nitrosodibutylamine	924-16-3	0.5	mg/kg	<0.5	1.5 mg/kg	101	57.0	119
EP075: N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	0.5	mg/kg	<0.6	3 mg/kg	98.5	42.0	112
EP075: Methapyrilene	91-80-5	0.5	mg/kg	<0.5	1.5 mg/kg	49.5	16.3	123
EP075E: Nitroaromatics and Ketones (QCLot: 4560308)								
EP075: 2-Picoline	109-06-8	0.5	mg/kg	<0.5	1.5 mg/kg	96.2	27.3	129
EP075: Acetophenone	98-86-2	0.5	mg/kg	<0.5	1.5 mg/kg	107	60.0	116
EP075: Nitrobenzene	98-95-3	0.5	mg/kg	<0.5	1.5 mg/kg	109	65.0	119
EP075: Isophorone	78-59-1	0.5	mg/kg	<0.5	1.5 mg/kg	105	62.0	116
EP075: 2.6-Dinitrotoluene	606-20-2	0.5	mg/kg	<0.5	1.5 mg/kg	101	58.0	118
EP075: 2.4-Dinitrotoluene	121-14-2	0.5	mg/kg	<0.5	1.5 mg/kg	95.6	59.0	115
EP075: 1-Naphthylamine	134-32-7	0.5	mg/kg	<0.5	1.5 mg/kg	80.7	18.0	112
EP075: 4-Nitroquinoline-N-oxide	56-57-5	0.5	mg/kg	<0.5	1.5 mg/kg	59.5	10.0	87.0
EP075: 5-Nitro-o-toluidine	99-55-8	0.5	mg/kg	<0.5	1.5 mg/kg	84.5	48.3	98.5
EP075: Azobenzene	103-33-3	1	mg/kg	<1	1.5 mg/kg	96.9	62.0	118
EP075: 1.3.5-Trinitrobenzene	99-35-4	0.5	mg/kg	<0.5	1.5 mg/kg	75.5	36.0	114
EP075: Phenacetin	62-44-2	0.5	mg/kg	<0.5	1.5 mg/kg	111	62.0	114
EP075: 4-Aminobiphenyl	92-67-1	0.5	mg/kg	<0.5	1.5 mg/kg	80.2	36.1	102
EP075: Pentachloronitrobenzene	82-68-8	0.5	mg/kg	<0.5	1.5 mg/kg	94.0	56.0	110
EP075: Pronamide	23950-58-5	0.5	mg/kg	<0.5	1.5 mg/kg	96.4	54.0	110
EP075: Dimethylaminoazobenzene	60-11-7	0.5	mg/kg	<0.5	1.5 mg/kg	97.9	48.0	108
EP075: Chlorobenzilate	510-15-6	0.5	mg/kg	<0.5	1.5 mg/kg	94.0	57.4	112
EP075E: Nitroaromatics and Ketones (QCLot: 4560321)								
EP075: 2-Picoline	109-06-8	0.5	mg/kg	<0.5	1.5 mg/kg	97.8	27.3	129
EP075: Acetophenone	98-86-2	0.5	mg/kg	<0.5	1.5 mg/kg	105	60.0	116
EP075: Nitrobenzene	98-95-3	0.5	mg/kg	<0.5	1.5 mg/kg	106	65.0	119
EP075: Isophorone	78-59-1	0.5	mg/kg	<0.5	1.5 mg/kg	100	62.0	116
EP075: 2.6-Dinitrotoluene	606-20-2	0.5	mg/kg	<0.5	1.5 mg/kg	100	58.0	118
EP075: 2.4-Dinitrotoluene	121-14-2	0.5	mg/kg	<0.5	1.5 mg/kg	94.7	59.0	115
EP075: 1-Naphthylamine	134-32-7	0.5	mg/kg	<0.5	1.5 mg/kg	77.2	18.0	112
EP075: 4-Nitroquinoline-N-oxide	56-57-5	0.5	mg/kg	<0.5	1.5 mg/kg	55.3	10.0	87.0
EP075: 5-Nitro-o-toluidine	99-55-8	0.5	mg/kg	<0.5	1.5 mg/kg	85.9	48.3	98.5
EP075: Azobenzene	103-33-3	1	mg/kg	<1	1.5 mg/kg	96.4	62.0	118
EP075: 1.3.5-Trinitrobenzene	99-35-4	0.5	mg/kg	<0.5	1.5 mg/kg	74.7	36.0	114
EP075: Phenacetin	62-44-2	0.5	mg/kg	<0.5	1.5 mg/kg	110	62.0	114
EP075: 4-Aminobiphenyl	92-67-1	0.5	mg/kg	<0.5	1.5 mg/kg	80.0	36.1	102

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP075E: Nitroaromatics and Ketones (QCLot: 4560321) - continued								
EP075: Pentachloronitrobenzene	82-68-8	0.5	mg/kg	<0.5	1.5 mg/kg	91.8	56.0	110
EP075: Pronamide	23950-58-5	0.5	mg/kg	<0.5	1.5 mg/kg	94.7	54.0	110
EP075: Dimethylaminoazobenzene	60-11-7	0.5	mg/kg	<0.5	1.5 mg/kg	95.6	48.0	108
EP075: Chlorobenzilate	510-15-6	0.5	mg/kg	<0.5	1.5 mg/kg	92.9	57.4	112
EP075F: Haloethers (QCLot: 4560308)								
EP075: Bis(2-chloroethyl) ether	111-44-4	0.5	mg/kg	<0.5	1.5 mg/kg	94.3	63.0	121
EP075: Bis(2-chloroethoxy) methane	111-91-1	0.5	mg/kg	<0.5	1.5 mg/kg	105	59.0	115
EP075: 4-Chlorophenyl phenyl ether	7005-72-3	0.5	mg/kg	<0.5	1.5 mg/kg	98.4	58.0	112
EP075: 4-Bromophenyl phenyl ether	101-55-3	0.5	mg/kg	<0.5	1.5 mg/kg	98.2	58.0	110
EP075F: Haloethers (QCLot: 4560321)								
EP075: Bis(2-chloroethyl) ether	111-44-4	0.5	mg/kg	<0.5	1.5 mg/kg	86.9	63.0	121
EP075: Bis(2-chloroethoxy) methane	111-91-1	0.5	mg/kg	<0.5	1.5 mg/kg	102	59.0	115
EP075: 4-Chlorophenyl phenyl ether	7005-72-3	0.5	mg/kg	<0.5	1.5 mg/kg	99.0	58.0	112
EP075: 4-Bromophenyl phenyl ether	101-55-3	0.5	mg/kg	<0.5	1.5 mg/kg	96.1	58.0	110
EP075G: Chlorinated Hydrocarbons (QCLot: 4560308)								
EP075: 1.3-Dichlorobenzene	541-73-1	0.5	mg/kg	<0.5	1.5 mg/kg	104	58.0	112
EP075: 1.4-Dichlorobenzene	106-46-7	0.5	mg/kg	<0.5	1.5 mg/kg	105	58.0	116
EP075: 1.2-Dichlorobenzene	95-50-1	0.5	mg/kg	<0.5	1.5 mg/kg	101	57.0	115
EP075: Hexachloroethane	67-72-1	0.5	mg/kg	<0.5	1.5 mg/kg	97.5	54.0	116
EP075: 1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg	<0.5	1.5 mg/kg	105	62.9	108
EP075: Hexachloropropylene	1888-71-7	0.5	mg/kg	<0.5	1.5 mg/kg	90.9	39.1	110
EP075: Hexachlorobutadiene	87-68-3	0.5	mg/kg	<0.5	1.5 mg/kg	92.6	59.0	117
EP075: Hexachlorocyclopentadiene	77-47-4	2.5	mg/kg	<2.5	1.5 mg/kg	60.6	24.3	108
EP075: Pentachlorobenzene	608-93-5	0.5	mg/kg	<0.5	1.5 mg/kg	95.5	57.0	109
EP075: Hexachlorobenzene (HCB)	118-74-1	0.5	mg/kg	<0.5	1.5 mg/kg	98.4	59.0	111
EP075G: Chlorinated Hydrocarbons (QCLot: 4560321)								
EP075: 1.3-Dichlorobenzene	541-73-1	0.5	mg/kg	<0.5	1.5 mg/kg	101	58.0	112
EP075: 1.4-Dichlorobenzene	106-46-7	0.5	mg/kg	<0.5	1.5 mg/kg	101	58.0	116
EP075: 1.2-Dichlorobenzene	95-50-1	0.5	mg/kg	<0.5	1.5 mg/kg	99.1	57.0	115
EP075: Hexachloroethane	67-72-1	0.5	mg/kg	<0.5	1.5 mg/kg	94.9	54.0	116
EP075: 1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg	<0.5	1.5 mg/kg	101	62.9	108
EP075: Hexachloropropylene	1888-71-7	0.5	mg/kg	<0.5	1.5 mg/kg	91.1	39.1	110
EP075: Hexachlorobutadiene	87-68-3	0.5	mg/kg	<0.5	1.5 mg/kg	94.4	59.0	117
EP075: Hexachlorocyclopentadiene	77-47-4	2.5	mg/kg	<2.5	1.5 mg/kg	57.3	24.3	108
EP075: Pentachlorobenzene	608-93-5	0.5	mg/kg	<0.5	1.5 mg/kg	95.0	57.0	109
EP075: Hexachlorobenzene (HCB)	118-74-1	0.5	mg/kg	<0.5	1.5 mg/kg	97.9	59.0	111
EP075H: Anilines and Benzidines (QCLot: 4560308)								
EP075: Aniline	62-53-3	0.5	mg/kg	<0.5	1.5 mg/kg	101	13.2	108

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP075H: Anilines and Benzidines (QCLot: 4560308) - continued								
EP075: 4-Chloroaniline	106-47-8	0.5	mg/kg	<0.5	1.5 mg/kg	68.4	20.5	99.0
EP075: 2-Nitroaniline	88-74-4	0.5	mg/kg	<0.5	1.5 mg/kg	104	52.0	112
EP075: 3-Nitroaniline	99-09-2	0.5	mg/kg	<0.5	1.5 mg/kg	92.5	31.5	93.7
EP075: Dibenzofuran	132-64-9	0.5	mg/kg	<0.5	1.5 mg/kg	97.5	60.0	110
EP075: 4-Nitroaniline	100-01-6	0.5	mg/kg	<0.5	1.5 mg/kg	103	42.0	112
EP075: Carbazole	86-74-8	0.5	mg/kg	<0.5	1.5 mg/kg	97.5	59.0	111
EP075: 3.3`-Dichlorobenzidine	91-94-1	0.5	mg/kg	<0.5	1.5 mg/kg	106	23.1	113
EP075H: Anilines and Benzidines (QCLot: 4560321)								
EP075: Aniline	62-53-3	0.5	mg/kg	<0.5	1.5 mg/kg	89.6	13.2	108
EP075: 4-Chloroaniline	106-47-8	0.5	mg/kg	<0.5	1.5 mg/kg	67.1	20.5	99.0
EP075: 2-Nitroaniline	88-74-4	0.5	mg/kg	<0.5	1.5 mg/kg	101	52.0	112
EP075: 3-Nitroaniline	99-09-2	0.5	mg/kg	<0.5	1.5 mg/kg	91.9	31.5	93.7
EP075: Dibenzofuran	132-64-9	0.5	mg/kg	<0.5	1.5 mg/kg	98.1	60.0	110
EP075: 4-Nitroaniline	100-01-6	0.5	mg/kg	<0.5	1.5 mg/kg	103	42.0	112
EP075: Carbazole	86-74-8	0.5	mg/kg	<0.5	1.5 mg/kg	97.1	59.0	111
EP075: 3.3`-Dichlorobenzidine	91-94-1	0.5	mg/kg	<0.5	1.5 mg/kg	103	23.1	113
EP075I: Organochlorine Pesticides (QCLot: 4560308)								
EP075: alpha-BHC	319-84-6	0.5	mg/kg	<0.5	1.5 mg/kg	98.2	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	92.9	61.0	117
EP075: delta-BHC	319-86-8	0.5	mg/kg	<0.5	1.5 mg/kg	97.1	64.0	118
EP075: Heptachlor	76-44-8	0.5	mg/kg	<0.5	1.5 mg/kg	94.9	55.0	115
EP075: Aldrin	309-00-2	0.5	mg/kg	<0.5	1.5 mg/kg	95.1	61.0	115
EP075: Heptachlor epoxide	1024-57-3	0.5	mg/kg	<0.5	1.5 mg/kg	93.4	56.0	118
EP075: alpha-Endosulfan	959-98-8	0.5	mg/kg	<0.5	1.5 mg/kg	99.4	65.0	125
EP075: 4.4`-DDE	72-55-9	0.5	mg/kg	<0.5	1.5 mg/kg	96.7	60.0	116
EP075: Dieldrin	60-57-1	0.5	mg/kg	<0.5	1.5 mg/kg	95.5	64.0	118
EP075: Endrin	72-20-8	0.5	mg/kg	<0.5	1.5 mg/kg	100	53.0	117
EP075: beta-Endosulfan	33213-65-9	0.5	mg/kg	<0.5	1.5 mg/kg	98.4	65.0	115
EP075: 4.4`-DDD	72-54-8	0.5	mg/kg	<0.5	1.5 mg/kg	97.6	62.0	118
EP075: Endosulfan sulfate	1031-07-8	0.5	mg/kg	<0.5	1.5 mg/kg	111	63.0	129
EP075: 4.4`-DDT	50-29-3	0.5	mg/kg	<0.5	1.5 mg/kg	95.8	46.0	122
EP075I: Organochlorine Pesticides (QCLot: 4560321)								
EP075: alpha-BHC	319-84-6	0.5	mg/kg	<0.5	1.5 mg/kg	99.6	63.0	113
EP075: beta-BHC	319-85-7	0.5	mg/kg	<0.5	1.5 mg/kg	101	57.0	113
EP075: gamma-BHC	58-89-9	0.5	mg/kg	<0.5	1.5 mg/kg	91.6	61.0	117
EP075: delta-BHC	319-86-8	0.5	mg/kg	<0.5	1.5 mg/kg	96.8	64.0	118
EP075: Heptachlor	76-44-8	0.5	mg/kg	<0.5	1.5 mg/kg	91.4	55.0	115

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP075I: Organochlorine Pesticides (QCLot: 4560321) - continued								
EP075: Aldrin	309-00-2	0.5	mg/kg	<0.5	1.5 mg/kg	93.2	61.0	115
EP075: Heptachlor epoxide	1024-57-3	0.5	mg/kg	<0.5	1.5 mg/kg	93.2	56.0	118
EP075: alpha-Endosulfan	959-98-8	0.5	mg/kg	<0.5	1.5 mg/kg	99.7	65.0	125
EP075: 4.4`-DDE	72-55-9	0.5	mg/kg	<0.5	1.5 mg/kg	95.4	60.0	116
EP075: Dieldrin	60-57-1	0.5	mg/kg	<0.5	1.5 mg/kg	96.8	64.0	118
EP075: Endrin	72-20-8	0.5	mg/kg	<0.5	1.5 mg/kg	95.8	53.0	117
EP075: beta-Endosulfan	33213-65-9	0.5	mg/kg	<0.5	1.5 mg/kg	98.9	65.0	115
EP075: 4.4`-DDD	72-54-8	0.5	mg/kg	<0.5	1.5 mg/kg	95.6	62.0	118
EP075: Endosulfan sulfate	1031-07-8	0.5	mg/kg	<0.5	1.5 mg/kg	112	63.0	129
EP075: 4.4`-DDT	50-29-3	0.5	mg/kg	<0.5	1.5 mg/kg	96.4	46.0	122
EP075J: Organophosphorus Pesticides (QCLot: 4560308)								
EP075: Dichlorvos	62-73-7	0.5	mg/kg	<0.5	1.5 mg/kg	96.4	46.0	112
EP075: Dimethoate	60-51-5	0.5	mg/kg	<0.5	1.5 mg/kg	99.0	63.0	119
EP075: Diazinon	333-41-5	0.5	mg/kg	<0.5	1.5 mg/kg	96.8	68.0	134
EP075: Chlorpyrifos-methyl	5598-13-0	0.5	mg/kg	<0.5	1.5 mg/kg	93.4	60.0	130
EP075: Malathion	121-75-5	0.5	mg/kg	<0.5	1.5 mg/kg	98.7	65.0	127
EP075: Fenthion	55-38-9	0.5	mg/kg	<0.5	1.5 mg/kg	95.3	60.0	116
EP075: Chlorpyrifos	2921-88-2	0.5	mg/kg	<0.5	1.5 mg/kg	97.0	63.0	113
EP075: Pirimphos-ethyl	23505-41-1	0.5	mg/kg	<0.5	1.5 mg/kg	94.6	65.0	115
EP075: Chlorfenvinphos	470-90-6	0.5	mg/kg	<0.5	1.5 mg/kg	92.5	59.0	103
EP075: Prothiofos	34643-46-4	0.5	mg/kg	<0.5	1.5 mg/kg	97.8	59.0	119
EP075: Ethion	563-12-2	0.5	mg/kg	<0.5	1.5 mg/kg	93.6	62.0	118
EP075J: Organophosphorus Pesticides (QCLot: 4560321)								
EP075: Dichlorvos	62-73-7	0.5	mg/kg	<0.5	1.5 mg/kg	96.0	46.0	112
EP075: Dimethoate	60-51-5	0.5	mg/kg	<0.5	1.5 mg/kg	98.8	63.0	119
EP075: Diazinon	333-41-5	0.5	mg/kg	<0.5	1.5 mg/kg	94.8	68.0	134
EP075: Chlorpyrifos-methyl	5598-13-0	0.5	mg/kg	<0.5	1.5 mg/kg	93.3	60.0	130
EP075: Malathion	121-75-5	0.5	mg/kg	<0.5	1.5 mg/kg	96.8	65.0	127
EP075: Fenthion	55-38-9	0.5	mg/kg	<0.5	1.5 mg/kg	94.4	60.0	116
EP075: Chlorpyrifos	2921-88-2	0.5	mg/kg	<0.5	1.5 mg/kg	93.0	63.0	113
EP075: Pirimphos-ethyl	23505-41-1	0.5	mg/kg	<0.5	1.5 mg/kg	93.9	65.0	115
EP075: Chlorfenvinphos	470-90-6	0.5	mg/kg	<0.5	1.5 mg/kg	90.3	59.0	103
EP075: Prothiofos	34643-46-4	0.5	mg/kg	<0.5	1.5 mg/kg	96.0	59.0	119
EP075: Ethion	563-12-2	0.5	mg/kg	<0.5	1.5 mg/kg	92.6	62.0	118
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4560304)								
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	114	77.0	131
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	300 mg/kg	112	71.0	129

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4560317)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	300 mg/kg	95.6	75.0	129
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	450 mg/kg	88.2	77.0	131
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	300 mg/kg	87.0	71.0	129
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4560343)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	26 mg/kg	108	68.4	128
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4560346)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	26 mg/kg	102	68.4	128
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4561257)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	26 mg/kg	100	68.4	128
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4565633)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	26 mg/kg	106	68.4	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4560304)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	375 mg/kg	115	77.0	125
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	525 mg/kg	112	74.0	138
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	225 mg/kg	113	63.0	131
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4560317)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	375 mg/kg	93.0	77.0	125
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	525 mg/kg	85.9	74.0	138
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	225 mg/kg	90.9	63.0	131
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4560343)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	31 mg/kg	108	68.4	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4560346)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	31 mg/kg	104	68.4	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4561257)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	31 mg/kg	101	68.4	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4565633)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	31 mg/kg	109	68.4	128
EP080: BTEXN (QCLot: 4560343)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	109	62.0	116
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	99.7	67.0	121
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	95.6	65.0	117
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	2 mg/kg	96.0	66.0	118
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	100	68.0	120
EP080: Naphthalene	91-20-3	1	mg/kg	<1	1 mg/kg	95.5	63.0	119
EP080: BTEXN (QCLot: 4560346)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	96.9	62.0	116

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP080: BTEXN (QCLot: 4560346) - continued								
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	99.1	67.0	121
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	94.2	65.0	117
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	2 mg/kg	94.3	66.0	118
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	97.5	68.0	120
EP080: Naphthalene	91-20-3	1	mg/kg	<1	1 mg/kg	90.3	63.0	119
EP080: BTEXN (QCLot: 4561257)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	97.8	62.0	116
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	87.0	67.0	121
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	88.6	65.0	117
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	2 mg/kg	89.3	66.0	118
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	89.2	68.0	120
EP080: Naphthalene	91-20-3	1	mg/kg	<1	1 mg/kg	88.3	63.0	119
EP080: BTEXN (QCLot: 4565633)								
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	107	67.0	121
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	107	65.0	117
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	2 mg/kg	101	66.0	118
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	108	68.0	120
EP080: Naphthalene	91-20-3	1	mg/kg	<1	1 mg/kg	106	63.0	119
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4560882)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	0.00125 mg/kg	99.2	72.0	128
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	0.00125 mg/kg	116	73.0	123
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	0.00125 mg/kg	116	67.0	130
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	0.00125 mg/kg	108	70.0	132
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	116	68.0	136
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	0.00125 mg/kg	115	59.0	134
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4561489)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	0.00125 mg/kg	86.4	72.0	128
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	0.00125 mg/kg	105	73.0	123
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	0.00125 mg/kg	99.6	67.0	130
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	0.00125 mg/kg	102	70.0	132
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	94.4	68.0	136
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	0.00125 mg/kg	106	59.0	134
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4563772)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	0.00125 mg/kg	88.4	72.0	128

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4563772) - continued								
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	0.00125 mg/kg	95.6	73.0	123
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	0.00125 mg/kg	87.2	67.0	130
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	0.00125 mg/kg	88.8	70.0	132
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	96.4	68.0	136
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	0.00125 mg/kg	102	59.0	134
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4560882)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	0.00625 mg/kg	102	71.0	135
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	0.00125 mg/kg	117	69.0	132
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	0.00125 mg/kg	107	70.0	132
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	0.00125 mg/kg	108	71.0	131
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	127	69.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	120	72.0	129
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	0.00125 mg/kg	108	69.0	133
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	0.00125 mg/kg	113	64.0	136
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	125	69.0	135
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	0.00125 mg/kg	119	66.0	139
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	0.00312 mg/kg	120	69.0	133
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4561489)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	0.00625 mg/kg	96.7	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	102	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	111	69.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	105	72.0	129
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	0.00125 mg/kg	98.4	69.0	133
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	0.00125 mg/kg	100	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	109	66.0	139
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	0.00312 mg/kg	105	69.0	133
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4563772)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	0.00625 mg/kg	78.1	71.0	135
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	0.00125 mg/kg	80.8	69.0	132
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	0.00125 mg/kg	99.6	70.0	132
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	0.00125 mg/kg	104	71.0	131
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	104	69.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	104	72.0	129
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	0.00125 mg/kg	117	69.0	133
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	0.00125 mg/kg	109	64.0	136

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4563772) - continued								
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	98.4	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	104	69.0	133
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4560882)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	0.00125 mg/kg	129	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	0.00312 mg/kg	129	71.6	129
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	0.00312 mg/kg	125	69.8	131
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	0.00312 mg/kg	128	68.7	130
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	0.00312 mg/kg	124	65.1	134
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	0.00125 mg/kg	122	63.0	144
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	0.00125 mg/kg	117	61.0	139
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4561489)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	0.00125 mg/kg	97.2	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	0.00312 mg/kg	102	71.6	129
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	0.00312 mg/kg	110	69.8	131
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	0.00312 mg/kg	110	68.7	130
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	0.00312 mg/kg	103	65.1	134
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	0.00125 mg/kg	96.4	63.0	144
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	0.00125 mg/kg	111	61.0	139
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4563772)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	0.00125 mg/kg	90.4	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	0.00312 mg/kg	102	71.6	129
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	0.00312 mg/kg	101	69.8	131
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	0.00312 mg/kg	101	68.7	130
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	0.00312 mg/kg	104	65.1	134
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	0.00125 mg/kg	92.4	63.0	144
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	0.00125 mg/kg	94.0	61.0	139

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4560882)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	0.00125 mg/kg	105	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	113	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	111	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	84.8	69.2	143
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4561489)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	0.00125 mg/kg	99.2	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	96.8	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	101	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	98.0	69.2	143
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4563772)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	0.00125 mg/kg	90.8	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	99.2	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	100	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	88.0	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	SpikeRecovery(%): MS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 4560450)							
ES2230767-001	HA01_0.0-0.1_220822	EG005T: Arsenic	7440-38-2	50 mg/kg	91.9	70.0	130
		EG005T: Cadmium	7440-43-9	50 mg/kg	99.7	70.0	130
		EG005T: Chromium	7440-47-3	50 mg/kg	97.1	68.0	132
		EG005T: Copper	7440-50-8	250 mg/kg	99.0	70.0	130
		EG005T: Lead	7439-92-1	250 mg/kg	99.4	70.0	130
		EG005T: Nickel	7440-02-0	50 mg/kg	97.2	70.0	130
		EG005T: Zinc	7440-66-6	250 mg/kg	99.5	66.0	133
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 4560452)							
ES2230767-034	HA18_0.0-0.1_220823	EG005T: Arsenic	7440-38-2	50 mg/kg	95.2	70.0	130
		EG005T: Cadmium	7440-43-9	50 mg/kg	97.4	70.0	130
		EG005T: Chromium	7440-47-3	50 mg/kg	96.4	68.0	132
		EG005T: Copper	7440-50-8	250 mg/kg	96.4	70.0	130
		EG005T: Lead	7439-92-1	250 mg/kg	98.6	70.0	130
		EG005T: Nickel	7440-02-0	50 mg/kg	98.4	70.0	130
		EG005T: Zinc	7440-66-6	250 mg/kg	98.8	66.0	133

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG035T: Total Recoverable Mercury by FIMS (QCLot: 4560451)							
ES2230767-001	HA01_0.0-0.1_220822	EG035T: Mercury	7439-97-6	5 mg/kg	105	70.0	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 4560453)							
ES2230767-034	HA18_0.0-0.1_220823	EG035T: Mercury	7439-97-6	5 mg/kg	105	70.0	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 4565825)							
ES2228395-001	Anonymous	EG035T: Mercury	7439-97-6	5 mg/kg	99.2	70.0	130
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 4560307)							
ES2230767-001	HA01_0.0-0.1_220822	EP066: Total Polychlorinated biphenyls	----	1 mg/kg	112	70.0	130
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 4560320)							
ES2230767-034	HA18_0.0-0.1_220823	EP066: Total Polychlorinated biphenyls	----	2 mg/kg	96.8	70.0	130
EP068A: Organochlorine Pesticides (OC) (QCLot: 4560306)							
ES2230767-001	HA01_0.0-0.1_220822	EP068: gamma-BHC	58-89-9	0.5 mg/kg	83.8	70.0	130
		EP068: Heptachlor	76-44-8	0.5 mg/kg	82.4	70.0	130
		EP068: Aldrin	309-00-2	0.5 mg/kg	89.2	70.0	130
		EP068: Dieldrin	60-57-1	0.5 mg/kg	89.6	70.0	130
		EP068: Endrin	72-20-8	2 mg/kg	76.0	70.0	130
		EP068: 4.4`-DDT	50-29-3	2 mg/kg	81.7	70.0	130
EP068A: Organochlorine Pesticides (OC) (QCLot: 4560319)							
ES2230767-034	HA18_0.0-0.1_220823	EP068: gamma-BHC	58-89-9	0.5 mg/kg	81.4	70.0	130
		EP068: Heptachlor	76-44-8	0.5 mg/kg	88.0	70.0	130
		EP068: Aldrin	309-00-2	0.5 mg/kg	94.2	70.0	130
		EP068: Dieldrin	60-57-1	0.5 mg/kg	109	70.0	130
		EP068: Endrin	72-20-8	2 mg/kg	97.0	70.0	130
		EP068: 4.4`-DDT	50-29-3	2 mg/kg	79.7	70.0	130
EP068B: Organophosphorus Pesticides (OP) (QCLot: 4560306)							
ES2230767-001	HA01_0.0-0.1_220822	EP068: Diazinon	333-41-5	0.5 mg/kg	78.3	70.0	130
		EP068: Chlorpyrifos-methyl	5598-13-0	0.5 mg/kg	77.3	70.0	130
		EP068: Pirimphos-ethyl	23505-41-1	0.5 mg/kg	80.6	70.0	130
		EP068: Bromophos-ethyl	4824-78-6	0.5 mg/kg	80.2	70.0	130
		EP068: Prothiofos	34643-46-4	0.5 mg/kg	78.1	70.0	130
EP068B: Organophosphorus Pesticides (OP) (QCLot: 4560319)							
ES2230767-034	HA18_0.0-0.1_220823	EP068: Diazinon	333-41-5	0.5 mg/kg	93.0	70.0	130
		EP068: Chlorpyrifos-methyl	5598-13-0	0.5 mg/kg	80.4	70.0	130
		EP068: Pirimphos-ethyl	23505-41-1	0.5 mg/kg	95.2	70.0	130
		EP068: Bromophos-ethyl	4824-78-6	0.5 mg/kg	93.0	70.0	130
		EP068: Prothiofos	34643-46-4	0.5 mg/kg	93.4	70.0	130
EP074A: Monocyclic Aromatic Hydrocarbons (QCLot: 4560344)							

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP074A: Monocyclic Aromatic Hydrocarbons (QCLot: 4560344) - continued							
ES2230767-001	HA01_0.0-0.1_220822	EP074: Benzene	71-43-2	2.5 mg/kg	106	70.0	130
		EP074: Toluene	108-88-3	2.5 mg/kg	106	70.0	130
EP074A: Monocyclic Aromatic Hydrocarbons (QCLot: 4560347)							
ES2231102-003	Anonymous	EP074: Benzene	71-43-2	2.5 mg/kg	108	70.0	130
		EP074: Toluene	108-88-3	2.5 mg/kg	116	70.0	130
EP074E: Halogenated Aliphatic Compounds (QCLot: 4560344)							
ES2230767-001	HA01_0.0-0.1_220822	EP074: 1.1-Dichloroethene	75-35-4	2.5 mg/kg	98.9	70.0	130
		EP074: Trichloroethene	79-01-6	2.5 mg/kg	104	70.0	130
EP074E: Halogenated Aliphatic Compounds (QCLot: 4560347)							
ES2231102-003	Anonymous	EP074: 1.1-Dichloroethene	75-35-4	2.5 mg/kg	96.2	70.0	130
		EP074: Trichloroethene	79-01-6	2.5 mg/kg	109	70.0	130
EP074F: Halogenated Aromatic Compounds (QCLot: 4560344)							
ES2230767-001	HA01_0.0-0.1_220822	EP074: Chlorobenzene	108-90-7	2.5 mg/kg	107	70.0	130
EP074F: Halogenated Aromatic Compounds (QCLot: 4560347)							
ES2231102-003	Anonymous	EP074: Chlorobenzene	108-90-7	2.5 mg/kg	119	70.0	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4560305)							
ES2230767-001	HA01_0.0-0.1_220822	EP075(SIM): Acenaphthene	83-32-9	10 mg/kg	105	70.0	130
		EP075(SIM): Pyrene	129-00-0	10 mg/kg	108	70.0	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4560318)							
ES2230767-034	HA18_0.0-0.1_220823	EP075(SIM): Acenaphthene	83-32-9	10 mg/kg	99.7	70.0	130
		EP075(SIM): Pyrene	129-00-0	10 mg/kg	106	70.0	130
EP075A: Phenolic Compounds (QCLot: 4560308)							
ES2230767-001	HA01_0.0-0.1_220822	EP075: Phenol	108-95-2	10 mg/kg	94.8	60.0	130
		EP075: 2-Chlorophenol	95-57-8	10 mg/kg	93.4	60.0	130
		EP075: 2-Nitrophenol	88-75-5	10 mg/kg	76.0	50.0	130
		EP075: 4-Chloro-3-methylphenol	59-50-7	10 mg/kg	90.2	50.0	130
		EP075: Pentachlorophenol	87-86-5	10 mg/kg	28.8	10.0	130
EP075A: Phenolic Compounds (QCLot: 4560321)							
ES2230767-034	HA18_0.0-0.1_220823	EP075: Phenol	108-95-2	10 mg/kg	102	60.0	130
		EP075: 2-Chlorophenol	95-57-8	10 mg/kg	101	60.0	130
		EP075: 2-Nitrophenol	88-75-5	10 mg/kg	111	50.0	130
		EP075: 4-Chloro-3-methylphenol	59-50-7	10 mg/kg	99.6	50.0	130
		EP075: Pentachlorophenol	87-86-5	10 mg/kg	87.9	10.0	130
EP075B: Polynuclear Aromatic Hydrocarbons (QCLot: 4560308)							
ES2230767-001	HA01_0.0-0.1_220822	EP075: Acenaphthene	83-32-9	10 mg/kg	89.2	50.0	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
EP075B: Polynuclear Aromatic Hydrocarbons (QCLot: 4560308) - continued							
ES2230767-001	HA01_0.0-0.1_220822	EP075: Pyrene	129-00-0	10 mg/kg	78.4	50.0	130
EP075B: Polynuclear Aromatic Hydrocarbons (QCLot: 4560321)							
ES2230767-034	HA18_0.0-0.1_220823	EP075: Acenaphthene	83-32-9	10 mg/kg	94.2	50.0	130
		EP075: Pyrene	129-00-0	10 mg/kg	96.8	50.0	130
EP075D: Nitrosamines (QCLot: 4560308)							
ES2230767-001	HA01_0.0-0.1_220822	EP075: N-Nitrosodi-n-propylamine	621-64-7	10 mg/kg	97.0	50.0	130
EP075D: Nitrosamines (QCLot: 4560321)							
ES2230767-034	HA18_0.0-0.1_220823	EP075: N-Nitrosodi-n-propylamine	621-64-7	10 mg/kg	106	50.0	130
EP075E: Nitroaromatics and Ketones (QCLot: 4560308)							
ES2230767-001	HA01_0.0-0.1_220822	EP075: 2.4-Dinitrotoluene	121-14-2	10 mg/kg	60.4	40.0	130
EP075E: Nitroaromatics and Ketones (QCLot: 4560321)							
ES2230767-034	HA18_0.0-0.1_220823	EP075: 2.4-Dinitrotoluene	121-14-2	10 mg/kg	99.5	40.0	130
EP075G: Chlorinated Hydrocarbons (QCLot: 4560308)							
ES2230767-001	HA01_0.0-0.1_220822	EP075: 1.4-Dichlorobenzene	106-46-7	10 mg/kg	92.8	60.0	130
		EP075: 1.2.4-Trichlorobenzene	120-82-1	10 mg/kg	98.7	50.0	130
EP075G: Chlorinated Hydrocarbons (QCLot: 4560321)							
ES2230767-034	HA18_0.0-0.1_220823	EP075: 1.4-Dichlorobenzene	106-46-7	10 mg/kg	96.8	60.0	130
		EP075: 1.2.4-Trichlorobenzene	120-82-1	10 mg/kg	106	50.0	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4560304)							
ES2230767-001	HA01_0.0-0.1_220822	EP071: C10 - C14 Fraction	----	480 mg/kg	120	73.0	137
		EP071: C15 - C28 Fraction	----	3100 mg/kg	114	53.0	131
		EP071: C29 - C36 Fraction	----	2060 mg/kg	122	52.0	132
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4560317)							
ES2230767-034	HA18_0.0-0.1_220823	EP071: C10 - C14 Fraction	----	480 mg/kg	124	73.0	137
		EP071: C15 - C28 Fraction	----	3100 mg/kg	122	53.0	131
		EP071: C29 - C36 Fraction	----	2060 mg/kg	128	52.0	132
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4560343)							
ES2230767-001	HA01_0.0-0.1_220822	EP080: C6 - C9 Fraction	----	32.5 mg/kg	94.3	70.0	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4560346)							
ES2231102-003	Anonymous	EP080: C6 - C9 Fraction	----	32.5 mg/kg	107	70.0	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4561257)							
ES2231653-001	Anonymous	EP080: C6 - C9 Fraction	----	32.5 mg/kg	116	70.0	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4565633)							
ES2228395-001	Anonymous	EP080: C6 - C9 Fraction	----	32.5 mg/kg	87.0	70.0	130

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4560304)							
ES2230767-001	HA01_0.0-0.1_220822	EP071: >C10 - C16 Fraction	----	860 mg/kg	110	73.0	137
		EP071: >C16 - C34 Fraction	----	4320 mg/kg	118	53.0	131
		EP071: >C34 - C40 Fraction	----	890 mg/kg	121	52.0	132
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4560317)							
ES2230767-034	HA18_0.0-0.1_220823	EP071: >C10 - C16 Fraction	----	860 mg/kg	116	73.0	137
		EP071: >C16 - C34 Fraction	----	4320 mg/kg	125	53.0	131
		EP071: >C34 - C40 Fraction	----	890 mg/kg	130	52.0	132
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4560343)							
ES2230767-001	HA01_0.0-0.1_220822	EP080: C6 - C10 Fraction	C6_C10	37.5 mg/kg	102	70.0	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4560346)							
ES2231102-003	Anonymous	EP080: C6 - C10 Fraction	C6_C10	37.5 mg/kg	101	70.0	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4561257)							
ES2231653-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	37.5 mg/kg	116	70.0	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4565633)							
ES2228395-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	37.5 mg/kg	86.5	70.0	130
EP080: BTEXN (QCLot: 4560343)							
ES2230767-001	HA01_0.0-0.1_220822	EP080: Benzene	71-43-2	2.5 mg/kg	100	70.0	130
		EP080: Toluene	108-88-3	2.5 mg/kg	91.1	70.0	130
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	94.2	70.0	130
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2.5 mg/kg	91.5	70.0	130
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	96.7	70.0	130
		EP080: Naphthalene	91-20-3	2.5 mg/kg	101	70.0	130
EP080: BTEXN (QCLot: 4560346)							
ES2231102-003	Anonymous	EP080: Benzene	71-43-2	2.5 mg/kg	91.1	70.0	130
		EP080: Toluene	108-88-3	2.5 mg/kg	96.5	70.0	130
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	100	70.0	130
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2.5 mg/kg	98.1	70.0	130
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	99.6	70.0	130
		EP080: Naphthalene	91-20-3	2.5 mg/kg	94.8	70.0	130
EP080: BTEXN (QCLot: 4561257)							
ES2231653-001	Anonymous	EP080: Benzene	71-43-2	2.5 mg/kg	103	70.0	130
		EP080: Toluene	108-88-3	2.5 mg/kg	96.5	70.0	130
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	99.3	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: 4561257) - continued							
ES2231653-001	Anonymous	EP080: meta- & para-Xylene	108-38-3 106-42-3	2.5 mg/kg	99.7	70.0	130
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	101	70.0	130
		EP080: Naphthalene	91-20-3	2.5 mg/kg	108	70.0	130
EP080: BTEXN (QCLot: 4565633)							
ES2228395-001	Anonymous	EP080: Benzene	71-43-2	2.5 mg/kg	79.6	70.0	130
		EP080: Toluene	108-88-3	2.5 mg/kg	80.7	70.0	130
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	84.4	70.0	130
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2.5 mg/kg	84.7	70.0	130
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	87.6	70.0	130
		EP080: Naphthalene	91-20-3	2.5 mg/kg	88.4	70.0	130
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4560882)							
ES2230767-001	HA01_0.0-0.1_220822	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.00125 mg/kg	111	72.0	128
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.00125 mg/kg	110	73.0	123
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.00125 mg/kg	118	67.0	130
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.00125 mg/kg	98.4	70.0	132
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.00125 mg/kg	103	68.0	136
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.00125 mg/kg	95.6	59.0	134
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4561489)							
ES2230470-005	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.00125 mg/kg	82.0	72.0	128
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.00125 mg/kg	102	73.0	123
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.00125 mg/kg	94.0	67.0	130
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.00125 mg/kg	93.6	70.0	132
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.00125 mg/kg	90.0	68.0	136
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.00125 mg/kg	102	59.0	134
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4563772)							
ES2230767-047	HA22_0.0-0.1_220823	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.00125 mg/kg	95.2	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	90.0	67.0	130
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.00125 mg/kg	94.0	70.0	132
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.00125 mg/kg	102	68.0	136
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.00125 mg/kg	105	59.0	134
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4560882)							
ES2230767-001	HA01_0.0-0.1_220822	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.00625 mg/kg	124	71.0	135
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.00125 mg/kg	116	69.0	132
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.00125 mg/kg	107	70.0	132
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.00125 mg/kg	120	71.0	131

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: 4560882) - continued							
ES2230767-001	HA01_0.0-0.1_220822	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.00125 mg/kg	124	69.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.00125 mg/kg	126	72.0	129
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.00125 mg/kg	98.4	69.0	133
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.00125 mg/kg	118	64.0	136
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.00125 mg/kg	120	69.0	135
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.00125 mg/kg	115	66.0	139
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.00312 mg/kg	114	69.0	133
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4561489)							
ES2230470-005	Anonymous	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.00625 mg/kg	93.8	71.0	135
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.00125 mg/kg	106	69.0	132
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.00125 mg/kg	96.0	70.0	132
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.00125 mg/kg	99.2	71.0	131
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.00125 mg/kg	108	69.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.00125 mg/kg	98.8	72.0	129
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.00125 mg/kg	92.0	69.0	133
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.00125 mg/kg	95.6	64.0	136
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.00125 mg/kg	104	69.0	135
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.00125 mg/kg	103	66.0	139
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.00312 mg/kg	107	69.0	133
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4563772)							
ES2230767-047	HA22_0.0-0.1_220823	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.00625 mg/kg	83.0	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	106	70.0	132
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.00125 mg/kg	105	71.0	131
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.00125 mg/kg	107	69.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.00125 mg/kg	103	72.0	129
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.00125 mg/kg	111	69.0	133
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.00125 mg/kg	110	64.0	136
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.00125 mg/kg	102	69.0	135
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.00125 mg/kg	117	66.0	139
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.00312 mg/kg	106	69.0	133
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4560882)							
ES2230767-001	HA01_0.0-0.1_220822	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.00125 mg/kg	109	67.0	137
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.00312 mg/kg	121	71.6	129
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.00312 mg/kg	114	69.8	131
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.00312 mg/kg	125	68.7	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
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4560882) - continued							
ES2230767-001	HA01_0.0-0.1_220822	EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.00312 mg/kg	122	65.1	134
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.00125 mg/kg	118	63.0	144
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.00125 mg/kg	116	61.0	139
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4561489)							
ES2230470-005	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.00125 mg/kg	96.0	67.0	137
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.00312 mg/kg	118	71.6	129
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.00312 mg/kg	101	69.8	131
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.00312 mg/kg	103	68.7	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.00312 mg/kg	95.7	65.1	134
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.00125 mg/kg	94.0	63.0	144
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.00125 mg/kg	94.8	61.0	139
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4563772)							
ES2230767-047	HA22_0.0-0.1_220823	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	108	71.6	129
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.00312 mg/kg	106	69.8	131
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.00312 mg/kg	94.7	68.7	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.00312 mg/kg	109	65.1	134
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.00125 mg/kg	106	63.0	144
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.00125 mg/kg	110	61.0	139
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4560882)							
ES2230767-001	HA01_0.0-0.1_220822	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.00125 mg/kg	122	62.0	145
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.00125 mg/kg	123	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.00125 mg/kg	114	65.0	137
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.00125 mg/kg	104	69.2	143
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4561489)							
ES2230470-005	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.00125 mg/kg	99.6	62.0	145

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*Concentration*	*MS*	*Low*	*High*
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4561489) - continued							
ES2230470-005	Anonymous	EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.00125 mg/kg	102	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.00125 mg/kg	103	65.0	137
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.00125 mg/kg	106	69.2	143
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4563772)							
ES2230767-047	HA22_0.0-0.1_220823	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.00125 mg/kg	95.2	62.0	145
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.00125 mg/kg	101	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.00125 mg/kg	98.0	65.0	137
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.00125 mg/kg	111	69.2	143

CHAIN OF CUSTODY

ALS Laboratory: please tick →

☐ADELAIDE 21 Burma Road Pooraka SA 5095 Ph: 08 8359 0890 E: adelaide@alsglobal.com
☐BRISBANE 32 Shand Street Stafford QLD 4053 Ph: 07 3243 7222 E: samples.brisbane@alsglobal.com
☐GLADSTONE 46 Callemondah Drive Clinton QLD 4680 Ph: 07 7471 5600 E: gladstone@alsglobal.com
☐MACKAY 78 Harbour Road Mackay QLD 4740 Ph: 07 4944 0177 E: mackay@alsglobal.com
☐MELBOURNE 2-4 Westall Road Springvale VIC 3171 Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
☐MUDGEE 27 Sydney Road Mudgee NSW 2850 Ph: 02 6372 6735 E: mudgee.mail@alsglobal.com
☐NEWCASTLE 5/585 Maitland Rd Mayfield West NSW 2304 Ph: 02 4014 2500 E: samples.newcastle@alsglobal.com
☐NOWRA 4/13 Geary Place North Nowra NSW 2541 Ph: 024423 2063 E: nowra@alsglobal.com
☐PERTH 10 Hod Way Malaga WA 6090 Ph: 08 9209 7655 E: samples.perth@alsglobal.com
☐SYDNEY 277-289 Woodpark Road Smithfield NSW 2164 Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
☐TOWNSVILLE 14-15 Desma Court Bohle QLD 4818 Ph: 07 4796 0600 E: townsville.environmental@alsglobal.com
☐WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: AECOM	TURNAROUND REQUIREMENTS: ☑ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)	
OFFICE: 420 George St Sydney	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics) ☐ Non Standard or urgent TAT (List due date):	Custody Seal Intact?	Yes No N/A
PROJECT: 60619756 - Muswellbrook Bypass	ALS QUOTE NO.:	Free ice / frozen ice bricks present upon receipt?	Yes No N/A
ORDER NUMBER:	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 7 OF: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt:	4.1 °C
PROJECT MANAGER: Justin Shields	CONTACT PH: 0403145840	Other comment:	
SAMPLER: Aidan Aubert	SAMPLER MOBILE: 0431835161		
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):		
Email Reports to (will default to PM if no other addresses are listed):	greg.gregory.briscoe1@aecom.com		
Email Invoice to (will default to PM if no other addresses are listed):	greg.gregory.briscoe1@aecom.com		

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Aidan Aubert	TOB	JN	J
DATE/TIME: 11/08/22 4:56pm	DATE/TIME: 11/8/22 5:13pm	DATE/TIME: 1700h	DATE/TIME: 12.8.22 7:30

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).				Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below) All on ice	TOTAL CONTAINERS			EMAILED LAB OF ORIGIN: NEWCASTLE	Hold	Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
1	~~SS_TP~~SS10_0.0-0.05	10/08/22	S	1x bag	1					
2	SS09_0.0-0.05	"	"	"	1					
3	SS08_0.0-0.05	"	"	"	1					
4	SS_07_0.0-0.05	"	"	"	1					
5	SS06_0.0-0.05	"	"	"	1					
6	SS05_0.0-0.05	"	"	"	1					
7	SS04_0.0-0.1	"	"	"	1					
8	SS03_"	"	"	"	1					
9	SS02_"	"	"	"	1					
10	SS01_"	"	"	"	1					
11	TP-CH-240 - ASS_1.1-1.2	09/08/22	S	1x bag	1					
12	" - ASS_2.1-2.2	"	S	"	1					
				TOTAL	12					

Environmental Division Sydney
Work Order Reference
ES2228696

Telephone : +61-2-8784 8555

All on HOLD

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

CHAIN OF CUSTODY

ALS Laboratory: please tick →

ADELAIDE 21 Burma Road Pooraka SA 5095 Ph 08 8359 0890 E adelaide@alsglobal.com
BRISBANE 32 Shand Street Stafford QLD 4053 Ph 07 3243 7222 E samples.brisbane@alsglobal.com
GLADSTONE 46 Callemondah Drive Clinton QLD 4680 Ph 07 7471 5600 E gladstone@alsglobal.com
MACKAY 78 Harbour Road Mackay QLD 4740 Ph 07 4944 0177 E mackay@alsglobal.com
MELBOURNE 2-4 Westall Road Springvale VIC 3171 Ph 03 8549 9600 E samples.melbourne@alsglobal.com
MUDGEE 27 Sydney Road Mudgee NSW 2850 Ph 02 6372 0735 E mudgee mail@alsglobal.com
NEWCASTLE 5/585 Maitland Rd Mayfield West NSW 2304 Ph 02 4014 2500 E samples.newcastle@alsglobal.com
NOWRA 4/15 Geary Place North Nowra NSW 2541 Ph 024423 2063 E nowra@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090 Ph 08 9209 7655 E samples.perth@alsglobal.com
SYDNEY 277-289 Woodpark Road Smithfield NSW 2164 Ph 02 8784 0555 E samples.sydney@alsglobal.com
TOWNSVILLE 14-15 Desma Court Bohle QLD 4818 Ph 07 4796 0600 E townsville.environmental@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph 02 4225 3125 E portkembla@alsglobal.com

CLIENT: AECOM	TURNAROUND REQUIREMENTS: (Standard TAT may be longer for some tests e.g. Ultra Trace Organics)	☑ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)
OFFICE: Sydney – 420 George St		☐ Non Standard or urgent TAT (List due date):	Custody Seal Intact? Yes No N/A
PROJECT: Muswellbrook bypass	ALS QUOTE NO.:	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 7 OF: 1 2 3 4 5 6 7	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER:			Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Justin Shields	CONTACT PH: 0403145840		Other comment:
SAMPLER: Aidan Aubert	SAMPLER MOBILE: 0431835161		
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):		
Email Reports to (will default to PM if no other addresses are listed): gregory.briscoe1@aecom.com			
Email Invoice to (will default to PM if no other addresses are listed):			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Aidan Aubert	TOB	JN	LT
DATE/TIME: 11/08/22 4:56pm	DATE/TIME: 11/8/22 5:13pm	DATE/TIME: 1700 12.8.22	DATE/TIME: 1930 12.1.22

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED Including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS								Hold	Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
13	TP-CH-240-ASS_2.6-2.8	09/08/22	S	All on ice 1x bag	1									
14	" _ASS_3.2-3.5	"	S		1									
15	TP-CH-242_ASS_0.8-1.0	"	S		1									
16	"_ASS_2.3-2.4	"	S		1									
17	"ASS_3.5-3.6	"	S		1									
18	"_ASS_3.8-4.0	"	S		1									
19	TP-CH-243_ASS_0.1-0.3	10/08/22	S		1									
20	" _ASS_0.6-0.8	"	S		1									
21	" _ASS_1.6-1.8	"	S		1									
22	" _ASS_2.8-3.0	"	S		1									
23	TP-CH-241-ASS_0.6-0.8	"	S		1									Ran out of Space
24	" _ASS_0.9-1.1	"	S		1									
25	" _ASS_2.6-2.8	"	S		1									
26	" _ASS_2.8-3.0	"	S		1									
				TOTAL	14									

E-MAILED LAB OF ORIGIN NEWCASTLE

ALL ON HOLD

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **ES2228696**	Page	: 1 of 4
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: GREG BRISCOE	Contact	: Sepan Mahamad
Address	: LEVEL 21 420 GEORGE STREET SYDNEY NSW, AUSTRALIA 2000	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: +61 2 8784 8555
Project	: 60619756 - Muswellbrook By pass	Date Samples Received	: 11-Aug-2022 17:13
Order number	: 60619756	Date Analysis Commenced	: 24-Aug-2022
C-O-C number	: ----	Issue Date	: 29-Aug-2022 13:02
Sampler	: AIDEN AUBERT		
Site	: MBCP		
Quote number	: EN/004/21		
No. of samples received	: 26		
No. of samples analysed	: 10		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Descriptive Results

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

Signatories

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

Signatories	*Position*	*Accreditation Category*
Brendan Schrader	Laboratory Technician	Newcastle - Asbestos, Mayfield West, NSW

General Comments

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

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

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

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

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

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

- 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.
- EA200: For samples larger than 30g, the <2mm fraction may be sub-sampled prior to trace analysis as outlined in ISO23909:2008(E) Sect 6.3.2-2
- EA200: 'Yes' - Asbestos detected by polarised light microscopy including dispersion staining.
- EA200: 'No*' - No asbestos found, at the reporting limit of 0.1g/kg, by polarised light microscopy including dispersion staining. Asbestos material was detected and positively identified at concentrations estimated to be below 0.1g/kg.
- EA200: 'No' - No asbestos found at the reporting limit 0.1g/kg, by polarised light microscopy including dispersion staining.

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	SS10_0.0-0.05	SS09_0.0-0.05	SS08_0.0-0.05	SS07_0.0-0.05	SS06_0.0-0.05
			Sampling date / time	10-Aug-2022 00:00	10-Aug-2022 00:00	10-Aug-2022 00:00	10-Aug-2022 00:00	10-Aug-2022 00:00
Compound	CAS Number	LOR	Unit	ES2228696-001	ES2228696-002	ES2228696-003	ES2228696-004	ES2228696-005
				Result	Result	Result	Result	Result
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	**No**	**No**	**No**	**No**	**No**
Asbestos (Trace)	1332-21-4	5	Fibres	**No**	**No**	**No**	**No**	**No**
Asbestos Type	1332-21-4	-	--	**-**	**-**	**-**	**-**	**-**
Synthetic Mineral Fibre	----	0.1	g/kg	**No**	**No**	**No**	**No**	**No**
Organic Fibre	----	0.1	g/kg	**No**	**No**	**No**	**No**	**No**
Sample weight (dry)	----	0.01	g	**541**	**383**	**508**	**437**	**523**
APPROVED IDENTIFIER:	----	-	--	**B.SCHRADER**	**B.SCHRADER**	**B.SCHRADER**	**B.SCHRADER**	**B.SCHRADER**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	SS05_0.0-0.05	SS04_0.0-0.1	SS03_0.0-0.1	SS02_0.0-0.1	SS01_0.0-0.1
			Sampling date / time	10-Aug-2022 00:00	10-Aug-2022 00:00	10-Aug-2022 00:00	10-Aug-2022 00:00	10-Aug-2022 00:00
Compound	CAS Number	LOR	Unit	ES2228696-006	ES2228696-007	ES2228696-008	ES2228696-009	ES2228696-010
				Result	Result	Result	Result	Result
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	**No**	**No**	**No**	**No**	**No**
Asbestos (Trace)	1332-21-4	5	Fibres	**No**	**No**	**No**	**No**	**No**
Asbestos Type	1332-21-4	-	--	**-**	**-**	**-**	**-**	**-**
Synthetic Mineral Fibre	----	0.1	g/kg	**No**	**No**	**No**	**No**	**No**
Organic Fibre	----	0.1	g/kg	**No**	**No**	**No**	**No**	**No**
Sample weight (dry)	----	0.01	g	**542**	**698**	**853**	**732**	**455**
APPROVED IDENTIFIER:	----	-	--	**B.SCHRADER**	**B.SCHRADER**	**B.SCHRADER**	**B.SCHRADER**	**B.SCHRADER**

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	SS10_0.0-0.05 - 10-Aug-2022 00:00	A soil sample.
EA200: Description	SS09_0.0-0.05 - 10-Aug-2022 00:00	A soil sample.
EA200: Description	SS08_0.0-0.05 - 10-Aug-2022 00:00	A soil sample.
EA200: Description	SS07_0.0-0.05 - 10-Aug-2022 00:00	A soil sample.
EA200: Description	SS06_0.0-0.05 - 10-Aug-2022 00:00	A soil sample.
EA200: Description	SS05_0.0-0.05 - 10-Aug-2022 00:00	A soil sample.
EA200: Description	SS04_0.0-0.1 - 10-Aug-2022 00:00	A soil sample.
EA200: Description	SS03_0.0-0.1 - 10-Aug-2022 00:00	A soil sample.
EA200: Description	SS02_0.0-0.1 - 10-Aug-2022 00:00	A soil sample.
EA200: Description	SS01_0.0-0.1 - 10-Aug-2022 00:00	A soil sample.

Inter-Laboratory Testing

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

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

ALS Environmental

QUALITY CONTROL REPORT

Work Order	: **ES2228696**	Page	: 1 of 3
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: GREG BRISCOE	Contact	: Sepan Mahamad
Address	: LEVEL 21 420 GEORGE STREET SYDNEY NSW, AUSTRALIA 2000	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: +61 2 8784 8555
Project	: 60619756 - Muswellbrook By pass	Date Samples Received	: 11-Aug-2022
Order number	: 60619756	Date Analysis Commenced	: 24-Aug-2022
C-O-C number	: ----	Issue Date	: 29-Aug-2022
Sampler	: AIDEN AUBERT		
Site	: MBCP		
Quote number	: EN/004/21		
No. of samples received	: 26		
No. of samples analysed	: 10		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

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

This Quality Control Report contains the following information:

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

Signatories

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

Signatories	*Position*	*Accreditation Category*
Brendan Schrader	Laboratory Technician	Newcastle - Asbestos, Mayfield West, NSW

General Comments

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

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

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

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

Laboratory Duplicate (DUP) Report

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

- **No Laboratory Duplicate (DUP) Results are required to be reported.**

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

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

- **No Method Blank (MB) or Laboratory Control Spike (LCS) Results are required to be reported.**

Matrix Spike (MS) Report

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

- **No Matrix Spike (MS) or Matrix Spike Duplicate (MSD) Results are required to be reported.**

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **ES2228696**	Page	: 1 of 4
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: GREG BRISCOE	Telephone	: +61 2 8784 8555
Project	: 60619756 - Muswellbrook By pass	Date Samples Received	: 11-Aug-2022
Site	: MBCP	Issue Date	: 29-Aug-2022
Sampler	: AIDEN AUBERT	No. of samples received	: 26
Order number	: 60619756	No. of samples analysed	: 10

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

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

Summary of Outliers

Outliers : Quality Control Samples

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

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **NO Matrix Spike outliers occur.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

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

Outliers : Frequency of Quality Control Samples

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

Analysis Holding Time Compliance

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

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

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

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

Matrix: **SOIL**

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

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA200: AS 4964 - 2004 Identification of Asbestos in Soils							
Snap Lock Bag (EA200)							
SS10_0.0-0.05, SS09_0.0-0.05, SS08_0.0-0.05, SS07_0.0-0.05, SS06_0.0-0.05, SS05_0.0-0.05, SS04_0.0-0.1, SS03_0.0-0.1, SS02_0.0-0.1, SS01_0.0-0.1	**10-Aug-2022**	**----**	----	----	**24-Aug-2022**	06-Feb-2023	✓

Quality Control Parameter Frequency Compliance

- **No Quality Control data available for this section.**

Brief Method Summaries

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

Analytical Methods	Method	Matrix	Method Descriptions
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

AECOM

ANZ

FQM - Generic Chain of Custody Form

Q4AN(EV)-007-FM1

CONSULTANT:	AECOM	ADDRESS 17 Warabrook Boulevard	
PROJECT MANAGER (PM):	Tama Armani	SITE: MBCP	
PROJECT NUMBER & TASK COI	60619756	P.O. NO.: 60619756	
RESULTS REQUIRED (Date):		QUOTE N: EN/004/16	

SAMPLER:

MOBILE: PHONE:

EMAIL REPORT TO: Tama.Armani@aecom.com

Destination Laboratory
ALS Laboratory Group

ANALYSIS REQUIRED Including SUITES (note - suite codes must be listed to attract suite prices)

FOR LABORATORY USE ONLY
COOLER SEAL (circle appropriate)
Intact: Yes No N/A
SAMPLE TEMPERATURE
CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

Notes: e.g. Highly contaminated samples e.g. "High PAHs expected". Extra volume for QC or trace LORs etc.

ALS ID	SAMPLE ID	MATRIX	DATE	Time	Type / Code	Total bottles	S-16	ACM - Gravimetric Analysis	ACM (presence/absence)	PFAS (EP231X)	VOC/SVOC (S-23)	NT-8S	TRH C6-C9/BTEX	HOLD
(1)	TPEV01_0.5_0.6_220815 *	soil	15/08/22			3								X
(2)	TPEV01_00_0.2_220815	soil	15/08/22			3	X			X		X		
(3)	TPEV01_1.0_1.2_220815	soil	15/08/22			3								X
(4)	TPEV01_2.0_2.2_220815	soil	15/08/22			3								X
(5)	TPEV01_3.0_3.2_220815	soil	15/08/22			3								X
(6)	TPEV01_4.0_4.2_220815 (12)	soil	15/08/22			3	X	X	X	X				
(7)	TPEV01_5.0_5.2_220815	soil	15/08/22			3								X
(8)	TPEV02_00_0.2_220815	soil	15/08/22			3								X
(9)	TPEV02_0.5_0.7_220815	soil	15/08/22			3	X		X	X		X		
(10)	TPEV02_1.0_1.2_220815 (27)	soil	15/08/22			3	X	X	X	X				
(11)	TPEV02_2.0_2.2_220815	soil	15/08/22			3								X
(12)	TPEV02_3.0_3.2_220815	soil	15/08/22			3								X
	QC500_220815				Subcon - Forward Lab / Split WO		X			X		X		
	QC600_220815				Lab Analysis:								X	
					Organised By - Date:									
					Relinquished By - Date:									
					Connote / Courier:									
					WO No:									
					Attached By PO / Internal Sheet:									

If Asbestos is identified in any samples, please immediately proceed with NEPM quantification

Environmental Division
Sydney
Work Order Reference
ES2229963

Telephone : +61-2-8784 8555

RELINQUISHED BY:		RECEIVED BY		RECEIVED BY		METHOD OF SHIPMENT
Name:	Date:	Name:	Date:	Name:	Date:	Con' Note No:
Of:	Time:	Of:	Time:	Of:	Time:	Transport Co:

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic;
F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag. Soil Container Codes: Jar = Unpreserved glass jar

* 10kg bags to be logged as separate sample numbers and logged for EA200N as per Tama - 22/8/22 Helen

AECOM

ANZ

FQM - Generic Chain of Custody Form

Q4AN(EV)-007-FM1

CONSULTANT: AECOM	ADDRESS 17 Warabrook Boulevard	SAMPLER:	Destination Laboratory
PROJECT MANAGER (PM): Tama Armani	SITE: MBCP	MOBILE: PHONE:	ALS Laboratory Group
PROJECT NUMBER & TASK COI 60619756	P.O. NO.: 60619756	EMAIL REPORT TO: Tama.Armani@aecom.com	
RESULTS REQUIRED (Date):	QUOTE Nt EN/004/16	ANALYSIS REQUIRED Including SUITES (note - suite codes must be listed to attract suite prices)	

FOR LABORATORY USE ONLY
COOLER SEAL (circle appropriate)
Intact: Yes No N/A
SAMPLE TEMPERATURE
CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

Notes: e.g. Highly contaminated samples e.g. "High PAHs expected". Extra volume for QC or trace LORs etc.

	SAMPLE INFORMATION (note: S = Soil, W=Water)				CONTAINER INFORMATION		S-16	ACM - Gravimetric Analysis	ACM (presnce/absence)	PFAS (EP231X)	VOC/SVOC (S-23)	NT-8S							HOLD
ALS ID	SAMPLE ID	MATRIX	DATE	Time	Type / Code	Total bottles													
13	TPEV02_4.0-4.2_220815	soil	15/08/22			3													X
14	TPEV02_4.8-5.0_220815	soil	15/08/22			3													X
15	TPEV03_0.0-0.2_220815	soil	15/08/22			3													X
16	TPEV03_0.5-0.7_220815	soil	15/08/22			3	X	X	X	X		X							
17	TPEV03_1.0-1.2_220815	soil	15/08/22			3	X			X									
18	TPEV03_2.0-2.2_220815	soil	15/08/22			3													X
19	TPEV03_3.0-3.2_220815	soil	15/08/22			3													X
20	TPEV05_4.0-4.2_220815	soil	15/08/22			3													X
21	TPEV03_5.0-5.2_220815	soil	15/08/22			3													X
22	TPEV04_0.0-0.2_220815	soil	15/08/22			3													X
23	TPEV04_0.5-0.7_220815	soil	15/08/22			3	X			X		X							
24	TPEV04_1.0-1.2_220815	soil	15/08/22			3													X
25	TPEV04_2.0-2.2_220815	soil	15/08/22			3	X	X	X	X		X							
30	TRC500																		
31	RC600																		
32	TSC																		

If Asbestos is identified in any samples, please immediately proceed with NEPM quantification

RELINQUISHED BY:		RECEIVED BY		RECEIVED BY		METHOD OF SHIPMENT
Name:	Date:	Name:	Date:	Name:	Date:	Con' Note No:
Of:	Time:	Of:	Time:	Of:	Time:	Transport Co:

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic;
F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag. **Soil Container Codes:** Jar = Unpreserved glass jar

ANZ

FQM - Generic Chain of Custody Form

Updated COC's 22/8/2022

AECOM

Q4AN(EV)-007-FM1

CONSULTANT: AECOM	ADDRESS 17 Warabrook Boulevard	SAMPLER:	Destination Laboratory
PROJECT MANAGER (PM): Tama Armani	SITE: MBCP	MOBILE:	PHONE: ALS Laboratory Group
PROJECT NUMBER & TASK COI 60619756	P.O. NO.: 60619756	EMAIL REPORT TO: Tama.Armani@aecom.com	
RESULTS REQUIRED (Date):	QUOTE NO: EN/004/16	ANALYSIS REQUIRED including SUITES (note - suite codes must be listed to attract suite prices)	

FOR LABORATORY USE ONLY
COOLER SEAL (circle appropriate)
Intact: Yes No N/A
SAMPLE TEMPERATURE
CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

Notes: e.g. Highly contaminated sample: e.g. "High PAHs expected". Extra volume for QC or trace LORs etc.

ALS ID	SAMPLE ID	MATRIX	DATE	Time	Type / Code	Total bottles	S-16	ACM - Gravimetric Analysis	ACM (presnce/absence)	PFAS (EP231X)	VOC/SVOC (S-23)	HT-8S	TRH C6-C9/BTEX	HOLD
1	TPEV01_0.5_0.6_220815	soil	15/08/22			3								X
2	TPEV01_0.0_0.2_220815	soil	15/08/22			3	X			X		X		
3	TPEV01_1.0_1.2_220815	soil	15/08/22			3								X
4	TPEV01_2.0_2.2_220815	soil	15/08/22			3								X
5	TPEV01_3.0_3.2_220815	soil	15/08/22			3								X
6	TPEV01_4.0_4.2_220815 (R2)	soil	15/08/22			3	X	X	X	X				
7	TPEV01_5.0_5.2_220815	soil	15/08/22			3								X
8	TPEV02_0.0_0.2_220815	soil	15/08/22			3								X
9	TPEV02_0.5_0.7_220815	soil	15/08/22			3	X		X	X		X		
10	TPEV02_1.0_1.2_220815 (R2)	soil	15/08/22			3	X	X	X	X				
11	TPEV02_2.0_2.2_220815	soil	15/08/22			3								X
12	TPEV02_3.0_3.2_220815	soil	15/08/22			3								X
	QC500_220815				Subcon - Forward Lab / Split WO		X			X		X		
	QC600_220815				Lab / Analysis:								X	
					Organised By - Date:									
					Relinquished By - Date:									
					Connote / Courier:									
					WO No:									
					Attached By PO / Internal Sheet:									

If Asbestos is identified in any samples, please immediately proceed with NEPM quantification

Environmental Division Sydney
Work Order Reference
ES2229963

Telephone : +61-2-8784 8555

RELINQUISHED BY:		RECEIVED BY		RECEIVED BY		METHOD OF SHIPMENT
Name:	Date:	Name:	Date:	Name:	Date:	Con' Note No:
Of:	Time:	Of:	Time:	Of:	Time:	Transport Co:

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic;
F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag. Soil Container Codes: Jar = Unpreserved glass jar

* 10kg bags to be logged as separate sample numbers and logged for EA200N as per Tama - 22/8/22 Helen

AECOM

ANZ

FQM - Generic Chain of Custody Form

Q4AN(EV)-007-FM1

CONSULTANT:	AECOM	ADDRESS 17 Warabrook Boulevard	SAMPLER:		Destination Laboratory
PROJECT MANAGER (PM):	Tama Armani	SITE: MBCP	MOBILE:	PHONE:	ALS Laboratory Group
PROJECT NUMBER & TASK COI	60619756	P.O. NO.: 60619756	EMAIL REPORT TO:	Tama.Armani@aecom.com	
RESULTS REQUIRED (Date):		QUOTE NI EN/004/16	ANALYSIS REQUIRED Including SUITES (note - suite codes must be listed to attract suite prices)		

FOR LABORATORY USE ONLY
COOLER SEAL (circle appropriate)
Intact: Yes No N/A
SAMPLE TEMPERATURE
CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

Notes: e.g. Highly contaminated sample; e.g. "High PAHs expected". Extra volume for QC or trace LORs etc.

		SAMPLE INFORMATION (note: S = Soil, W=Water)				CONTAINER INFORMATION		S-16	ACM - Gravimetric Analysis	ACM (presence/absence)	PFAS (EP231X)	VOC/SVOC (S-23)	NT-8S							HOLD	
	ALS ID	SAMPLE ID	MATRIX	DATE	Time	Type / Code	Total bottles														
13	1	TPEV02_4.0-4.2_220815	soil	15/08/22			3													X	If Asbestos is identified in any samples, please immediately proceed with NEPM quantification
14	2	TPEV02_4.8-5.0_220815	soil	15/08/22			3													X	
15	3	TPEV03_0.0_0.2_220815	soil	15/08/22			3													X	
16	4	TPEV03_0.5_0.7_220815	soil	15/08/22			3	X	X	X	X		X								
17	5	TPEV03_1.0_1.2_220815	soil	15/08/22			3	X			X										
18	6	TPEV03_2.0_2.2_220815	soil	15/08/22			3													X	
19	7	TPEV03_3.0_3.2_220815	soil	15/08/22			3													X	
20	8	TPEV03_4.0_4.2_220815	soil	15/08/22			3													X	
21	9	TPEV03_5.0_5.2_220815	soil	15/08/22			3													X	
22	10	TPEV04_0.0_0.2_220815	soil	15/08/22			3													X	
23	11	TPEV04_0.5_0.7_220815	soil	15/08/22			3	X			X		X								
24	12	TPEV04_1.0_1.2_220815	soil	15/08/22			3													X	
25	13	TPEV04_2.0_2.2_220815	soil	15/08/22			3	X	X	X	X		X								
30		TSC																			
31		QC600																			
32		TSC																			

RELINQUISHED BY		RECEIVED BY		RECEIVED BY		METHOD OF SHIPMENT
Name:	Date:	Name:	Date:	Name:	Date:	Con' Note No:
Of:	Time:	Of:	Time:	Of:	Time:	Transport Co:

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic;
F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag. Soil Container Codes: Jar = Unpreserved glass jar

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : **ES2229963**

Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: TAMA ARMANI	Contact	: Sepan Mahamad
Address	: 17 WARABROOK BOULEVARDE WARABROOK NSW, AUSTRALIA 2304	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: tama.armani@aecom.com	E-mail	: Sepan.Mahamad@ALSGlobal.com
Telephone	: ----	Telephone	: +61 2 8784 8555
Facsimile	: ----	Facsimile	: +61-2-8784 8500
Project	: 60619756	Page	: 1 of 4
Order number	: 60619756	Quote number	: ES2021AECOMAU0044 (EN/004/21)
C-O-C number	: ----	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: MBCP		
Sampler	:		

Dates

Date Samples Received	: 17-Aug-2022 17:00	Issue Date	: 22-Aug-2022
Client Requested Due Date	: 29-Aug-2022	Scheduled Reporting Date	: **29-Aug-2022**

Delivery Details

Mode of Delivery	: Undefined	Security Seal	: Intact.
No. of coolers/boxes	: 5	Temperature	: 5'c - Ice present
Receipt Detail	:	No. of samples received / analysed	: 32 / 15

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Proactive Holding Time Report
  - Requested Deliverables
- **Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The laboratory will process these samples unless instructions are received from you indicating you do not wish to proceed. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.**
- **Sample(s) requiring volatile organic compound analysis received in airtight containers (ZHE).**
- **Asbestos analysis will be conducted by ALS Newcastle.**
- Please direct any queries you have regarding this work order to the above ALS laboratory contact.
- Analytical work for this work order will be conducted at ALS Sydney.
- Sample Disposal - Aqueous (3 weeks), Solid (2 months ± 1 week) from receipt of samples.
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.

Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

Method Sample ID	Sample Container Received	Preferred Sample Container for Analysis
Asbestos Classification and Quantitation per NEPM 2013 : EA200N		
TPEV01_4.0_4.2_220815	- Plastic Bag	- Snap Lock Bag: Separate bag received
TPEV02_1.0_1.2_220815	- Plastic Bag	- Snap Lock Bag: Separate bag received
TPEV03_0.5_0.7_220815	- Plastic Bag	- Snap Lock Bag: Separate bag received
TPEV04_2.0_2.2_220815	- Plastic Bag	- Snap Lock Bag: Separate bag received
Asbestos Identification in Soils : EA200		
TPEV01_4.0_4.2_220815	- Plastic Bag	- Snap Lock Bag - ACM/Asbestos Grab Bag
TPEV02_1.0_1.2_220815	- Plastic Bag	- Snap Lock Bag - ACM/Asbestos Grab Bag
TPEV03_0.5_0.7_220815	- Plastic Bag	- Snap Lock Bag - ACM/Asbestos Grab Bag
TPEV04_2.0_2.2_220815	- Plastic Bag	- Snap Lock Bag - ACM/Asbestos Grab Bag

Any sample identifications that cannot be displayed entirely in the analysis summary table will be listed below.

ES2229963-001	[15-Aug-2022]	TPEV01_0.5_0.6_220815
ES2229963-002	[15-Aug-2022]	TPEV01_0.0_0.21_220815
ES2229963-003	[15-Aug-2022]	TPEV01_1.0_1.2_220815
ES2229963-004	[15-Aug-2022]	TPEV01_2.0_2.2_220815
ES2229963-005	[15-Aug-2022]	TPEV01_3.0_3.2_220815
ES2229963-006	[15-Aug-2022]	TPEV01_4.0_4.2_220815
ES2229963-007	[15-Aug-2022]	TPEV01_5.0_5.2_220815
ES2229963-008	[15-Aug-2022]	TPEV02_0.0_0.2_220815
ES2229963-009	[15-Aug-2022]	TPEV02_0.5_0.7_220815
ES2229963-010	[15-Aug-2022]	TPEV02_1.0_1.2_220815
ES2229963-011	[15-Aug-2022]	TPEV02_2.0_2.2_220815
ES2229963-012	[15-Aug-2022]	TPEV02_3.0_3.2_220815
ES2229963-013	[15-Aug-2022]	TPEV02_4.0_4.2_220815
ES2229963-014	[15-Aug-2022]	TPEV02_4.8_5.0_220815
ES2229963-015	[15-Aug-2022]	TPEV03_0.0_0.2_220815
ES2229963-016	[15-Aug-2022]	TPEV03_0.5_0.7_220815
ES2229963-017	[15-Aug-2022]	TPEV03_1.0_1.2_220815
ES2229963-018	[15-Aug-2022]	TPEV03_2.0_2.2_220815
ES2229963-019	[15-Aug-2022]	TPEV03_3.0_3.2_220815
ES2229963-020	[15-Aug-2022]	TPEV03_4.0_4.2_220815
ES2229963-021	[15-Aug-2022]	TPEV03_5.0_5.2_220815
ES2229963-022	[15-Aug-2022]	TPEV04_0.0_0.2_220815
ES2229963-023	[15-Aug-2022]	TPEV04_0.5_0.7_220815
ES2229963-024	[15-Aug-2022]	TPEV04_1.0_1.2_220815
ES2229963-025	[15-Aug-2022]	TPEV04_2.0_2.2_220815
ES2229963-026	[15-Aug-2022]	TPEV01_4.0_4.2_220815
ES2229963-027	[15-Aug-2022]	TPEV02_1.0_1.2_220815
ES2229963-028	[15-Aug-2022]	TPEV03_0.5_0.7_220815
ES2229963-029	[15-Aug-2022]	TPEV04_2.0_2.2_220815

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.

If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **SOIL**

Laboratory sample ID	Sampling date / time	Sample ID	(On Hold) SOIL No analysis requested	SOIL - EA055-103 Moisture Content	SOIL - EA200 Asbestos Identification in Soils -	SOIL - EA200N-TBA Asbestos in Soils - Quantitation by WA/NEPM	SOIL - EP231X (solids) PFAS - Full Suite (28 analytes)	SOIL - NT-8S NH3, NO2, NO3, NOX, TKN, TN, TP	SOIL - S-16 TRH/BTEXN/PAH/OC/OP/PCB/8Metals
ES2229963-001	15-Aug-2022 00:00	TPEV01_0.5_0.6_220815	✓						
ES2229963-002	15-Aug-2022 00:00	TPEV01_0.0_0.21_2208...		✓			✓	✓	✓
ES2229963-003	15-Aug-2022 00:00	TPEV01_1.0_1.2_220815	✓						
ES2229963-004	15-Aug-2022 00:00	TPEV01_2.0_2.2_220815	✓						
ES2229963-005	15-Aug-2022 00:00	TPEV01_3.0_3.2_220815	✓						
ES2229963-006	15-Aug-2022 00:00	TPEV01_4.0_4.2_220815		✓		✓	✓		✓
ES2229963-007	15-Aug-2022 00:00	TPEV01_5.0_5.2_220815	✓						
ES2229963-008	15-Aug-2022 00:00	TPEV02_0.0_0.2_220815	✓						
ES2229963-009	15-Aug-2022 00:00	TPEV02_0.5_0.7_220815		✓	✓		✓	✓	✓
ES2229963-010	15-Aug-2022 00:00	TPEV02_1.0_1.2_220815		✓		✓	✓		✓
ES2229963-011	15-Aug-2022 00:00	TPEV02_2.0_2.2_220815	✓						
ES2229963-012	15-Aug-2022 00:00	TPEV02_3.0_3.2_220815	✓						
ES2229963-013	15-Aug-2022 00:00	TPEV02_4.0_4.2_220815	✓						
ES2229963-014	15-Aug-2022 00:00	TPEV02_4.8_5.0_220815	✓						
ES2229963-015	15-Aug-2022 00:00	TPEV03_0.0_0.2_220815	✓						
ES2229963-016	15-Aug-2022 00:00	TPEV03_0.5_0.7_220815		✓		✓	✓	✓	✓
ES2229963-017	15-Aug-2022 00:00	TPEV03_1.0_1.2_220815		✓			✓		✓
ES2229963-018	15-Aug-2022 00:00	TPEV03_2.0_2.2_220815	✓						
ES2229963-019	15-Aug-2022 00:00	TPEV03_3.0_3.2_220815	✓						
ES2229963-020	15-Aug-2022 00:00	TPEV03_4.0_4.2_220815	✓						
ES2229963-021	15-Aug-2022 00:00	TPEV03_5.0_5.2_220815	✓						
ES2229963-022	15-Aug-2022 00:00	TPEV04_0.0_0.2_220815	✓						
ES2229963-023	15-Aug-2022 00:00	TPEV04_0.5_0.7_220815		✓			✓	✓	✓
ES2229963-024	15-Aug-2022 00:00	TPEV04_1.0_1.2_220815	✓						
ES2229963-025	15-Aug-2022 00:00	TPEV04_2.0_2.2_220815		✓		✓	✓	✓	✓

Matrix: **SOIL**

Laboratory sample ID	Sampling date / time	Sample ID	SOIL - EA200N Asbestos in Soils - (<1kg samples ONLY)	SOIL - EP080 BTEXN	SOIL - S-18 (NO MOIST) TRH(C6-C9)/BTEXN with No Moisture for TBs
ES2229963-026	15-Aug-2022 00:00	TPEV01_4.0_4.2_220815	✓		
ES2229963-027	15-Aug-2022 00:00	TPEV02_1.0_1.2_220815	✓		
ES2229963-028	15-Aug-2022 00:00	TPEV03_0.5_0.7_220815	✓		
ES2229963-029	15-Aug-2022 00:00	TPEV04_2.0_2.2_220815	✓		
ES2229963-030	15-Aug-2022 00:00	QC500			✓

			SOIL - EA200N Asbestos in Soils - (<1kg samples ONLY)	SOIL - EP080 BTEXN	SOIL - S-18 (NO MOIST) TRH(C6-C9)/BTEXN with No Moisture for TBs
ES2229963-031	09-Aug-2022 00:00	QC600		✓	
ES2229963-032	09-Aug-2022 00:00	TSC		✓	

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.

Requested Deliverables

ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV)	Email	AP_CustomerService.ANZ@aecom.com
- Chain of Custody (CoC) (COC)	Email	AP_CustomerService.ANZ@aecom.com

TAMA ARMANI

- *AU Certificate of Analysis - NATA (COA)	Email	tama.armani@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	tama.armani@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	tama.armani@aecom.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	tama.armani@aecom.com
- Chain of Custody (CoC) (COC)	Email	tama.armani@aecom.com
- Chromatogram (CHROM)	Email	tama.armani@aecom.com
- EDI Format - ENMRG (ENMRG)	Email	tama.armani@aecom.com
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)	Email	tama.armani@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	tama.armani@aecom.com

ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **ES2229963**	Page	: 1 of 20
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: TAMA ARMANI	Contact	: Sepan Mahamad
Address	: 17 WARABROOK BOULEVARDE WARABROOK NSW, AUSTRALIA 2304	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: +61 2 8784 8555
Project	: 60619756	Date Samples Received	: 17-Aug-2022 17:00
Order number	: 60619756	Date Analysis Commenced	: 23-Aug-2022
C-O-C number	: ----	Issue Date	: 29-Aug-2022 19:35
Sampler	: ----		
Site	: MBCP		
Quote number	: EN/004/21		
No. of samples received	: 32		
No. of samples analysed	: 15		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

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

This Certificate of Analysis contains the following information:

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

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

Signatories

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

Signatories	*Position*	*Accreditation Category*
Ankit Joshi	Senior Chemist - Inorganics	Sydney Inorganics, Smithfield, NSW
Edwandy Fadjar	Organic Coordinator	Sydney Inorganics, Smithfield, NSW
Edwandy Fadjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Franco Lentini	LCMS Coordinator	Sydney Organics, Smithfield, NSW
Jake Spooner	Laboratory Technician	Newcastle - Asbestos, Mayfield West, NSW

General Comments

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

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

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

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

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

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

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

- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero, for 'TEQ 1/2LOR' are treated as half the reported LOR, and for 'TEQ LOR' are treated as being equal to the reported LOR. Note: TEQ 1/2LOR and TEQ LOR will calculate as 0.6mg/Kg and 1.2mg/Kg respectively for samples with non-detects for all of the eight TEQ PAHs.
- EP080: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EP068: Where reported, Total Chlordane (sum) is the sum of the reported concentrations of cis-Chlordane and trans-Chlordane at or above the LOR.
- EP068: Where reported, Total OCP is the sum of the reported concentrations of all Organochlorine Pesticides at or above LOR.
- EP075(SIM): Where reported, Total Cresol is the sum of the reported concentrations of 2-Methylphenol and 3- & 4-Methylphenol at or above the LOR.
- EG005T: Poor precision was obtained for Iron and Zinc on sample ES2229880 # 006. Confirmed by re-digestion and reanalysis.
- EP231X: Matrix spike recoveries could not be determined due to samples being diluted outside of analytical range.
- EK057G:LOR raised for Nitrite due to sample matrix.
- EP080: The trip spike and its control have been analysed for volatile TPH and BTEXN only. The trip spike and control were prepared in the lab using reagent grade sand spiked with petrol. The spike was dispatched from the lab and the control retained.
- EA200N: Asbestos weights and percentages are not covered under the Scope of NATA Accreditation.
  Weights of Asbestos are based on extracted bulk asbestos, fibre bundles, and/or ACM and do not include respirable fibres (if present)
  The Asbestos (Fines and Fibrous) weight is calculated from the extracted Fibrous Asbestos and Asbestos Fines as an equivalent weight of 100% Asbestos
  Percentages for Asbestos content in ACM are based on the 2013 NEPM default values.
  All calculations of percentage Asbestos under this method are approximate and should be used as a guide only.
- EA200 'Am' Amosite (brown asbestos)
- EA200 'Cr' Crocidolite (blue asbestos)
- EA200 'Trace' - Asbestos fibres ("Free Fibres") detected by trace analysis per AS4964. The result can be interpreted that the sample contains detectable 'respirable' asbestos fibres
- EA200: Asbestos Identification Samples were analysed by Polarised Light Microscopy including dispersion staining.
- EA200 Legend
- EA200 'Ch' Chrysotile (white asbestos)
- EA200: 'UMF' Unknown Mineral Fibres. "-" indicates fibres detected may or may not be asbestos fibres. Confirmation by alternative techniques is recommended.
- EA200N: ALS laboratory procedures and methods used for the identification and quantitation of asbestos are consistent with AS4964-2004 and the requirements of the 2013 NEPM for Assessment of Site Contamination

- EA200: For samples larger than 30g, the <2mm fraction may be sub-sampled prior to trace analysis as outlined in ISO23909:2008(E) Sect 6.3.2-2
- EA200: 'Yes' - Asbestos detected by polarised light microscopy including dispersion staining.
- EA200: 'No*' - No asbestos found, at the reporting limit of 0.1g/kg, by polarised light microscopy including dispersion staining. Asbestos material was detected and positively identified at concentrations estimated to be below 0.1g/kg.
- EA200: 'No' - No asbestos found at the reporting limit 0.1g/kg, by polarised light microscopy including dispersion staining.
- 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	TPEV01_0.0_0.21_22081515	TPEV01_4.0_4.2_220815	TPEV02_0.5_0.7_220815	TPEV02_1.0_1.2_220815	TPEV03_0.5_0.7_220815
				Sampling date / time	15-Aug-2022 00:00	15-Aug-2022 00:00	15-Aug-2022 00:00	15-Aug-2022 00:00	15-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2229963-002	ES2229963-006	ES2229963-009	ES2229963-010	ES2229963-016
					Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%		24.1	13.8	13.0	14.9	15.8
EA200: AS 4964 - 2004 Identification of Asbestos in Soils									
Asbestos Detected	1332-21-4	0.1	g/kg		----	No	No	No	No
Asbestos Type	1332-21-4	-	--		----	-	-	-	-
Asbestos (Trace)	1332-21-4	5	Fibres		----	No	No	No	No
Sample weight (dry)	----	0.01	g		----	258	337	303	241
Synthetic Mineral Fibre	----	0.1	g/kg		----	No	No	No	No
Organic Fibre	----	0.1	g/kg		----	No	No	No	No
APPROVED IDENTIFIER:	----	-	--		----	J.SPOONER	J.SPOONER	J.SPOONER	J.SPOONER
EA200N: ACM Asbestos in Soil (non-NATA)									
ø Asbestos Containing Material	1332-21-4	0.1	g		----	<0.1	----	<0.1	<0.1
ø Asbestos Containing Material (as 15% Asbestos in ACM >7mm)	1332-21-4	0.01	% (w/w)		----	<0.01	----	<0.01	<0.01
EA200N: Asbestos Quantification (non-NATA)									
ø Asbestos (Fines and Fibrous <7mm)	1332-21-4	0.0004	g		----	<0.0004	----	<0.0004	<0.0004
ø Asbestos (Fines and Fibrous FA+AF)	----	0.001	% (w/w)		----	<0.001	----	<0.001	<0.001
ø Weight Used for % Calculation	----	0.0001	kg		----	0.258	----	0.303	0.241
ø Fibrous Asbestos >7mm	----	0.0004	g		----	<0.0004	----	<0.0004	<0.0004
EG005(ED093)T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg		<5	11	22	6	8
Cadmium	7440-43-9	1	mg/kg		<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg		56	10	11	52	11
Copper	7440-50-8	5	mg/kg		10	13	21	6	10
Lead	7439-92-1	5	mg/kg		14	15	47	10	12
Nickel	7440-02-0	2	mg/kg		26	31	67	20	13
Zinc	7440-66-6	5	mg/kg		29	113	68	26	37
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		<0.1	<0.1	<0.1	0.1	<0.1
EK055: Ammonia as N									
Ammonia as N	7664-41-7	20	mg/kg		<20	----	<20	----	<20
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	14797-65-0	0.1	mg/kg		0.1	----	<0.1	----	<0.5
EK058G: Nitrate as N by Discrete Analyser									

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TPEV01_0.0_0.21_22081515	TPEV01_4.0_4.2_220815	TPEV02_0.5_0.7_220815	TPEV02_1.0_1.2_220815	TPEV03_0.5_0.7_220815
				Sampling date / time	15-Aug-2022 00:00	15-Aug-2022 00:00	15-Aug-2022 00:00	15-Aug-2022 00:00	15-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2229963-002	ES2229963-006	ES2229963-009	ES2229963-010	ES2229963-016
					Result	Result	Result	Result	Result
EK058G: Nitrate as N by Discrete Analyser - Continued									
Nitrate as N (Sol.)	14797-55-8	0.1	mg/kg		1.3	----	0.2	----	3.0
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		1.4	----	0.2	----	3.0
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		970	----	340	----	1450
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		970	----	340	----	1450
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		329	----	397	----	254
EP066: Polychlorinated Biphenyls (PCB)									
Total Polychlorinated biphenyls	----	0.1	mg/kg		<0.1	<0.1	<0.1	<0.1	<0.1
EP068A: Organochlorine Pesticides (OC)									
alpha-BHC	319-84-6	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
beta-BHC	319-85-7	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
gamma-BHC	58-89-9	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
delta-BHC	319-86-8	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor	76-44-8	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Aldrin	309-00-2	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor epoxide	1024-57-3	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
^ Total Chlordane (sum)	----	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
trans-Chlordane	5103-74-2	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
alpha-Endosulfan	959-98-8	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
cis-Chlordane	5103-71-9	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Dieldrin	60-57-1	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDE	72-55-9	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Endrin	72-20-8	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
beta-Endosulfan	33213-65-9	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
^ Endosulfan (sum)	115-29-7	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDD	72-54-8	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Endrin aldehyde	7421-93-4	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Endosulfan sulfate	1031-07-8	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
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

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TPEV01_0.0_0.21_22081515	TPEV01_4.0_4.2_220815	TPEV02_0.5_0.7_220815	TPEV02_1.0_1.2_220815	TPEV03_0.5_0.7_220815
				Sampling date / time	15-Aug-2022 00:00	15-Aug-2022 00:00	15-Aug-2022 00:00	15-Aug-2022 00:00	15-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2229963-002	ES2229963-006	ES2229963-009	ES2229963-010	ES2229963-016
					Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued									
Methoxychlor	72-43-5	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
EP068B: Organophosphorus Pesticides (OP)									
Dichlorvos	62-73-7	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Demeton-S-methyl	919-86-8	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Monocrotophos	6923-22-4	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Dimethoate	60-51-5	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Diazinon	333-41-5	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Parathion-methyl	298-00-0	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Malathion	121-75-5	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Fenthion	55-38-9	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Chlorpyrifos	2921-88-2	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Parathion	56-38-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Pirimphos-ethyl	23505-41-1	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Chlorfenvinphos	470-90-6	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Bromophos-ethyl	4824-78-6	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Fenamiphos	22224-92-6	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Prothiofos	34643-46-4	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Ethion	563-12-2	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Carbophenothion	786-19-6	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Azinphos Methyl	86-50-0	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg		<0.5	<0.5	<0.5	**1.1**	**1.1**
Anthracene	120-12-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg		<0.5	<0.5	<0.5	**0.9**	**0.8**
Pyrene	129-00-0	0.5	mg/kg		<0.5	<0.5	<0.5	**0.7**	**0.6**
Benz(a)anthracene	56-55-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TPEV01_0.0_0.21_22081515	TPEV01_4.0_4.2_220815	TPEV02_0.5_0.7_220815	TPEV02_1.0_1.2_220815	TPEV03_0.5_0.7_220815
				Sampling date / time	15-Aug-2022 00:00	15-Aug-2022 00:00	15-Aug-2022 00:00	15-Aug-2022 00:00	15-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2229963-002	ES2229963-006	ES2229963-009	ES2229963-010	ES2229963-016
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Chrysene	218-01-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		<0.5	<0.5	<0.5	2.7	2.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		0.6	0.6	0.6	0.6	0.6
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		1.2	1.2	1.2	1.2	1.2
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg		<100	<100	<100	<100	110
C29 - C36 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg		<50	<50	<50	<50	110
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg		<100	<100	<100	100	140
>C34 - C40 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		<50	<50	<50	100	140
^ >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

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TPEV01_0.0_0.21_220815	TPEV01_4.0_4.2_220815	TPEV02_0.5_0.7_220815	TPEV02_1.0_1.2_220815	TPEV03_0.5_0.7_220815
				Sampling date / time	15-Aug-2022 00:00	15-Aug-2022 00:00	15-Aug-2022 00:00	15-Aug-2022 00:00	15-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2229963-002	ES2229963-006	ES2229963-009	ES2229963-010	ES2229963-016
					Result	Result	Result	Result	Result
EP080: BTEXN - Continued									
^ Total Xylenes	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg		<1	<1	<1	<1	<1
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg		<0.0002	<0.0002	<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	<0.001	<0.001
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002

Analytical Results

Sub-Matrix: **SOIL**
(Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Sample ID	TPEV01_0.0_0.21_22081515	TPEV01_4.0_4.2_220815	TPEV02_0.5_0.7_220815	TPEV02_1.0_1.2_220815	TPEV03_0.5_0.7_220815
				Sampling date / time	15-Aug-2022 00:00	15-Aug-2022 00:00	15-Aug-2022 00:00	15-Aug-2022 00:00	15-Aug-2022 00:00
					ES2229963-002	ES2229963-006	ES2229963-009	ES2229963-010	ES2229963-016
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<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	<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	<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	<0.0005	<0.0005
EP231P: PFAS Sums									
Sum of PFAS	----	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Sum of PFAS (WA DER List)	----	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		**80.2**	**77.7**	**83.8**	**73.9**	**82.4**
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%		**109**	**99.4**	**113**	**95.7**	**104**
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%		**103**	**87.3**	**102**	**90.5**	**102**
EP075(SIM)S: Phenolic Compound Surrogates									

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TPEV01_0.0_0.21_220815	TPEV01_4.0_4.2_220815	TPEV02_0.5_0.7_220815	TPEV02_1.0_1.2_220815	TPEV03_0.5_0.7_220815
				Sampling date / time	15-Aug-2022 00:00	15-Aug-2022 00:00	15-Aug-2022 00:00	15-Aug-2022 00:00	15-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2229963-002	ES2229963-006	ES2229963-009	ES2229963-010	ES2229963-016
					Result	Result	Result	Result	Result
EP075(SIM)S: Phenolic Compound Surrogates - Continued									
Phenol-d6	13127-88-3	0.5	%		76.3	73.6	74.6	66.8	67.8
2-Chlorophenol-D4	93951-73-6	0.5	%		89.7	87.1	87.5	78.6	80.5
2.4.6-Tribromophenol	118-79-6	0.5	%		81.0	73.3	73.1	69.1	72.4
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		99.0	96.9	97.4	88.5	89.6
Anthracene-d10	1719-06-8	0.5	%		90.0	87.0	86.7	77.7	78.6
4-Terphenyl-d14	1718-51-0	0.5	%		90.5	87.8	87.3	78.9	80.5
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		108	102	98.6	100	108
Toluene-D8	2037-26-5	0.2	%		103	98.5	93.2	95.3	99.5
4-Bromofluorobenzene	460-00-4	0.2	%		108	106	99.0	95.2	94.9
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.0002	%		91.5	91.0	96.5	104	85.5
13C8-PFOA	----	0.0002	%		104	111	101	103	102

Analytical Results

Sub-Matrix: SOIL
(Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Sample ID	TPEV03_1.0_1.2_220815	TPEV04_0.5_0.7_220815	TPEV04_2.0_2.2_220815	TPEV01_4.0_4.2_220815	TPEV02_1.0_1.2_220815
				Sampling date / time	15-Aug-2022 00:00	15-Aug-2022 00:00	15-Aug-2022 00:00	15-Aug-2022 00:00	15-Aug-2022 00:00
					ES2229963-017	ES2229963-023	ES2229963-025	ES2229963-026	ES2229963-027
					Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%		21.9	31.7	29.5	----	----
EA200: AS 4964 - 2004 Identification of Asbestos in Soils									
Asbestos Detected	1332-21-4	0.1	g/kg		----	----	No	No	No
Asbestos Type	1332-21-4	-	--		----	----	-	-	-
Asbestos (Trace)	1332-21-4	5	Fibres		----	----	No	No	No
Sample weight (dry)	----	0.01	g		----	----	146	11400	6810
Synthetic Mineral Fibre	----	0.1	g/kg		----	----	No	No	No
Organic Fibre	----	0.1	g/kg		----	----	No	No	No
APPROVED IDENTIFIER:	----	-	--		----	----	J.SPOONER	J.SPOONER	J.SPOONER
EA200N: ACM Asbestos in Soil (non-NATA)									
ø Asbestos Containing Material	1332-21-4	0.1	g		----	----	<0.1	----	----
ø Asbestos Containing Material (as 15% Asbestos in ACM >7mm)	1332-21-4	0.01	% (w/w)		----	----	<0.01	----	----
EA200N: Asbestos Quantification (non-NATA)									
ø Asbestos (Fines and Fibrous <7mm)	1332-21-4	0.0004	g		----	----	<0.0004	<0.0004	<0.0004
ø Asbestos (Fines and Fibrous FA+AF)	----	0.001	% (w/w)		----	----	<0.001	<0.001	<0.001
ø Asbestos Containing Material	1332-21-4	0.1	g		----	----	----	<0.1	<0.1
ø Asbestos Containing Material (as 15% Asbestos in ACM >7mm)	1332-21-4	0.01	% (w/w)		----	----	----	<0.01	<0.01
ø Weight Used for % Calculation	----	0.0001	kg		----	----	0.146	11.4	6.81
ø Fibrous Asbestos >7mm	----	0.0004	g		----	----	<0.0004	<0.0004	<0.0004
EG005(ED093)T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg		8	<5	<5	----	----
Cadmium	7440-43-9	1	mg/kg		<1	<1	<1	----	----
Chromium	7440-47-3	2	mg/kg		46	19	34	----	----
Copper	7440-50-8	5	mg/kg		11	13	9	----	----
Lead	7439-92-1	5	mg/kg		14	12	25	----	----
Nickel	7440-02-0	2	mg/kg		25	20	23	----	----
Zinc	7440-66-6	5	mg/kg		27	28	30	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		<0.1	<0.1	<0.1	----	----
EK055: Ammonia as N									
Ammonia as N	7664-41-7	20	mg/kg		----	<20	<20	----	----

Analytical Results

Sub-Matrix: SOIL
(Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Sample ID	TPEV03_1.0_1.2_220815	TPEV04_0.5_0.7_220815	TPEV04_2.0_2.2_220815	TPEV01_4.0_4.2_220815	TPEV02_1.0_1.2_220815
				Sampling date / time	15-Aug-2022 00:00	15-Aug-2022 00:00	15-Aug-2022 00:00	15-Aug-2022 00:00	15-Aug-2022 00:00
					ES2229963-017	ES2229963-023	ES2229963-025	ES2229963-026	ES2229963-027
					Result	Result	Result	Result	Result
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	14797-65-0	0.1	mg/kg		----	<0.1	<0.1	----	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	14797-55-8	0.1	mg/kg		----	**1.3**	**0.4**	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		----	**1.3**	**0.4**	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		----	**5340**	**2330**	----	----
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		----	**5340**	**2330**	----	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		----	**293**	**278**	----	----
EP066: Polychlorinated Biphenyls (PCB)									
Total Polychlorinated biphenyls	----	0.1	mg/kg		<0.1	<0.1	<0.1	----	----
EP068A: Organochlorine Pesticides (OC)									
alpha-BHC	319-84-6	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
beta-BHC	319-85-7	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
gamma-BHC	58-89-9	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
delta-BHC	319-86-8	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
Heptachlor	76-44-8	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
Aldrin	309-00-2	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
Heptachlor epoxide	1024-57-3	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
^ Total Chlordane (sum)	----	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
trans-Chlordane	5103-74-2	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
alpha-Endosulfan	959-98-8	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
cis-Chlordane	5103-71-9	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
Dieldrin	60-57-1	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
4.4`-DDE	72-55-9	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
Endrin	72-20-8	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
beta-Endosulfan	33213-65-9	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
^ Endosulfan (sum)	115-29-7	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
4.4`-DDD	72-54-8	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
Endrin aldehyde	7421-93-4	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
Endosulfan sulfate	1031-07-8	0.05	mg/kg		<0.05	<0.05	<0.05	----	----

Analytical Results

Sub-Matrix: SOIL
(Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Sample ID	TPEV03_1.0_1.2_220815	TPEV04_0.5_0.7_220815	TPEV04_2.0_2.2_220815	TPEV01_4.0_4.2_220815	TPEV02_1.0_1.2_220815
				Sampling date / time	15-Aug-2022 00:00	15-Aug-2022 00:00	15-Aug-2022 00:00	15-Aug-2022 00:00	15-Aug-2022 00:00
					ES2229963-017	ES2229963-023	ES2229963-025	ES2229963-026	ES2229963-027
					Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued									
4.4`-DDT	50-29-3	0.2	mg/kg		<0.2	<0.2	<0.2	----	----
Endrin ketone	53494-70-5	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
Methoxychlor	72-43-5	0.2	mg/kg		<0.2	<0.2	<0.2	----	----
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
EP068B: Organophosphorus Pesticides (OP)									
Dichlorvos	62-73-7	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
Demeton-S-methyl	919-86-8	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
Monocrotophos	6923-22-4	0.2	mg/kg		<0.2	<0.2	<0.2	----	----
Dimethoate	60-51-5	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
Diazinon	333-41-5	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
Parathion-methyl	298-00-0	0.2	mg/kg		<0.2	<0.2	<0.2	----	----
Malathion	121-75-5	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
Fenthion	55-38-9	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
Chlorpyrifos	2921-88-2	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
Parathion	56-38-2	0.2	mg/kg		<0.2	<0.2	<0.2	----	----
Pirimphos-ethyl	23505-41-1	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
Chlorfenvinphos	470-90-6	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
Bromophos-ethyl	4824-78-6	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
Fenamiphos	22224-92-6	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
Prothiofos	34643-46-4	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
Ethion	563-12-2	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
Carbophenothion	786-19-6	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
Azinphos Methyl	86-50-0	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		<0.5	**0.5**	**1.7**	----	----
Acenaphthylene	208-96-8	0.5	mg/kg		<0.5	**0.6**	<0.5	----	----
Acenaphthene	83-32-9	0.5	mg/kg		<0.5	**0.8**	<0.5	----	----
Fluorene	86-73-7	0.5	mg/kg		<0.5	**0.6**	<0.5	----	----
Phenanthrene	85-01-8	0.5	mg/kg		<0.5	**13.7**	**7.5**	----	----
Anthracene	120-12-7	0.5	mg/kg		<0.5	**2.9**	**1.4**	----	----
Fluoranthene	206-44-0	0.5	mg/kg		<0.5	**19.2**	**11.4**	----	----

Analytical Results

Sub-Matrix: SOIL
(Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Sample ID	TPEV03_1.0_1.2_220815	TPEV04_0.5_0.7_220815	TPEV04_2.0_2.2_220815	TPEV01_4.0_4.2_220815	TPEV02_1.0_1.2_220815
				Sampling date / time	15-Aug-2022 00:00	15-Aug-2022 00:00	15-Aug-2022 00:00	15-Aug-2022 00:00	15-Aug-2022 00:00
					ES2229963-017	ES2229963-023	ES2229963-025	ES2229963-026	ES2229963-027
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Pyrene	129-00-0	0.5	mg/kg		<0.5	**16.2**	**9.7**	----	----
Benz(a)anthracene	56-55-3	0.5	mg/kg		<0.5	**7.0**	**4.2**	----	----
Chrysene	218-01-9	0.5	mg/kg		<0.5	**6.4**	**3.9**	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		<0.5	**7.6**	**5.0**	----	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		<0.5	**2.9**	**1.8**	----	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg		<0.5	**6.1**	**4.0**	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		<0.5	**3.1**	**2.0**	----	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		<0.5	**0.8**	<0.5	----	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		<0.5	**3.4**	**2.2**	----	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		<0.5	**91.8**	**54.8**	----	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		<0.5	**9.0**	**5.4**	----	----
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		**0.6**	**9.0**	**5.6**	----	----
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		**1.2**	**9.0**	**5.9**	----	----
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	**520**	**320**	----	----
C29 - C36 Fraction	----	100	mg/kg		<100	**220**	**150**	----	----
^ C10 - C36 Fraction (sum)	----	50	mg/kg		<50	**740**	**470**	----	----
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	**70**	<50	----	----
>C16 - C34 Fraction	----	100	mg/kg		<100	**640**	**410**	----	----
>C34 - C40 Fraction	----	100	mg/kg		<100	**110**	<100	----	----
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		<50	**820**	**410**	----	----
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		<50	**70**	<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	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TPEV03_1.0_1.2_220815	TPEV04_0.5_0.7_220815	TPEV04_2.0_2.2_220815	TPEV01_4.0_4.2_220815	TPEV02_1.0_1.2_220815
				Sampling date / time	15-Aug-2022 00:00	15-Aug-2022 00:00	15-Aug-2022 00:00	15-Aug-2022 00:00	15-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2229963-017	ES2229963-023	ES2229963-025	ES2229963-026	ES2229963-027
					Result	Result	Result	Result	Result
EP080: BTEXN - Continued									
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	----	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	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	----	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg		<0.0002	**0.0027**	<0.0002	----	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	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	----	----
Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	----	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	----	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	----	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	----	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	----	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	----	----
EP231C: Perfluoroalkyl Sulfonamides									

Analytical Results

Sub-Matrix: SOIL
(Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Sample ID	TPEV03_1.0_1.2_220815	TPEV04_0.5_0.7_220815	TPEV04_2.0_2.2_220815	TPEV01_4.0_4.2_220815	TPEV02_1.0_1.2_220815
				Sampling date / time	15-Aug-2022 00:00	15-Aug-2022 00:00	15-Aug-2022 00:00	15-Aug-2022 00:00	15-Aug-2022 00:00
					ES2229963-017	ES2229963-023	ES2229963-025	ES2229963-026	ES2229963-027
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	----	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	----	----
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	----	----
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	----	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	----	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	----	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	----	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	----	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	----	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	----	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	----	----
EP231P: PFAS Sums									
Sum of PFAS	----	0.0002	mg/kg		<0.0002	**0.0027**	<0.0002	----	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg		<0.0002	**0.0027**	<0.0002	----	----
Sum of PFAS (WA DER List)	----	0.0002	mg/kg		<0.0002	**0.0027**	<0.0002	----	----
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		**80.9**	**102**	**98.3**	----	----
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%		**98.9**	**108**	**117**	----	----
EP068T: Organophosphorus Pesticide Surrogate									

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TPEV03_1.0_1.2_220815	TPEV04_0.5_0.7_220815	TPEV04_2.0_2.2_220815	TPEV01_4.0_4.2_220815	TPEV02_1.0_1.2_220815
				Sampling date / time	15-Aug-2022 00:00	15-Aug-2022 00:00	15-Aug-2022 00:00	15-Aug-2022 00:00	15-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2229963-017	ES2229963-023	ES2229963-025	ES2229963-026	ES2229963-027
					Result	Result	Result	Result	Result
EP068T: Organophosphorus Pesticide Surrogate - Continued									
DEF	78-48-8	0.05	%		69.3	75.0	107	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		71.8	68.6	74.5	----	----
2-Chlorophenol-D4	93951-73-6	0.5	%		85.2	81.0	87.4	----	----
2.4.6-Tribromophenol	118-79-6	0.5	%		72.7	75.2	81.7	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		94.0	90.9	95.7	----	----
Anthracene-d10	1719-06-8	0.5	%		85.3	76.4	83.1	----	----
4-Terphenyl-d14	1718-51-0	0.5	%		86.1	83.4	87.6	----	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		96.6	80.0	102	----	----
Toluene-D8	2037-26-5	0.2	%		92.7	77.2	82.2	----	----
4-Bromofluorobenzene	460-00-4	0.2	%		100	81.5	84.2	----	----
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.0002	%		106	87.5	93.0	----	----
13C8-PFOA	----	0.0002	%		109	103	109	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	TPEV03_0.5_0.7_220815	TPEV04_2.0_2.2_220815	QC500	QC600	TSC
			Sampling date / time	15-Aug-2022 00:00	15-Aug-2022 00:00	15-Aug-2022 00:00	09-Aug-2022 00:00	09-Aug-2022 00:00
Compound	CAS Number	LOR	Unit	ES2229963-028	ES2229963-029	ES2229963-030	ES2229963-031	ES2229963-032
				Result	Result	Result	Result	Result
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	No	No	----	----	----
Asbestos Type	1332-21-4	-	--	-	-	----	----	----
Asbestos (Trace)	1332-21-4	5	Fibres	No	No	----	----	----
Sample weight (dry)	----	0.01	g	9270	7410	----	----	----
Synthetic Mineral Fibre	----	0.1	g/kg	No	No	----	----	----
Organic Fibre	----	0.1	g/kg	No	No	----	----	----
APPROVED IDENTIFIER:	----	-	--	J.SPOONER	J.SPOONER	----	----	----
EA200N: Asbestos Quantification (non-NATA)								
ø Asbestos (Fines and Fibrous <7mm)	1332-21-4	0.0004	g	<0.0004	<0.0004	----	----	----
ø Asbestos (Fines and Fibrous FA+AF)	----	0.001	% (w/w)	<0.001	<0.001	----	----	----
ø Asbestos Containing Material	1332-21-4	0.1	g	<0.1	<0.1	----	----	----
ø Asbestos Containing Material (as 15% Asbestos in ACM >7mm)	1332-21-4	0.01	% (w/w)	<0.01	<0.01	----	----	----
ø Weight Used for % Calculation	----	0.0001	kg	9.27	7.41	----	----	----
ø Fibrous Asbestos >7mm	----	0.0004	g	<0.0004	<0.0004	----	----	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	----	----	<10	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	10	mg/kg	----	----	<10	----	----
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	----	----	<10	----	----
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	10.6	10.5
Ethylbenzene	100-41-4	0.5	mg/kg	----	----	<0.5	3.0	3.1
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	----	----	<0.5	16.6	17.0
ortho-Xylene	95-47-6	0.5	mg/kg	----	----	<0.5	7.4	7.8
^ Sum of BTEX	----	0.2	mg/kg	----	----	<0.2	37.6	38.4
^ Total Xylenes	----	0.5	mg/kg	----	----	<0.5	24.0	24.8
Naphthalene	91-20-3	1	mg/kg	----	----	<1	1	1
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.2	%	----	----	99.6	98.7	98.5
Toluene-D8	2037-26-5	0.2	%	----	----	89.5	107	105

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TPEV03_0.5_0.7_220815	TPEV04_2.0_2.2_220815	QC500	QC600	TSC
				Sampling date / time	15-Aug-2022 00:00	15-Aug-2022 00:00	15-Aug-2022 00:00	09-Aug-2022 00:00	09-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2229963-028	ES2229963-029	ES2229963-030	ES2229963-031	ES2229963-032
					Result	Result	Result	Result	Result
EP080S: TPH(V)/BTEX Surrogates - Continued									
4-Bromofluorobenzene	460-00-4	0.2	%		**----**	**----**	**99.4**	**103**	**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	TPEV02_0.5_0.7_220815 - 15-Aug-2022 00:00	Soil sample.
EA200: Description	TPEV01_4.0_4.2_220815 - 15-Aug-2022 00:00	Soil sample.
EA200: Description	TPEV02_1.0_1.2_220815 - 15-Aug-2022 00:00	Soil sample.
EA200: Description	TPEV03_0.5_0.7_220815 - 15-Aug-2022 00:00	Soil sample.
EA200: Description	TPEV04_2.0_2.2_220815 - 15-Aug-2022 00:00	Soil sample.
EA200: Description	TPEV01_4.0_4.2_220815 - 15-Aug-2022 00:00	Soil sample.
EA200: Description	TPEV02_1.0_1.2_220815 - 15-Aug-2022 00:00	Soil sample.
EA200: Description	TPEV03_0.5_0.7_220815 - 15-Aug-2022 00:00	Soil sample.
EA200: Description	TPEV04_2.0_2.2_220815 - 15-Aug-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
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	63	123
2-Chlorophenol-D4	93951-73-6	66	122
2.4.6-Tribromophenol	118-79-6	40	138
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	70	122
Anthracene-d10	1719-06-8	66	128
4-Terphenyl-d14	1718-51-0	65	129
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	73	133
Toluene-D8	2037-26-5	74	132
4-Bromofluorobenzene	460-00-4	72	130
EP231S: PFAS Surrogate			
13C4-PFOS	----	60	120
13C8-PFOA	----	60	120

Inter-Laboratory Testing

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

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

(SOIL) EA200N: ACM Asbestos in Soil (non-NATA)

(SOIL) EA200N: Asbestos Quantification (non-NATA)

ALS Environmental

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **ES2229963**	Page	: 1 of 11
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: TAMA ARMANI	Telephone	: +61 2 8784 8555
Project	: 60619756	Date Samples Received	: 17-Aug-2022
Site	: MBCP	Issue Date	: 29-Aug-2022
Sampler	: ----	No. of samples received	: 32
Order number	: 60619756	No. of samples analysed	: 15

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

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

Summary of Outliers

Outliers : Quality Control Samples

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

- **NO Method Blank value outliers occur.**
- **Duplicate outliers exist - please see following pages for full details.**
- **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

- **Analysis Holding Time Outliers exist - please see following pages for full details.**

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							
EG005(ED093)T: Total Metals by ICP-AES	ES2229880--006	Anonymous	**Zinc**	7440-66-6	132 %	0% - 20%	**RPD exceeds LOR based limits**
Laboratory Control Spike (LCS) Recoveries							
EK067G: Total Phosphorus as P by Discrete Analyser	QC-MRG2-45426550	----	**Total Phosphorus as P**	----	109 %	76.0-108%	**Recovery greater than upper control limit**
Matrix Spike (MS) Recoveries							
EP231A: Perfluoroalkyl Sulfonic Acids	ES2229862--011	Anonymous	**Perfluorobutane sulfonic acid (PFBS)**	375-73-5	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP231A: Perfluoroalkyl Sulfonic Acids	ES2229862--011	Anonymous	**Perfluoropentane sulfonic acid (PFPeS)**	2706-91-4	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP231A: Perfluoroalkyl Sulfonic Acids	ES2229862--011	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	ES2229862--011	Anonymous	**Perfluoroheptane sulfonic acid (PFHpS)**	375-92-8	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP231A: Perfluoroalkyl Sulfonic Acids	ES2229862--011	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	ES2229862--011	Anonymous	**Perfluorobutanoic acid (PFBA)**	375-22-4	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP231B: Perfluoroalkyl Carboxylic Acids	ES2229862--011	Anonymous	**Perfluoropentanoic acid (PFPeA)**	2706-90-3	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP231B: Perfluoroalkyl Carboxylic Acids	ES2229862--011	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	ES2229862--011	Anonymous	**Perfluoroheptanoic acid (PFHpA)**	375-85-9	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP231B: Perfluoroalkyl Carboxylic Acids	ES2229862--011	Anonymous	**Perfluorooctanoic acid (PFOA)**	335-67-1	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP231B: Perfluoroalkyl Carboxylic Acids	ES2229862--011	Anonymous	**Perfluorononanoic acid (PFNA)**	375-95-1	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**

Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Matrix Spike (MS) Recoveries - Continued							
EP231C: Perfluoroalkyl Sulfonamides	ES2229862--011	Anonymous	**Perfluorooctane sulfonamide (FOSA)**	754-91-6	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP231D: (n:2) Fluorotelomer Sulfonic Acids	ES2229862--011	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.**

Outliers : Analysis Holding Time Compliance

Matrix: **SOIL**

Method / Container / Client Sample ID(s)	Extraction / Preparation			Analysis		
	Date extracted	Due for extraction	Days overdue	Date analysed	Due for analysis	Days overdue
EK057G: Nitrite as N by Discrete Analyser						
Soil Glass Jar - Unpreserved						
TPEV01_0.0_0.21_220815, TPEV02_0.5_0.7_220815, TPEV03_0.5_0.7_220815, TPEV04_0.5_0.7_220815, TPEV04_2.0_2.2_220815	25-Aug-2022	22-Aug-2022	**3**	----	----	----

Analysis Holding Time Compliance

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

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

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

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

Matrix: **SOIL**

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

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA055: Moisture Content (Dried @ 105-110°C)							
Soil Glass Jar - Unpreserved (EA055)							
TPEV01_0.0_0.21_220815, TPEV01_4.0_4.2_220815, TPEV02_0.5_0.7_220815, TPEV02_1.0_1.2_220815, TPEV03_0.5_0.7_220815, TPEV03_1.0_1.2_220815, TPEV04_0.5_0.7_220815, TPEV04_2.0_2.2_220815	**15-Aug-2022**	**----**	----	----	**25-Aug-2022**	29-Aug-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
EA200: AS 4964 - 2004 Identification of Asbestos in Soils							
Plastic Bag (EA200)							
TPEV01_4.0_4.2_220815, TPEV02_1.0_1.2_220815, TPEV03_0.5_0.7_220815, TPEV04_2.0_2.2_220815	**15-Aug-2022**	**----**	----	----	**24-Aug-2022**	11-Feb-2023	✓
Snap Lock Bag - Friable Asbestos/PSD Bag (EA200)							
TPEV01_4.0_4.2_220815, TPEV02_0.5_0.7_220815, TPEV02_1.0_1.2_220815, TPEV03_0.5_0.7_220815, TPEV04_2.0_2.2_220815	**15-Aug-2022**	**----**	----	----	**24-Aug-2022**	11-Feb-2023	✓
EA200N: ACM Asbestos in Soil (non-NATA)							
Snap Lock Bag - Friable Asbestos/PSD Bag (EA200N)							
TPEV01_4.0_4.2_220815, TPEV02_1.0_1.2_220815, TPEV03_0.5_0.7_220815, TPEV04_2.0_2.2_220815	**15-Aug-2022**	**----**	----	----	**24-Aug-2022**	11-Feb-2023	✓
EA200N: Asbestos Quantification (non-NATA)							
Plastic Bag (EA200N)							
TPEV01_4.0_4.2_220815, TPEV02_1.0_1.2_220815, TPEV03_0.5_0.7_220815, TPEV04_2.0_2.2_220815	**15-Aug-2022**	**----**	----	----	**24-Aug-2022**	11-Feb-2023	✓
Snap Lock Bag - Friable Asbestos/PSD Bag (EA200N)							
TPEV01_4.0_4.2_220815, TPEV02_1.0_1.2_220815, TPEV03_0.5_0.7_220815, TPEV04_2.0_2.2_220815	**15-Aug-2022**	**----**	----	----	**24-Aug-2022**	11-Feb-2023	✓
EG005(ED093)T: Total Metals by ICP-AES							
Soil Glass Jar - Unpreserved (EG005T)							
TPEV01_0.0_0.21_220815, TPEV01_4.0_4.2_220815, TPEV02_0.5_0.7_220815, TPEV02_1.0_1.2_220815, TPEV03_0.5_0.7_220815, TPEV03_1.0_1.2_220815, TPEV04_0.5_0.7_220815, TPEV04_2.0_2.2_220815	**15-Aug-2022**	**25-Aug-2022**	11-Feb-2023	✓	**26-Aug-2022**	11-Feb-2023	✓
EG035T: Total Recoverable Mercury by FIMS							
Soil Glass Jar - Unpreserved (EG035T)							
TPEV01_0.0_0.21_220815, TPEV01_4.0_4.2_220815, TPEV02_0.5_0.7_220815, TPEV02_1.0_1.2_220815, TPEV03_0.5_0.7_220815, TPEV03_1.0_1.2_220815, TPEV04_0.5_0.7_220815, TPEV04_2.0_2.2_220815	**15-Aug-2022**	**25-Aug-2022**	12-Sep-2022	✓	**26-Aug-2022**	12-Sep-2022	✓
EK055: Ammonia as N							
Soil Glass Jar - Unpreserved (EK055)							
TPEV01_0.0_0.21_220815, TPEV02_0.5_0.7_220815, TPEV03_0.5_0.7_220815, TPEV04_0.5_0.7_220815, TPEV04_2.0_2.2_220815	**15-Aug-2022**	**----**	----	----	**29-Aug-2022**	12-Sep-2022	✓
EK057G: Nitrite as N by Discrete Analyser							
Soil Glass Jar - Unpreserved (EK057G)							
TPEV01_0.0_0.21_220815, TPEV02_0.5_0.7_220815, TPEV03_0.5_0.7_220815, TPEV04_0.5_0.7_220815, TPEV04_2.0_2.2_220815	**15-Aug-2022**	**25-Aug-2022**	22-Aug-2022	×	**26-Aug-2022**	27-Aug-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
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser							
Soil Glass Jar - Unpreserved (EK059G)							
TPEV01_0.0_0.21_220815, TPEV02_0.5_0.7_220815, TPEV03_0.5_0.7_220815, TPEV04_0.5_0.7_220815, TPEV04_2.0_2.2_220815	**15-Aug-2022**	**25-Aug-2022**	12-Sep-2022	✓	**26-Aug-2022**	27-Aug-2022	✓
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser							
Soil Glass Jar - Unpreserved (EK061G)							
TPEV01_0.0_0.21_220815, TPEV02_0.5_0.7_220815, TPEV03_0.5_0.7_220815, TPEV04_0.5_0.7_220815, TPEV04_2.0_2.2_220815	**15-Aug-2022**	**26-Aug-2022**	12-Sep-2022	✓	**26-Aug-2022**	23-Sep-2022	✓
EK067G: Total Phosphorus as P by Discrete Analyser							
Soil Glass Jar - Unpreserved (EK067G)							
TPEV01_0.0_0.21_220815, TPEV02_0.5_0.7_220815, TPEV03_0.5_0.7_220815, TPEV04_0.5_0.7_220815, TPEV04_2.0_2.2_220815	**15-Aug-2022**	**26-Aug-2022**	12-Sep-2022	✓	**26-Aug-2022**	23-Sep-2022	✓
EP066: Polychlorinated Biphenyls (PCB)							
Soil Glass Jar - Unpreserved (EP066)							
TPEV01_0.0_0.21_220815, TPEV01_4.0_4.2_220815, TPEV02_0.5_0.7_220815, TPEV02_1.0_1.2_220815, TPEV03_0.5_0.7_220815, TPEV03_1.0_1.2_220815, TPEV04_0.5_0.7_220815, TPEV04_2.0_2.2_220815	**15-Aug-2022**	**24-Aug-2022**	29-Aug-2022	✓	**26-Aug-2022**	03-Oct-2022	✓
EP068A: Organochlorine Pesticides (OC)							
Soil Glass Jar - Unpreserved (EP068)							
TPEV01_0.0_0.21_220815, TPEV01_4.0_4.2_220815, TPEV02_0.5_0.7_220815, TPEV02_1.0_1.2_220815, TPEV03_0.5_0.7_220815, TPEV03_1.0_1.2_220815, TPEV04_0.5_0.7_220815, TPEV04_2.0_2.2_220815	**15-Aug-2022**	**24-Aug-2022**	29-Aug-2022	✓	**26-Aug-2022**	03-Oct-2022	✓
EP068B: Organophosphorus Pesticides (OP)							
Soil Glass Jar - Unpreserved (EP068)							
TPEV01_0.0_0.21_220815, TPEV01_4.0_4.2_220815, TPEV02_0.5_0.7_220815, TPEV02_1.0_1.2_220815, TPEV03_0.5_0.7_220815, TPEV03_1.0_1.2_220815, TPEV04_0.5_0.7_220815, TPEV04_2.0_2.2_220815	**15-Aug-2022**	**24-Aug-2022**	29-Aug-2022	✓	**26-Aug-2022**	03-Oct-2022	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Soil Glass Jar - Unpreserved (EP075(SIM))							
TPEV01_0.0_0.21_220815, TPEV01_4.0_4.2_220815, TPEV02_0.5_0.7_220815, TPEV02_1.0_1.2_220815, TPEV03_0.5_0.7_220815, TPEV03_1.0_1.2_220815, TPEV04_0.5_0.7_220815, TPEV04_2.0_2.2_220815	**15-Aug-2022**	**24-Aug-2022**	29-Aug-2022	✓	**25-Aug-2022**	03-Oct-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 Petroleum Hydrocarbons								
Soil Glass Jar - Unpreserved (EP080)								
TPEV01_0.0_0.21_220815,	TPEV01_4.0_4.2_220815,	**15-Aug-2022**	**23-Aug-2022**	29-Aug-2022	✓	**26-Aug-2022**	29-Aug-2022	✓
TPEV02_0.5_0.7_220815,	TPEV02_1.0_1.2_220815,							
TPEV03_0.5_0.7_220815,	TPEV03_1.0_1.2_220815,							
TPEV04_0.5_0.7_220815,	TPEV04_2.0_2.2_220815,							
QC500								
Soil Glass Jar - Unpreserved (EP071)								
TPEV01_0.0_0.21_220815,	TPEV01_4.0_4.2_220815,	**15-Aug-2022**	**24-Aug-2022**	29-Aug-2022	✓	**25-Aug-2022**	03-Oct-2022	✓
TPEV02_0.5_0.7_220815,	TPEV02_1.0_1.2_220815,							
TPEV03_0.5_0.7_220815,	TPEV03_1.0_1.2_220815,							
TPEV04_0.5_0.7_220815,	TPEV04_2.0_2.2_220815							
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
Soil Glass Jar - Unpreserved (EP080)								
TPEV01_0.0_0.21_220815,	TPEV01_4.0_4.2_220815,	**15-Aug-2022**	**23-Aug-2022**	29-Aug-2022	✓	**26-Aug-2022**	29-Aug-2022	✓
TPEV02_0.5_0.7_220815,	TPEV02_1.0_1.2_220815,							
TPEV03_0.5_0.7_220815,	TPEV03_1.0_1.2_220815,							
TPEV04_0.5_0.7_220815,	TPEV04_2.0_2.2_220815,							
QC500								
Soil Glass Jar - Unpreserved (EP071)								
TPEV01_0.0_0.21_220815,	TPEV01_4.0_4.2_220815,	**15-Aug-2022**	**24-Aug-2022**	29-Aug-2022	✓	**25-Aug-2022**	03-Oct-2022	✓
TPEV02_0.5_0.7_220815,	TPEV02_1.0_1.2_220815,							
TPEV03_0.5_0.7_220815,	TPEV03_1.0_1.2_220815,							
TPEV04_0.5_0.7_220815,	TPEV04_2.0_2.2_220815							
EP080: BTEXN								
Soil Glass Jar - Unpreserved (EP080)								
QC600,	TSC	**09-Aug-2022**	**23-Aug-2022**	23-Aug-2022	✓	**23-Aug-2022**	23-Aug-2022	✓
Soil Glass Jar - Unpreserved (EP080)								
TPEV01_0.0_0.21_220815,	TPEV01_4.0_4.2_220815,	**15-Aug-2022**	**23-Aug-2022**	29-Aug-2022	✓	**26-Aug-2022**	29-Aug-2022	✓
TPEV02_0.5_0.7_220815,	TPEV02_1.0_1.2_220815,							
TPEV03_0.5_0.7_220815,	TPEV03_1.0_1.2_220815,							
TPEV04_0.5_0.7_220815,	TPEV04_2.0_2.2_220815,							
QC500								
EP231A: Perfluoroalkyl Sulfonic Acids								
HDPE Soil Jar (EP231X)								
TPEV01_0.0_0.21_220815,	TPEV01_4.0_4.2_220815,	**15-Aug-2022**	**29-Aug-2022**	11-Feb-2023	✓	**29-Aug-2022**	08-Oct-2022	✓
TPEV02_0.5_0.7_220815,	TPEV02_1.0_1.2_220815,							
TPEV03_0.5_0.7_220815,	TPEV03_1.0_1.2_220815,							
TPEV04_0.5_0.7_220815,	TPEV04_2.0_2.2_220815							

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)								
TPEV01_0.0_0.21_220815,	TPEV01_4.0_4.2_220815,	**15-Aug-2022**	**29-Aug-2022**	11-Feb-2023	✓	**29-Aug-2022**	08-Oct-2022	✓
TPEV02_0.5_0.7_220815,	TPEV02_1.0_1.2_220815,							
TPEV03_0.5_0.7_220815,	TPEV03_1.0_1.2_220815,							
TPEV04_0.5_0.7_220815,	TPEV04_2.0_2.2_220815							
EP231C: Perfluoroalkyl Sulfonamides								
HDPE Soil Jar (EP231X)								
TPEV01_0.0_0.21_220815,	TPEV01_4.0_4.2_220815,	**15-Aug-2022**	**29-Aug-2022**	11-Feb-2023	✓	**29-Aug-2022**	08-Oct-2022	✓
TPEV02_0.5_0.7_220815,	TPEV02_1.0_1.2_220815,							
TPEV03_0.5_0.7_220815,	TPEV03_1.0_1.2_220815,							
TPEV04_0.5_0.7_220815,	TPEV04_2.0_2.2_220815							
EP231D: (n:2) Fluorotelomer Sulfonic Acids								
HDPE Soil Jar (EP231X)								
TPEV01_0.0_0.21_220815,	TPEV01_4.0_4.2_220815,	**15-Aug-2022**	**29-Aug-2022**	11-Feb-2023	✓	**29-Aug-2022**	08-Oct-2022	✓
TPEV02_0.5_0.7_220815,	TPEV02_1.0_1.2_220815,							
TPEV03_0.5_0.7_220815,	TPEV03_1.0_1.2_220815,							
TPEV04_0.5_0.7_220815,	TPEV04_2.0_2.2_220815							
EP231P: PFAS Sums								
HDPE Soil Jar (EP231X)								
TPEV01_0.0_0.21_220815,	TPEV01_4.0_4.2_220815,	**15-Aug-2022**	**29-Aug-2022**	11-Feb-2023	✓	**29-Aug-2022**	08-Oct-2022	✓
TPEV02_0.5_0.7_220815,	TPEV02_1.0_1.2_220815,							
TPEV03_0.5_0.7_220815,	TPEV03_1.0_1.2_220815,							
TPEV04_0.5_0.7_220815,	TPEV04_2.0_2.2_220815							

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		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Buchi Ammonia	EK055	1	9	**11.11**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Moisture Content	EA055	2	19	**10.53**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Nitrite and Nitrate as N (NOx)- Soluble by Discrete Analyser	EK059G	1	5	**20.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Nitrite as N - Soluble by Discrete Analyser	EK057G	1	5	**20.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	2	19	**10.53**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	19	**10.53**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	2	14	**14.29**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	2	14	**14.29**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TKN as N By Discrete Analyser	EK061G	2	13	**15.38**	**9.52**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	2	19	**10.53**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	2	19	**10.53**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Phosporus By Discrete Analyser	EK067G	2	13	**15.38**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	2	19	**10.53**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	3	23	**13.04**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Buchi Ammonia	EK055	1	9	**11.11**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Nitrite and Nitrate as N (NOx)- Soluble by Discrete Analyser	EK059G	1	5	**20.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Nitrite as N - Soluble by Discrete Analyser	EK057G	1	5	**20.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	19	**5.26**	**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
TKN as N By Discrete Analyser	EK061G	3	13	**23.08**	**14.29**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Phosporus By Discrete Analyser	EK067G	3	13	**23.08**	**15.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	23	**8.70**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Buchi Ammonia	EK055	1	9	**11.11**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Nitrite and Nitrate as N (NOx)- Soluble by Discrete Analyser	EK059G	1	5	**20.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Nitrite as N - Soluble by Discrete Analyser	EK057G	1	5	**20.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	1	19	**5.26**	**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		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Method Blanks (MB) - Continued							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	19	**5.26**	**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
TKN as N By Discrete Analyser	EK061G	1	13	**7.69**	**4.76**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Phosporus By Discrete Analyser	EK067G	1	13	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	23	**8.70**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Buchi Ammonia	EK055	1	9	**11.11**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Nitrite and Nitrate as N (NOx)- Soluble by Discrete Analyser	EK059G	1	5	**20.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Nitrite as N - Soluble by Discrete Analyser	EK057G	1	5	**20.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	19	**5.26**	**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
TKN as N By Discrete Analyser	EK061G	1	13	**7.69**	**4.76**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Phosporus By Discrete Analyser	EK067G	1	13	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	23	**8.70**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

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

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055	SOIL	In house: A gravimetric procedure based on weight loss over a 12 hour drying period at 105-110 degrees C. This method is compliant with NEPM Schedule B(3).
Asbestos Identification in Soils	EA200	SOIL	AS 4964 Method for the qualitative identification of asbestos in bulk samples Analysis by Polarised Light Microscopy including dispersion staining
Asbestos Classification and Quantitation per NEPM 2013	* EA200N	SOIL	Asbestos Classification and Quantitation per NEPM with Confirmation of Identification by AS 4964 - Gravimetric determination of Asbestos Containing Material, Fibrous Asbestos, Asbestos Fines and sample weight and calculation of percentage concentrations per NEPM protocols. Asbestos (Fines and Fibrous FA+AF) is reported as the equivalent weight in the sample received after accounting for sub-sampling (where applicable for the <7mm and/or <2mm fractions).
Total Metals by ICP-AES	EG005T	SOIL	In house: Referenced to APHA 3120; USEPA SW 846 - 6010. Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM Schedule B(3)
Total Mercury by FIMS	EG035T	SOIL	In house: Referenced to APHA 3112 Hg - B (Flow-injection (SnCl2) (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 SnCl2 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)
Buchi Ammonia	EK055	SOIL	In house: Referenced to APHA 4500-NH3 B&G, H Samples are steam distilled (Buchi) prior to analysis and quantified using titration, FIA or Discrete Analyser.
Nitrite as N - Soluble by Discrete Analyser	EK057G	SOIL	In house: Referenced to APHA 4500-NO3- B. Nitrite in a water extract is determined by direct colourimetry by Discrete Analyser.
Nitrate as N - Soluble by Discrete Analyser	EK058G	SOIL	In house: Referenced to APHA 4500-NO3- F. Nitrate in the 1:5 soil:water extract is reduced to nitrite by way of a chemical reduction followed by quantification by Discrete Analyser. Nitrite is determined seperately by direct colourimetry and result for Nitrate calculated as the difference between the two results.
Nitrite and Nitrate as N (NOx)- Soluble by Discrete Analyser	EK059G	SOIL	In house: Thermo Scientific Method D08727 and NEMI (National Environmental Method Index) Method ID: 9171. This method covers the determination of total oxidised nitrogen (NOx-N) and nitrate (NO3-N) by calculation, Combined oxidised Nitrogen (NO2+NO3) in a water extract is determined by direct colourimetry by Discrete Analyser.
TKN as N By Discrete Analyser	EK061G	SOIL	In house: Referenced to APHA 4500-Norg-D Soil samples are digested using Kjeldahl digestion followed by determination by Discrete Analyser.
Total Nitrogen as N (TKN + NOx) By Discrete Analyser	EK062G	SOIL	In house: Referenced to APHA 4500 Norg/NO3- Total Nitrogen is determined as the sum of TKN and Oxidised Nitrrogen, each determined seperately as N.
Total Phosporus By Discrete Analyser	EK067G	SOIL	In house: Referenced to APHA 4500 P-B&F This procedure involves sulfuric acid digestion and quantification using Discrete Analyser.

Analytical Methods	Method	Matrix	Method Descriptions
Polychlorinated Biphenyls (PCB)	EP066	SOIL	In house: Referenced to USEPA SW 846 - 8270 Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3).
Pesticides by GCMS	EP068	SOIL	In house: Referenced to USEPA SW 846 - 8270 Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This technique is compliant with NEPM Schedule B(3).
TRH - Semivolatile Fraction	EP071	SOIL	In house: Referenced to USEPA SW 846 - 8015 Sample extracts are analysed by Capillary GC/FID and quantified against alkane standards over the range C10 - C40. Compliant with NEPM Schedule B(3).
PAH/Phenols (SIM)	EP075(SIM)	SOIL	In house: Referenced to USEPA SW 846 - 8270. Extracts are analysed by Capillary GC/MS in Selective Ion Mode (SIM) and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)
TRH Volatiles/BTEX	EP080	SOIL	In house: Referenced to USEPA SW 846 - 8260. Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve. Compliant with NEPM Schedule B(3) amended.
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
TKN/TP Digestion	EK061/EK067	SOIL	In house: Referenced to APHA 4500 Norg- D; APHA 4500 P - H. Macro Kjeldahl digestion.
1:5 solid / water leach for soluble analytes	EN34	SOIL	10 g of soil is mixed with 50 mL of reagent grade water and tumbled end over end for 1 hour. Water soluble salts are leached from the soil by the continuous suspension. Samples are settled and the water filtered off for analysis.
Hot Block Digest for metals in soils sediments and sludges	EN69	SOIL	In house: Referenced to USEPA 200.2. Hot Block Acid Digestion 1.0g of sample is heated with Nitric and Hydrochloric acids, then cooled. Peroxide is added and samples heated and cooled again before being filtered and bulked to volume for analysis. Digest is appropriate for determination of selected metals in sludge, sediments, and soils. This method is compliant with NEPM Schedule B(3).
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	: **ES2229963**	Page	: 1 of 17
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: TAMA ARMANI	Contact	: Sepan Mahamad
Address	: 17 WARABROOK BOULEVARDE WARABROOK NSW, AUSTRALIA 2304	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: +61 2 8784 8555
Project	: 60619756	Date Samples Received	: 17-Aug-2022
Order number	: 60619756	Date Analysis Commenced	: 23-Aug-2022
C-O-C number	: ----	Issue Date	: 29-Aug-2022
Sampler	: ----		
Site	: MBCP		
Quote number	: EN/004/21		
No. of samples received	: 32		
No. of samples analysed	: 15		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

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

This Quality Control Report contains the following information:

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

Signatories

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

Signatories	*Position*	*Accreditation Category*
Ankit Joshi	Senior Chemist - Inorganics	Sydney Inorganics, Smithfield, NSW
Edwandy Fadjar	Organic Coordinator	Sydney Inorganics, Smithfield, NSW
Edwandy Fadjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Franco Lentini	LCMS Coordinator	Sydney Organics, Smithfield, NSW
Jake Spooner	Laboratory Technician	Newcastle - Asbestos, Mayfield West, NSW

General Comments

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

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

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

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: 4540667)									
ES2229880-006	Anonymous	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	6	8	28.4	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	4	6	47.7	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	12	21	49.7	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	29	36	22.8	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	30	# 146	132	0% - 20%
ES2229955-001	Anonymous	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	53	52	0.0	0% - 20%
		EG005T: Nickel	7440-02-0	2	mg/kg	69	65	6.2	0% - 20%
		EG005T: Arsenic	7440-38-2	5	mg/kg	7	7	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	147	147	0.0	0% - 20%
		EG005T: Lead	7439-92-1	5	mg/kg	85	76	11.1	0% - 50%
		EG005T: Zinc	7440-66-6	5	mg/kg	956	881	8.1	0% - 20%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 4540674)									
ES2229880-009	Anonymous	EA055: Moisture Content	----	0.1	%	13.9	14.6	4.8	0% - 50%
ES2229963-016	TPEV03_0.5_0.7_220815	EA055: Moisture Content	----	0.1	%	15.8	16.6	4.8	0% - 50%
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 4540668)									
ES2229880-006	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
ES2229955-001	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	0.1	0.1	0.0	No Limit
EK055: Ammonia as N (QC Lot: 4545669)									
ES2229200-001	Anonymous	EK055: Ammonia as N	7664-41-7	20	mg/kg	3200	3190	0.4	0% - 20%
EK057G: Nitrite as N by Discrete Analyser (QC Lot: 4540669)									

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 (%)*
EK057G: Nitrite as N by Discrete Analyser (QC Lot: 4540669) - continued									
ES2229963-002	TPEV01_0.0_0.21_220815	EK057G: Nitrite as N (Sol.)	14797-65-0	0.1	mg/kg	0.1	0.1	0.0	No Limit
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QC Lot: 4540670)									
ES2229963-002	TPEV01_0.0_0.21_220815	EK059G: Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg	1.4	1.4	0.0	0% - 50%
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QC Lot: 4542655)									
ES2229963-002	TPEV01_0.0_0.21_220815	EK061G: Total Kjeldahl Nitrogen as N	----	20	mg/kg	970	1110	13.2	0% - 20%
ES2230405-001	Anonymous	EK061G: Total Kjeldahl Nitrogen as N	----	20	mg/kg	420	510	19.4	0% - 20%
EK067G: Total Phosphorus as P by Discrete Analyser (QC Lot: 4542656)									
ES2229963-002	TPEV01_0.0_0.21_220815	EK067G: Total Phosphorus as P	----	2	mg/kg	329	366	10.7	0% - 20%
ES2230405-001	Anonymous	EK067G: Total Phosphorus as P	----	2	mg/kg	544	523	3.9	0% - 20%
EP066: Polychlorinated Biphenyls (PCB) (QC Lot: 4534841)									
ES2229815-007	Anonymous	EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
ES2229963-016	TPEV03_0.5_0.7_220815	EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EP068A: Organochlorine Pesticides (OC) (QC Lot: 4534840)									
ES2229815-007	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
ES2229963-016	TPEV03_0.5_0.7_220815	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

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: 4534840) - continued									
ES2229963-016	TPEV03_0.5_0.7_220815	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: 4534840)									
ES2229815-007	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
ES2229963-016	TPEV03_0.5_0.7_220815	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

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: 4534840) - continued									
ES2229963-016	TPEV03_0.5_0.7_220815	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
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4534839)									
ES2229815-007	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	205-99-2 205-82-3	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
ES2229963-016	TPEV03_0.5_0.7_220815	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: 4534839) - continued									
ES2229963-016	TPEV03_0.5_0.7_220815	EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	1.1	1.2	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	0.8	0.8	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	0.6	0.6	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	2.5	2.6	3.9	No Limit
		EP075(SIM): Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4534792)									
ES2229886-002	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4534838)									
ES2229815-007	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
ES2229963-016	TPEV03_0.5_0.7_220815	EP071: C15 - C28 Fraction	----	100	mg/kg	110	140	26.2	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: 4536074)									
ES2229808-001	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
ES2229963-002	TPEV01_0.0_0.21_220815	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4534792)									
ES2229886-002	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: 4534838)									
ES2229815-007	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
ES2229963-016	TPEV03_0.5_0.7_220815	EP071: >C16 - C34 Fraction	----	100	mg/kg	140	180	27.5	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: 4536074)									
ES2229808-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	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: 4536074) - continued									
ES2229963-002	TPEV01_0.0_0.21_220815	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
EP080: BTEXN (QC Lot: 4534792)									
ES2229886-002	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: 4536074)									
ES2229808-001	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
ES2229963-002	TPEV01_0.0_0.21_220815	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: 4544111)									
ES2229862-011	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	0.0809	0.0880	8.3	0% - 50%
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	0.0750	0.0734	2.2	0% - 50%
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	0.827	0.911	9.6	0% - 20%
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	0.0664	0.0648	2.5	0% - 50%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	4.92	4.98	1.1	0% - 20%
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0050	<0.0050	0.0	No Limit
ES2229963-025	TPEV04_2.0_2.2_220815	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: 4544111)									
ES2229862-011	Anonymous	EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	0.101	0.106	5.2	0% - 20%
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	0.407	0.416	2.4	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 (%)*
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 4544111) - continued									
ES2229862-011	Anonymous	EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	0.0475	0.0480	1.1	No Limit
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	0.115	0.125	8.1	0% - 20%
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	0.0076	0.0081	6.9	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0050	<0.0050	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0050	<0.0050	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0050	<0.0050	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0050	<0.0050	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0125	<0.0125	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	0.068	0.068	0.0	No Limit
ES2229963-025	TPEV04_2.0_2.2_220815	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: 4544111)									
ES2229862-011	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	0.0394	0.0383	2.8	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0050	<0.0050	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0050	<0.0050	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0125	<0.0125	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0125	<0.0125	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0125	<0.0125	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0125	<0.0125	0.0	No Limit
ES2229963-025	TPEV04_2.0_2.2_220815	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

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: 4544111) - continued									
ES2229963-025	TPEV04_2.0_2.2_220815	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: 4544111)									
ES2229862-011	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0050	<0.0050	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0050	<0.0050	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	0.0113	0.0108	4.9	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0050	<0.0050	0.0	No Limit
ES2229963-025	TPEV04_2.0_2.2_220815	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 Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 4540667)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	121.1 mg/kg	95.0	88.0	113
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	0.74 mg/kg	87.5	70.0	130
EG005T: Chromium	7440-47-3	2	mg/kg	<2	19.6 mg/kg	116	68.0	132
EG005T: Copper	7440-50-8	5	mg/kg	<5	52.9 mg/kg	96.5	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	96.0	80.0	120
EG005T: Zinc	7440-66-6	5	mg/kg	<5	139.3 mg/kg	97.1	66.0	133
EG035T: Total Recoverable Mercury by FIMS (QCLot: 4540668)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	0.087 mg/kg	92.0	70.0	125
EK055: Ammonia as N (QCLot: 4545669)								
EK055: Ammonia as N	7664-41-7	20	mg/kg	<20	125 mg/kg	101	84.0	104
EK057G: Nitrite as N by Discrete Analyser (QCLot: 4540669)								
EK057G: Nitrite as N (Sol.)	14797-65-0	0.1	mg/kg	<0.1	2.5 mg/kg	104	85.0	111
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 4540670)								
EK059G: Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg	<0.1	2.5 mg/kg	99.6	88.0	118
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 4542655)								
EK061G: Total Kjeldahl Nitrogen as N	----	20	mg/kg	<20	1000 mg/kg	95.9	72.0	106
				<20	100 mg/kg	104	70.0	122
				<20	500 mg/kg	102	70.0	130
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 4542656)								
EK067G: Total Phosphorus as P	----	2	mg/kg	<2	442 mg/kg	# 109	76.0	108
				<2	44.2 mg/kg	108	70.0	118
				<2	100 mg/kg	113	70.0	130
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 4534841)								
EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	1 mg/kg	96.4	62.0	126
EP068A: Organochlorine Pesticides (OC) (QCLot: 4534840)								
EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	0.5 mg/kg	93.5	69.0	113
EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	0.5 mg/kg	99.9	65.0	117
EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	0.5 mg/kg	90.6	67.0	119
EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	0.5 mg/kg	90.1	68.0	116
EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	84.3	65.0	117
EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	0.5 mg/kg	96.7	67.0	115
EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	0.5 mg/kg	92.2	69.0	115

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP068A: Organochlorine Pesticides (OC) (QCLot: 4534840) - continued								
EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	0.5 mg/kg	105	62.0	118
EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	0.5 mg/kg	105	63.0	117
EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	0.5 mg/kg	93.1	66.0	116
EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	0.5 mg/kg	106	64.0	116
EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	0.5 mg/kg	89.7	66.0	116
EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	0.5 mg/kg	89.1	67.0	115
EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	0.5 mg/kg	93.1	67.0	123
EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	0.5 mg/kg	91.2	69.0	115
EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	0.5 mg/kg	92.0	69.0	121
EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	0.5 mg/kg	93.6	56.0	120
EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	0.5 mg/kg	99.4	62.0	124
EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	0.5 mg/kg	91.3	66.0	120
EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	0.5 mg/kg	99.5	64.0	122
EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	0.5 mg/kg	88.2	54.0	130
EP068B: Organophosphorus Pesticides (OP) (QCLot: 4534840)								
EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	0.5 mg/kg	106	59.0	119
EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	90.7	62.0	128
EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	0.5 mg/kg	85.8	54.0	126
EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	0.5 mg/kg	77.5	67.0	119
EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	0.5 mg/kg	101	70.0	120
EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	0.5 mg/kg	92.1	72.0	120
EP068: Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	0.5 mg/kg	88.0	68.0	120
EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	0.5 mg/kg	88.2	68.0	122
EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	0.5 mg/kg	90.0	69.0	117
EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	0.5 mg/kg	88.3	76.0	118
EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	0.5 mg/kg	90.0	64.0	122
EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	0.5 mg/kg	94.8	70.0	116
EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	0.5 mg/kg	93.4	69.0	121
EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	0.5 mg/kg	99.4	66.0	118
EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	0.5 mg/kg	85.6	68.0	124
EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	0.5 mg/kg	93.4	62.0	112
EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	0.5 mg/kg	91.4	68.0	120
EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	0.5 mg/kg	93.9	65.0	127
EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	0.5 mg/kg	71.2	41.0	123
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4534839)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	6 mg/kg	100	77.0	125
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	6 mg/kg	102	72.0	124
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	6 mg/kg	98.9	73.0	127
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	6 mg/kg	100	72.0	126

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4534839) - continued								
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	6 mg/kg	99.6	75.0	127
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	6 mg/kg	89.1	77.0	127
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	6 mg/kg	98.5	73.0	127
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	6 mg/kg	97.2	74.0	128
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	6 mg/kg	98.4	69.0	123
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	6 mg/kg	101	75.0	127
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	6 mg/kg	101	68.0	116
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	6 mg/kg	99.2	74.0	126
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	6 mg/kg	91.3	70.0	126
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	6 mg/kg	88.9	61.0	121
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	6 mg/kg	90.5	62.0	118
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	6 mg/kg	91.6	63.0	121
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4534792)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	26 mg/kg	105	68.4	128
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4534838)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	300 mg/kg	91.3	75.0	129
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	450 mg/kg	94.8	77.0	131
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	300 mg/kg	94.0	71.0	129
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4536074)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	26 mg/kg	102	68.4	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4534792)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	31 mg/kg	107	68.4	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4534838)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	375 mg/kg	89.6	77.0	125
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	525 mg/kg	96.0	74.0	138
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	225 mg/kg	99.2	63.0	131
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4536074)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	31 mg/kg	110	68.4	128
EP080: BTEXN (QCLot: 4534792)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	88.5	62.0	116
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	94.3	67.0	121
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	98.8	65.0	117
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	2 mg/kg	98.8	66.0	118
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	103	68.0	120
EP080: Naphthalene	91-20-3	1	mg/kg	<1	1 mg/kg	103	63.0	119
EP080: BTEXN (QCLot: 4536074)								

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP080: BTEXN (QCLot: 4536074) - continued								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	98.5	62.0	116
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	98.9	67.0	121
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	102	65.0	117
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	2 mg/kg	102	66.0	118
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	109	68.0	120
EP080: Naphthalene	91-20-3	1	mg/kg	<1	1 mg/kg	100	63.0	119
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4544111)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	0.00125 mg/kg	112	72.0	128
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	0.00125 mg/kg	109	73.0	123
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	0.00125 mg/kg	110	67.0	130
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	0.00125 mg/kg	93.2	70.0	132
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	118	68.0	136
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	0.00125 mg/kg	93.2	59.0	134
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4544111)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	0.00625 mg/kg	102	71.0	135
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	0.00125 mg/kg	111	69.0	132
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	0.00125 mg/kg	122	70.0	132
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	0.00125 mg/kg	118	71.0	131
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	126	69.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	96.8	72.0	129
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	0.00125 mg/kg	105	69.0	133
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	0.00125 mg/kg	113	64.0	136
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	122	69.0	135
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	0.00125 mg/kg	118	66.0	139
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	0.00312 mg/kg	112	69.0	133
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4544111)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	0.00125 mg/kg	111	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	0.00312 mg/kg	110	71.6	129
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	0.00312 mg/kg	103	69.8	131
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	0.00312 mg/kg	104	68.7	130
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	0.00312 mg/kg	117	65.1	134
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	0.00125 mg/kg	115	63.0	144
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	0.00125 mg/kg	110	61.0	139
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4544111)								

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	LCS: Spike Recovery (%)	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4544111) - continued								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	0.00125 mg/kg	109	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	121	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	124	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	99.6	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	SpikeRecovery(%): MS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 4540667)							
ES2229880-006	Anonymous	EG005T: Arsenic	7440-38-2	50 mg/kg	103	70.0	130
		EG005T: Cadmium	7440-43-9	50 mg/kg	102	70.0	130
		EG005T: Chromium	7440-47-3	50 mg/kg	103	68.0	132
		EG005T: Copper	7440-50-8	250 mg/kg	98.2	70.0	130
		EG005T: Lead	7439-92-1	250 mg/kg	97.9	70.0	130
		EG005T: Nickel	7440-02-0	50 mg/kg	95.8	70.0	130
		EG005T: Zinc	7440-66-6	250 mg/kg	99.2	66.0	133
EG035T: Total Recoverable Mercury by FIMS (QCLot: 4540668)							
ES2229880-006	Anonymous	EG035T: Mercury	7439-97-6	5 mg/kg	107	70.0	130
EK055: Ammonia as N (QCLot: 4545669)							
ES2229200-001	Anonymous	EK055: Ammonia as N	7664-41-7	125 mg/kg	94.1	70.0	130
EK057G: Nitrite as N by Discrete Analyser (QCLot: 4540669)							
ES2229963-002	TPEV01_0.0_0.21_220815	EK057G: Nitrite as N (Sol.)	14797-65-0	2.5 mg/kg	102	70.0	130
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 4540670)							
ES2229963-002	TPEV01_0.0_0.21_220815	EK059G: Nitrite + Nitrate as N (Sol.)	----	2.5 mg/kg	89.4	70.0	130
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 4542655)							
ES2229963-002	TPEV01_0.0_0.21_220815	EK061G: Total Kjeldahl Nitrogen as N	----	500 mg/kg	91.3	70.0	130
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 4542656)							
ES2229963-002	TPEV01_0.0_0.21_220815	EK067G: Total Phosphorus as P	----	100 mg/kg	90.6	70.0	130
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 4534841)							
ES2229815-007	Anonymous	EP066: Total Polychlorinated biphenyls	----	1 mg/kg	97.7	70.0	130
EP068A: Organochlorine Pesticides (OC) (QCLot: 4534840)							
ES2229815-007	Anonymous	EP068: gamma-BHC	58-89-9	0.5 mg/kg	95.3	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
EP068A: Organochlorine Pesticides (OC) (QCLot: 4534840) - continued							
ES2229815-007	Anonymous	EP068: Heptachlor	76-44-8	0.5 mg/kg	105	70.0	130
		EP068: Aldrin	309-00-2	0.5 mg/kg	96.3	70.0	130
		EP068: Dieldrin	60-57-1	0.5 mg/kg	98.2	70.0	130
		EP068: Endrin	72-20-8	2 mg/kg	82.2	70.0	130
		EP068: 4.4`-DDT	50-29-3	2 mg/kg	88.2	70.0	130
EP068B: Organophosphorus Pesticides (OP) (QCLot: 4534840)							
ES2229815-007	Anonymous	EP068: Diazinon	333-41-5	0.5 mg/kg	105	70.0	130
		EP068: Chlorpyrifos-methyl	5598-13-0	0.5 mg/kg	99.4	70.0	130
		EP068: Pirimphos-ethyl	23505-41-1	0.5 mg/kg	108	70.0	130
		EP068: Bromophos-ethyl	4824-78-6	0.5 mg/kg	114	70.0	130
		EP068: Prothiofos	34643-46-4	0.5 mg/kg	88.8	70.0	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4534839)							
ES2229815-007	Anonymous	EP075(SIM): Acenaphthene	83-32-9	10 mg/kg	94.9	70.0	130
		EP075(SIM): Pyrene	129-00-0	10 mg/kg	108	70.0	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4534792)							
ES2229886-002	Anonymous	EP080: C6 - C9 Fraction	----	32.5 mg/kg	116	70.0	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4534838)							
ES2229815-007	Anonymous	EP071: C10 - C14 Fraction	----	480 mg/kg	111	73.0	137
		EP071: C15 - C28 Fraction	----	3100 mg/kg	112	53.0	131
		EP071: C29 - C36 Fraction	----	2060 mg/kg	117	52.0	132
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4536074)							
ES2229808-001	Anonymous	EP080: C6 - C9 Fraction	----	32.5 mg/kg	120	70.0	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4534792)							
ES2229886-002	Anonymous	EP080: C6 - C10 Fraction	C6_C10	37.5 mg/kg	116	70.0	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4534838)							
ES2229815-007	Anonymous	EP071: >C10 - C16 Fraction	----	860 mg/kg	103	73.0	137
		EP071: >C16 - C34 Fraction	----	4320 mg/kg	114	53.0	131
		EP071: >C34 - C40 Fraction	----	890 mg/kg	113	52.0	132
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4536074)							
ES2229808-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	37.5 mg/kg	124	70.0	130
EP080: BTEXN (QCLot: 4534792)							
ES2229886-002	Anonymous	EP080: Benzene	71-43-2	2.5 mg/kg	89.5	70.0	130
		EP080: Toluene	108-88-3	2.5 mg/kg	95.0	70.0	130
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	102	70.0	130
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2.5 mg/kg	99.7	70.0	130

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP080: BTEXN (QCLot: 4534792) - continued							
ES2229886-002	Anonymous	EP080: ortho-Xylene	95-47-6	2.5 mg/kg	104	70.0	130
		EP080: Naphthalene	91-20-3	2.5 mg/kg	98.5	70.0	130
EP080: BTEXN (QCLot: 4536074)							
ES2229808-001	Anonymous	EP080: Benzene	71-43-2	2.5 mg/kg	95.9	70.0	130
		EP080: Toluene	108-88-3	2.5 mg/kg	101	70.0	130
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	105	70.0	130
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2.5 mg/kg	99.2	70.0	130
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	108	70.0	130
		EP080: Naphthalene	91-20-3	2.5 mg/kg	84.8	70.0	130
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4544111)							
ES2229862-011	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.00125 mg/kg	# Not Determined	72.0	128
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.00125 mg/kg	# Not Determined	73.0	123
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.00125 mg/kg	# Not Determined	67.0	130
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.00125 mg/kg	# Not Determined	70.0	132
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.00125 mg/kg	# Not Determined	68.0	136
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.00125 mg/kg	# Not Determined	59.0	134
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4544111)							
ES2229862-011	Anonymous	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.00625 mg/kg	# Not Determined	71.0	135
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.00125 mg/kg	# Not Determined	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	# Not Determined	71.0	131
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.00125 mg/kg	# Not Determined	69.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.00125 mg/kg	# Not Determined	72.0	129
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.00125 mg/kg	# Not Determined	69.0	133

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: 4544111) - continued							
ES2229862-011	Anonymous	EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.00125 mg/kg	# Not Determined	64.0	136
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.00125 mg/kg	# Not Determined	69.0	135
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.00125 mg/kg	# Not Determined	66.0	139
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.00312 mg/kg	# Not Determined	69.0	133
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4544111)							
ES2229862-011	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.00125 mg/kg	# Not Determined	67.0	137
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.00312 mg/kg	# Not Determined	71.6	129
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.00312 mg/kg	# Not Determined	69.8	131
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.00312 mg/kg	# Not Determined	68.7	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.00312 mg/kg	# Not Determined	65.1	134
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.00125 mg/kg	# Not Determined	63.0	144
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.00125 mg/kg	# Not Determined	61.0	139
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4544111)							
ES2229862-011	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.00125 mg/kg	# Not Determined	62.0	145
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.00125 mg/kg	# Not Determined	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	# Not Determined	69.2	143

AECOM

ANZ

FQM - Generic Chain of Custody Form

Q4AN(EV)-007-FM1

CONSULTANT:	AECOM	ADDRESS 17 Warabrook Boulevard	
PROJECT MANAGER (PM):	Tama Armani	SITE: MBCP	
PROJECT NUMBER & TASK COI	60619756	P.O. NO.: 60619756	
RESULTS REQUIRED (Date):		QUOTE N: EN/004/16	

SAMPLER:

MOBILE: PHONE:

EMAIL REPORT TO: Tama.Armani@aecom.com

Destination Laboratory
ALS Laboratory Group

ANALYSIS REQUIRED Including SUITES (note - suite codes must be listed to attract suite prices)

FOR LABORATORY USE ONLY
COOLER SEAL (circle appropriate)
Intact: Yes No N/A
SAMPLE TEMPERATURE
CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

Notes: e.g. Highly contaminated samples e.g. "High PAHs expected". Extra volume for QC or trace LORs etc.

ALS ID	SAMPLE ID	MATRIX	DATE	Time	Type / Code	Total bottles	S-16	ACM - Gravimetric Analysis	ACM (presence/absence)	PFAS (EP231X)	VOC/SVOC (S-23)	NT-8S	TRH C6-C9/BTEX	HOLD
(1)	TPEV01_0.5_0.6_220815 *	soil	15/08/22			3								X
(2)	TPEV01_00_0.2_220815	soil	15/08/22			3	X			X		X		
(3)	TPEV01_1.0_1.2_220815	soil	15/08/22			3								X
(4)	TPEV01_2.0_2.2_220815	soil	15/08/22			3								X
(5)	TPEV01_3.0_3.2_220815	soil	15/08/22			3								X
(6)	TPEV01_4.0_4.2_220815 (12)	soil	15/08/22			3	X	X	X	X				
(7)	TPEV01_5.0_5.2_220815	soil	15/08/22			3								X
(8)	TPEV02_00_0.2_220815	soil	15/08/22			3								X
(9)	TPEV02_0.5_0.7_220815	soil	15/08/22			3	X		X	X		X		
(10)	TPEV02_1.0_1.2_220815 (27)	soil	15/08/22			3	X	X	X	X				
(11)	TPEV02_2.0_2.2_220815	soil	15/08/22			3								X
(12)	TPEV02_3.0_3.2_220815	soil	15/08/22			3								X
	QC500_220815				Subcon - Forward Lab / Split WO		X			X		X		
	QC600_220815				Lab Analysis:								X	
					Organised By - Date:									
					Relinquished By - Date:									
					Connote / Courier:									
					WO No:									
					Attached By PO / Internal Sheet:									

If Asbestos is identified in any samples, please immediately proceed with NEPM quantification

Environmental Division
Sydney
Work Order Reference
ES2229963

Telephone : +61-2-8784 8555

RELINQUISHED BY:		RECEIVED BY		RECEIVED BY		METHOD OF SHIPMENT
Name:	Date:	Name:	Date:	Name:	Date:	Con' Note No:
Of:	Time:	Of:	Time:	Of:	Time:	Transport Co:

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic;
F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag. Soil Container Codes: Jar = Unpreserved glass jar

* 10kg bags to be logged as separate sample numbers and logged for EA200N as per Tama - 22/8/22 Helen

AECOM

ANZ

FQM - Generic Chain of Custody Form

Q4AN(EV)-007-FM1

CONSULTANT: AECOM	ADDRESS 17 Warabrook Boulevard	SAMPLER:	Destination Laboratory
PROJECT MANAGER (PM): Tama Armani	SITE: MBCP	MOBILE: PHONE:	ALS Laboratory Group
PROJECT NUMBER & TASK COI 60619756	P.O. NO.: 60619756	EMAIL REPORT TO: Tama.Armani@aecom.com	
RESULTS REQUIRED (Date):	QUOTE Nt EN/004/16	ANALYSIS REQUIRED Including SUITES (note - suite codes must be listed to attract suite prices)	

FOR LABORATORY USE ONLY
COOLER SEAL (circle appropriate)
Intact: Yes No N/A
SAMPLE TEMPERATURE
CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

Notes: e.g. Highly contaminated samples e.g. "High PAHs expected". Extra volume for QC or trace LORs etc.

	SAMPLE INFORMATION (note: S = Soil, W=Water)				CONTAINER INFORMATION		S-16	ACM - Gravimetric Analysis	ACM (presnce/absence)	PFAS (EP231X)	VOC/SVOC (S-23)	NT-8S							HOLD
ALS ID	SAMPLE ID	MATRIX	DATE	Time	Type / Code	Total bottles													
13	TPEV02_4.0-4.2_220815	soil	15/08/22			3													X
14	TPEV02_4.8-5.0_220815	soil	15/08/22			3													X
15	TPEV03_0.0-0.2_220815	soil	15/08/22			3													X
16	TPEV03_0.5-0.7_220815	soil	15/08/22			3	X	X	X	X		X							
17	TPEV03_1.0-1.2_220815	soil	15/08/22			3	X			X									
18	TPEV03_2.0-2.2_220815	soil	15/08/22			3													X
19	TPEV03_3.0-3.2_220815	soil	15/08/22			3													X
20	TPEV05_4.0-4.2_220815	soil	15/08/22			3													X
21	TPEV03_5.0-5.2_220815	soil	15/08/22			3													X
22	TPEV04_0.0-0.2_220815	soil	15/08/22			3													X
23	TPEV04_0.5-0.7_220815	soil	15/08/22			3	X			X		X							
24	TPEV04_1.0-1.2_220815	soil	15/08/22			3													X
25	TPEV04_2.0-2.2_220815	soil	15/08/22			3	X	X	X	X		X							
30	TRC500																		
31	RC600																		
32	TSC																		

If Asbestos is identified in any samples, please immediately proceed with NEPM quantification

RELINQUISHED BY:		RECEIVED BY		RECEIVED BY		METHOD OF SHIPMENT
Name:	Date:	Name:	Date:	Name:	Date:	Con' Note No:
Of:	Time:	Of:	Time:	Of:	Time:	Transport Co:

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic;
F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag. **Soil Container Codes:** Jar = Unpreserved glass jar

ANZ

FQM - Generic Chain of Custody Form

Updated COC's 22/8/2022

AECOM

Q4AN(EV)-007-FM1

CONSULTANT: AECOM	ADDRESS 17 Warabrook Boulevard	SAMPLER:	Destination Laboratory
PROJECT MANAGER (PM): Tama Armani	SITE: MBCP	MOBILE:	PHONE: ALS Laboratory Group
PROJECT NUMBER & TASK COI 60619756	P.O. NO.: 60619756	EMAIL REPORT TO: Tama.Armani@aecom.com	
RESULTS REQUIRED (Date):	QUOTE NO: EN/004/16	ANALYSIS REQUIRED including SUITES (note - suite codes must be listed to attract suite prices)	

FOR LABORATORY USE ONLY
COOLER SEAL (circle appropriate)
Intact: Yes No N/A
SAMPLE TEMPERATURE
CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

Notes: e.g. Highly contaminated sample: e.g. "High PAHs expected". Extra volume for QC or trace LORs etc.

ALS ID	SAMPLE ID	MATRIX	DATE	Time	Type / Code	Total bottles	S-16	ACM - Gravimetric Analysis	ACM (presnce/absence)	PFAS (EP231X)	VOC/SVOC (S-23)	HT-8S	TRH C6-C9/BTEX	HOLD
1	TPEV01_0.5_0.6_220815	soil	15/08/22			3								X
2	TPEV01_0.0_0.2_220815	soil	15/08/22			3	X			X		X		
3	TPEV01_1.0_1.2_220815	soil	15/08/22			3								X
4	TPEV01_2.0_2.2_220815	soil	15/08/22			3								X
5	TPEV01_3.0_3.2_220815	soil	15/08/22			3								X
6	TPEV01_4.0_4.2_220815 (R2)	soil	15/08/22			3	X	X	X	X				
7	TPEV01_5.0_5.2_220815	soil	15/08/22			3								X
8	TPEV02_0.0_0.2_220815	soil	15/08/22			3								X
9	TPEV02_0.5_0.7_220815	soil	15/08/22			3	X		X	X		X		
10	TPEV02_1.0_1.2_220815 (R2)	soil	15/08/22			3	X	X	X	X				
11	TPEV02_2.0_2.2_220815	soil	15/08/22			3								X
12	TPEV02_3.0_3.2_220815	soil	15/08/22			3								X
	QC500_220815				Subcon - Forward Lab / Split WO		X			X		X		
	QC600_220815				Lab / Analysis:								X	
					Organised By - Date:									
					Relinquished By - Date:									
					Connote / Courier:									
					WO No:									
					Attached By PO / Internal Sheet:									

If Asbestos is identified in any samples, please immediately proceed with NEPM quantification

Environmental Division Sydney
Work Order Reference
ES2229963

Telephone : +61-2-8784 8555

RELINQUISHED BY:		RECEIVED BY		RECEIVED BY		METHOD OF SHIPMENT
Name:	Date:	Name:	Date:	Name:	Date:	Con' Note No:
Of:	Time:	Of:	Time:	Of:	Time:	Transport Co:

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic;
F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag. Soil Container Codes: Jar = Unpreserved glass jar

* 10kg bags to be logged as separate sample numbers and logged for EA200N as per Tama - 22/8/22 Helen

AECOM

ANZ

FQM - Generic Chain of Custody Form

Q4AN(EV)-007-FM1

CONSULTANT:	AECOM	ADDRESS 17 Warabrook Boulevard	SAMPLER:		Destination Laboratory
PROJECT MANAGER (PM):	Tama Armani	SITE: MBCP	MOBILE:	PHONE:	ALS Laboratory Group
PROJECT NUMBER & TASK COI	60619756	P.O. NO.: 60619756	EMAIL REPORT TO:	Tama.Armani@aecom.com	
RESULTS REQUIRED (Date):		QUOTE NI EN/004/16	ANALYSIS REQUIRED Including SUITES (note - suite codes must be listed to attract suite prices)		

FOR LABORATORY USE ONLY
COOLER SEAL (circle appropriate)
Intact: Yes No N/A
SAMPLE TEMPERATURE
CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

Notes: e.g. Highly contaminated sample; e.g. "High PAHs expected". Extra volume for QC or trace LORs etc.

		SAMPLE INFORMATION (note: S = Soil, W=Water)				CONTAINER INFORMATION		S-16	ACM - Gravimetric Analysis	ACM (presence/absence)	PFAS (EP231X)	VOC/SVOC (S-23)	NT-8S							HOLD	
	ALS ID	SAMPLE ID	MATRIX	DATE	Time	Type / Code	Total bottles														
13	1	TPEV02_4.0-4.2_220815	soil	15/08/22			3													X	If Asbestos is identified in any samples, please immediately proceed with NEPM quantification
14	2	TPEV02_4.8-5.0_220815	soil	15/08/22			3													X	
15	3	TPEV03_0.0_0.2_220815	soil	15/08/22			3													X	
16	4	TPEV03_0.5_0.7_220815	soil	15/08/22			3	X	X	X	X		X								
17	5	TPEV03_1.0_1.2_220815	soil	15/08/22			3	X			X										
18	6	TPEV03_2.0_2.2_220815	soil	15/08/22			3													X	
19	7	TPEV03_3.0_3.2_220815	soil	15/08/22			3													X	
20	8	TPEV03_4.0_4.2_220815	soil	15/08/22			3													X	
21	9	TPEV03_5.0_5.2_220815	soil	15/08/22			3													X	
22	10	TPEV04_0.0_0.2_220815	soil	15/08/22			3													X	
23	11	TPEV04_0.5_0.7_220815	soil	15/08/22			3	X			X		X								
24	12	TPEV04_1.0_1.2_220815	soil	15/08/22			3													X	
25	13	TPEV04_2.0_2.2_220815	soil	15/08/22			3	X	X	X	X		X								
30		TSC																			
31		QC600																			
32		TSC																			

RELINQUISHED BY		RECEIVED BY		RECEIVED BY		METHOD OF SHIPMENT
Name:	Date:	Name:	Date:	Name:	Date:	Con' Note No:
Of:	Time:	Of:	Time:	Of:	Time:	Transport Co:

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic;
F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag. Soil Container Codes: Jar = Unpreserved glass jar

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : **ES2229963**

Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: TAMA ARMANI	Contact	: Sepan Mahamad
Address	: 17 WARABROOK BOULEVARDE WARABROOK NSW, AUSTRALIA 2304	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: tama.armani@aecom.com	E-mail	: Sepan.Mahamad@ALSGlobal.com
Telephone	: ----	Telephone	: +61 2 8784 8555
Facsimile	: ----	Facsimile	: +61-2-8784 8500
Project	: 60619756	Page	: 1 of 4
Order number	: 60619756	Quote number	: ES2021AECOMAU0044 (EN/004/21)
C-O-C number	: ----	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: MBCP		
Sampler	:		

Dates

Date Samples Received	: 17-Aug-2022 17:00	Issue Date	: 22-Aug-2022
Client Requested Due Date	: 29-Aug-2022	Scheduled Reporting Date	: **29-Aug-2022**

Delivery Details

Mode of Delivery	: Undefined	Security Seal	: Intact.
No. of coolers/boxes	: 5	Temperature	: 5'c - Ice present
Receipt Detail	:	No. of samples received / analysed	: 32 / 15

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Proactive Holding Time Report
  - Requested Deliverables
- **Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The laboratory will process these samples unless instructions are received from you indicating you do not wish to proceed. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.**
- **Sample(s) requiring volatile organic compound analysis received in airtight containers (ZHE).**
- **Asbestos analysis will be conducted by ALS Newcastle.**
- Please direct any queries you have regarding this work order to the above ALS laboratory contact.
- Analytical work for this work order will be conducted at ALS Sydney.
- Sample Disposal - Aqueous (3 weeks), Solid (2 months ± 1 week) from receipt of samples.
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.

Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

Method Sample ID	Sample Container Received	Preferred Sample Container for Analysis
Asbestos Classification and Quantitation per NEPM 2013 : EA200N		
TPEV01_4.0_4.2_220815	- Plastic Bag	- Snap Lock Bag: Separate bag received
TPEV02_1.0_1.2_220815	- Plastic Bag	- Snap Lock Bag: Separate bag received
TPEV03_0.5_0.7_220815	- Plastic Bag	- Snap Lock Bag: Separate bag received
TPEV04_2.0_2.2_220815	- Plastic Bag	- Snap Lock Bag: Separate bag received
Asbestos Identification in Soils : EA200		
TPEV01_4.0_4.2_220815	- Plastic Bag	- Snap Lock Bag - ACM/Asbestos Grab Bag
TPEV02_1.0_1.2_220815	- Plastic Bag	- Snap Lock Bag - ACM/Asbestos Grab Bag
TPEV03_0.5_0.7_220815	- Plastic Bag	- Snap Lock Bag - ACM/Asbestos Grab Bag
TPEV04_2.0_2.2_220815	- Plastic Bag	- Snap Lock Bag - ACM/Asbestos Grab Bag

Any sample identifications that cannot be displayed entirely in the analysis summary table will be listed below.

ES2229963-001	[15-Aug-2022]	TPEV01_0.5_0.6_220815
ES2229963-002	[15-Aug-2022]	TPEV01_0.0_0.21_220815
ES2229963-003	[15-Aug-2022]	TPEV01_1.0_1.2_220815
ES2229963-004	[15-Aug-2022]	TPEV01_2.0_2.2_220815
ES2229963-005	[15-Aug-2022]	TPEV01_3.0_3.2_220815
ES2229963-006	[15-Aug-2022]	TPEV01_4.0_4.2_220815
ES2229963-007	[15-Aug-2022]	TPEV01_5.0_5.2_220815
ES2229963-008	[15-Aug-2022]	TPEV02_0.0_0.2_220815
ES2229963-009	[15-Aug-2022]	TPEV02_0.5_0.7_220815
ES2229963-010	[15-Aug-2022]	TPEV02_1.0_1.2_220815
ES2229963-011	[15-Aug-2022]	TPEV02_2.0_2.2_220815
ES2229963-012	[15-Aug-2022]	TPEV02_3.0_3.2_220815
ES2229963-013	[15-Aug-2022]	TPEV02_4.0_4.2_220815
ES2229963-014	[15-Aug-2022]	TPEV02_4.8_5.0_220815
ES2229963-015	[15-Aug-2022]	TPEV03_0.0_0.2_220815
ES2229963-016	[15-Aug-2022]	TPEV03_0.5_0.7_220815
ES2229963-017	[15-Aug-2022]	TPEV03_1.0_1.2_220815
ES2229963-018	[15-Aug-2022]	TPEV03_2.0_2.2_220815
ES2229963-019	[15-Aug-2022]	TPEV03_3.0_3.2_220815
ES2229963-020	[15-Aug-2022]	TPEV03_4.0_4.2_220815
ES2229963-021	[15-Aug-2022]	TPEV03_5.0_5.2_220815
ES2229963-022	[15-Aug-2022]	TPEV04_0.0_0.2_220815
ES2229963-023	[15-Aug-2022]	TPEV04_0.5_0.7_220815
ES2229963-024	[15-Aug-2022]	TPEV04_1.0_1.2_220815
ES2229963-025	[15-Aug-2022]	TPEV04_2.0_2.2_220815
ES2229963-026	[15-Aug-2022]	TPEV01_4.0_4.2_220815
ES2229963-027	[15-Aug-2022]	TPEV02_1.0_1.2_220815
ES2229963-028	[15-Aug-2022]	TPEV03_0.5_0.7_220815
ES2229963-029	[15-Aug-2022]	TPEV04_2.0_2.2_220815

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.

If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **SOIL**

Laboratory sample ID	Sampling date / time	Sample ID	(On Hold) SOIL No analysis requested	SOIL - EA055-103 Moisture Content	SOIL - EA200 Asbestos Identification in Soils -	SOIL - EA200N-TBA Asbestos in Soils - Quantitation by WA/NEPM	SOIL - EP231X (solids) PFAS - Full Suite (28 analytes)	SOIL - NT-8S NH3, NO2, NO3, NOX, TKN, TN, TP	SOIL - S-16 TRH/BTEXN/PAH/OC/OP/PCB/8Metals
ES2229963-001	15-Aug-2022 00:00	TPEV01_0.5_0.6_220815	✓						
ES2229963-002	15-Aug-2022 00:00	TPEV01_0.0_0.21_2208...		✓			✓	✓	✓
ES2229963-003	15-Aug-2022 00:00	TPEV01_1.0_1.2_220815	✓						
ES2229963-004	15-Aug-2022 00:00	TPEV01_2.0_2.2_220815	✓						
ES2229963-005	15-Aug-2022 00:00	TPEV01_3.0_3.2_220815	✓						
ES2229963-006	15-Aug-2022 00:00	TPEV01_4.0_4.2_220815		✓		✓	✓		✓
ES2229963-007	15-Aug-2022 00:00	TPEV01_5.0_5.2_220815	✓						
ES2229963-008	15-Aug-2022 00:00	TPEV02_0.0_0.2_220815	✓						
ES2229963-009	15-Aug-2022 00:00	TPEV02_0.5_0.7_220815		✓	✓		✓	✓	✓
ES2229963-010	15-Aug-2022 00:00	TPEV02_1.0_1.2_220815		✓		✓	✓		✓
ES2229963-011	15-Aug-2022 00:00	TPEV02_2.0_2.2_220815	✓						
ES2229963-012	15-Aug-2022 00:00	TPEV02_3.0_3.2_220815	✓						
ES2229963-013	15-Aug-2022 00:00	TPEV02_4.0_4.2_220815	✓						
ES2229963-014	15-Aug-2022 00:00	TPEV02_4.8_5.0_220815	✓						
ES2229963-015	15-Aug-2022 00:00	TPEV03_0.0_0.2_220815	✓						
ES2229963-016	15-Aug-2022 00:00	TPEV03_0.5_0.7_220815		✓		✓	✓	✓	✓
ES2229963-017	15-Aug-2022 00:00	TPEV03_1.0_1.2_220815		✓			✓		✓
ES2229963-018	15-Aug-2022 00:00	TPEV03_2.0_2.2_220815	✓						
ES2229963-019	15-Aug-2022 00:00	TPEV03_3.0_3.2_220815	✓						
ES2229963-020	15-Aug-2022 00:00	TPEV03_4.0_4.2_220815	✓						
ES2229963-021	15-Aug-2022 00:00	TPEV03_5.0_5.2_220815	✓						
ES2229963-022	15-Aug-2022 00:00	TPEV04_0.0_0.2_220815	✓						
ES2229963-023	15-Aug-2022 00:00	TPEV04_0.5_0.7_220815		✓			✓	✓	✓
ES2229963-024	15-Aug-2022 00:00	TPEV04_1.0_1.2_220815	✓						
ES2229963-025	15-Aug-2022 00:00	TPEV04_2.0_2.2_220815		✓		✓	✓	✓	✓

Matrix: **SOIL**

Laboratory sample ID	Sampling date / time	Sample ID	SOIL - EA200N Asbestos in Soils - (<1kg samples ONLY)	SOIL - EP080 BTEXN	SOIL - S-18 (NO MOIST) TRH(C6-C9)/BTEXN with No Moisture for TBs
ES2229963-026	15-Aug-2022 00:00	TPEV01_4.0_4.2_220815	✓		
ES2229963-027	15-Aug-2022 00:00	TPEV02_1.0_1.2_220815	✓		
ES2229963-028	15-Aug-2022 00:00	TPEV03_0.5_0.7_220815	✓		
ES2229963-029	15-Aug-2022 00:00	TPEV04_2.0_2.2_220815	✓		
ES2229963-030	15-Aug-2022 00:00	QC500			✓

			SOIL - EA200N Asbestos in Soils - (<1kg samples ONLY)	SOIL - EP080 BTEXN	SOIL - S-18 (NO MOIST) TRH(C6-C9)/BTEXN with No Moisture for TBs
ES2229963-031	09-Aug-2022 00:00	QC600		✓	
ES2229963-032	09-Aug-2022 00:00	TSC		✓	

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.

Requested Deliverables

ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV)	Email	AP_CustomerService.ANZ@aecom.com
- Chain of Custody (CoC) (COC)	Email	AP_CustomerService.ANZ@aecom.com

TAMA ARMANI

- *AU Certificate of Analysis - NATA (COA)	Email	tama.armani@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	tama.armani@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	tama.armani@aecom.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	tama.armani@aecom.com
- Chain of Custody (CoC) (COC)	Email	tama.armani@aecom.com
- Chromatogram (CHROM)	Email	tama.armani@aecom.com
- EDI Format - ENMRG (ENMRG)	Email	tama.armani@aecom.com
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)	Email	tama.armani@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	tama.armani@aecom.com

ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **ES2229963**	Page	: 1 of 20
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: TAMA ARMANI	Contact	: Sepan Mahamad
Address	: 17 WARABROOK BOULEVARDE WARABROOK NSW, AUSTRALIA 2304	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: +61 2 8784 8555
Project	: 60619756	Date Samples Received	: 17-Aug-2022 17:00
Order number	: 60619756	Date Analysis Commenced	: 23-Aug-2022
C-O-C number	: ----	Issue Date	: 29-Aug-2022 19:35
Sampler	: ----		
Site	: MBCP		
Quote number	: EN/004/21		
No. of samples received	: 32		
No. of samples analysed	: 15		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

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

This Certificate of Analysis contains the following information:

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

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

Signatories

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

Signatories	*Position*	*Accreditation Category*
Ankit Joshi	Senior Chemist - Inorganics	Sydney Inorganics, Smithfield, NSW
Edwandy Fadjar	Organic Coordinator	Sydney Inorganics, Smithfield, NSW
Edwandy Fadjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Franco Lentini	LCMS Coordinator	Sydney Organics, Smithfield, NSW
Jake Spooner	Laboratory Technician	Newcastle - Asbestos, Mayfield West, NSW

General Comments

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

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

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

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

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

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

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

- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero, for 'TEQ 1/2LOR' are treated as half the reported LOR, and for 'TEQ LOR' are treated as being equal to the reported LOR. Note: TEQ 1/2LOR and TEQ LOR will calculate as 0.6mg/Kg and 1.2mg/Kg respectively for samples with non-detects for all of the eight TEQ PAHs.
- EP080: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EP068: Where reported, Total Chlordane (sum) is the sum of the reported concentrations of cis-Chlordane and trans-Chlordane at or above the LOR.
- EP068: Where reported, Total OCP is the sum of the reported concentrations of all Organochlorine Pesticides at or above LOR.
- EP075(SIM): Where reported, Total Cresol is the sum of the reported concentrations of 2-Methylphenol and 3- & 4-Methylphenol at or above the LOR.
- EG005T: Poor precision was obtained for Iron and Zinc on sample ES2229880 # 006. Confirmed by re-digestion and reanalysis.
- EP231X: Matrix spike recoveries could not be determined due to samples being diluted outside of analytical range.
- EK057G:LOR raised for Nitrite due to sample matrix.
- EP080: The trip spike and its control have been analysed for volatile TPH and BTEXN only. The trip spike and control were prepared in the lab using reagent grade sand spiked with petrol. The spike was dispatched from the lab and the control retained.
- EA200N: Asbestos weights and percentages are not covered under the Scope of NATA Accreditation.
  Weights of Asbestos are based on extracted bulk asbestos, fibre bundles, and/or ACM and do not include respirable fibres (if present)
  The Asbestos (Fines and Fibrous) weight is calculated from the extracted Fibrous Asbestos and Asbestos Fines as an equivalent weight of 100% Asbestos
  Percentages for Asbestos content in ACM are based on the 2013 NEPM default values.
  All calculations of percentage Asbestos under this method are approximate and should be used as a guide only.
- EA200 'Am' Amosite (brown asbestos)
- EA200 'Cr' Crocidolite (blue asbestos)
- EA200 'Trace' - Asbestos fibres ("Free Fibres") detected by trace analysis per AS4964. The result can be interpreted that the sample contains detectable 'respirable' asbestos fibres
- EA200: Asbestos Identification Samples were analysed by Polarised Light Microscopy including dispersion staining.
- EA200 Legend
- EA200 'Ch' Chrysotile (white asbestos)
- EA200: 'UMF' Unknown Mineral Fibres. "-" indicates fibres detected may or may not be asbestos fibres. Confirmation by alternative techniques is recommended.
- EA200N: ALS laboratory procedures and methods used for the identification and quantitation of asbestos are consistent with AS4964-2004 and the requirements of the 2013 NEPM for Assessment of Site Contamination

- EA200: For samples larger than 30g, the <2mm fraction may be sub-sampled prior to trace analysis as outlined in ISO23909:2008(E) Sect 6.3.2-2
- EA200: 'Yes' - Asbestos detected by polarised light microscopy including dispersion staining.
- EA200: 'No*' - No asbestos found, at the reporting limit of 0.1g/kg, by polarised light microscopy including dispersion staining. Asbestos material was detected and positively identified at concentrations estimated to be below 0.1g/kg.
- EA200: 'No' - No asbestos found at the reporting limit 0.1g/kg, by polarised light microscopy including dispersion staining.
- 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	TPEV01_0.0_0.21_22081515	TPEV01_4.0_4.2_220815	TPEV02_0.5_0.7_220815	TPEV02_1.0_1.2_220815	TPEV03_0.5_0.7_220815
				Sampling date / time	15-Aug-2022 00:00	15-Aug-2022 00:00	15-Aug-2022 00:00	15-Aug-2022 00:00	15-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2229963-002	ES2229963-006	ES2229963-009	ES2229963-010	ES2229963-016
					Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%		24.1	13.8	13.0	14.9	15.8
EA200: AS 4964 - 2004 Identification of Asbestos in Soils									
Asbestos Detected	1332-21-4	0.1	g/kg		----	No	No	No	No
Asbestos Type	1332-21-4	-	--		----	-	-	-	-
Asbestos (Trace)	1332-21-4	5	Fibres		----	No	No	No	No
Sample weight (dry)	----	0.01	g		----	258	337	303	241
Synthetic Mineral Fibre	----	0.1	g/kg		----	No	No	No	No
Organic Fibre	----	0.1	g/kg		----	No	No	No	No
APPROVED IDENTIFIER:	----	-	--		----	J.SPOONER	J.SPOONER	J.SPOONER	J.SPOONER
EA200N: ACM Asbestos in Soil (non-NATA)									
ø Asbestos Containing Material	1332-21-4	0.1	g		----	<0.1	----	<0.1	<0.1
ø Asbestos Containing Material (as 15% Asbestos in ACM >7mm)	1332-21-4	0.01	% (w/w)		----	<0.01	----	<0.01	<0.01
EA200N: Asbestos Quantification (non-NATA)									
ø Asbestos (Fines and Fibrous <7mm)	1332-21-4	0.0004	g		----	<0.0004	----	<0.0004	<0.0004
ø Asbestos (Fines and Fibrous FA+AF)	----	0.001	% (w/w)		----	<0.001	----	<0.001	<0.001
ø Weight Used for % Calculation	----	0.0001	kg		----	0.258	----	0.303	0.241
ø Fibrous Asbestos >7mm	----	0.0004	g		----	<0.0004	----	<0.0004	<0.0004
EG005(ED093)T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg		<5	11	22	6	8
Cadmium	7440-43-9	1	mg/kg		<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg		56	10	11	52	11
Copper	7440-50-8	5	mg/kg		10	13	21	6	10
Lead	7439-92-1	5	mg/kg		14	15	47	10	12
Nickel	7440-02-0	2	mg/kg		26	31	67	20	13
Zinc	7440-66-6	5	mg/kg		29	113	68	26	37
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		<0.1	<0.1	<0.1	0.1	<0.1
EK055: Ammonia as N									
Ammonia as N	7664-41-7	20	mg/kg		<20	----	<20	----	<20
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	14797-65-0	0.1	mg/kg		0.1	----	<0.1	----	<0.5
EK058G: Nitrate as N by Discrete Analyser									

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TPEV01_0.0_0.21_22081515	TPEV01_4.0_4.2_220815	TPEV02_0.5_0.7_220815	TPEV02_1.0_1.2_220815	TPEV03_0.5_0.7_220815
				Sampling date / time	15-Aug-2022 00:00	15-Aug-2022 00:00	15-Aug-2022 00:00	15-Aug-2022 00:00	15-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2229963-002	ES2229963-006	ES2229963-009	ES2229963-010	ES2229963-016
					Result	Result	Result	Result	Result
EK058G: Nitrate as N by Discrete Analyser - Continued									
Nitrate as N (Sol.)	14797-55-8	0.1	mg/kg		1.3	----	0.2	----	3.0
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		1.4	----	0.2	----	3.0
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		970	----	340	----	1450
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		970	----	340	----	1450
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		329	----	397	----	254
EP066: Polychlorinated Biphenyls (PCB)									
Total Polychlorinated biphenyls	----	0.1	mg/kg		<0.1	<0.1	<0.1	<0.1	<0.1
EP068A: Organochlorine Pesticides (OC)									
alpha-BHC	319-84-6	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
beta-BHC	319-85-7	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
gamma-BHC	58-89-9	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
delta-BHC	319-86-8	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor	76-44-8	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Aldrin	309-00-2	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor epoxide	1024-57-3	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
^ Total Chlordane (sum)	----	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
trans-Chlordane	5103-74-2	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
alpha-Endosulfan	959-98-8	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
cis-Chlordane	5103-71-9	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Dieldrin	60-57-1	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDE	72-55-9	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Endrin	72-20-8	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
beta-Endosulfan	33213-65-9	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
^ Endosulfan (sum)	115-29-7	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDD	72-54-8	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Endrin aldehyde	7421-93-4	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Endosulfan sulfate	1031-07-8	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
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

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TPEV01_0.0_0.21_22081515	TPEV01_4.0_4.2_220815	TPEV02_0.5_0.7_220815	TPEV02_1.0_1.2_220815	TPEV03_0.5_0.7_220815
				Sampling date / time	15-Aug-2022 00:00	15-Aug-2022 00:00	15-Aug-2022 00:00	15-Aug-2022 00:00	15-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2229963-002	ES2229963-006	ES2229963-009	ES2229963-010	ES2229963-016
					Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued									
Methoxychlor	72-43-5	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
EP068B: Organophosphorus Pesticides (OP)									
Dichlorvos	62-73-7	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Demeton-S-methyl	919-86-8	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Monocrotophos	6923-22-4	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Dimethoate	60-51-5	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Diazinon	333-41-5	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Parathion-methyl	298-00-0	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Malathion	121-75-5	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Fenthion	55-38-9	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Chlorpyrifos	2921-88-2	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Parathion	56-38-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Pirimphos-ethyl	23505-41-1	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Chlorfenvinphos	470-90-6	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Bromophos-ethyl	4824-78-6	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Fenamiphos	22224-92-6	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Prothiofos	34643-46-4	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Ethion	563-12-2	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Carbophenothion	786-19-6	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Azinphos Methyl	86-50-0	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg		<0.5	<0.5	<0.5	**1.1**	**1.1**
Anthracene	120-12-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg		<0.5	<0.5	<0.5	**0.9**	**0.8**
Pyrene	129-00-0	0.5	mg/kg		<0.5	<0.5	<0.5	**0.7**	**0.6**
Benz(a)anthracene	56-55-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TPEV01_0.0_0.21_22081515	TPEV01_4.0_4.2_220815	TPEV02_0.5_0.7_220815	TPEV02_1.0_1.2_220815	TPEV03_0.5_0.7_220815
				Sampling date / time	15-Aug-2022 00:00	15-Aug-2022 00:00	15-Aug-2022 00:00	15-Aug-2022 00:00	15-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2229963-002	ES2229963-006	ES2229963-009	ES2229963-010	ES2229963-016
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Chrysene	218-01-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		<0.5	<0.5	<0.5	2.7	2.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		0.6	0.6	0.6	0.6	0.6
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		1.2	1.2	1.2	1.2	1.2
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg		<100	<100	<100	<100	110
C29 - C36 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg		<50	<50	<50	<50	110
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg		<100	<100	<100	100	140
>C34 - C40 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		<50	<50	<50	100	140
^ >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

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TPEV01_0.0_0.21_220815	TPEV01_4.0_4.2_220815	TPEV02_0.5_0.7_220815	TPEV02_1.0_1.2_220815	TPEV03_0.5_0.7_220815
				Sampling date / time	15-Aug-2022 00:00	15-Aug-2022 00:00	15-Aug-2022 00:00	15-Aug-2022 00:00	15-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2229963-002	ES2229963-006	ES2229963-009	ES2229963-010	ES2229963-016
					Result	Result	Result	Result	Result
EP080: BTEXN - Continued									
^ Total Xylenes	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg		<1	<1	<1	<1	<1
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg		<0.0002	<0.0002	<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	<0.001	<0.001
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002

Analytical Results

Sub-Matrix: **SOIL**
(Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Sample ID	TPEV01_0.0_0.21_22081515	TPEV01_4.0_4.2_220815	TPEV02_0.5_0.7_220815	TPEV02_1.0_1.2_220815	TPEV03_0.5_0.7_220815
				Sampling date / time	15-Aug-2022 00:00	15-Aug-2022 00:00	15-Aug-2022 00:00	15-Aug-2022 00:00	15-Aug-2022 00:00
					ES2229963-002	ES2229963-006	ES2229963-009	ES2229963-010	ES2229963-016
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<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	<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	<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	<0.0005	<0.0005
EP231P: PFAS Sums									
Sum of PFAS	----	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Sum of PFAS (WA DER List)	----	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		**80.2**	**77.7**	**83.8**	**73.9**	**82.4**
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%		**109**	**99.4**	**113**	**95.7**	**104**
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%		**103**	**87.3**	**102**	**90.5**	**102**
EP075(SIM)S: Phenolic Compound Surrogates									

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TPEV01_0.0_0.21_220815	TPEV01_4.0_4.2_220815	TPEV02_0.5_0.7_220815	TPEV02_1.0_1.2_220815	TPEV03_0.5_0.7_220815
				Sampling date / time	15-Aug-2022 00:00	15-Aug-2022 00:00	15-Aug-2022 00:00	15-Aug-2022 00:00	15-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2229963-002	ES2229963-006	ES2229963-009	ES2229963-010	ES2229963-016
					Result	Result	Result	Result	Result
EP075(SIM)S: Phenolic Compound Surrogates - Continued									
Phenol-d6	13127-88-3	0.5	%		76.3	73.6	74.6	66.8	67.8
2-Chlorophenol-D4	93951-73-6	0.5	%		89.7	87.1	87.5	78.6	80.5
2.4.6-Tribromophenol	118-79-6	0.5	%		81.0	73.3	73.1	69.1	72.4
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		99.0	96.9	97.4	88.5	89.6
Anthracene-d10	1719-06-8	0.5	%		90.0	87.0	86.7	77.7	78.6
4-Terphenyl-d14	1718-51-0	0.5	%		90.5	87.8	87.3	78.9	80.5
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		108	102	98.6	100	108
Toluene-D8	2037-26-5	0.2	%		103	98.5	93.2	95.3	99.5
4-Bromofluorobenzene	460-00-4	0.2	%		108	106	99.0	95.2	94.9
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.0002	%		91.5	91.0	96.5	104	85.5
13C8-PFOA	----	0.0002	%		104	111	101	103	102

Analytical Results

Sub-Matrix: SOIL
(Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Sample ID	TPEV03_1.0_1.2_220815	TPEV04_0.5_0.7_220815	TPEV04_2.0_2.2_220815	TPEV01_4.0_4.2_220815	TPEV02_1.0_1.2_220815
				Sampling date / time	15-Aug-2022 00:00	15-Aug-2022 00:00	15-Aug-2022 00:00	15-Aug-2022 00:00	15-Aug-2022 00:00
					ES2229963-017	ES2229963-023	ES2229963-025	ES2229963-026	ES2229963-027
					Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%		21.9	31.7	29.5	----	----
EA200: AS 4964 - 2004 Identification of Asbestos in Soils									
Asbestos Detected	1332-21-4	0.1	g/kg		----	----	No	No	No
Asbestos Type	1332-21-4	-	--		----	----	-	-	-
Asbestos (Trace)	1332-21-4	5	Fibres		----	----	No	No	No
Sample weight (dry)	----	0.01	g		----	----	146	11400	6810
Synthetic Mineral Fibre	----	0.1	g/kg		----	----	No	No	No
Organic Fibre	----	0.1	g/kg		----	----	No	No	No
APPROVED IDENTIFIER:	----	-	--		----	----	J.SPOONER	J.SPOONER	J.SPOONER
EA200N: ACM Asbestos in Soil (non-NATA)									
ø Asbestos Containing Material	1332-21-4	0.1	g		----	----	<0.1	----	----
ø Asbestos Containing Material (as 15% Asbestos in ACM >7mm)	1332-21-4	0.01	% (w/w)		----	----	<0.01	----	----
EA200N: Asbestos Quantification (non-NATA)									
ø Asbestos (Fines and Fibrous <7mm)	1332-21-4	0.0004	g		----	----	<0.0004	<0.0004	<0.0004
ø Asbestos (Fines and Fibrous FA+AF)	----	0.001	% (w/w)		----	----	<0.001	<0.001	<0.001
ø Asbestos Containing Material	1332-21-4	0.1	g		----	----	----	<0.1	<0.1
ø Asbestos Containing Material (as 15% Asbestos in ACM >7mm)	1332-21-4	0.01	% (w/w)		----	----	----	<0.01	<0.01
ø Weight Used for % Calculation	----	0.0001	kg		----	----	0.146	11.4	6.81
ø Fibrous Asbestos >7mm	----	0.0004	g		----	----	<0.0004	<0.0004	<0.0004
EG005(ED093)T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg		8	<5	<5	----	----
Cadmium	7440-43-9	1	mg/kg		<1	<1	<1	----	----
Chromium	7440-47-3	2	mg/kg		46	19	34	----	----
Copper	7440-50-8	5	mg/kg		11	13	9	----	----
Lead	7439-92-1	5	mg/kg		14	12	25	----	----
Nickel	7440-02-0	2	mg/kg		25	20	23	----	----
Zinc	7440-66-6	5	mg/kg		27	28	30	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		<0.1	<0.1	<0.1	----	----
EK055: Ammonia as N									
Ammonia as N	7664-41-7	20	mg/kg		----	<20	<20	----	----

Analytical Results

Sub-Matrix: SOIL
(Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Sample ID	TPEV03_1.0_1.2_220815	TPEV04_0.5_0.7_220815	TPEV04_2.0_2.2_220815	TPEV01_4.0_4.2_220815	TPEV02_1.0_1.2_220815
				Sampling date / time	15-Aug-2022 00:00	15-Aug-2022 00:00	15-Aug-2022 00:00	15-Aug-2022 00:00	15-Aug-2022 00:00
					ES2229963-017	ES2229963-023	ES2229963-025	ES2229963-026	ES2229963-027
					Result	Result	Result	Result	Result
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	14797-65-0	0.1	mg/kg		----	<0.1	<0.1	----	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	14797-55-8	0.1	mg/kg		----	**1.3**	**0.4**	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		----	**1.3**	**0.4**	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		----	**5340**	**2330**	----	----
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		----	**5340**	**2330**	----	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		----	**293**	**278**	----	----
EP066: Polychlorinated Biphenyls (PCB)									
Total Polychlorinated biphenyls	----	0.1	mg/kg		<0.1	<0.1	<0.1	----	----
EP068A: Organochlorine Pesticides (OC)									
alpha-BHC	319-84-6	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
beta-BHC	319-85-7	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
gamma-BHC	58-89-9	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
delta-BHC	319-86-8	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
Heptachlor	76-44-8	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
Aldrin	309-00-2	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
Heptachlor epoxide	1024-57-3	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
^ Total Chlordane (sum)	----	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
trans-Chlordane	5103-74-2	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
alpha-Endosulfan	959-98-8	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
cis-Chlordane	5103-71-9	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
Dieldrin	60-57-1	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
4.4`-DDE	72-55-9	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
Endrin	72-20-8	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
beta-Endosulfan	33213-65-9	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
^ Endosulfan (sum)	115-29-7	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
4.4`-DDD	72-54-8	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
Endrin aldehyde	7421-93-4	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
Endosulfan sulfate	1031-07-8	0.05	mg/kg		<0.05	<0.05	<0.05	----	----

Analytical Results

Sub-Matrix: SOIL
(Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Sample ID	TPEV03_1.0_1.2_220815	TPEV04_0.5_0.7_220815	TPEV04_2.0_2.2_220815	TPEV01_4.0_4.2_220815	TPEV02_1.0_1.2_220815
				Sampling date / time	15-Aug-2022 00:00	15-Aug-2022 00:00	15-Aug-2022 00:00	15-Aug-2022 00:00	15-Aug-2022 00:00
					ES2229963-017	ES2229963-023	ES2229963-025	ES2229963-026	ES2229963-027
					Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued									
4.4`-DDT	50-29-3	0.2	mg/kg		<0.2	<0.2	<0.2	----	----
Endrin ketone	53494-70-5	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
Methoxychlor	72-43-5	0.2	mg/kg		<0.2	<0.2	<0.2	----	----
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
EP068B: Organophosphorus Pesticides (OP)									
Dichlorvos	62-73-7	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
Demeton-S-methyl	919-86-8	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
Monocrotophos	6923-22-4	0.2	mg/kg		<0.2	<0.2	<0.2	----	----
Dimethoate	60-51-5	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
Diazinon	333-41-5	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
Parathion-methyl	298-00-0	0.2	mg/kg		<0.2	<0.2	<0.2	----	----
Malathion	121-75-5	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
Fenthion	55-38-9	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
Chlorpyrifos	2921-88-2	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
Parathion	56-38-2	0.2	mg/kg		<0.2	<0.2	<0.2	----	----
Pirimphos-ethyl	23505-41-1	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
Chlorfenvinphos	470-90-6	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
Bromophos-ethyl	4824-78-6	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
Fenamiphos	22224-92-6	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
Prothiofos	34643-46-4	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
Ethion	563-12-2	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
Carbophenothion	786-19-6	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
Azinphos Methyl	86-50-0	0.05	mg/kg		<0.05	<0.05	<0.05	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		<0.5	**0.5**	**1.7**	----	----
Acenaphthylene	208-96-8	0.5	mg/kg		<0.5	**0.6**	<0.5	----	----
Acenaphthene	83-32-9	0.5	mg/kg		<0.5	**0.8**	<0.5	----	----
Fluorene	86-73-7	0.5	mg/kg		<0.5	**0.6**	<0.5	----	----
Phenanthrene	85-01-8	0.5	mg/kg		<0.5	**13.7**	**7.5**	----	----
Anthracene	120-12-7	0.5	mg/kg		<0.5	**2.9**	**1.4**	----	----
Fluoranthene	206-44-0	0.5	mg/kg		<0.5	**19.2**	**11.4**	----	----

Analytical Results

Sub-Matrix: SOIL
(Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Sample ID	TPEV03_1.0_1.2_220815	TPEV04_0.5_0.7_220815	TPEV04_2.0_2.2_220815	TPEV01_4.0_4.2_220815	TPEV02_1.0_1.2_220815
				Sampling date / time	15-Aug-2022 00:00	15-Aug-2022 00:00	15-Aug-2022 00:00	15-Aug-2022 00:00	15-Aug-2022 00:00
					ES2229963-017	ES2229963-023	ES2229963-025	ES2229963-026	ES2229963-027
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Pyrene	129-00-0	0.5	mg/kg		<0.5	**16.2**	**9.7**	----	----
Benz(a)anthracene	56-55-3	0.5	mg/kg		<0.5	**7.0**	**4.2**	----	----
Chrysene	218-01-9	0.5	mg/kg		<0.5	**6.4**	**3.9**	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		<0.5	**7.6**	**5.0**	----	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		<0.5	**2.9**	**1.8**	----	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg		<0.5	**6.1**	**4.0**	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		<0.5	**3.1**	**2.0**	----	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		<0.5	**0.8**	<0.5	----	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		<0.5	**3.4**	**2.2**	----	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		<0.5	**91.8**	**54.8**	----	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		<0.5	**9.0**	**5.4**	----	----
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		**0.6**	**9.0**	**5.6**	----	----
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		**1.2**	**9.0**	**5.9**	----	----
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	**520**	**320**	----	----
C29 - C36 Fraction	----	100	mg/kg		<100	**220**	**150**	----	----
^ C10 - C36 Fraction (sum)	----	50	mg/kg		<50	**740**	**470**	----	----
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	**70**	<50	----	----
>C16 - C34 Fraction	----	100	mg/kg		<100	**640**	**410**	----	----
>C34 - C40 Fraction	----	100	mg/kg		<100	**110**	<100	----	----
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		<50	**820**	**410**	----	----
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		<50	**70**	<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	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TPEV03_1.0_1.2_220815	TPEV04_0.5_0.7_220815	TPEV04_2.0_2.2_220815	TPEV01_4.0_4.2_220815	TPEV02_1.0_1.2_220815
				Sampling date / time	15-Aug-2022 00:00	15-Aug-2022 00:00	15-Aug-2022 00:00	15-Aug-2022 00:00	15-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2229963-017	ES2229963-023	ES2229963-025	ES2229963-026	ES2229963-027
					Result	Result	Result	Result	Result
EP080: BTEXN - Continued									
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	----	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	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	----	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg		<0.0002	**0.0027**	<0.0002	----	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	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	----	----
Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	----	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	----	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	----	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	----	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	----	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	----	----
EP231C: Perfluoroalkyl Sulfonamides									

Analytical Results

Sub-Matrix: SOIL
(Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Sample ID	TPEV03_1.0_1.2_220815	TPEV04_0.5_0.7_220815	TPEV04_2.0_2.2_220815	TPEV01_4.0_4.2_220815	TPEV02_1.0_1.2_220815
				Sampling date / time	15-Aug-2022 00:00	15-Aug-2022 00:00	15-Aug-2022 00:00	15-Aug-2022 00:00	15-Aug-2022 00:00
					ES2229963-017	ES2229963-023	ES2229963-025	ES2229963-026	ES2229963-027
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	----	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	----	----
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	----	----
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	----	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	----	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	----	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	----	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	----	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	----	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	----	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	----	----
EP231P: PFAS Sums									
Sum of PFAS	----	0.0002	mg/kg		<0.0002	**0.0027**	<0.0002	----	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg		<0.0002	**0.0027**	<0.0002	----	----
Sum of PFAS (WA DER List)	----	0.0002	mg/kg		<0.0002	**0.0027**	<0.0002	----	----
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		**80.9**	**102**	**98.3**	----	----
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%		**98.9**	**108**	**117**	----	----
EP068T: Organophosphorus Pesticide Surrogate									

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TPEV03_1.0_1.2_220815	TPEV04_0.5_0.7_220815	TPEV04_2.0_2.2_220815	TPEV01_4.0_4.2_220815	TPEV02_1.0_1.2_220815
				Sampling date / time	15-Aug-2022 00:00	15-Aug-2022 00:00	15-Aug-2022 00:00	15-Aug-2022 00:00	15-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2229963-017	ES2229963-023	ES2229963-025	ES2229963-026	ES2229963-027
					Result	Result	Result	Result	Result
EP068T: Organophosphorus Pesticide Surrogate - Continued									
DEF	78-48-8	0.05	%		69.3	75.0	107	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		71.8	68.6	74.5	----	----
2-Chlorophenol-D4	93951-73-6	0.5	%		85.2	81.0	87.4	----	----
2.4.6-Tribromophenol	118-79-6	0.5	%		72.7	75.2	81.7	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		94.0	90.9	95.7	----	----
Anthracene-d10	1719-06-8	0.5	%		85.3	76.4	83.1	----	----
4-Terphenyl-d14	1718-51-0	0.5	%		86.1	83.4	87.6	----	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		96.6	80.0	102	----	----
Toluene-D8	2037-26-5	0.2	%		92.7	77.2	82.2	----	----
4-Bromofluorobenzene	460-00-4	0.2	%		100	81.5	84.2	----	----
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.0002	%		106	87.5	93.0	----	----
13C8-PFOA	----	0.0002	%		109	103	109	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	TPEV03_0.5_0.7_220815	TPEV04_2.0_2.2_220815	QC500	QC600	TSC
			Sampling date / time	15-Aug-2022 00:00	15-Aug-2022 00:00	15-Aug-2022 00:00	09-Aug-2022 00:00	09-Aug-2022 00:00
Compound	CAS Number	LOR	Unit	ES2229963-028	ES2229963-029	ES2229963-030	ES2229963-031	ES2229963-032
				Result	Result	Result	Result	Result
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	No	No	----	----	----
Asbestos Type	1332-21-4	-	--	-	-	----	----	----
Asbestos (Trace)	1332-21-4	5	Fibres	No	No	----	----	----
Sample weight (dry)	----	0.01	g	9270	7410	----	----	----
Synthetic Mineral Fibre	----	0.1	g/kg	No	No	----	----	----
Organic Fibre	----	0.1	g/kg	No	No	----	----	----
APPROVED IDENTIFIER:	----	-	--	J.SPOONER	J.SPOONER	----	----	----
EA200N: Asbestos Quantification (non-NATA)								
ø Asbestos (Fines and Fibrous <7mm)	1332-21-4	0.0004	g	<0.0004	<0.0004	----	----	----
ø Asbestos (Fines and Fibrous FA+AF)	----	0.001	% (w/w)	<0.001	<0.001	----	----	----
ø Asbestos Containing Material	1332-21-4	0.1	g	<0.1	<0.1	----	----	----
ø Asbestos Containing Material (as 15% Asbestos in ACM >7mm)	1332-21-4	0.01	% (w/w)	<0.01	<0.01	----	----	----
ø Weight Used for % Calculation	----	0.0001	kg	9.27	7.41	----	----	----
ø Fibrous Asbestos >7mm	----	0.0004	g	<0.0004	<0.0004	----	----	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	----	----	<10	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	10	mg/kg	----	----	<10	----	----
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	----	----	<10	----	----
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	10.6	10.5
Ethylbenzene	100-41-4	0.5	mg/kg	----	----	<0.5	3.0	3.1
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	----	----	<0.5	16.6	17.0
ortho-Xylene	95-47-6	0.5	mg/kg	----	----	<0.5	7.4	7.8
^ Sum of BTEX	----	0.2	mg/kg	----	----	<0.2	37.6	38.4
^ Total Xylenes	----	0.5	mg/kg	----	----	<0.5	24.0	24.8
Naphthalene	91-20-3	1	mg/kg	----	----	<1	1	1
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.2	%	----	----	99.6	98.7	98.5
Toluene-D8	2037-26-5	0.2	%	----	----	89.5	107	105

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	TPEV03_0.5_0.7_220815	TPEV04_2.0_2.2_220815	QC500	QC600	TSC
				Sampling date / time	15-Aug-2022 00:00	15-Aug-2022 00:00	15-Aug-2022 00:00	09-Aug-2022 00:00	09-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2229963-028	ES2229963-029	ES2229963-030	ES2229963-031	ES2229963-032
					Result	Result	Result	Result	Result
EP080S: TPH(V)/BTEX Surrogates - Continued									
4-Bromofluorobenzene	460-00-4	0.2	%		**----**	**----**	**99.4**	**103**	**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	TPEV02_0.5_0.7_220815 - 15-Aug-2022 00:00	Soil sample.
EA200: Description	TPEV01_4.0_4.2_220815 - 15-Aug-2022 00:00	Soil sample.
EA200: Description	TPEV02_1.0_1.2_220815 - 15-Aug-2022 00:00	Soil sample.
EA200: Description	TPEV03_0.5_0.7_220815 - 15-Aug-2022 00:00	Soil sample.
EA200: Description	TPEV04_2.0_2.2_220815 - 15-Aug-2022 00:00	Soil sample.
EA200: Description	TPEV01_4.0_4.2_220815 - 15-Aug-2022 00:00	Soil sample.
EA200: Description	TPEV02_1.0_1.2_220815 - 15-Aug-2022 00:00	Soil sample.
EA200: Description	TPEV03_0.5_0.7_220815 - 15-Aug-2022 00:00	Soil sample.
EA200: Description	TPEV04_2.0_2.2_220815 - 15-Aug-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
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	63	123
2-Chlorophenol-D4	93951-73-6	66	122
2.4.6-Tribromophenol	118-79-6	40	138
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	70	122
Anthracene-d10	1719-06-8	66	128
4-Terphenyl-d14	1718-51-0	65	129
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	73	133
Toluene-D8	2037-26-5	74	132
4-Bromofluorobenzene	460-00-4	72	130
EP231S: PFAS Surrogate			
13C4-PFOS	----	60	120
13C8-PFOA	----	60	120

Inter-Laboratory Testing

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

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

(SOIL) EA200N: ACM Asbestos in Soil (non-NATA)

(SOIL) EA200N: Asbestos Quantification (non-NATA)

ALS Environmental

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **ES2229963**	Page	: 1 of 11
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: TAMA ARMANI	Telephone	: +61 2 8784 8555
Project	: 60619756	Date Samples Received	: 17-Aug-2022
Site	: MBCP	Issue Date	: 29-Aug-2022
Sampler	: ----	No. of samples received	: 32
Order number	: 60619756	No. of samples analysed	: 15

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

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

Summary of Outliers

Outliers : Quality Control Samples

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

- **NO Method Blank value outliers occur.**
- **Duplicate outliers exist - please see following pages for full details.**
- **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

- **Analysis Holding Time Outliers exist - please see following pages for full details.**

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							
EG005(ED093)T: Total Metals by ICP-AES	ES2229880--006	Anonymous	**Zinc**	7440-66-6	132 %	0% - 20%	**RPD exceeds LOR based limits**
Laboratory Control Spike (LCS) Recoveries							
EK067G: Total Phosphorus as P by Discrete Analyser	QC-MRG2-45426550	----	**Total Phosphorus as P**	----	109 %	76.0-108%	**Recovery greater than upper control limit**
Matrix Spike (MS) Recoveries							
EP231A: Perfluoroalkyl Sulfonic Acids	ES2229862--011	Anonymous	**Perfluorobutane sulfonic acid (PFBS)**	375-73-5	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP231A: Perfluoroalkyl Sulfonic Acids	ES2229862--011	Anonymous	**Perfluoropentane sulfonic acid (PFPeS)**	2706-91-4	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP231A: Perfluoroalkyl Sulfonic Acids	ES2229862--011	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	ES2229862--011	Anonymous	**Perfluoroheptane sulfonic acid (PFHpS)**	375-92-8	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP231A: Perfluoroalkyl Sulfonic Acids	ES2229862--011	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	ES2229862--011	Anonymous	**Perfluorobutanoic acid (PFBA)**	375-22-4	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP231B: Perfluoroalkyl Carboxylic Acids	ES2229862--011	Anonymous	**Perfluoropentanoic acid (PFPeA)**	2706-90-3	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP231B: Perfluoroalkyl Carboxylic Acids	ES2229862--011	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	ES2229862--011	Anonymous	**Perfluoroheptanoic acid (PFHpA)**	375-85-9	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP231B: Perfluoroalkyl Carboxylic Acids	ES2229862--011	Anonymous	**Perfluorooctanoic acid (PFOA)**	335-67-1	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP231B: Perfluoroalkyl Carboxylic Acids	ES2229862--011	Anonymous	**Perfluorononanoic acid (PFNA)**	375-95-1	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**

Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Matrix Spike (MS) Recoveries - Continued							
EP231C: Perfluoroalkyl Sulfonamides	ES2229862--011	Anonymous	**Perfluorooctane sulfonamide (FOSA)**	754-91-6	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP231D: (n:2) Fluorotelomer Sulfonic Acids	ES2229862--011	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.**

Outliers : Analysis Holding Time Compliance

Matrix: **SOIL**

Method / Container / Client Sample ID(s)	Extraction / Preparation			Analysis		
	Date extracted	Due for extraction	Days overdue	Date analysed	Due for analysis	Days overdue
EK057G: Nitrite as N by Discrete Analyser						
Soil Glass Jar - Unpreserved						
TPEV01_0.0_0.21_220815, TPEV02_0.5_0.7_220815, TPEV03_0.5_0.7_220815, TPEV04_0.5_0.7_220815, TPEV04_2.0_2.2_220815	25-Aug-2022	22-Aug-2022	**3**	----	----	----

Analysis Holding Time Compliance

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

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

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

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

Matrix: **SOIL**

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

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA055: Moisture Content (Dried @ 105-110°C)							
Soil Glass Jar - Unpreserved (EA055)							
TPEV01_0.0_0.21_220815, TPEV01_4.0_4.2_220815, TPEV02_0.5_0.7_220815, TPEV02_1.0_1.2_220815, TPEV03_0.5_0.7_220815, TPEV03_1.0_1.2_220815, TPEV04_0.5_0.7_220815, TPEV04_2.0_2.2_220815	**15-Aug-2022**	**----**	----	----	**25-Aug-2022**	29-Aug-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
EA200: AS 4964 - 2004 Identification of Asbestos in Soils							
Plastic Bag (EA200)							
TPEV01_4.0_4.2_220815, TPEV02_1.0_1.2_220815, TPEV03_0.5_0.7_220815, TPEV04_2.0_2.2_220815	**15-Aug-2022**	**----**	----	----	**24-Aug-2022**	11-Feb-2023	✓
Snap Lock Bag - Friable Asbestos/PSD Bag (EA200)							
TPEV01_4.0_4.2_220815, TPEV02_0.5_0.7_220815, TPEV02_1.0_1.2_220815, TPEV03_0.5_0.7_220815, TPEV04_2.0_2.2_220815	**15-Aug-2022**	**----**	----	----	**24-Aug-2022**	11-Feb-2023	✓
EA200N: ACM Asbestos in Soil (non-NATA)							
Snap Lock Bag - Friable Asbestos/PSD Bag (EA200N)							
TPEV01_4.0_4.2_220815, TPEV02_1.0_1.2_220815, TPEV03_0.5_0.7_220815, TPEV04_2.0_2.2_220815	**15-Aug-2022**	**----**	----	----	**24-Aug-2022**	11-Feb-2023	✓
EA200N: Asbestos Quantification (non-NATA)							
Plastic Bag (EA200N)							
TPEV01_4.0_4.2_220815, TPEV02_1.0_1.2_220815, TPEV03_0.5_0.7_220815, TPEV04_2.0_2.2_220815	**15-Aug-2022**	**----**	----	----	**24-Aug-2022**	11-Feb-2023	✓
Snap Lock Bag - Friable Asbestos/PSD Bag (EA200N)							
TPEV01_4.0_4.2_220815, TPEV02_1.0_1.2_220815, TPEV03_0.5_0.7_220815, TPEV04_2.0_2.2_220815	**15-Aug-2022**	**----**	----	----	**24-Aug-2022**	11-Feb-2023	✓
EG005(ED093)T: Total Metals by ICP-AES							
Soil Glass Jar - Unpreserved (EG005T)							
TPEV01_0.0_0.21_220815, TPEV01_4.0_4.2_220815, TPEV02_0.5_0.7_220815, TPEV02_1.0_1.2_220815, TPEV03_0.5_0.7_220815, TPEV03_1.0_1.2_220815, TPEV04_0.5_0.7_220815, TPEV04_2.0_2.2_220815	**15-Aug-2022**	**25-Aug-2022**	11-Feb-2023	✓	**26-Aug-2022**	11-Feb-2023	✓
EG035T: Total Recoverable Mercury by FIMS							
Soil Glass Jar - Unpreserved (EG035T)							
TPEV01_0.0_0.21_220815, TPEV01_4.0_4.2_220815, TPEV02_0.5_0.7_220815, TPEV02_1.0_1.2_220815, TPEV03_0.5_0.7_220815, TPEV03_1.0_1.2_220815, TPEV04_0.5_0.7_220815, TPEV04_2.0_2.2_220815	**15-Aug-2022**	**25-Aug-2022**	12-Sep-2022	✓	**26-Aug-2022**	12-Sep-2022	✓
EK055: Ammonia as N							
Soil Glass Jar - Unpreserved (EK055)							
TPEV01_0.0_0.21_220815, TPEV02_0.5_0.7_220815, TPEV03_0.5_0.7_220815, TPEV04_0.5_0.7_220815, TPEV04_2.0_2.2_220815	**15-Aug-2022**	**----**	----	----	**29-Aug-2022**	12-Sep-2022	✓
EK057G: Nitrite as N by Discrete Analyser							
Soil Glass Jar - Unpreserved (EK057G)							
TPEV01_0.0_0.21_220815, TPEV02_0.5_0.7_220815, TPEV03_0.5_0.7_220815, TPEV04_0.5_0.7_220815, TPEV04_2.0_2.2_220815	**15-Aug-2022**	**25-Aug-2022**	22-Aug-2022	×	**26-Aug-2022**	27-Aug-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
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser							
Soil Glass Jar - Unpreserved (EK059G)							
TPEV01_0.0_0.21_220815, TPEV02_0.5_0.7_220815, TPEV03_0.5_0.7_220815, TPEV04_0.5_0.7_220815, TPEV04_2.0_2.2_220815	**15-Aug-2022**	**25-Aug-2022**	12-Sep-2022	✓	**26-Aug-2022**	27-Aug-2022	✓
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser							
Soil Glass Jar - Unpreserved (EK061G)							
TPEV01_0.0_0.21_220815, TPEV02_0.5_0.7_220815, TPEV03_0.5_0.7_220815, TPEV04_0.5_0.7_220815, TPEV04_2.0_2.2_220815	**15-Aug-2022**	**26-Aug-2022**	12-Sep-2022	✓	**26-Aug-2022**	23-Sep-2022	✓
EK067G: Total Phosphorus as P by Discrete Analyser							
Soil Glass Jar - Unpreserved (EK067G)							
TPEV01_0.0_0.21_220815, TPEV02_0.5_0.7_220815, TPEV03_0.5_0.7_220815, TPEV04_0.5_0.7_220815, TPEV04_2.0_2.2_220815	**15-Aug-2022**	**26-Aug-2022**	12-Sep-2022	✓	**26-Aug-2022**	23-Sep-2022	✓
EP066: Polychlorinated Biphenyls (PCB)							
Soil Glass Jar - Unpreserved (EP066)							
TPEV01_0.0_0.21_220815, TPEV01_4.0_4.2_220815, TPEV02_0.5_0.7_220815, TPEV02_1.0_1.2_220815, TPEV03_0.5_0.7_220815, TPEV03_1.0_1.2_220815, TPEV04_0.5_0.7_220815, TPEV04_2.0_2.2_220815	**15-Aug-2022**	**24-Aug-2022**	29-Aug-2022	✓	**26-Aug-2022**	03-Oct-2022	✓
EP068A: Organochlorine Pesticides (OC)							
Soil Glass Jar - Unpreserved (EP068)							
TPEV01_0.0_0.21_220815, TPEV01_4.0_4.2_220815, TPEV02_0.5_0.7_220815, TPEV02_1.0_1.2_220815, TPEV03_0.5_0.7_220815, TPEV03_1.0_1.2_220815, TPEV04_0.5_0.7_220815, TPEV04_2.0_2.2_220815	**15-Aug-2022**	**24-Aug-2022**	29-Aug-2022	✓	**26-Aug-2022**	03-Oct-2022	✓
EP068B: Organophosphorus Pesticides (OP)							
Soil Glass Jar - Unpreserved (EP068)							
TPEV01_0.0_0.21_220815, TPEV01_4.0_4.2_220815, TPEV02_0.5_0.7_220815, TPEV02_1.0_1.2_220815, TPEV03_0.5_0.7_220815, TPEV03_1.0_1.2_220815, TPEV04_0.5_0.7_220815, TPEV04_2.0_2.2_220815	**15-Aug-2022**	**24-Aug-2022**	29-Aug-2022	✓	**26-Aug-2022**	03-Oct-2022	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Soil Glass Jar - Unpreserved (EP075(SIM))							
TPEV01_0.0_0.21_220815, TPEV01_4.0_4.2_220815, TPEV02_0.5_0.7_220815, TPEV02_1.0_1.2_220815, TPEV03_0.5_0.7_220815, TPEV03_1.0_1.2_220815, TPEV04_0.5_0.7_220815, TPEV04_2.0_2.2_220815	**15-Aug-2022**	**24-Aug-2022**	29-Aug-2022	✓	**25-Aug-2022**	03-Oct-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 Petroleum Hydrocarbons								
Soil Glass Jar - Unpreserved (EP080)								
TPEV01_0.0_0.21_220815,	TPEV01_4.0_4.2_220815,	**15-Aug-2022**	**23-Aug-2022**	29-Aug-2022	✓	**26-Aug-2022**	29-Aug-2022	✓
TPEV02_0.5_0.7_220815,	TPEV02_1.0_1.2_220815,							
TPEV03_0.5_0.7_220815,	TPEV03_1.0_1.2_220815,							
TPEV04_0.5_0.7_220815,	TPEV04_2.0_2.2_220815,							
QC500								
Soil Glass Jar - Unpreserved (EP071)								
TPEV01_0.0_0.21_220815,	TPEV01_4.0_4.2_220815,	**15-Aug-2022**	**24-Aug-2022**	29-Aug-2022	✓	**25-Aug-2022**	03-Oct-2022	✓
TPEV02_0.5_0.7_220815,	TPEV02_1.0_1.2_220815,							
TPEV03_0.5_0.7_220815,	TPEV03_1.0_1.2_220815,							
TPEV04_0.5_0.7_220815,	TPEV04_2.0_2.2_220815							
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
Soil Glass Jar - Unpreserved (EP080)								
TPEV01_0.0_0.21_220815,	TPEV01_4.0_4.2_220815,	**15-Aug-2022**	**23-Aug-2022**	29-Aug-2022	✓	**26-Aug-2022**	29-Aug-2022	✓
TPEV02_0.5_0.7_220815,	TPEV02_1.0_1.2_220815,							
TPEV03_0.5_0.7_220815,	TPEV03_1.0_1.2_220815,							
TPEV04_0.5_0.7_220815,	TPEV04_2.0_2.2_220815,							
QC500								
Soil Glass Jar - Unpreserved (EP071)								
TPEV01_0.0_0.21_220815,	TPEV01_4.0_4.2_220815,	**15-Aug-2022**	**24-Aug-2022**	29-Aug-2022	✓	**25-Aug-2022**	03-Oct-2022	✓
TPEV02_0.5_0.7_220815,	TPEV02_1.0_1.2_220815,							
TPEV03_0.5_0.7_220815,	TPEV03_1.0_1.2_220815,							
TPEV04_0.5_0.7_220815,	TPEV04_2.0_2.2_220815							
EP080: BTEXN								
Soil Glass Jar - Unpreserved (EP080)								
QC600,	TSC	**09-Aug-2022**	**23-Aug-2022**	23-Aug-2022	✓	**23-Aug-2022**	23-Aug-2022	✓
Soil Glass Jar - Unpreserved (EP080)								
TPEV01_0.0_0.21_220815,	TPEV01_4.0_4.2_220815,	**15-Aug-2022**	**23-Aug-2022**	29-Aug-2022	✓	**26-Aug-2022**	29-Aug-2022	✓
TPEV02_0.5_0.7_220815,	TPEV02_1.0_1.2_220815,							
TPEV03_0.5_0.7_220815,	TPEV03_1.0_1.2_220815,							
TPEV04_0.5_0.7_220815,	TPEV04_2.0_2.2_220815,							
QC500								
EP231A: Perfluoroalkyl Sulfonic Acids								
HDPE Soil Jar (EP231X)								
TPEV01_0.0_0.21_220815,	TPEV01_4.0_4.2_220815,	**15-Aug-2022**	**29-Aug-2022**	11-Feb-2023	✓	**29-Aug-2022**	08-Oct-2022	✓
TPEV02_0.5_0.7_220815,	TPEV02_1.0_1.2_220815,							
TPEV03_0.5_0.7_220815,	TPEV03_1.0_1.2_220815,							
TPEV04_0.5_0.7_220815,	TPEV04_2.0_2.2_220815							

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)								
TPEV01_0.0_0.21_220815,	TPEV01_4.0_4.2_220815,	**15-Aug-2022**	**29-Aug-2022**	11-Feb-2023	✓	**29-Aug-2022**	08-Oct-2022	✓
TPEV02_0.5_0.7_220815,	TPEV02_1.0_1.2_220815,							
TPEV03_0.5_0.7_220815,	TPEV03_1.0_1.2_220815,							
TPEV04_0.5_0.7_220815,	TPEV04_2.0_2.2_220815							
EP231C: Perfluoroalkyl Sulfonamides								
HDPE Soil Jar (EP231X)								
TPEV01_0.0_0.21_220815,	TPEV01_4.0_4.2_220815,	**15-Aug-2022**	**29-Aug-2022**	11-Feb-2023	✓	**29-Aug-2022**	08-Oct-2022	✓
TPEV02_0.5_0.7_220815,	TPEV02_1.0_1.2_220815,							
TPEV03_0.5_0.7_220815,	TPEV03_1.0_1.2_220815,							
TPEV04_0.5_0.7_220815,	TPEV04_2.0_2.2_220815							
EP231D: (n:2) Fluorotelomer Sulfonic Acids								
HDPE Soil Jar (EP231X)								
TPEV01_0.0_0.21_220815,	TPEV01_4.0_4.2_220815,	**15-Aug-2022**	**29-Aug-2022**	11-Feb-2023	✓	**29-Aug-2022**	08-Oct-2022	✓
TPEV02_0.5_0.7_220815,	TPEV02_1.0_1.2_220815,							
TPEV03_0.5_0.7_220815,	TPEV03_1.0_1.2_220815,							
TPEV04_0.5_0.7_220815,	TPEV04_2.0_2.2_220815							
EP231P: PFAS Sums								
HDPE Soil Jar (EP231X)								
TPEV01_0.0_0.21_220815,	TPEV01_4.0_4.2_220815,	**15-Aug-2022**	**29-Aug-2022**	11-Feb-2023	✓	**29-Aug-2022**	08-Oct-2022	✓
TPEV02_0.5_0.7_220815,	TPEV02_1.0_1.2_220815,							
TPEV03_0.5_0.7_220815,	TPEV03_1.0_1.2_220815,							
TPEV04_0.5_0.7_220815,	TPEV04_2.0_2.2_220815							

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		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Buchi Ammonia	EK055	1	9	**11.11**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Moisture Content	EA055	2	19	**10.53**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Nitrite and Nitrate as N (NOx)- Soluble by Discrete Analyser	EK059G	1	5	**20.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Nitrite as N - Soluble by Discrete Analyser	EK057G	1	5	**20.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	2	19	**10.53**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	19	**10.53**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	2	14	**14.29**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	2	14	**14.29**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TKN as N By Discrete Analyser	EK061G	2	13	**15.38**	**9.52**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	2	19	**10.53**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	2	19	**10.53**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Phosporus By Discrete Analyser	EK067G	2	13	**15.38**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	2	19	**10.53**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	3	23	**13.04**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Buchi Ammonia	EK055	1	9	**11.11**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Nitrite and Nitrate as N (NOx)- Soluble by Discrete Analyser	EK059G	1	5	**20.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Nitrite as N - Soluble by Discrete Analyser	EK057G	1	5	**20.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	19	**5.26**	**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
TKN as N By Discrete Analyser	EK061G	3	13	**23.08**	**14.29**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Phosporus By Discrete Analyser	EK067G	3	13	**23.08**	**15.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	23	**8.70**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Buchi Ammonia	EK055	1	9	**11.11**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Nitrite and Nitrate as N (NOx)- Soluble by Discrete Analyser	EK059G	1	5	**20.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Nitrite as N - Soluble by Discrete Analyser	EK057G	1	5	**20.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	1	19	**5.26**	**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		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Method Blanks (MB) - Continued							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	19	**5.26**	**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
TKN as N By Discrete Analyser	EK061G	1	13	**7.69**	**4.76**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Phosporus By Discrete Analyser	EK067G	1	13	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	23	**8.70**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Buchi Ammonia	EK055	1	9	**11.11**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Nitrite and Nitrate as N (NOx)- Soluble by Discrete Analyser	EK059G	1	5	**20.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Nitrite as N - Soluble by Discrete Analyser	EK057G	1	5	**20.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	19	**5.26**	**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
TKN as N By Discrete Analyser	EK061G	1	13	**7.69**	**4.76**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Phosporus By Discrete Analyser	EK067G	1	13	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	23	**8.70**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

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

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055	SOIL	In house: A gravimetric procedure based on weight loss over a 12 hour drying period at 105-110 degrees C. This method is compliant with NEPM Schedule B(3).
Asbestos Identification in Soils	EA200	SOIL	AS 4964 Method for the qualitative identification of asbestos in bulk samples Analysis by Polarised Light Microscopy including dispersion staining
Asbestos Classification and Quantitation per NEPM 2013	* EA200N	SOIL	Asbestos Classification and Quantitation per NEPM with Confirmation of Identification by AS 4964 - Gravimetric determination of Asbestos Containing Material, Fibrous Asbestos, Asbestos Fines and sample weight and calculation of percentage concentrations per NEPM protocols. Asbestos (Fines and Fibrous FA+AF) is reported as the equivalent weight in the sample received after accounting for sub-sampling (where applicable for the <7mm and/or <2mm fractions).
Total Metals by ICP-AES	EG005T	SOIL	In house: Referenced to APHA 3120; USEPA SW 846 - 6010. Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM Schedule B(3)
Total Mercury by FIMS	EG035T	SOIL	In house: Referenced to APHA 3112 Hg - B (Flow-injection (SnCl2) (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 SnCl2 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)
Buchi Ammonia	EK055	SOIL	In house: Referenced to APHA 4500-NH3 B&G, H Samples are steam distilled (Buchi) prior to analysis and quantified using titration, FIA or Discrete Analyser.
Nitrite as N - Soluble by Discrete Analyser	EK057G	SOIL	In house: Referenced to APHA 4500-NO3- B. Nitrite in a water extract is determined by direct colourimetry by Discrete Analyser.
Nitrate as N - Soluble by Discrete Analyser	EK058G	SOIL	In house: Referenced to APHA 4500-NO3- F. Nitrate in the 1:5 soil:water extract is reduced to nitrite by way of a chemical reduction followed by quantification by Discrete Analyser. Nitrite is determined seperately by direct colourimetry and result for Nitrate calculated as the difference between the two results.
Nitrite and Nitrate as N (NOx)- Soluble by Discrete Analyser	EK059G	SOIL	In house: Thermo Scientific Method D08727 and NEMI (National Environmental Method Index) Method ID: 9171. This method covers the determination of total oxidised nitrogen (NOx-N) and nitrate (NO3-N) by calculation, Combined oxidised Nitrogen (NO2+NO3) in a water extract is determined by direct colourimetry by Discrete Analyser.
TKN as N By Discrete Analyser	EK061G	SOIL	In house: Referenced to APHA 4500-Norg-D Soil samples are digested using Kjeldahl digestion followed by determination by Discrete Analyser.
Total Nitrogen as N (TKN + NOx) By Discrete Analyser	EK062G	SOIL	In house: Referenced to APHA 4500 Norg/NO3- Total Nitrogen is determined as the sum of TKN and Oxidised Nitrrogen, each determined seperately as N.
Total Phosporus By Discrete Analyser	EK067G	SOIL	In house: Referenced to APHA 4500 P-B&F This procedure involves sulfuric acid digestion and quantification using Discrete Analyser.

Analytical Methods	Method	Matrix	Method Descriptions
Polychlorinated Biphenyls (PCB)	EP066	SOIL	In house: Referenced to USEPA SW 846 - 8270 Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3).
Pesticides by GCMS	EP068	SOIL	In house: Referenced to USEPA SW 846 - 8270 Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This technique is compliant with NEPM Schedule B(3).
TRH - Semivolatile Fraction	EP071	SOIL	In house: Referenced to USEPA SW 846 - 8015 Sample extracts are analysed by Capillary GC/FID and quantified against alkane standards over the range C10 - C40. Compliant with NEPM Schedule B(3).
PAH/Phenols (SIM)	EP075(SIM)	SOIL	In house: Referenced to USEPA SW 846 - 8270. Extracts are analysed by Capillary GC/MS in Selective Ion Mode (SIM) and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)
TRH Volatiles/BTEX	EP080	SOIL	In house: Referenced to USEPA SW 846 - 8260. Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve. Compliant with NEPM Schedule B(3) amended.
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
TKN/TP Digestion	EK061/EK067	SOIL	In house: Referenced to APHA 4500 Norg- D; APHA 4500 P - H. Macro Kjeldahl digestion.
1:5 solid / water leach for soluble analytes	EN34	SOIL	10 g of soil is mixed with 50 mL of reagent grade water and tumbled end over end for 1 hour. Water soluble salts are leached from the soil by the continuous suspension. Samples are settled and the water filtered off for analysis.
Hot Block Digest for metals in soils sediments and sludges	EN69	SOIL	In house: Referenced to USEPA 200.2. Hot Block Acid Digestion 1.0g of sample is heated with Nitric and Hydrochloric acids, then cooled. Peroxide is added and samples heated and cooled again before being filtered and bulked to volume for analysis. Digest is appropriate for determination of selected metals in sludge, sediments, and soils. This method is compliant with NEPM Schedule B(3).
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	: **ES2229963**	Page	: 1 of 17
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: TAMA ARMANI	Contact	: Sepan Mahamad
Address	: 17 WARABROOK BOULEVARDE WARABROOK NSW, AUSTRALIA 2304	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: +61 2 8784 8555
Project	: 60619756	Date Samples Received	: 17-Aug-2022
Order number	: 60619756	Date Analysis Commenced	: 23-Aug-2022
C-O-C number	: ----	Issue Date	: 29-Aug-2022
Sampler	: ----		
Site	: MBCP		
Quote number	: EN/004/21		
No. of samples received	: 32		
No. of samples analysed	: 15		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

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

This Quality Control Report contains the following information:

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

Signatories

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

Signatories	*Position*	*Accreditation Category*
Ankit Joshi	Senior Chemist - Inorganics	Sydney Inorganics, Smithfield, NSW
Edwandy Fadjar	Organic Coordinator	Sydney Inorganics, Smithfield, NSW
Edwandy Fadjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Franco Lentini	LCMS Coordinator	Sydney Organics, Smithfield, NSW
Jake Spooner	Laboratory Technician	Newcastle - Asbestos, Mayfield West, NSW

General Comments

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

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

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

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: 4540667)									
ES2229880-006	Anonymous	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	6	8	28.4	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	4	6	47.7	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	12	21	49.7	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	29	36	22.8	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	30	# 146	132	0% - 20%
ES2229955-001	Anonymous	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	53	52	0.0	0% - 20%
		EG005T: Nickel	7440-02-0	2	mg/kg	69	65	6.2	0% - 20%
		EG005T: Arsenic	7440-38-2	5	mg/kg	7	7	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	147	147	0.0	0% - 20%
		EG005T: Lead	7439-92-1	5	mg/kg	85	76	11.1	0% - 50%
		EG005T: Zinc	7440-66-6	5	mg/kg	956	881	8.1	0% - 20%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 4540674)									
ES2229880-009	Anonymous	EA055: Moisture Content	----	0.1	%	13.9	14.6	4.8	0% - 50%
ES2229963-016	TPEV03_0.5_0.7_220815	EA055: Moisture Content	----	0.1	%	15.8	16.6	4.8	0% - 50%
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 4540668)									
ES2229880-006	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
ES2229955-001	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	0.1	0.1	0.0	No Limit
EK055: Ammonia as N (QC Lot: 4545669)									
ES2229200-001	Anonymous	EK055: Ammonia as N	7664-41-7	20	mg/kg	3200	3190	0.4	0% - 20%
EK057G: Nitrite as N by Discrete Analyser (QC Lot: 4540669)									

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 (%)*
EK057G: Nitrite as N by Discrete Analyser (QC Lot: 4540669) - continued									
ES2229963-002	TPEV01_0.0_0.21_220815	EK057G: Nitrite as N (Sol.)	14797-65-0	0.1	mg/kg	0.1	0.1	0.0	No Limit
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QC Lot: 4540670)									
ES2229963-002	TPEV01_0.0_0.21_220815	EK059G: Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg	1.4	1.4	0.0	0% - 50%
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QC Lot: 4542655)									
ES2229963-002	TPEV01_0.0_0.21_220815	EK061G: Total Kjeldahl Nitrogen as N	----	20	mg/kg	970	1110	13.2	0% - 20%
ES2230405-001	Anonymous	EK061G: Total Kjeldahl Nitrogen as N	----	20	mg/kg	420	510	19.4	0% - 20%
EK067G: Total Phosphorus as P by Discrete Analyser (QC Lot: 4542656)									
ES2229963-002	TPEV01_0.0_0.21_220815	EK067G: Total Phosphorus as P	----	2	mg/kg	329	366	10.7	0% - 20%
ES2230405-001	Anonymous	EK067G: Total Phosphorus as P	----	2	mg/kg	544	523	3.9	0% - 20%
EP066: Polychlorinated Biphenyls (PCB) (QC Lot: 4534841)									
ES2229815-007	Anonymous	EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
ES2229963-016	TPEV03_0.5_0.7_220815	EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EP068A: Organochlorine Pesticides (OC) (QC Lot: 4534840)									
ES2229815-007	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
ES2229963-016	TPEV03_0.5_0.7_220815	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

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: 4534840) - continued									
ES2229963-016	TPEV03_0.5_0.7_220815	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: 4534840)									
ES2229815-007	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
ES2229963-016	TPEV03_0.5_0.7_220815	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

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: 4534840) - continued									
ES2229963-016	TPEV03_0.5_0.7_220815	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
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4534839)									
ES2229815-007	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	205-99-2 205-82-3	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
ES2229963-016	TPEV03_0.5_0.7_220815	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: 4534839) - continued									
ES2229963-016	TPEV03_0.5_0.7_220815	EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	1.1	1.2	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	0.8	0.8	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	0.6	0.6	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	2.5	2.6	3.9	No Limit
		EP075(SIM): Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4534792)									
ES2229886-002	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4534838)									
ES2229815-007	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
ES2229963-016	TPEV03_0.5_0.7_220815	EP071: C15 - C28 Fraction	----	100	mg/kg	110	140	26.2	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: 4536074)									
ES2229808-001	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
ES2229963-002	TPEV01_0.0_0.21_220815	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4534792)									
ES2229886-002	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: 4534838)									
ES2229815-007	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
ES2229963-016	TPEV03_0.5_0.7_220815	EP071: >C16 - C34 Fraction	----	100	mg/kg	140	180	27.5	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: 4536074)									
ES2229808-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	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: 4536074) - continued									
ES2229963-002	TPEV01_0.0_0.21_220815	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
EP080: BTEXN (QC Lot: 4534792)									
ES2229886-002	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: 4536074)									
ES2229808-001	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
ES2229963-002	TPEV01_0.0_0.21_220815	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: 4544111)									
ES2229862-011	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	0.0809	0.0880	8.3	0% - 50%
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	0.0750	0.0734	2.2	0% - 50%
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	0.827	0.911	9.6	0% - 20%
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	0.0664	0.0648	2.5	0% - 50%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	4.92	4.98	1.1	0% - 20%
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0050	<0.0050	0.0	No Limit
ES2229963-025	TPEV04_2.0_2.2_220815	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: 4544111)									
ES2229862-011	Anonymous	EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	0.101	0.106	5.2	0% - 20%
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	0.407	0.416	2.4	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 (%)*
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 4544111) - continued									
ES2229862-011	Anonymous	EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	0.0475	0.0480	1.1	No Limit
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	0.115	0.125	8.1	0% - 20%
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	0.0076	0.0081	6.9	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0050	<0.0050	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0050	<0.0050	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0050	<0.0050	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0050	<0.0050	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0125	<0.0125	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	0.068	0.068	0.0	No Limit
ES2229963-025	TPEV04_2.0_2.2_220815	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: 4544111)									
ES2229862-011	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	0.0394	0.0383	2.8	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0050	<0.0050	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0050	<0.0050	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0125	<0.0125	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0125	<0.0125	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0125	<0.0125	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0125	<0.0125	0.0	No Limit
ES2229963-025	TPEV04_2.0_2.2_220815	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

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: 4544111) - continued									
ES2229963-025	TPEV04_2.0_2.2_220815	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: 4544111)									
ES2229862-011	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0050	<0.0050	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0050	<0.0050	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	0.0113	0.0108	4.9	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0050	<0.0050	0.0	No Limit
ES2229963-025	TPEV04_2.0_2.2_220815	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 Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 4540667)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	121.1 mg/kg	95.0	88.0	113
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	0.74 mg/kg	87.5	70.0	130
EG005T: Chromium	7440-47-3	2	mg/kg	<2	19.6 mg/kg	116	68.0	132
EG005T: Copper	7440-50-8	5	mg/kg	<5	52.9 mg/kg	96.5	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	96.0	80.0	120
EG005T: Zinc	7440-66-6	5	mg/kg	<5	139.3 mg/kg	97.1	66.0	133
EG035T: Total Recoverable Mercury by FIMS (QCLot: 4540668)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	0.087 mg/kg	92.0	70.0	125
EK055: Ammonia as N (QCLot: 4545669)								
EK055: Ammonia as N	7664-41-7	20	mg/kg	<20	125 mg/kg	101	84.0	104
EK057G: Nitrite as N by Discrete Analyser (QCLot: 4540669)								
EK057G: Nitrite as N (Sol.)	14797-65-0	0.1	mg/kg	<0.1	2.5 mg/kg	104	85.0	111
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 4540670)								
EK059G: Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg	<0.1	2.5 mg/kg	99.6	88.0	118
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 4542655)								
EK061G: Total Kjeldahl Nitrogen as N	----	20	mg/kg	<20	1000 mg/kg	95.9	72.0	106
				<20	100 mg/kg	104	70.0	122
				<20	500 mg/kg	102	70.0	130
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 4542656)								
EK067G: Total Phosphorus as P	----	2	mg/kg	<2	442 mg/kg	# 109	76.0	108
				<2	44.2 mg/kg	108	70.0	118
				<2	100 mg/kg	113	70.0	130
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 4534841)								
EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	1 mg/kg	96.4	62.0	126
EP068A: Organochlorine Pesticides (OC) (QCLot: 4534840)								
EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	0.5 mg/kg	93.5	69.0	113
EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	0.5 mg/kg	99.9	65.0	117
EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	0.5 mg/kg	90.6	67.0	119
EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	0.5 mg/kg	90.1	68.0	116
EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	84.3	65.0	117
EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	0.5 mg/kg	96.7	67.0	115
EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	0.5 mg/kg	92.2	69.0	115

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP068A: Organochlorine Pesticides (OC) (QCLot: 4534840) - continued								
EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	0.5 mg/kg	105	62.0	118
EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	0.5 mg/kg	105	63.0	117
EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	0.5 mg/kg	93.1	66.0	116
EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	0.5 mg/kg	106	64.0	116
EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	0.5 mg/kg	89.7	66.0	116
EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	0.5 mg/kg	89.1	67.0	115
EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	0.5 mg/kg	93.1	67.0	123
EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	0.5 mg/kg	91.2	69.0	115
EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	0.5 mg/kg	92.0	69.0	121
EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	0.5 mg/kg	93.6	56.0	120
EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	0.5 mg/kg	99.4	62.0	124
EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	0.5 mg/kg	91.3	66.0	120
EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	0.5 mg/kg	99.5	64.0	122
EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	0.5 mg/kg	88.2	54.0	130
EP068B: Organophosphorus Pesticides (OP) (QCLot: 4534840)								
EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	0.5 mg/kg	106	59.0	119
EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	90.7	62.0	128
EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	0.5 mg/kg	85.8	54.0	126
EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	0.5 mg/kg	77.5	67.0	119
EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	0.5 mg/kg	101	70.0	120
EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	0.5 mg/kg	92.1	72.0	120
EP068: Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	0.5 mg/kg	88.0	68.0	120
EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	0.5 mg/kg	88.2	68.0	122
EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	0.5 mg/kg	90.0	69.0	117
EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	0.5 mg/kg	88.3	76.0	118
EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	0.5 mg/kg	90.0	64.0	122
EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	0.5 mg/kg	94.8	70.0	116
EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	0.5 mg/kg	93.4	69.0	121
EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	0.5 mg/kg	99.4	66.0	118
EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	0.5 mg/kg	85.6	68.0	124
EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	0.5 mg/kg	93.4	62.0	112
EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	0.5 mg/kg	91.4	68.0	120
EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	0.5 mg/kg	93.9	65.0	127
EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	0.5 mg/kg	71.2	41.0	123
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4534839)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	6 mg/kg	100	77.0	125
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	6 mg/kg	102	72.0	124
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	6 mg/kg	98.9	73.0	127
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	6 mg/kg	100	72.0	126

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4534839) - continued								
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	6 mg/kg	99.6	75.0	127
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	6 mg/kg	89.1	77.0	127
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	6 mg/kg	98.5	73.0	127
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	6 mg/kg	97.2	74.0	128
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	6 mg/kg	98.4	69.0	123
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	6 mg/kg	101	75.0	127
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	6 mg/kg	101	68.0	116
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	6 mg/kg	99.2	74.0	126
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	6 mg/kg	91.3	70.0	126
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	6 mg/kg	88.9	61.0	121
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	6 mg/kg	90.5	62.0	118
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	6 mg/kg	91.6	63.0	121
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4534792)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	26 mg/kg	105	68.4	128
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4534838)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	300 mg/kg	91.3	75.0	129
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	450 mg/kg	94.8	77.0	131
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	300 mg/kg	94.0	71.0	129
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4536074)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	26 mg/kg	102	68.4	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4534792)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	31 mg/kg	107	68.4	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4534838)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	375 mg/kg	89.6	77.0	125
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	525 mg/kg	96.0	74.0	138
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	225 mg/kg	99.2	63.0	131
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4536074)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	31 mg/kg	110	68.4	128
EP080: BTEXN (QCLot: 4534792)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	88.5	62.0	116
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	94.3	67.0	121
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	98.8	65.0	117
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	2 mg/kg	98.8	66.0	118
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	103	68.0	120
EP080: Naphthalene	91-20-3	1	mg/kg	<1	1 mg/kg	103	63.0	119
EP080: BTEXN (QCLot: 4536074)								

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP080: BTEXN (QCLot: 4536074) - continued								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	98.5	62.0	116
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	98.9	67.0	121
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	102	65.0	117
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	2 mg/kg	102	66.0	118
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	109	68.0	120
EP080: Naphthalene	91-20-3	1	mg/kg	<1	1 mg/kg	100	63.0	119
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4544111)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	0.00125 mg/kg	112	72.0	128
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	0.00125 mg/kg	109	73.0	123
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	0.00125 mg/kg	110	67.0	130
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	0.00125 mg/kg	93.2	70.0	132
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	118	68.0	136
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	0.00125 mg/kg	93.2	59.0	134
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4544111)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	0.00625 mg/kg	102	71.0	135
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	0.00125 mg/kg	111	69.0	132
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	0.00125 mg/kg	122	70.0	132
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	0.00125 mg/kg	118	71.0	131
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	126	69.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	96.8	72.0	129
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	0.00125 mg/kg	105	69.0	133
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	0.00125 mg/kg	113	64.0	136
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	122	69.0	135
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	0.00125 mg/kg	118	66.0	139
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	0.00312 mg/kg	112	69.0	133
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4544111)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	0.00125 mg/kg	111	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	0.00312 mg/kg	110	71.6	129
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	0.00312 mg/kg	103	69.8	131
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	0.00312 mg/kg	104	68.7	130
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	0.00312 mg/kg	117	65.1	134
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	0.00125 mg/kg	115	63.0	144
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	0.00125 mg/kg	110	61.0	139
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4544111)								

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	LCS: Spike Recovery (%)	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4544111) - continued								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	0.00125 mg/kg	109	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	121	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	124	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	99.6	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	SpikeRecovery(%): MS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 4540667)							
ES2229880-006	Anonymous	EG005T: Arsenic	7440-38-2	50 mg/kg	103	70.0	130
		EG005T: Cadmium	7440-43-9	50 mg/kg	102	70.0	130
		EG005T: Chromium	7440-47-3	50 mg/kg	103	68.0	132
		EG005T: Copper	7440-50-8	250 mg/kg	98.2	70.0	130
		EG005T: Lead	7439-92-1	250 mg/kg	97.9	70.0	130
		EG005T: Nickel	7440-02-0	50 mg/kg	95.8	70.0	130
		EG005T: Zinc	7440-66-6	250 mg/kg	99.2	66.0	133
EG035T: Total Recoverable Mercury by FIMS (QCLot: 4540668)							
ES2229880-006	Anonymous	EG035T: Mercury	7439-97-6	5 mg/kg	107	70.0	130
EK055: Ammonia as N (QCLot: 4545669)							
ES2229200-001	Anonymous	EK055: Ammonia as N	7664-41-7	125 mg/kg	94.1	70.0	130
EK057G: Nitrite as N by Discrete Analyser (QCLot: 4540669)							
ES2229963-002	TPEV01_0.0_0.21_220815	EK057G: Nitrite as N (Sol.)	14797-65-0	2.5 mg/kg	102	70.0	130
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 4540670)							
ES2229963-002	TPEV01_0.0_0.21_220815	EK059G: Nitrite + Nitrate as N (Sol.)	----	2.5 mg/kg	89.4	70.0	130
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 4542655)							
ES2229963-002	TPEV01_0.0_0.21_220815	EK061G: Total Kjeldahl Nitrogen as N	----	500 mg/kg	91.3	70.0	130
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 4542656)							
ES2229963-002	TPEV01_0.0_0.21_220815	EK067G: Total Phosphorus as P	----	100 mg/kg	90.6	70.0	130
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 4534841)							
ES2229815-007	Anonymous	EP066: Total Polychlorinated biphenyls	----	1 mg/kg	97.7	70.0	130
EP068A: Organochlorine Pesticides (OC) (QCLot: 4534840)							
ES2229815-007	Anonymous	EP068: gamma-BHC	58-89-9	0.5 mg/kg	95.3	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
EP068A: Organochlorine Pesticides (OC) (QCLot: 4534840) - continued							
ES2229815-007	Anonymous	EP068: Heptachlor	76-44-8	0.5 mg/kg	105	70.0	130
		EP068: Aldrin	309-00-2	0.5 mg/kg	96.3	70.0	130
		EP068: Dieldrin	60-57-1	0.5 mg/kg	98.2	70.0	130
		EP068: Endrin	72-20-8	2 mg/kg	82.2	70.0	130
		EP068: 4.4`-DDT	50-29-3	2 mg/kg	88.2	70.0	130
EP068B: Organophosphorus Pesticides (OP) (QCLot: 4534840)							
ES2229815-007	Anonymous	EP068: Diazinon	333-41-5	0.5 mg/kg	105	70.0	130
		EP068: Chlorpyrifos-methyl	5598-13-0	0.5 mg/kg	99.4	70.0	130
		EP068: Pirimphos-ethyl	23505-41-1	0.5 mg/kg	108	70.0	130
		EP068: Bromophos-ethyl	4824-78-6	0.5 mg/kg	114	70.0	130
		EP068: Prothiofos	34643-46-4	0.5 mg/kg	88.8	70.0	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4534839)							
ES2229815-007	Anonymous	EP075(SIM): Acenaphthene	83-32-9	10 mg/kg	94.9	70.0	130
		EP075(SIM): Pyrene	129-00-0	10 mg/kg	108	70.0	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4534792)							
ES2229886-002	Anonymous	EP080: C6 - C9 Fraction	----	32.5 mg/kg	116	70.0	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4534838)							
ES2229815-007	Anonymous	EP071: C10 - C14 Fraction	----	480 mg/kg	111	73.0	137
		EP071: C15 - C28 Fraction	----	3100 mg/kg	112	53.0	131
		EP071: C29 - C36 Fraction	----	2060 mg/kg	117	52.0	132
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4536074)							
ES2229808-001	Anonymous	EP080: C6 - C9 Fraction	----	32.5 mg/kg	120	70.0	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4534792)							
ES2229886-002	Anonymous	EP080: C6 - C10 Fraction	C6_C10	37.5 mg/kg	116	70.0	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4534838)							
ES2229815-007	Anonymous	EP071: >C10 - C16 Fraction	----	860 mg/kg	103	73.0	137
		EP071: >C16 - C34 Fraction	----	4320 mg/kg	114	53.0	131
		EP071: >C34 - C40 Fraction	----	890 mg/kg	113	52.0	132
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4536074)							
ES2229808-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	37.5 mg/kg	124	70.0	130
EP080: BTEXN (QCLot: 4534792)							
ES2229886-002	Anonymous	EP080: Benzene	71-43-2	2.5 mg/kg	89.5	70.0	130
		EP080: Toluene	108-88-3	2.5 mg/kg	95.0	70.0	130
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	102	70.0	130
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2.5 mg/kg	99.7	70.0	130

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP080: BTEXN (QCLot: 4534792) - continued							
ES2229886-002	Anonymous	EP080: ortho-Xylene	95-47-6	2.5 mg/kg	104	70.0	130
		EP080: Naphthalene	91-20-3	2.5 mg/kg	98.5	70.0	130
EP080: BTEXN (QCLot: 4536074)							
ES2229808-001	Anonymous	EP080: Benzene	71-43-2	2.5 mg/kg	95.9	70.0	130
		EP080: Toluene	108-88-3	2.5 mg/kg	101	70.0	130
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	105	70.0	130
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2.5 mg/kg	99.2	70.0	130
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	108	70.0	130
		EP080: Naphthalene	91-20-3	2.5 mg/kg	84.8	70.0	130
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4544111)							
ES2229862-011	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.00125 mg/kg	# Not Determined	72.0	128
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.00125 mg/kg	# Not Determined	73.0	123
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.00125 mg/kg	# Not Determined	67.0	130
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.00125 mg/kg	# Not Determined	70.0	132
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.00125 mg/kg	# Not Determined	68.0	136
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.00125 mg/kg	# Not Determined	59.0	134
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4544111)							
ES2229862-011	Anonymous	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.00625 mg/kg	# Not Determined	71.0	135
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.00125 mg/kg	# Not Determined	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	# Not Determined	71.0	131
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.00125 mg/kg	# Not Determined	69.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.00125 mg/kg	# Not Determined	72.0	129
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.00125 mg/kg	# Not Determined	69.0	133

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: 4544111) - continued							
ES2229862-011	Anonymous	EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.00125 mg/kg	# Not Determined	64.0	136
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.00125 mg/kg	# Not Determined	69.0	135
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.00125 mg/kg	# Not Determined	66.0	139
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.00312 mg/kg	# Not Determined	69.0	133
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4544111)							
ES2229862-011	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.00125 mg/kg	# Not Determined	67.0	137
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.00312 mg/kg	# Not Determined	71.6	129
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.00312 mg/kg	# Not Determined	69.8	131
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.00312 mg/kg	# Not Determined	68.7	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.00312 mg/kg	# Not Determined	65.1	134
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.00125 mg/kg	# Not Determined	63.0	144
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.00125 mg/kg	# Not Determined	61.0	139
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4544111)							
ES2229862-011	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.00125 mg/kg	# Not Determined	62.0	145
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.00125 mg/kg	# Not Determined	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	# Not Determined	69.2	143

UPDATED COC

CHAIN OF CUSTODY

ALS Laboratory: please tick →

CLIENT: AECOM Australia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☒ Standard TAT (List due date): ☐ Non Standard or urgent TAT (List due date):	FOR LABORATORY USE ONLY (Circle)
OFFICE: Newcastle			Custody Seal Intact? Yes No N/A
PROJECT: Muswellbrook PROJECT NO.: 60619756 2.11-3.4	ALS QUOTE NO.: EN/004/21	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: PURCHASE ORDER NO.: 4500...	COUNTRY OF ORIGIN: AUST	COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: 3.7 °C
PROJECT MANAGER: Tara Armani CONTACT PH: 0488 757 196		OF: 1 2 3 4 5 6 7	Other comment:
SAMPLER: P. Dean SAMPLER MOBILE: 0488 114 239	RELINQUISHED BY: P. Dean	RECEIVED BY: TOB	RELINQUISHED BY:
COC Emailed to ALS? (YES / NO) EDD FORMAT (or default):	DATE/TIME: 30/8/22	DATE/TIME: 30/8/22 4:13pm	DATE/TIME: 30/8/22 17:00
Email Reports to (will default to PM if none other listed): Tara.Armani@aecom.com; Peter.Dean@aecom.com			RECEIVED BY: DATE/TIME: 30/8/22
Email Invoice to (will default to PM if no other addresses are listed): AP_Customerservice.anz@aecom.com			

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE ONLY	SAMPLE DETAILS MATRIX: Solid(S) Water(W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).							Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL BOTTLES	Hold	S-16, S-23	EP231X	EA200	S-18	S-19	EP202	Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
1	HA05_0.1_0.2_220824	24/8/22	S			X	X	X	X			X	
2 NT	HA05_0.5_0.6_220824												
3 NT	HA05_1.0_1.1_220824						X	X	X			X	
4	HA08_0.1_0.2_220824						X	X					
5	HA08_0.5_0.6_220824												
6	HA08_1.2_1.3_220824						X	X					
7	HA10_0.1_0.2_220824						X	X					
8	HA10_0.5_0.6_220824						X	X					
9	HA10_1.2_1.3_220824												
10	HA11_0.2_0.1_220824						X	X	X			X	
11	HA11_0.5_0.6_220824												
12	HA11_1.0_1.1_220824						X	X					
					TOTAL								

Environmental Division Sydney Work Order Reference ES2230964 Telephone : +61-2-8784 8555

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Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic; V = VOA Vial HCl Preserved; VA = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag; L = Lugols Iodine Preserved Bottles; STT = Sterile Sodium Thiosulfate Preserved Bottles.

Rec: Sandra
02/09/2022 1630

CHAIN OF CUSTODY

ALS Laboratory: please tick →

CLIENT: AECOM Australia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g. Ultra Trace Organics)	☒ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)
OFFICE: Newcastle		☐ Non Standard or urgent TAT (List due date):	Custody Seal Intact? Yes No N/A
PROJECT: Mulwellbrook PROJECT NO.: 60619756, 21-30	ALS QUOTE NO.: EN/004/21	COC SEQUENCE NUMBER (Circle)	Frozen ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: PURCHASE ORDER NO.: -	COUNTRY OF ORIGIN: AUST	COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt °C
PROJECT MANAGER: Tania Armani CONTACT PH: 0458 757 116		CF: 1 2 3 4 5 6 7	Other comment:
SAMPLER: P. Dean SAMPLER MOBILE: 0458 114 239	RELINQUISHED BY: P. Dean	RECEIVED BY: JOB	RELINQUISHED BY:
COC Emailed to ALS? (YES / NO) EDD FORMAT (or default):	DATE/TIME: 30/8/22	DATE/TIME: 30/8/22 4:13pm	DATE/TIME: 30/8/22 17.00
Email Reports to (will default to PM if none other listed): Tania.Armani@aecom.com; Peter.Dean@aecom.com			RECEIVED BY: DATE/TIME: 30/8/22 2241
Email Invoice to (will default to PM if no other addresses are listed): AP_Customerservice.anz@aecom.com			
COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:			

ALS USE ONLY	SAMPLE DETAILS MATRIX: Solid(S) Water(W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required)								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL BOTTLES	HOLD	S-16, S-23	EP231X	EA200	S-18	S-19	EP202		Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
13	HA14_0.1_0.2_220824	24/8/22	S			X	X	X	X			X		
14	HA14_0.6_0.7_220824						X	X				X		
15	HA16_0.0_0.1_220824						X	X	X			X		
16	HA16_0.5_0.6_220824													
17	HA16_1.4_1.5_220824						X	X				X		
18	HA17_0.1_0.2_220824													
19	HA17_0.5_0.6_220824						X	X				X		
20	HA17_1.4_1.5_220824													
21	HA17_2.0_2.2_220824													
22	HA17_3.0_3.2_220824													
23	HA17_4.0_4.2_220824						X	X				X		
24	HA17_5.0_5.2_220824													
				TOTAL										

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic; V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottle; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag; U = Ultra-Low Preserved Bottle; STT = Sterile Sodium Thiosulfate Preserved Bottle.

CHAIN OF CUSTODY

ALS Laboratory: please tick →

CLIENT: AECOM Australia Pty Ltd	TURNAROUND REQUIREMENTS: (Standard TAT may be longer for some tests e.g. Ultra Trace Organics)	☒ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)
OFFICE: Newcastle		☐ Non Standard or urgent TAT (List due date):	Custody Seal Intact? Yes No N/A
PROJECT: Muswellbrook PROJECT NO.: 60619782, 211-30	ALS QUOTE NO.: EN004/21	COC SEQUENCE NUMBER (Circle)	Frozen Ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: PURCHASE ORDER NO.:	COUNTRY OF ORIGIN: AUST	COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Tania. Arnoni	CONTACT PH: 0438 751 116	OF: 1 2 3 4 5 6 7	Other comment:
SAMPLER: P. Dean	SAMPLER MOBILE: 0458 114 239		
COC Emailed to ALS? (YES / NO)	EDD FORMAT (or default):		
Email Reports to (will default to PM if none other listed): Tania. Arnoni@aecom.com; Peter.Dean@aecom.com			
Email Invoice to (will default to PM if no other addresses are listed): AP_Customerservice.anz@aecom.com			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
P. Dean	TOB 4:13pm		PM
DATE/TIME: 30/8/22	DATE/TIME: 30/8/22	DATE/TIME: 30/8/22 17.00	DATE/TIME: 30/8/22 1240

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE ONLY	SAMPLE DETAILS Matrix: Solid(S) Water(W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required)								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL BOTTLES	HOLD	S-16, S-23	EP231X	EA200	S-18	S-19	EP202		Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc
25	HA17_6.0_6.2_220824	24/8/22	S			X								
26	HA17_7.0_7.2_220824													
27	HA17_8.0_8.2_220824													
28	HA17_9.0_9.2_220824													
29	HA17_9.7_9.9_220824													
30	HA20_0.0_0.1_220824						X	X	X			X		
31	HA20_0.5_0.6_220824													
32	HA20_1.2_1.3_220824						X	X				X		
	~~HA22_0.0_0.1_220824~~													
	~~HA22_0.5_0.6_220824~~													
	~~HA22_1.2_1.3_220824~~													
33	HA02_8.0_8.2_220825	25/8/22	S											
					TOTAL									

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag; U = Lugols Iodine Preserved Bottles; STT = Sterile Sodium Thiosulfate Preserved Bottles.

CHAIN OF CUSTODY

ALS Laboratory: please tick →

CLIENT: AECOM Australia Pty Ltd	TURNAROUND REQUIREMENTS: (Standard TAT may be longer for some tests e.g. Ultra Trace Organics)	☒ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)
OFFICE: Newcastle		☐ Non Standard or urgent TAT (List due date):	Custody Seal Intact? Yes No N/A
PROJECT: Muswellbrook PROJECT NO.: 60619756 21-30	ALS QUOTE NO.: EN/004/21	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 (4) 5 6 7	Free Ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: PURCHASE ORDER NO.:	COUNTRY OF ORIGIN: AUST	OF: 1 2 3 4 5 6 (7)	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Tara Armani CONTACT PH: 0458 757 116			Other comment:
SAMPLER: P. Dean SAMPLER MOBILE: 0458 114 234	RELINQUISHED BY: P. Dean	RECEIVED BY: TOB	RELINQUISHED BY:
COC Emailed to ALS? (YES / NO) EDD FORMAT (or default):	DATE/TIME: 30/8/22	DATE/TIME: 4:13 PM 30/8/22	DATE/TIME: 30/8/22 17:00
Email Reports to (will default to PM if none other listed): Tara.Armani@aecom.com; Peter.Dean@aecom.com			RECEIVED BY: DP DATE/TIME: 30/8/22 1740
Email Invoice to (will default to PM if no other addresses are listed): AP_Customerservice.anz@aecom.com			

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE ONLY	SAMPLE DETAILS MATRIX: Solid(S) Water(W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL BOTTLES	Hold	S-16, S-23	EP231X	EA200	S-18	S-19	EP202		Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
	~~HA23_0.0_0.1_220824~~	24/8/22	S			X								
	~~HA23_0.5_0.6_220824~~													
	~~HA23_1.0_1.1_220824~~													
	~~HA24_0.0_0.1_220824~~													
	~~HA24_0.5_0.6_220824~~													
	~~HA24_1.1_1.2_220824~~													
34	HA25_0.1_0.2_220824						X	X	X			X		
35	HA25_0.4_0.5_220824						X	X	X			X		
36	HA25_1.1_1.2_220824													
37	QC102_220824						X	X	X			X		
38	QC202_220824						X	X	X			X		Please forward to Eurofins for analysis
	~~QC203/MS/MSD~~													
					TOTAL									

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; R = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag, U = Ziploc Iodine Preserved Bottles; STT = Sterile Sodium Thiosulfate Preserved Bottles.

CHAIN OF CUSTODY

ALS Laboratory: please tick →

CLIENT: AECOM Australia Pty Ltd	TURNAROUND REQUIREMENTS: ☒ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)	
OFFICE: Newcastle	(Standard TAT may be longer for some tests e.g., Ultra Trace Organics) ☐ Non Standard or urgent TAT (List due date):	Custody Seal Intact?	Yes No N/A
PROJECT: Hunter Link PROJECT NO.: 60617752 24-26	ALS QUOTE NO.: EN/004/21	Free ice / frozen ice bricks present upon receipt?	Yes No N/A
ORDER NUMBER: PURCHASE ORDER NO.:	COUNTRY OF ORIGIN: AUST	Random Sample Temperature on Receipt:	°C
PROJECT MANAGER: Rana Armani CONTACT PH: 0438 757 116	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 7	Other comment:	
SAMPLER: P. Dean SAMPLER MOBILE: 0458 114 279	OF: 1 2 3 4 5 6		
COC Emailed to ALS? (YES / NO) EDD FORMAT (or default):	RELINQUISHED BY: P. Dean DATE/TIME: 30/8/22	RECEIVED BY: TOB DATE/TIME: 30/8/22 4:13pm	RELINQUISHED BY: DATE/TIME: 30/8/22 17:00
Email Reports to (will default to PM if none other listed): Rana.Armani@aecom.com; Peter.Dean@aecom.com			RECEIVED BY: PP DATE/TIME: 30/8/22 22:40
Email Invoice to (will default to PM if no other addresses are listed): AP_Customerservice.anz@aecom.com			
COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:			

ALS USE ONLY	SAMPLE DETAILS MATRIX: Solid(S) Water(W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).							Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL BOTTLES	HOLD	S-16, S-23	EP231X	EA200	S-18	S-19	EP202	Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc
39	HA11_2.0_2.2_220824	24/8/22	S		1	X							
40	HA11_3.0_3.2_220824												
41	HA11_4.0_4.2_220824												
42	HA11_5.0_5.2_220824												
43	HA11_6.0_6.2_220824												
44	HA11_7.0_7.2_220824												
45	HA11_7.0_7.8_220824												
46	QC Rep SD1_220825	25/8/22			1					X			
47	HA02_2.0_2.2_220825												
48	HA02_3.0_3.2_220825												
49	HA02_4.0_4.2_220825												
50	HA02_5.0_5.2_220825												
51	HA02_6.0_6.2_220825												
				TOTAL									

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag; U = Lugols Iodine Preserved Bottles; STT = Sterile Sodium Thiosulfate Preserved Bottles.

CHAIN OF CUSTODY

ALS Laboratory: please tick →

CLIENT: AECOM Australia Pty Ltd	TURNAROUND REQUIREMENTS: (Standard TAT may be longer for some tests e.g. Ultra Trace Organics)	☑ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)
OFFICE: Newcastle		☐ Non Standard or urgent TAT (List due date):	Custody Seal Intact? Yes No N/A
PROJECT: Muswellbrook PROJECT NO.: 60619758, 211-30	ALS QUOTE NO.: EN/004/21		Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: PURCHASE ORDER NO.:	COUNTRY OF ORIGIN: AUST	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 (5) 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Tania Armani	CONTACT PH: 0438 757 116	SF: 1 2 3 4 5 6 (CD)	Other comment:
SAMPLER: P. Dean.	SAMPLER MOBILE: 0455 114 239		
COC Emailed to ALS? (YES / NO)	EDD FORMAT (or default):		
Email Reports to (will default to PM if none other listed): Tania.Armani@aecom.com; Peter.Dean@aecom.com			
Email Invoice to (will default to PM if no other addresses are listed): AP_Customerservice.anz@aecom.com			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
P. Dean	TOB 4:13pm		PM
DATE/TIME: 30/8/22	DATE/TIME: 30/8/22	DATE/TIME: 30/8/22 17:00	DATE/TIME: 30/8/22

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE ONLY	SAMPLE DETAILS Matrix: Solid(S) Water(W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL BOTTLES	HOLD	S-16, S-23	EP231X	EA200	S-18	S-19	EP202		Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
52	SW01_220826	26/8/22	W			X	X	X				X		
53	SW02_220826		W				X	X				X		
54	SED01_220826		S				X					X		
55	SED02_220826		S				X					X		
56	QC304_220822	22/8/22	W				X	X						
57	QC301_220823	23/8/22	W				X	X						
58	QC302_220824	24/8/22	W				X	X						
59	QC303_220825	25/8/22	W				X	X						
60	QC304_220826	26/8/22	W				X	X						
	[illegible]													
61	QC105_220824	24/8/22	S				X	X	X			X		
60	QC203_220824	24/8/22	S				X	X	X			X		Please forward to Eurofins for analysis
					TOTAL									

Water Contai

Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag; LI = Lugols Iodine Preserved Bottle; STT = Sterile Sodium Thiosulfate Preserved Bottles.

CHAIN OF CUSTODY

ALS Laboratory: please tick →

CLIENT: AECOM Australia Pty Ltd

OFFICE: Newcastle

PROJECT: Muswellbrook PROJECT NO.: 60619758, 20-30

ORDER NUMBER: PURCHASE ORDER NO.:

PROJECT MANAGER: Tania Armani CONTACT PH: 0435757116

SAMPLER: P. Ocan. SAMPLER MOBILE: 0458 114 239

COC Emailed to ALS? (YES / NO) EDD FORMAT (or default):

Email Reports to (will default to PM if none other listed): Tania.Armani@aecom.com ; Peter.Ocan@aecom.com

Email Invoice to (will default to PM if no other addresses are listed): AP_Customerservice.anz@aecom.com

TURNAROUND REQUIREMENTS: (Standard TAT may be longer for some tests e.g. Ultra Trace Organics)

☒ Standard TAT (List due date):

☐ Non Standard or urgent TAT (List due date):

ALS QUOTE NO.: EN/004/21

COUNTRY OF ORIGIN: AUST

COC SEQUENCE NUMBER (Circle)

COC: (1) 2 3 4 5 6

SOF: (1) 2 3 4 5 6

FOR LABORATORY USE ONLY (Circle)

Custody Seal Intact?	Yes	No	N/A
Free ice / frozen ice bricks present upon receipt?	Yes	No	N/A
Random Sample Temperature on Receipt:		°C	
Other comment:			

RELINQUISHED BY: P. Ocan DATE/TIME: 30/8/22

RECEIVED BY: TOB DATE/TIME: 30/8/22 4:13pm

RELINQUISHED BY: DATE/TIME: 30/8/22 17:00

RECEIVED BY: DATE/TIME: 30/8/22 12:40

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE ONLY	SAMPLE DETAILS MATRIX: Solid(S) Water(W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required)								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL BOTTLES	Hold	S-16, S-23	EP231X	EA200	S-18	S-19	EP202		Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
63	SS01_220826	26/8/22	S		1	X					X	X		
64	SS02_220826										X	X		
65	SS03_220826										X	X		
66	SS04_220826										X	X		
67	SS05_220826										X	X		
68	SS06_220826										X	X		
69	SS07_220826										X	X		
70	SS08_220826										X	X		
71	SS09_220826										X	X		
72	SS10_220826										X	X		
73	QC105_220826										X	X		
74	QC205_220826	↓	↓		↓	↓					X	X		Please forward to Eurofins for analysis
				TOTAL										

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic; V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottle; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag; LI = Lugols Iodine Preserved Bottle; STT = Sterile Sodium Thiosulfate Preserved Bottles.

Phoung Tran

From: Fadi Soro on behalf of Samples Sydney
Sent: Wednesday, 7 September 2022 9:22 AM
To: Phoung Tran
Cc: Cez Bautista; Helen Simpson
Subject: FW: [EXTERNAL] - RE: ALS Workorder ES2230964 - Project 60619756 211-30

Hi Phoung,

Can you please make the below amendments to WO ES2230964?

Regards

Fadi

QC204 / Samples

Subcon / Forward Lab / Split WO:
Lab / Analysis:
Organised By / Date:
Relinquished By / Date:
Connote / Courier:
WO No:
Attached By PO / Internal Sheet:

From: Cez Bautista <cez.bautista@ALSGlobal.com>
Sent: Wednesday, 7 September 2022 9:07 AM
To: Samples Sydney <Samples.Sydney@alsglobal.com>; Helen Simpson <helen.simpson@alsglobal.com>
Cc: Phoung Tran <phoung.tran@alsglobal.com>
Subject: FW: [EXTERNAL] - RE: ALS Workorder ES2230964 - Project 60619756 211-30

Hi team!

Please see below for an update on requested analysis for extra samples received (Samples 73 and 74) and for Sample 59. Please let me know if you need me to clarify anything further with the client.

Thank you so much for your help!

Kind regards,

Environmental Division
Sydney
Work Order Reference
ES2230964

Telephone : +61-2-8784 8555

right solutions.
right partner.

Cez Bautista
Client Services Officer
Sydney, NSW

O: +61 2 8784 8555

D: +61 2 8784 8531
cez.bautista@alsglobal.com
277-289 Woodpark Road
Smithfield NSW 2164 AUSTRALIA

alsglobal.com

From: Dean, Peter <Peter.Dean@aecom.com>
Sent: Wednesday, 7 September 2022 8:37 AM
To: Cez Bautista <cez.bautista@ALSGlobal.com>
Cc: Armani, Tama <Tama.Armani@aecom.com>
Subject: [EXTERNAL] - RE: ALS Workorder ES2230964 - Project 60619756 211-30

CAUTION: This email originated from outside of ALS. Do not click links or open attachments unless you recognize the sender and are sure content is relevant to you.

Hi Cez

If there is enough sample volume remaining, could we please request PFAS (EP231X) analysis on QC304 (noting bottle non-conformance).

For QC104 please schedule analysis:

- TRH C6-C40, BTEXN, PAHs, 8 metals (W-26)
- PFAS (EP231X)
- OC and OP Pesticides (W-12)
- Herbicides (EP202)

For QC204, please forward the sample to Eurofins for the following analysis:

- TRH C6-C40, BTEXN, PAHs, 8 metals

- PFAS extended suite (28 analytes)
- OC and OP Pesticides
- Herbicides

Thanks
Pete

Peter Dean

Senior Environmental Scientist
M +61 458 114 239
peter.dean@aecom.com

AECOM
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From: Cez Bautista <cez.bautista@ALSGlobal.com>
Sent: Tuesday, 6 September 2022 5:28 PM
To: Armani, Tama <Tama.Armani@aecom.com>; Dean, Peter <Peter.Dean@aecom.com>
Subject: [EXTERNAL] ALS Workorder ES2230964 - Project 60619756 211-30

Good afternoon Tama and Peter,

We are unable to analyse Sample 59 *QC304_220826* of the attached workorder for PFAS as we did not receive the required PFAS bottles.

We also received Samples QC104 and QC204 as extras and have placed these on hold. Please advise if you would like these samples to be analysed and I can arrange this for you.

Thank you,

Kind regards,

right solutions.
right partner.

Cez Bautista
Client Services Officer
Sydney, NSW

O: +61 2 8784 8555

D: +61 2 8784 8531
cez.bautista@alsglobal.com
277-289 Woodpark Road
Smithfield NSW 2164 AUSTRALIA

alsglobal.com

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : **ES2230964**

Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: TAMA ARMANI	Contact	: Sepan Mahamad
Address	: 17 WARABROOK BLVD NEWCASTLE Newcastle 2304	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: tama.armani@aecom.com	E-mail	: Sepan.Mahamad@ALSGlobal.com
Telephone	: ----	Telephone	: +61 2 8784 8555
Facsimile	: ----	Facsimile	: +61-2-8784 8500
Project	: 60619756 211-30	Page	: 1 of 6
Order number	: 60619756	Quote number	: ES2021AECOMAU0044 (EN/004/21)
C-O-C number	: ----	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: ----		
Sampler	: P.Dean		

Dates

Date Samples Received	: 30-Aug-2022 16:14	Issue Date	: 07-Sep-2022
Client Requested Due Date	: 13-Sep-2022	Scheduled Reporting Date	: **13-Sep-2022**

Delivery Details

Mode of Delivery	: Undefined	Security Seal	: Intact.
No. of coolers/boxes	: 9	Temperature	: 3.7'c - Ice present
Receipt Detail	:	No. of samples received / analysed	: 72 / 42

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Proactive Holding Time Report
  - Requested Deliverables
- 07/09/2022: This is an updated SRN which indicates analysis added to sample QC104 and sample QC204 to be forwarded to Eurofins as per COC's.
- **Sample QC202, QC203 and QC205 to be forwarded to Eurofins as per COC's.**
- **Due to appropriately preserved container not being supplied for PFAS for sample QC304_220826, therefore the analysis could not be conducted.**
- **Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The laboratory will process these samples unless instructions are received from you indicating you do not wish to proceed. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.**
- **Asbestos analysis will be conducted by ALS Newcastle.**
- Please direct any queries you have regarding this work order to the above ALS laboratory contact.
- Analytical work for this work order will be conducted at ALS Sydney.
- Sample Disposal - Aqueous (3 weeks), Solid (2 months ± 1 week) from receipt of samples.
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.

Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

Method Sample ID	Sample Container Received	Preferred Sample Container for Analysis
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS : EP231X		
SW01_220826	- Amber Glass Bottle - Unpreserved	- HDPE (no PTFE)
SW02_220826	- Amber Glass Bottle - Unpreserved	- HDPE (no PTFE)
QC300_220822	- Amber Glass Bottle - Unpreserved	- HDPE (no PTFE)
QC301_220823	- Amber Glass Bottle - Unpreserved	- HDPE (no PTFE)
QC302_220824	- Amber Glass Bottle - Unpreserved	- HDPE (no PTFE)
QC303_220825	- Amber Glass Bottle - Unpreserved	- HDPE (no PTFE)

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **SOIL**

Laboratory sample ID	Sampling date / time	Sample ID	(On Hold) SOIL No analysis requested	SOIL - EA055-103 Moisture Content	SOIL - EP202(solids) Phenoxyacetic acids	SOIL - EP231X (solids) PFAS - Full Suite (28 analytes)	SOIL - S-16 TRH/BTEXN/PAH/OC/OP/PCB/8Metals	SOIL - S-18 TRH(C6-C9)/BTEXN	SOIL - S-23 SVOC/VOC
ES2230964-001	24-Aug-2022 00:00	HA05_0.1_0.2_220824		✓	✓	✓	✓		✓
ES2230964-002	24-Aug-2022 00:00	HA05_0.5_0.6_220824	✓						
ES2230964-003	24-Aug-2022 00:00	HA05_1.0_1.1_220824		✓	✓	✓	✓		✓
ES2230964-004	24-Aug-2022 00:00	HA08_0.1_0.2_220824		✓	✓	✓	✓		✓
ES2230964-005	24-Aug-2022 00:00	HA08_0.5_0.6_220824	✓						
ES2230964-006	24-Aug-2022 00:00	HA08_1.2_1.3_220824		✓	✓	✓	✓		✓
ES2230964-007	24-Aug-2022 00:00	HA10_0.1_0.2_220824		✓	✓	✓	✓		✓
ES2230964-008	24-Aug-2022 00:00	HA10_0.5_0.6_220824		✓	✓	✓	✓		✓
ES2230964-009	24-Aug-2022 00:00	HA10_1.2_1.3_220824	✓						
ES2230964-010	24-Aug-2022 00:00	HA11_0.0_0.1_220824		✓	✓	✓	✓		✓
ES2230964-011	24-Aug-2022 00:00	HA11_0.5_0.6_220824	✓						
ES2230964-012	24-Aug-2022 00:00	HA11_1.0_1.1_220824		✓	✓	✓	✓		✓
ES2230964-013	24-Aug-2022 00:00	HA14_0.1_0.2_220824		✓	✓	✓	✓		✓
ES2230964-014	24-Aug-2022 00:00	HA14_0.6_0.7_220824		✓	✓	✓	✓		✓
ES2230964-015	24-Aug-2022 00:00	HA16_0.0_0.1_220824		✓	✓	✓	✓		✓
ES2230964-016	24-Aug-2022 00:00	HA16_0.5_0.6_220824	✓						
ES2230964-017	24-Aug-2022 00:00	HA16_1.4_1.5_220824		✓	✓	✓	✓		✓
ES2230964-018	24-Aug-2022 00:00	HA17_0.1_0.2_220824	✓						
ES2230964-019	24-Aug-2022 00:00	HA17_0.5_0.6_220824		✓	✓	✓	✓		✓
ES2230964-020	24-Aug-2022 00:00	HA17_1.4_1.5_220824	✓						
ES2230964-021	24-Aug-2022 00:00	HA17_2.0_2.2_220824	✓						
ES2230964-022	24-Aug-2022 00:00	HA17_3.0_3.2_220824	✓						
ES2230964-023	24-Aug-2022 00:00	HA17_4.0_4.2_220824		✓	✓	✓	✓		✓
ES2230964-024	24-Aug-2022 00:00	HA17_5.0_5.2_220824	✓						

			(On Hold) SOIL No analysis requested	SOIL - EA055-103 Moisture Content	SOIL - EP202(solids) Phenoxyacetic acids	SOIL - EP231X (solids) PFAS - Full Suite (28 analytes)	SOIL - S-16 TRH/BTEXN/PAH/OC/OP/PCB/8Metals	SOIL - S-18 TRH(C6-C9)/BTEXN	SOIL - S-23 SVOC/VOC
ES2230964-025	24-Aug-2022 00:00	HA17_6.0_6.2_220824	✓						
ES2230964-026	24-Aug-2022 00:00	HA17_7.0_7.2_220824	✓						
ES2230964-027	24-Aug-2022 00:00	HA17_8.0_8.2_220824	✓						
ES2230964-028	24-Aug-2022 00:00	HA17_9.0_9.2_220824	✓						
ES2230964-029	24-Aug-2022 00:00	HA17_9.7_9.9_220824	✓						
ES2230964-030	24-Aug-2022 00:00	HA20_0.0_0.1_220824		✓	✓	✓	✓		✓
ES2230964-031	24-Aug-2022 00:00	HA20_0.5_0.6_220824	✓						
ES2230964-032	24-Aug-2022 00:00	HA20_1.2_1.3_220824		✓	✓	✓	✓		✓
ES2230964-033	24-Aug-2022 00:00	HA02_8.0_8.2_220824	✓						
ES2230964-034	24-Aug-2022 00:00	HA25_0.1_0.2_220824		✓	✓	✓	✓		✓
ES2230964-035	24-Aug-2022 00:00	HA25_0.4_0.5_220824		✓	✓	✓	✓		✓
ES2230964-036	24-Aug-2022 00:00	HA25_1.1_1.2_220824	✓						
ES2230964-037	24-Aug-2022 00:00	QC102_220824		✓	✓	✓	✓		✓
ES2230964-038	24-Aug-2022 00:00	HA11_2.0_2.2_220824	✓						
ES2230964-039	24-Aug-2022 00:00	HA11_3.0_3.2_220824	✓						
ES2230964-040	24-Aug-2022 00:00	HA11_4.0_4.2_220824	✓						
ES2230964-041	24-Aug-2022 00:00	HA11_5.0_5.2_220824	✓						
ES2230964-042	24-Aug-2022 00:00	HA11_6.0_6.2_220824	✓						
ES2230964-043	24-Aug-2022 00:00	HA11_7.0_7.2_220824	✓						
ES2230964-044	24-Aug-2022 00:00	HA11_7.0_7.8_220824	✓						
ES2230964-045	25-Aug-2022 00:00	QC501_220825		✓				✓	
ES2230964-046	25-Aug-2022 00:00	HA02_2.0_2.2_220825	✓						
ES2230964-047	25-Aug-2022 00:00	HA02_3.0_3.2_220825	✓						
ES2230964-048	25-Aug-2022 00:00	HA02_4.0_4.2_220825	✓						
ES2230964-049	25-Aug-2022 00:00	HA02_5.0_5.2_220825	✓						
ES2230964-050	25-Aug-2022 00:00	HA02_6.0_6.2_220825	✓						
ES2230964-053	26-Aug-2022 00:00	SED01_220826		✓	✓		✓		✓
ES2230964-054	26-Aug-2022 00:00	SED02_220826		✓	✓		✓		✓
ES2230964-060	24-Aug-2022 00:00	QC103_220824		✓	✓	✓	✓		✓
ES2230964-061	26-Aug-2022 00:00	SS01_220826		✓	✓				
ES2230964-062	26-Aug-2022 00:00	SS02_220826		✓	✓				
ES2230964-063	26-Aug-2022 00:00	SS03_220826		✓	✓				
ES2230964-064	26-Aug-2022 00:00	SS04_220826		✓	✓				
ES2230964-065	26-Aug-2022 00:00	SS05_220826		✓	✓				
ES2230964-066	26-Aug-2022 00:00	SS06_220826		✓	✓				
ES2230964-067	26-Aug-2022 00:00	SS07_220826		✓	✓				
ES2230964-068	26-Aug-2022 00:00	SS08_220826		✓	✓				
ES2230964-069	26-Aug-2022 00:00	SS09_220826		✓	✓				
ES2230964-070	26-Aug-2022 00:00	SS10_220826		✓	✓				
ES2230964-071	26-Aug-2022 00:00	QC105_220826		✓	✓				

Matrix: **SOIL**

Laboratory sample ID	Sampling date / time	Sample ID	SOIL - S-19 TRH/BTEXN/PAH/Ph/OC/OP/PCB/8 metals
ES2230964-061	26-Aug-2022 00:00	SS01_220826	✓
ES2230964-062	26-Aug-2022 00:00	SS02_220826	✓
ES2230964-063	26-Aug-2022 00:00	SS03_220826	✓
ES2230964-064	26-Aug-2022 00:00	SS04_220826	✓
ES2230964-065	26-Aug-2022 00:00	SS05_220826	✓
ES2230964-066	26-Aug-2022 00:00	SS06_220826	✓
ES2230964-067	26-Aug-2022 00:00	SS07_220826	✓
ES2230964-068	26-Aug-2022 00:00	SS08_220826	✓
ES2230964-069	26-Aug-2022 00:00	SS09_220826	✓
ES2230964-070	26-Aug-2022 00:00	SS10_220826	✓
ES2230964-071	26-Aug-2022 00:00	QC105_220826	✓

Matrix: **WATER**

Laboratory sample ID	Sampling date / time	Sample ID	WATER - EP202SL Phenoxyacetic Acid	WATER - EP231X PFAS - Full Suite (28 analytes)	WATER - W-02T 8 metals (Total)	WATER - W-12 OC/OP Pesticides	WATER - W-16T TRH/BTEXN/PAH/OC/OP/PCB/8 Total metals	WATER - W-23 SVOC/VOC
ES2230964-051	26-Aug-2022 00:00	SW01_220826	✓	✓			✓	✓
ES2230964-052	26-Aug-2022 00:00	SW02_220826	✓	✓			✓	✓
ES2230964-055	22-Aug-2022 00:00	QC300_220822		✓			✓	✓
ES2230964-056	23-Aug-2022 00:00	QC301_220823		✓			✓	✓
ES2230964-057	24-Aug-2022 00:00	QC302_220824		✓			✓	✓
ES2230964-058	25-Aug-2022 00:00	QC303_220825		✓			✓	✓
ES2230964-059	26-Aug-2022 00:00	QC304_220826					✓	✓
ES2230964-073	26-Aug-2022 00:00	QC104	✓	✓	✓	✓		

Matrix: **WATER**

Laboratory sample ID	*Sampling date / time*	*Sample ID*	WATER - W-26 TRH/BTEXN/PAH/8 Metals
ES2230964-073	26-Aug-2022 00:00	QC104	✓

Proactive Holding Time Report

The following table summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory.

Matrix: **WATER**

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

Method / Client Sample ID(s)	Container	Due for extraction	Due for analysis	Samples Received		Instructions Received	
				Date	Evaluation	Date	Evaluation
EP066: Polychlorinated Biphenyls (PCB)							
QC300_220822	Amber Glass Bottle - Unpreserv	29-Aug-2022	16-Oct-2022	30-Aug-2022	×	----	----
EP068: Pesticides by GCMS							
QC300_220822	Amber Glass Bottle - Unpreserv	29-Aug-2022	16-Oct-2022	30-Aug-2022	×	----	----
EP071: TRH - Semivolatile Fraction							
QC300_220822	Amber Glass Bottle - Unpreserv	29-Aug-2022	16-Oct-2022	30-Aug-2022	×	----	----
EP074: Volatile Organic Compounds							
QC300_220822	Amber Glass Bottle - Unpreserv	29-Aug-2022	29-Aug-2022	30-Aug-2022	×	----	----
EP075(SIM): PAH/Phenols (GC/MS - SIM)							
QC300_220822	Amber Glass Bottle - Unpreserv	29-Aug-2022	16-Oct-2022	30-Aug-2022	×	----	----
EP075: Semivolatile Organic Compounds							
QC300_220822	Amber Glass Bottle - Unpreserv	29-Aug-2022	16-Oct-2022	30-Aug-2022	×	----	----
EP080: TRH Volatiles/BTEX							
QC300_220822	Amber Glass Bottle - Unpreserv	29-Aug-2022	29-Aug-2022	30-Aug-2022	×	----	----

Requested Deliverables

ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV)	Email	AP_CustomerService.ANZ@aecom.com

PETER DEAN

- *AU Certificate of Analysis - NATA (COA)	Email	peter.dean@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	peter.dean@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	peter.dean@aecom.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	peter.dean@aecom.com
- Chain of Custody (CoC) (COC)	Email	peter.dean@aecom.com
- Chromatogram (CHROM)	Email	peter.dean@aecom.com
- EDI Format - ENMRG (ENMRG)	Email	peter.dean@aecom.com
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)	Email	peter.dean@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	peter.dean@aecom.com

TAMA ARMANI

- *AU Certificate of Analysis - NATA (COA)	Email	tama.armani@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	tama.armani@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	tama.armani@aecom.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	tama.armani@aecom.com
- Chain of Custody (CoC) (COC)	Email	tama.armani@aecom.com
- Chromatogram (CHROM)	Email	tama.armani@aecom.com
- EDI Format - ENMRG (ENMRG)	Email	tama.armani@aecom.com
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)	Email	tama.armani@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	tama.armani@aecom.com

ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **ES2230964**	Page	: 1 of 95
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: TAMA ARMANI	Contact	: Sepan Mahamad
Address	: 17 WARABROOK BLVD NEWCASTLE Newcastle 2304	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: +61 2 8784 8555
Project	: 60619756 211-30	Date Samples Received	: 30-Aug-2022 16:14
Order number	: 60619756	Date Analysis Commenced	: 06-Sep-2022
C-O-C number	: ----	Issue Date	: 23-Sep-2022 09:05
Sampler	: P.Dean		
Site	: ----		
Quote number	: EN/004/21		
No. of samples received	: 72		
No. of samples analysed	: 42		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

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

This Certificate of Analysis contains the following information:

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

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

Signatories

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

Signatories	*Position*	*Accreditation Category*
Ankit Joshi	Senior Chemist - Inorganics	Sydney Inorganics, Smithfield, NSW
Edwandy Fadjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Franco Lentini	LCMS Coordinator	Sydney Inorganics, Smithfield, NSW
Franco Lentini	LCMS Coordinator	Sydney Organics, Smithfield, NSW
Jake Spooner	Laboratory Technician	Newcastle - Asbestos, Mayfield West, NSW
Wisam Marassa	Inorganics Coordinator	Sydney Inorganics, Smithfield, NSW

General Comments

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

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

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

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

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

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

- EP202: Poor matrix spike recoveries for Picloram and Clopyralid due to matrix effects.
- EP202: Particular samples required dilution due to matrix interferences. LOR values have been adjusted accordingly.
- EP075 (SIM): Where reported, Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero.
- EP075: Where reported, Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero.
- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero, for 'TEQ 1/2LOR' are treated as half the reported LOR, and for 'TEQ LOR' are treated as being equal to the reported LOR. Note: TEQ 1/2LOR and TEQ LOR will calculate as 0.6mg/Kg and 1.2mg/Kg respectively for samples with non-detects for all of the eight TEQ PAHs.
- EP231X - Per- and Polyfluoroalkyl Substances (PFAS): Samples received in 20ml or 125ml bottles have been tested in accordance with the QSM5.3 compliant, NATA accredited method. 60mL or 250mL bottles have been tested to the legacy QSM 5.1 aligned, NATA accredited method.
- EP080: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EP068: Where reported, Total Chlordane (sum) is the sum of the reported concentrations of cis-Chlordane and trans-Chlordane at or above the LOR.
- EP068: Where reported, Total OCP is the sum of the reported concentrations of all Organochlorine Pesticides at or above LOR.
- EP074: Where reported, Total Trihalomethanes is the sum of the reported concentrations of all Trihalomethanes at or above the LOR.
- EP074: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EP074: Where reported, Sum of chlorinated hydrocarbons includes carbon tetrachloride, chlorobenzene, chloroform, 1,2-dichlorobenzene, 1,4-dichlorobenzene, 1,2-dichloroethane, 1,1-dichloroethene, cis-1,2-dichlorothene, trans-1,2-dichlorothene, 1,1,1,2-tetrachloroethane, 1,1,2,2-tetrachloroethane, 1,2,4-trichlorobenzene, 1,1,1-trichloroethane, 1,1,2-trichloroethane, trichloroethene, vinyl chloride, hexachlorobutadiene and methylene chloride.
- EP074: Where reported, Total Trimethylbenzenes is the sum of the reported concentrations of 1.2.3-Trimethylbenzene, 1.2.4-Trimethylbenzene and 1.3.5-Trimethylbenzene at or above the LOR.
- EP075(SIM): Where reported, Total Cresol is the sum of the reported concentrations of 2-Methylphenol and 3- & 4-Methylphenol at or above the LOR.
- EG020: It is recognised that total concentration is less than dissolved for some metal analytes. However, the difference is within experimental variation of the methods.
- EG020A-T: Positive results for sample ES2230964-056 have been confirmed by re-digestion and re-analysis.
- EP080/EP074: Positive results for sample ES2230964-055 was confirmed by re-analysis.

- EP068: Positive result has been confirmed by re-extraction and re-analysis.
- EP075/75(SIM) : LOR for sample raised due to high amount of moisture content.
- EP075: Where reported, 'Sum of PAH' is the sum of the USEPA 16 priority PAHs
- EA200 'Am' Amosite (brown asbestos)
- EA200 'Cr' Crocidolite (blue asbestos)
- EA200 'Trace' - Asbestos fibres ("Free Fibres") detected by trace analysis per AS4964. The result can be interpreted that the sample contains detectable 'respirable' asbestos fibres
- EA200: Asbestos Identification Samples were analysed by Polarised Light Microscopy including dispersion staining.
- EA200 Legend
- EA200 'Ch' Chrysotile (white asbestos)
- EA200: 'UMF' Unknown Mineral Fibres. "-" indicates fibres detected may or may not be asbestos fibres. Confirmation by alternative techniques is recommended.
- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero, for 'TEQ 1/2LOR' are treated as half the reported LOR, and for 'TEQ LOR' are treated as being equal to the reported LOR. Note: TEQ 1/2LOR and TEQ LOR will calculate as 0.6mg/Kg and 1.2mg/Kg respectively for samples with non-detects for all of the eight TEQ PAHs.
- EA200: For samples larger than 30g, the <2mm fraction may be sub-sampled prior to trace analysis as outlined in ISO23909:2008(E) Sect 6.3.2-2
- EA200: 'Yes' - Asbestos detected by polarised light microscopy including dispersion staining.
- EA200: 'No*' - No asbestos found, at the reporting limit of 0.1g/kg, by polarised light microscopy including dispersion staining. Asbestos material was detected and positively identified at concentrations estimated to be below 0.1g/kg.
- EA200: 'No' - No asbestos found at the reporting limit 0.1g/kg, by polarised light microscopy including dispersion staining.
- EP231: Stable isotope enriched internal standards are added to samples prior to extraction. Target compounds have a direct analogous internal standard with the exception of PFPeS, PFHpA, PFDS, PFTrDA and 10:2 FTS. These compounds use an internal standard that is chemically related and has a retention time close to that of the target compound. The DQO for internal standard response is 50-150% of that established at initial calibration. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS (Australian HEPA) and also conform to QSM 5.3 (US DoD) requirements.

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	HA05_0.1_0.2_220824	HA05_1.0_1.1_220824	HA08_0.1_0.2_220824	HA08_1.2_1.3_220824	HA10_0.1_0.2_220824
				Sampling date / time	24-Aug-2022 00:00	24-Aug-2022 00:00	24-Aug-2022 00:00	24-Aug-2022 00:00	24-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2230964-001	ES2230964-003	ES2230964-004	ES2230964-006	ES2230964-007
					Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%		46.6	29.0	16.9	17.9	20.5
EA200: AS 4964 - 2004 Identification of Asbestos in Soils									
Asbestos Detected	1332-21-4	0.1	g/kg		No	No	----	----	----
Asbestos (Trace)	1332-21-4	5	Fibres		No	No	----	----	----
Asbestos Type	1332-21-4	-	--		-	-	----	----	----
Synthetic Mineral Fibre	----	0.1	g/kg		No	No	----	----	----
Organic Fibre	----	0.1	g/kg		No	No	----	----	----
Sample weight (dry)	----	0.01	g		226	164	----	----	----
APPROVED IDENTIFIER:	----	-	--		J.SPOONER	J.SPOONER	----	----	----
EG005(ED093)T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg		21	15	<5	8	6
Cadmium	7440-43-9	1	mg/kg		<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg		24	23	17	36	14
Copper	7440-50-8	5	mg/kg		148	49	<5	11	6
Lead	7439-92-1	5	mg/kg		26	12	8	13	14
Nickel	7440-02-0	2	mg/kg		154	28	4	34	8
Zinc	7440-66-6	5	mg/kg		193	34	8	27	18
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		0.6	<0.1	<0.1	<0.1	<0.1
EP066: Polychlorinated Biphenyls (PCB)									
Total Polychlorinated biphenyls	----	0.1	mg/kg		<0.1	<0.1	<0.1	<0.1	<0.1
EP068A: Organochlorine Pesticides (OC)									
alpha-BHC	319-84-6	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
beta-BHC	319-85-7	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
gamma-BHC	58-89-9	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
delta-BHC	319-86-8	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor	76-44-8	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Aldrin	309-00-2	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor epoxide	1024-57-3	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
^ Total Chlordane (sum)	----	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
trans-Chlordane	5103-74-2	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
alpha-Endosulfan	959-98-8	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
cis-Chlordane	5103-71-9	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	HA05_0.1_0.2_220824	HA05_1.0_1.1_220824	HA08_0.1_0.2_220824	HA08_1.2_1.3_220824	HA10_0.1_0.2_220824
				Sampling date / time	24-Aug-2022 00:00	24-Aug-2022 00:00	24-Aug-2022 00:00	24-Aug-2022 00:00	24-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2230964-001	ES2230964-003	ES2230964-004	ES2230964-006	ES2230964-007
					Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued									
Dieldrin	60-57-1	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDE	72-55-9	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Endrin	72-20-8	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
beta-Endosulfan	33213-65-9	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
^ Endosulfan (sum)	115-29-7	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDD	72-54-8	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Endrin aldehyde	7421-93-4	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Endosulfan sulfate	1031-07-8	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDT	50-29-3	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Endrin ketone	53494-70-5	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Methoxychlor	72-43-5	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
EP068B: Organophosphorus Pesticides (OP)									
Dichlorvos	62-73-7	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Demeton-S-methyl	919-86-8	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Monocrotophos	6923-22-4	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Dimethoate	60-51-5	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Diazinon	333-41-5	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Parathion-methyl	298-00-0	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Malathion	121-75-5	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Fenthion	55-38-9	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Chlorpyrifos	2921-88-2	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Parathion	56-38-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Pirimphos-ethyl	23505-41-1	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Chlorfenvinphos	470-90-6	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Bromophos-ethyl	4824-78-6	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Fenamiphos	22224-92-6	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Prothiofos	34643-46-4	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Ethion	563-12-2	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Carbophenothion	786-19-6	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Azinphos Methyl	86-50-0	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
EP074A: Monocyclic Aromatic Hydrocarbons									

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	HA05_0.1_0.2_220824	HA05_1.0_1.1_220824	HA08_0.1_0.2_220824	HA08_1.2_1.3_220824	HA10_0.1_0.2_220824
				Sampling date / time	24-Aug-2022 00:00	24-Aug-2022 00:00	24-Aug-2022 00:00	24-Aug-2022 00:00	24-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2230964-001	ES2230964-003	ES2230964-004	ES2230964-006	ES2230964-007
					Result	Result	Result	Result	Result
EP074A: Monocyclic Aromatic Hydrocarbons - Continued									
Styrene	100-42-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Isopropylbenzene	98-82-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
n-Propylbenzene	103-65-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.3.5-Trimethylbenzene	108-67-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
sec-Butylbenzene	135-98-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.2.4-Trimethylbenzene	95-63-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
tert-Butylbenzene	98-06-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
p-Isopropyltoluene	99-87-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
n-Butylbenzene	104-51-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
EP074B: Oxygenated Compounds									
Vinyl Acetate	108-05-4	5	mg/kg		<5	<5	<5	<5	<5
2-Butanone (MEK)	78-93-3	5	mg/kg		<5	<5	<5	<5	<5
4-Methyl-2-pentanone (MIBK)	108-10-1	5	mg/kg		<5	<5	<5	<5	<5
2-Hexanone (MBK)	591-78-6	5	mg/kg		<5	<5	<5	<5	<5
EP074C: Sulfonated Compounds									
Carbon disulfide	75-15-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
EP074D: Fumigants									
2.2-Dichloropropane	594-20-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.2-Dichloropropane	78-87-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
cis-1.3-Dichloropropylene	10061-01-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
trans-1.3-Dichloropropylene	10061-02-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.2-Dibromoethane (EDB)	106-93-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
EP074E: Halogenated Aliphatic Compounds									
Dichlorodifluoromethane	75-71-8	5	mg/kg		<5	<5	<5	<5	<5
Chloromethane	74-87-3	5	mg/kg		<5	<5	<5	<5	<5
Vinyl chloride	75-01-4	5	mg/kg		<5	<5	<5	<5	<5
Bromomethane	74-83-9	5	mg/kg		<5	<5	<5	<5	<5
Chloroethane	75-00-3	5	mg/kg		<5	<5	<5	<5	<5
Trichlorofluoromethane	75-69-4	5	mg/kg		<5	<5	<5	<5	<5
1.1-Dichloroethene	75-35-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Iodomethane	74-88-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
trans-1.2-Dichloroethene	156-60-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.1-Dichloroethane	75-34-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
cis-1.2-Dichloroethene	156-59-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	HA05_0.1_0.2_220824	HA05_1.0_1.1_220824	HA08_0.1_0.2_220824	HA08_1.2_1.3_220824	HA10_0.1_0.2_220824
				Sampling date / time	24-Aug-2022 00:00	24-Aug-2022 00:00	24-Aug-2022 00:00	24-Aug-2022 00:00	24-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2230964-001	ES2230964-003	ES2230964-004	ES2230964-006	ES2230964-007
					Result	Result	Result	Result	Result
EP074E: Halogenated Aliphatic Compounds - Continued									
1.1.1-Trichloroethane	71-55-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.1-Dichloropropylene	563-58-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Carbon Tetrachloride	56-23-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.2-Dichloroethane	107-06-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Trichloroethene	79-01-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Dibromomethane	74-95-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.1.2-Trichloroethane	79-00-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.3-Dichloropropane	142-28-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Tetrachloroethene	127-18-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.1.1.2-Tetrachloroethane	630-20-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
trans-1.4-Dichloro-2-butene	110-57-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
cis-1.4-Dichloro-2-butene	1476-11-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.1.2.2-Tetrachloroethane	79-34-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.2.3-Trichloropropane	96-18-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Pentachloroethane	76-01-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
EP074F: Halogenated Aromatic Compounds									
Chlorobenzene	108-90-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Bromobenzene	108-86-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2-Chlorotoluene	95-49-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
4-Chlorotoluene	106-43-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.2.3-Trichlorobenzene	87-61-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
EP074G: Trihalomethanes									
Chloroform	67-66-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Bromodichloromethane	75-27-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Dibromochloromethane	124-48-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Bromoform	75-25-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	HA05_0.1_0.2_220824	HA05_1.0_1.1_220824	HA08_0.1_0.2_220824	HA08_1.2_1.3_220824	HA10_0.1_0.2_220824
				Sampling date / time	24-Aug-2022 00:00	24-Aug-2022 00:00	24-Aug-2022 00:00	24-Aug-2022 00:00	24-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2230964-001	ES2230964-003	ES2230964-004	ES2230964-006	ES2230964-007
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Fluoranthene	206-44-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Pyrene	129-00-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		**0.6**	**0.6**	**0.6**	**0.6**	**0.6**
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		**1.2**	**1.2**	**1.2**	**1.2**	**1.2**
EP075A: 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	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
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	1	mg/kg		<1	<1	<1	<1	<1
EP075B: Polynuclear Aromatic Hydrocarbons									
2-Methylnaphthalene	91-57-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2-Chloronaphthalene	91-58-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
N-2-Fluorenyl Acetamide	53-96-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
7.12-Dimethylbenz(a)anthracene	57-97-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
3-Methylcholanthrene	56-49-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
EP075C: Phthalate Esters									

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	HA05_0.1_0.2_220824	HA05_1.0_1.1_220824	HA08_0.1_0.2_220824	HA08_1.2_1.3_220824	HA10_0.1_0.2_220824
				Sampling date / time	24-Aug-2022 00:00	24-Aug-2022 00:00	24-Aug-2022 00:00	24-Aug-2022 00:00	24-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2230964-001	ES2230964-003	ES2230964-004	ES2230964-006	ES2230964-007
					Result	Result	Result	Result	Result
EP075C: Phthalate Esters - Continued									
Dimethyl phthalate	131-11-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Diethyl phthalate	84-66-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Di-n-butyl phthalate	84-74-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Butyl benzyl phthalate	85-68-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
bis(2-ethylhexyl) phthalate	117-81-7	5.0	mg/kg		<5.0	<5.0	<5.0	<5.0	<5.0
Di-n-octylphthalate	117-84-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
EP075D: Nitrosamines									
N-Nitrosomethylethylamine	10595-95-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
N-Nitrosodiethylamine	55-18-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
N-Nitrosopyrrolidine	930-55-2	1.0	mg/kg		<1.0	<1.0	<1.0	<1.0	<1.0
N-Nitrosomorpholine	59-89-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
N-Nitrosodi-n-propylamine	621-64-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
N-Nitrosopiperidine	100-75-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
N-Nitrosodibutylamine	924-16-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	1.0	mg/kg		<1.0	<1.0	<1.0	<1.0	<1.0
Methapyrilene	91-80-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
EP075E: Nitroaromatics and Ketones									
2-Picoline	109-06-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Acetophenone	98-86-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Nitrobenzene	98-95-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Isophorone	78-59-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2.6-Dinitrotoluene	606-20-2	1.0	mg/kg		<1.0	<1.0	<1.0	<1.0	<1.0
2.4-Dinitrotoluene	121-14-2	1.0	mg/kg		<1.0	<1.0	<1.0	<1.0	<1.0
1-Naphthylamine	134-32-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
4-Nitroquinoline-N-oxide	56-57-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
5-Nitro-o-toluidine	99-55-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Azobenzene	103-33-3	1	mg/kg		<1	<1	<1	<1	<1
1.3.5-Trinitrobenzene	99-35-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Phenacetin	62-44-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
4-Aminobiphenyl	92-67-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Pentachloronitrobenzene	82-68-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Pronamide	23950-58-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Dimethylaminoazobenzene	60-11-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Chlorobenzilate	510-15-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	HA05_0.1_0.2_220824	HA05_1.0_1.1_220824	HA08_0.1_0.2_220824	HA08_1.2_1.3_220824	HA10_0.1_0.2_220824
				Sampling date / time	24-Aug-2022 00:00	24-Aug-2022 00:00	24-Aug-2022 00:00	24-Aug-2022 00:00	24-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2230964-001	ES2230964-003	ES2230964-004	ES2230964-006	ES2230964-007
					Result	Result	Result	Result	Result
EP075E: Nitroaromatics and Ketones - Continued									
EP075F: Haloethers									
Bis(2-chloroethyl) ether	111-44-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Bis(2-chloroethoxy) methane	111-91-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
4-Chlorophenyl phenyl ether	7005-72-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
4-Bromophenyl phenyl ether	101-55-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
EP075G: Chlorinated Hydrocarbons									
1.3-Dichlorobenzene	541-73-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.4-Dichlorobenzene	106-46-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.2-Dichlorobenzene	95-50-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Hexachloroethane	67-72-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Hexachloropropylene	1888-71-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Hexachlorobutadiene	87-68-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Hexachlorocyclopentadiene	77-47-4	2.5	mg/kg		<2.5	<2.5	<2.5	<2.5	<2.5
Pentachlorobenzene	608-93-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Hexachlorobenzene (HCB)	118-74-1	1.0	mg/kg		<1.0	<1.0	<1.0	<1.0	<1.0
EP075H: Anilines and Benzidines									
Aniline	62-53-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
4-Chloroaniline	106-47-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2-Nitroaniline	88-74-4	1.0	mg/kg		<1.0	<1.0	<1.0	<1.0	<1.0
3-Nitroaniline	99-09-2	1.0	mg/kg		<1.0	<1.0	<1.0	<1.0	<1.0
Dibenzofuran	132-64-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
4-Nitroaniline	100-01-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Carbazole	86-74-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
3.3`-Dichlorobenzidine	91-94-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
C29 - C36 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg		<50	<50	<50	<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	HA05_0.1_0.2_220824	HA05_1.0_1.1_220824	HA08_0.1_0.2_220824	HA08_1.2_1.3_220824	HA10_0.1_0.2_220824
				Sampling date / time	24-Aug-2022 00:00	24-Aug-2022 00:00	24-Aug-2022 00:00	24-Aug-2022 00:00	24-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2230964-001	ES2230964-003	ES2230964-004	ES2230964-006	ES2230964-007
					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	<100	<100	<100	<100
>C34 - C40 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
^ **>C10 - C40 Fraction (sum)**	----	50	mg/kg		<50	<50	<50	<50	<50
^ **>C10 - C16 Fraction minus Naphthalene (F2)**	----	50	mg/kg		<50	<50	<50	<50	<50
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ **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
EP202A: Phenoxyacetic Acid Herbicides by LCMS									
4-Chlorophenoxy acetic acid	122-88-3	0.02	mg/kg		<0.04	<0.02	<0.02	<0.02	<0.02
2.4-DB	94-82-6	0.02	mg/kg		<0.04	<0.02	<0.02	<0.02	<0.02
Dicamba	1918-00-9	0.02	mg/kg		<0.04	<0.02	<0.02	<0.02	<0.02
Mecoprop	93-65-2	0.02	mg/kg		<0.04	<0.02	<0.02	<0.02	<0.02
MCPA	94-74-6	0.02	mg/kg		<0.04	<0.02	<0.02	<0.02	<0.02
2.4-DP	120-36-5	0.02	mg/kg		<0.04	<0.02	<0.02	<0.02	<0.02
2.4-D	94-75-7	0.02	mg/kg		<0.04	<0.02	<0.02	<0.02	<0.02
Triclopyr	55335-06-3	0.02	mg/kg		<0.04	<0.02	<0.02	<0.02	<0.02
2.4.5-TP (Silvex)	93-72-1	0.02	mg/kg		<0.04	<0.02	<0.02	<0.02	<0.02
2.4.5-T	93-76-5	0.02	mg/kg		<0.04	<0.02	<0.02	<0.02	<0.02
MCPB	94-81-5	0.02	mg/kg		<0.04	<0.02	<0.02	<0.02	<0.02
Picloram	1918-02-1	0.02	mg/kg		<0.04	<0.02	<0.02	<0.02	<0.02
Clopyralid	1702-17-6	0.02	mg/kg		<0.04	<0.02	<0.02	<0.02	<0.02
Fluroxypyr	69377-81-7	0.02	mg/kg		<0.04	<0.02	<0.02	<0.02	<0.02
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg		**0.0008**	<0.0002	<0.0002	<0.0002	<0.0002

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	HA05_0.1_0.2_220824	HA05_1.0_1.1_220824	HA08_0.1_0.2_220824	HA08_1.2_1.3_220824	HA10_0.1_0.2_220824
				Sampling date / time	24-Aug-2022 00:00	24-Aug-2022 00:00	24-Aug-2022 00:00	24-Aug-2022 00:00	24-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2230964-001	ES2230964-003	ES2230964-004	ES2230964-006	ES2230964-007
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids - Continued									
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg		**0.0035**	**0.0003**	<0.0002	<0.0002	<0.0002
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg		**0.106**	**0.0100**	<0.0002	<0.0002	<0.0002
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg		**0.0055**	**0.0004**	<0.0002	<0.0002	<0.0002
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg		**0.202**	**0.0123**	<0.0002	<0.0002	<0.0002
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg		<0.0002	<0.0002	<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	<0.001	<0.001
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg		**0.0008**	**0.0004**	<0.0002	<0.0002	<0.0002
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg		**0.0042**	**0.0017**	<0.0002	<0.0002	<0.0002
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg		**0.0008**	**0.0003**	<0.0002	<0.0002	<0.0002
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg		**0.0031**	**0.0010**	<0.0002	<0.0002	<0.0002
Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg		**0.0499**	**0.0140**	<0.0002	<0.0002	<0.0002
Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg		**0.0008**	<0.0002	<0.0002	<0.0002	<0.0002
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg		**0.0410**	**0.0018**	<0.0002	<0.0002	<0.0002
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg		**0.0004**	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg		**0.0119**	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	HA05_0.1_0.2_220824	HA05_1.0_1.1_220824	HA08_0.1_0.2_220824	HA08_1.2_1.3_220824	HA10_0.1_0.2_220824
				Sampling date / time	24-Aug-2022 00:00	24-Aug-2022 00:00	24-Aug-2022 00:00	24-Aug-2022 00:00	24-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2230964-001	ES2230964-003	ES2230964-004	ES2230964-006	ES2230964-007
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<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	<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	<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	<0.0005	<0.0005
EP231P: PFAS Sums									
Sum of PFAS	----	0.0002	mg/kg		**0.431**	**0.0422**	<0.0002	<0.0002	<0.0002
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg		**0.308**	**0.0223**	<0.0002	<0.0002	<0.0002
Sum of PFAS (WA DER List)	----	0.0002	mg/kg		**0.318**	**0.0257**	<0.0002	<0.0002	<0.0002
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		**70.8**	**70.1**	**73.0**	**88.2**	**82.4**
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%		**52.5**	**51.6**	**52.9**	**69.4**	**63.7**
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%		**57.5**	**51.6**	**46.6**	**69.0**	**54.4**
EP074S: VOC Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.5	%		**101**	**74.3**	**94.1**	**78.5**	**75.7**
Toluene-D8	2037-26-5	0.5	%		**106**	**82.6**	**102**	**84.1**	**84.5**
4-Bromofluorobenzene	460-00-4	0.5	%		**94.1**	**82.0**	**93.9**	**82.4**	**80.8**
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		**72.8**	**74.4**	**75.6**	**76.2**	**78.8**
2-Chlorophenol-D4	93951-73-6	0.5	%		**82.7**	**85.9**	**87.6**	**90.3**	**90.6**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	HA05_0.1_0.2_220824	HA05_1.0_1.1_220824	HA08_0.1_0.2_220824	HA08_1.2_1.3_220824	HA10_0.1_0.2_220824
				Sampling date / time	24-Aug-2022 00:00	24-Aug-2022 00:00	24-Aug-2022 00:00	24-Aug-2022 00:00	24-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2230964-001	ES2230964-003	ES2230964-004	ES2230964-006	ES2230964-007
					Result	Result	Result	Result	Result
EP075(SIM)S: Phenolic Compound Surrogates - Continued									
2.4.6-Tribromophenol	118-79-6	0.5	%		70.8	78.2	78.7	72.5	75.2
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		92.0	93.4	94.0	103	98.9
Anthracene-d10	1719-06-8	0.5	%		70.7	73.8	88.7	94.8	88.3
4-Terphenyl-d14	1718-51-0	0.5	%		71.3	82.9	91.4	97.0	93.1
EP075S: Acid Extractable Surrogates									
2-Fluorophenol	367-12-4	0.5	%		87.3	93.7	99.4	99.6	103
Phenol-d6	13127-88-3	0.5	%		79.6	85.2	87.8	84.7	92.2
2-Chlorophenol-D4	93951-73-6	0.5	%		86.4	93.8	96.3	96.4	101
2.4.6-Tribromophenol	118-79-6	0.5	%		67.2	55.6	51.8	34.3	47.4
EP075T: Base/Neutral Extractable Surrogates									
Nitrobenzene-D5	4165-60-0	0.5	%		87.7	93.4	99.1	97.6	101
1.2-Dichlorobenzene-D4	2199-69-1	0.5	%		82.1	85.5	92.7	94.5	94.2
2-Fluorobiphenyl	321-60-8	0.5	%		102	103	103	115	112
Anthracene-d10	1719-06-8	0.5	%		59.2	82.3	99.1	107	104
4-Terphenyl-d14	1718-51-0	0.5	%		64.5	75.0	76.6	91.4	82.8
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		106	78.2	99.4	82.7	79.9
Toluene-D8	2037-26-5	0.2	%		103	80.0	98.6	81.6	82.0
4-Bromofluorobenzene	460-00-4	0.2	%		98.3	85.8	96.9	87.3	84.5
EP202S: Phenoxyacetic Acid Herbicide Surrogate									
2.4-Dichlorophenyl Acetic Acid	19719-28-9	0.02	%		86.8	58.4	57.9	83.5	53.8
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.0002	%		87.5	97.5	95.5	77.5	92.0
13C8-PFOA	----	0.0002	%		102	105	99.5	92.0	98.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	HA10_0.5_0.6_220824	HA11_0.0_0.1_220824	HA11_1.0_1.1_220824	HA14_0.1_0.2_220824	HA14_0.6_0.7_220824
				Sampling date / time	24-Aug-2022 00:00	24-Aug-2022 00:00	24-Aug-2022 00:00	24-Aug-2022 00:00	24-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2230964-008	ES2230964-010	ES2230964-012	ES2230964-013	ES2230964-014
					Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%		14.7	15.8	29.3	11.5	10.7
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	-	--		----	-	----	-	----
Synthetic Mineral Fibre	----	0.1	g/kg		----	No	----	No	----
Organic Fibre	----	0.1	g/kg		----	No	----	No	----
Sample weight (dry)	----	0.01	g		----	246	----	136	----
APPROVED IDENTIFIER:	----	-	--		----	J.SPOONER	----	J.SPOONER	----
EG005(ED093)T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg		8	8	6	6	6
Cadmium	7440-43-9	1	mg/kg		<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg		27	17	31	20	22
Copper	7440-50-8	5	mg/kg		9	<5	10	7	9
Lead	7439-92-1	5	mg/kg		13	17	10	10	11
Nickel	7440-02-0	2	mg/kg		14	13	23	20	30
Zinc	7440-66-6	5	mg/kg		31	11	21	21	28
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		<0.1	<0.1	<0.1	<0.1	<0.1
EP066: Polychlorinated Biphenyls (PCB)									
Total Polychlorinated biphenyls	----	0.1	mg/kg		<0.1	<0.1	<0.1	<0.1	<0.1
EP068A: Organochlorine Pesticides (OC)									
alpha-BHC	319-84-6	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
beta-BHC	319-85-7	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
gamma-BHC	58-89-9	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
delta-BHC	319-86-8	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor	76-44-8	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Aldrin	309-00-2	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor epoxide	1024-57-3	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
^ Total Chlordane (sum)	----	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
trans-Chlordane	5103-74-2	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
alpha-Endosulfan	959-98-8	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
cis-Chlordane	5103-71-9	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	HA10_0.5_0.6_220824	HA11_0.0_0.1_220824	HA11_1.0_1.1_220824	HA14_0.1_0.2_220824	HA14_0.6_0.7_220824
				Sampling date / time	24-Aug-2022 00:00	24-Aug-2022 00:00	24-Aug-2022 00:00	24-Aug-2022 00:00	24-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2230964-008	ES2230964-010	ES2230964-012	ES2230964-013	ES2230964-014
					Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued									
Dieldrin	60-57-1	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDE	72-55-9	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Endrin	72-20-8	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
beta-Endosulfan	33213-65-9	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
^ Endosulfan (sum)	115-29-7	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDD	72-54-8	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Endrin aldehyde	7421-93-4	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Endosulfan sulfate	1031-07-8	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDT	50-29-3	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Endrin ketone	53494-70-5	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Methoxychlor	72-43-5	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
EP068B: Organophosphorus Pesticides (OP)									
Dichlorvos	62-73-7	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Demeton-S-methyl	919-86-8	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Monocrotophos	6923-22-4	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Dimethoate	60-51-5	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Diazinon	333-41-5	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Parathion-methyl	298-00-0	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Malathion	121-75-5	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Fenthion	55-38-9	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Chlorpyrifos	2921-88-2	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Parathion	56-38-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Pirimphos-ethyl	23505-41-1	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Chlorfenvinphos	470-90-6	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Bromophos-ethyl	4824-78-6	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Fenamiphos	22224-92-6	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Prothiofos	34643-46-4	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Ethion	563-12-2	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Carbophenothion	786-19-6	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Azinphos Methyl	86-50-0	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
EP074A: Monocyclic Aromatic Hydrocarbons									

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	HA10_0.5_0.6_220824	HA11_0.0_0.1_220824	HA11_1.0_1.1_220824	HA14_0.1_0.2_220824	HA14_0.6_0.7_220824
				Sampling date / time	24-Aug-2022 00:00	24-Aug-2022 00:00	24-Aug-2022 00:00	24-Aug-2022 00:00	24-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2230964-008	ES2230964-010	ES2230964-012	ES2230964-013	ES2230964-014
					Result	Result	Result	Result	Result
EP074A: Monocyclic Aromatic Hydrocarbons - Continued									
Styrene	100-42-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Isopropylbenzene	98-82-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
n-Propylbenzene	103-65-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.3.5-Trimethylbenzene	108-67-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
sec-Butylbenzene	135-98-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.2.4-Trimethylbenzene	95-63-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
tert-Butylbenzene	98-06-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
p-Isopropyltoluene	99-87-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
n-Butylbenzene	104-51-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
EP074B: Oxygenated Compounds									
Vinyl Acetate	108-05-4	5	mg/kg		<5	<5	<5	<5	<5
2-Butanone (MEK)	78-93-3	5	mg/kg		<5	<5	<5	<5	<5
4-Methyl-2-pentanone (MIBK)	108-10-1	5	mg/kg		<5	<5	<5	<5	<5
2-Hexanone (MBK)	591-78-6	5	mg/kg		<5	<5	<5	<5	<5
EP074C: Sulfonated Compounds									
Carbon disulfide	75-15-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
EP074D: Fumigants									
2.2-Dichloropropane	594-20-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.2-Dichloropropane	78-87-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
cis-1.3-Dichloropropylene	10061-01-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
trans-1.3-Dichloropropylene	10061-02-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.2-Dibromoethane (EDB)	106-93-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
EP074E: Halogenated Aliphatic Compounds									
Dichlorodifluoromethane	75-71-8	5	mg/kg		<5	<5	<5	<5	<5
Chloromethane	74-87-3	5	mg/kg		<5	<5	<5	<5	<5
Vinyl chloride	75-01-4	5	mg/kg		<5	<5	<5	<5	<5
Bromomethane	74-83-9	5	mg/kg		<5	<5	<5	<5	<5
Chloroethane	75-00-3	5	mg/kg		<5	<5	<5	<5	<5
Trichlorofluoromethane	75-69-4	5	mg/kg		<5	<5	<5	<5	<5
1.1-Dichloroethene	75-35-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Iodomethane	74-88-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
trans-1.2-Dichloroethene	156-60-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.1-Dichloroethane	75-34-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
cis-1.2-Dichloroethene	156-59-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	HA10_0.5_0.6_220824	HA11_0.0_0.1_220824	HA11_1.0_1.1_220824	HA14_0.1_0.2_220824	HA14_0.6_0.7_220824
				Sampling date / time	24-Aug-2022 00:00	24-Aug-2022 00:00	24-Aug-2022 00:00	24-Aug-2022 00:00	24-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2230964-008	ES2230964-010	ES2230964-012	ES2230964-013	ES2230964-014
					Result	Result	Result	Result	Result
EP074E: Halogenated Aliphatic Compounds - Continued									
1.1.1-Trichloroethane	71-55-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.1-Dichloropropylene	563-58-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Carbon Tetrachloride	56-23-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.2-Dichloroethane	107-06-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Trichloroethene	79-01-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Dibromomethane	74-95-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.1.2-Trichloroethane	79-00-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.3-Dichloropropane	142-28-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Tetrachloroethene	127-18-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.1.1.2-Tetrachloroethane	630-20-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
trans-1.4-Dichloro-2-butene	110-57-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
cis-1.4-Dichloro-2-butene	1476-11-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.1.2.2-Tetrachloroethane	79-34-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.2.3-Trichloropropane	96-18-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Pentachloroethane	76-01-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
EP074F: Halogenated Aromatic Compounds									
Chlorobenzene	108-90-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Bromobenzene	108-86-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2-Chlorotoluene	95-49-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
4-Chlorotoluene	106-43-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.2.3-Trichlorobenzene	87-61-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
EP074G: Trihalomethanes									
Chloroform	67-66-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Bromodichloromethane	75-27-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Dibromochloromethane	124-48-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Bromoform	75-25-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	HA10_0.5_0.6_220824	HA11_0.0_0.1_220824	HA11_1.0_1.1_220824	HA14_0.1_0.2_220824	HA14_0.6_0.7_220824
				Sampling date / time	24-Aug-2022 00:00	24-Aug-2022 00:00	24-Aug-2022 00:00	24-Aug-2022 00:00	24-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2230964-008	ES2230964-010	ES2230964-012	ES2230964-013	ES2230964-014
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Fluoranthene	206-44-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Pyrene	129-00-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		**0.6**	**0.6**	**0.6**	**0.6**	**0.6**
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		**1.2**	**1.2**	**1.2**	**1.2**	**1.2**
EP075A: 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	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
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	1	mg/kg		<1	<1	<1	<1	<1
EP075B: Polynuclear Aromatic Hydrocarbons									
2-Methylnaphthalene	91-57-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2-Chloronaphthalene	91-58-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
N-2-Fluorenyl Acetamide	53-96-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
7.12-Dimethylbenz(a)anthracene	57-97-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
3-Methylcholanthrene	56-49-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
EP075C: Phthalate Esters									

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	HA10_0.5_0.6_220824	HA11_0.0_0.1_220824	HA11_1.0_1.1_220824	HA14_0.1_0.2_220824	HA14_0.6_0.7_220824
				Sampling date / time	24-Aug-2022 00:00	24-Aug-2022 00:00	24-Aug-2022 00:00	24-Aug-2022 00:00	24-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2230964-008	ES2230964-010	ES2230964-012	ES2230964-013	ES2230964-014
					Result	Result	Result	Result	Result
EP075C: Phthalate Esters - Continued									
Dimethyl phthalate	131-11-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Diethyl phthalate	84-66-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Di-n-butyl phthalate	84-74-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Butyl benzyl phthalate	85-68-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
bis(2-ethylhexyl) phthalate	117-81-7	5.0	mg/kg		<5.0	<5.0	<5.0	<5.0	<5.0
Di-n-octylphthalate	117-84-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
EP075D: Nitrosamines									
N-Nitrosomethylethylamine	10595-95-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
N-Nitrosodiethylamine	55-18-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
N-Nitrosopyrrolidine	930-55-2	1.0	mg/kg		<1.0	<1.0	<1.0	<1.0	<1.0
N-Nitrosomorpholine	59-89-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
N-Nitrosodi-n-propylamine	621-64-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
N-Nitrosopiperidine	100-75-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
N-Nitrosodibutylamine	924-16-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	1.0	mg/kg		<1.0	<1.0	<1.0	<1.0	<1.0
Methapyrilene	91-80-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
EP075E: Nitroaromatics and Ketones									
2-Picoline	109-06-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Acetophenone	98-86-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Nitrobenzene	98-95-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Isophorone	78-59-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2.6-Dinitrotoluene	606-20-2	1.0	mg/kg		<1.0	<1.0	<1.0	<1.0	<1.0
2.4-Dinitrotoluene	121-14-2	1.0	mg/kg		<1.0	<1.0	<1.0	<1.0	<1.0
1-Naphthylamine	134-32-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
4-Nitroquinoline-N-oxide	56-57-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
5-Nitro-o-toluidine	99-55-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Azobenzene	103-33-3	1	mg/kg		<1	<1	<1	<1	<1
1.3.5-Trinitrobenzene	99-35-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Phenacetin	62-44-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
4-Aminobiphenyl	92-67-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Pentachloronitrobenzene	82-68-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Pronamide	23950-58-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Dimethylaminoazobenzene	60-11-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Chlorobenzilate	510-15-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	HA10_0.5_0.6_220824	HA11_0.0_0.1_220824	HA11_1.0_1.1_220824	HA14_0.1_0.2_220824	HA14_0.6_0.7_220824
				Sampling date / time	24-Aug-2022 00:00	24-Aug-2022 00:00	24-Aug-2022 00:00	24-Aug-2022 00:00	24-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2230964-008	ES2230964-010	ES2230964-012	ES2230964-013	ES2230964-014
					Result	Result	Result	Result	Result
EP075E: Nitroaromatics and Ketones - Continued									
EP075F: Haloethers									
Bis(2-chloroethyl) ether	111-44-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Bis(2-chloroethoxy) methane	111-91-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
4-Chlorophenyl phenyl ether	7005-72-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
4-Bromophenyl phenyl ether	101-55-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
EP075G: Chlorinated Hydrocarbons									
1.3-Dichlorobenzene	541-73-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.4-Dichlorobenzene	106-46-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.2-Dichlorobenzene	95-50-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Hexachloroethane	67-72-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Hexachloropropylene	1888-71-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Hexachlorobutadiene	87-68-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Hexachlorocyclopentadiene	77-47-4	2.5	mg/kg		<2.5	<2.5	<2.5	<2.5	<2.5
Pentachlorobenzene	608-93-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Hexachlorobenzene (HCB)	118-74-1	1.0	mg/kg		<1.0	<1.0	<1.0	<1.0	<1.0
EP075H: Anilines and Benzidines									
Aniline	62-53-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
4-Chloroaniline	106-47-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2-Nitroaniline	88-74-4	1.0	mg/kg		<1.0	<1.0	<1.0	<1.0	<1.0
3-Nitroaniline	99-09-2	1.0	mg/kg		<1.0	<1.0	<1.0	<1.0	<1.0
Dibenzofuran	132-64-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
4-Nitroaniline	100-01-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Carbazole	86-74-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
3.3`-Dichlorobenzidine	91-94-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
C29 - C36 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg		<50	<50	<50	<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	HA10_0.5_0.6_220824	HA11_0.0_0.1_220824	HA11_1.0_1.1_220824	HA14_0.1_0.2_220824	HA14_0.6_0.7_220824
				Sampling date / time	24-Aug-2022 00:00	24-Aug-2022 00:00	24-Aug-2022 00:00	24-Aug-2022 00:00	24-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2230964-008	ES2230964-010	ES2230964-012	ES2230964-013	ES2230964-014
					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	<100	<100	<100	<100
>C34 - C40 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		<50	<50	<50	<50	<50
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		<50	<50	<50	<50	<50
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ 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
EP202A: Phenoxyacetic Acid Herbicides by LCMS									
4-Chlorophenoxy acetic acid	122-88-3	0.02	mg/kg		<0.02	<0.02	<0.02	<0.02	<0.02
2.4-DB	94-82-6	0.02	mg/kg		<0.02	<0.02	<0.02	<0.02	<0.02
Dicamba	1918-00-9	0.02	mg/kg		<0.02	<0.02	<0.02	<0.02	<0.02
Mecoprop	93-65-2	0.02	mg/kg		<0.02	<0.02	<0.02	<0.02	<0.02
MCPA	94-74-6	0.02	mg/kg		<0.02	<0.02	<0.02	<0.02	<0.02
2.4-DP	120-36-5	0.02	mg/kg		<0.02	<0.02	<0.02	<0.02	<0.02
2.4-D	94-75-7	0.02	mg/kg		<0.02	<0.02	<0.02	<0.02	<0.02
Triclopyr	55335-06-3	0.02	mg/kg		<0.02	<0.02	<0.02	<0.02	<0.02
2.4.5-TP (Silvex)	93-72-1	0.02	mg/kg		<0.02	<0.02	<0.02	<0.02	<0.02
2.4.5-T	93-76-5	0.02	mg/kg		<0.02	<0.02	<0.02	<0.02	<0.02
MCPB	94-81-5	0.02	mg/kg		<0.02	<0.02	<0.02	<0.02	<0.02
Picloram	1918-02-1	0.02	mg/kg		<0.02	<0.02	<0.02	<0.02	<0.02
Clopyralid	1702-17-6	0.02	mg/kg		<0.02	<0.02	<0.02	<0.02	<0.02
Fluroxypyr	69377-81-7	0.02	mg/kg		<0.02	<0.02	<0.02	<0.02	<0.02
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	HA10_0.5_0.6_220824	HA11_0.0_0.1_220824	HA11_1.0_1.1_220824	HA14_0.1_0.2_220824	HA14_0.6_0.7_220824
				Sampling date / time	24-Aug-2022 00:00	24-Aug-2022 00:00	24-Aug-2022 00:00	24-Aug-2022 00:00	24-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2230964-008	ES2230964-010	ES2230964-012	ES2230964-013	ES2230964-014
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids - Continued									
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg		<0.0002	<0.0002	<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	<0.001	<0.001
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	HA10_0.5_0.6_220824	HA11_0.0_0.1_220824	HA11_1.0_1.1_220824	HA14_0.1_0.2_220824	HA14_0.6_0.7_220824
				Sampling date / time	24-Aug-2022 00:00	24-Aug-2022 00:00	24-Aug-2022 00:00	24-Aug-2022 00:00	24-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2230964-008	ES2230964-010	ES2230964-012	ES2230964-013	ES2230964-014
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<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	<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	<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	<0.0005	<0.0005
EP231P: PFAS Sums									
Sum of PFAS	----	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Sum of PFAS (WA DER List)	----	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		**69.8**	**94.1**	**101**	**88.3**	**82.0**
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%		**50.0**	**73.7**	**72.8**	**66.7**	**63.2**
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%		**44.8**	**73.6**	**70.4**	**67.6**	**57.5**
EP074S: VOC Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.5	%		**76.8**	**96.6**	**99.5**	**84.6**	**81.0**
Toluene-D8	2037-26-5	0.5	%		**84.7**	**103**	**108**	**91.4**	**89.1**
4-Bromofluorobenzene	460-00-4	0.5	%		**80.5**	**95.0**	**99.8**	**88.2**	**85.9**
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		**71.6**	**77.3**	**79.6**	**77.6**	**72.8**
2-Chlorophenol-D4	93951-73-6	0.5	%		**84.5**	**89.9**	**92.6**	**91.2**	**85.0**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	HA10_0.5_0.6_220824	HA11_0.0_0.1_220824	HA11_1.0_1.1_220824	HA14_0.1_0.2_220824	HA14_0.6_0.7_220824
				Sampling date / time	24-Aug-2022 00:00	24-Aug-2022 00:00	24-Aug-2022 00:00	24-Aug-2022 00:00	24-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2230964-008	ES2230964-010	ES2230964-012	ES2230964-013	ES2230964-014
					Result	Result	Result	Result	Result
EP075(SIM)S: Phenolic Compound Surrogates - Continued									
2.4.6-Tribromophenol	118-79-6	0.5	%		68.4	69.2	62.8	67.3	63.9
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		92.3	101	97.1	103	95.0
Anthracene-d10	1719-06-8	0.5	%		83.9	91.4	88.2	92.6	86.2
4-Terphenyl-d14	1718-51-0	0.5	%		87.4	95.2	92.8	96.5	90.0
EP075S: Acid Extractable Surrogates									
2-Fluorophenol	367-12-4	0.5	%		93.5	102	90.9	98.3	90.1
Phenol-d6	13127-88-3	0.5	%		84.1	84.2	78.2	84.6	81.2
2-Chlorophenol-D4	93951-73-6	0.5	%		91.7	97.6	90.6	97.1	93.9
2.4.6-Tribromophenol	118-79-6	0.5	%		42.2	34.2	29.2	32.5	29.0
EP075T: Base/Neutral Extractable Surrogates									
Nitrobenzene-D5	4165-60-0	0.5	%		92.8	101	91.6	99.6	92.1
1.2-Dichlorobenzene-D4	2199-69-1	0.5	%		86.9	93.4	90.5	93.6	86.3
2-Fluorobiphenyl	321-60-8	0.5	%		105	113	106	106	108
Anthracene-d10	1719-06-8	0.5	%		96.3	106	99.7	112	97.4
4-Terphenyl-d14	1718-51-0	0.5	%		82.7	91.0	83.8	89.1	77.9
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		81.0	102	105	89.3	85.5
Toluene-D8	2037-26-5	0.2	%		82.0	99.9	105	88.7	86.3
4-Bromofluorobenzene	460-00-4	0.2	%		85.0	98.5	103	91.1	88.8
EP202S: Phenoxyacetic Acid Herbicide Surrogate									
2.4-Dichlorophenyl Acetic Acid	19719-28-9	0.02	%		80.8	55.1	81.6	54.0	62.2
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.0002	%		105	80.0	96.5	97.0	90.0
13C8-PFOA	----	0.0002	%		93.0	110	108	98.0	104

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	HA16_0.0_0.1_220824	HA16_1.4_1.5_220824	HA17_0.5_0.6_220824	HA17_4.0_4.2_220824	HA20_0.0_0.1_220824
				Sampling date / time	24-Aug-2022 00:00	24-Aug-2022 00:00	24-Aug-2022 00:00	24-Aug-2022 00:00	24-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2230964-015	ES2230964-017	ES2230964-019	ES2230964-023	ES2230964-030
					Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%		24.2	23.5	20.3	13.6	19.2
EA200: AS 4964 - 2004 Identification of Asbestos in Soils									
Asbestos Detected	1332-21-4	0.1	g/kg		No	----	----	----	No
Asbestos (Trace)	1332-21-4	5	Fibres		No	----	----	----	No
Asbestos Type	1332-21-4	-	--		-	----	----	----	-
Synthetic Mineral Fibre	----	0.1	g/kg		No	----	----	----	No
Organic Fibre	----	0.1	g/kg		No	----	----	----	No
Sample weight (dry)	----	0.01	g		153	----	----	----	160
APPROVED IDENTIFIER:	----	-	--		J.SPOONER	----	----	----	J.SPOONER
EG005(ED093)T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg		20	9	6	8	6
Cadmium	7440-43-9	1	mg/kg		<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg		124	34	25	17	18
Copper	7440-50-8	5	mg/kg		40	13	8	10	6
Lead	7439-92-1	5	mg/kg		22	13	10	10	27
Nickel	7440-02-0	2	mg/kg		44	24	16	18	14
Zinc	7440-66-6	5	mg/kg		120	32	21	33	19
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		0.2	<0.1	<0.1	<0.1	<0.1
EP066: Polychlorinated Biphenyls (PCB)									
Total Polychlorinated biphenyls	----	0.1	mg/kg		<0.1	<0.1	<0.1	<0.1	<0.1
EP068A: Organochlorine Pesticides (OC)									
alpha-BHC	319-84-6	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
beta-BHC	319-85-7	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
gamma-BHC	58-89-9	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
delta-BHC	319-86-8	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor	76-44-8	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Aldrin	309-00-2	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor epoxide	1024-57-3	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
^ Total Chlordane (sum)	----	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
trans-Chlordane	5103-74-2	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
alpha-Endosulfan	959-98-8	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
cis-Chlordane	5103-71-9	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	HA16_0.0_0.1_220824	HA16_1.4_1.5_220824	HA17_0.5_0.6_220824	HA17_4.0_4.2_220824	HA20_0.0_0.1_220824
				Sampling date / time	24-Aug-2022 00:00	24-Aug-2022 00:00	24-Aug-2022 00:00	24-Aug-2022 00:00	24-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2230964-015	ES2230964-017	ES2230964-019	ES2230964-023	ES2230964-030
					Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued									
Dieldrin	60-57-1	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDE	72-55-9	0.05	mg/kg		**0.21**	<0.05	<0.05	<0.05	<0.05
Endrin	72-20-8	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
beta-Endosulfan	33213-65-9	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
^ Endosulfan (sum)	115-29-7	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDD	72-54-8	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Endrin aldehyde	7421-93-4	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Endosulfan sulfate	1031-07-8	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDT	50-29-3	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Endrin ketone	53494-70-5	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Methoxychlor	72-43-5	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.05	mg/kg		**0.21**	<0.05	<0.05	<0.05	<0.05
EP068B: Organophosphorus Pesticides (OP)									
Dichlorvos	62-73-7	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Demeton-S-methyl	919-86-8	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Monocrotophos	6923-22-4	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Dimethoate	60-51-5	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Diazinon	333-41-5	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Parathion-methyl	298-00-0	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Malathion	121-75-5	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Fenthion	55-38-9	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Chlorpyrifos	2921-88-2	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Parathion	56-38-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Pirimphos-ethyl	23505-41-1	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Chlorfenvinphos	470-90-6	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Bromophos-ethyl	4824-78-6	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Fenamiphos	22224-92-6	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Prothiofos	34643-46-4	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Ethion	563-12-2	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Carbophenothion	786-19-6	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Azinphos Methyl	86-50-0	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
EP074A: Monocyclic Aromatic Hydrocarbons									

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	HA16_0.0_0.1_220824	HA16_1.4_1.5_220824	HA17_0.5_0.6_220824	HA17_4.0_4.2_220824	HA20_0.0_0.1_220824
				Sampling date / time	24-Aug-2022 00:00	24-Aug-2022 00:00	24-Aug-2022 00:00	24-Aug-2022 00:00	24-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2230964-015	ES2230964-017	ES2230964-019	ES2230964-023	ES2230964-030
					Result	Result	Result	Result	Result
EP074A: Monocyclic Aromatic Hydrocarbons - Continued									
Styrene	100-42-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Isopropylbenzene	98-82-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
n-Propylbenzene	103-65-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.3.5-Trimethylbenzene	108-67-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
sec-Butylbenzene	135-98-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.2.4-Trimethylbenzene	95-63-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
tert-Butylbenzene	98-06-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
p-Isopropyltoluene	99-87-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
n-Butylbenzene	104-51-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
EP074B: Oxygenated Compounds									
Vinyl Acetate	108-05-4	5	mg/kg		<5	<5	<5	<5	<5
2-Butanone (MEK)	78-93-3	5	mg/kg		<5	<5	<5	<5	<5
4-Methyl-2-pentanone (MIBK)	108-10-1	5	mg/kg		<5	<5	<5	<5	<5
2-Hexanone (MBK)	591-78-6	5	mg/kg		<5	<5	<5	<5	<5
EP074C: Sulfonated Compounds									
Carbon disulfide	75-15-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
EP074D: Fumigants									
2.2-Dichloropropane	594-20-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.2-Dichloropropane	78-87-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
cis-1.3-Dichloropropylene	10061-01-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
trans-1.3-Dichloropropylene	10061-02-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.2-Dibromoethane (EDB)	106-93-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
EP074E: Halogenated Aliphatic Compounds									
Dichlorodifluoromethane	75-71-8	5	mg/kg		<5	<5	<5	<5	<5
Chloromethane	74-87-3	5	mg/kg		<5	<5	<5	<5	<5
Vinyl chloride	75-01-4	5	mg/kg		<5	<5	<5	<5	<5
Bromomethane	74-83-9	5	mg/kg		<5	<5	<5	<5	<5
Chloroethane	75-00-3	5	mg/kg		<5	<5	<5	<5	<5
Trichlorofluoromethane	75-69-4	5	mg/kg		<5	<5	<5	<5	<5
1.1-Dichloroethene	75-35-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Iodomethane	74-88-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
trans-1.2-Dichloroethene	156-60-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.1-Dichloroethane	75-34-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
cis-1.2-Dichloroethene	156-59-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	HA16_0.0_0.1_220824	HA16_1.4_1.5_220824	HA17_0.5_0.6_220824	HA17_4.0_4.2_220824	HA20_0.0_0.1_220824
				Sampling date / time	24-Aug-2022 00:00	24-Aug-2022 00:00	24-Aug-2022 00:00	24-Aug-2022 00:00	24-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2230964-015	ES2230964-017	ES2230964-019	ES2230964-023	ES2230964-030
					Result	Result	Result	Result	Result
EP074E: Halogenated Aliphatic Compounds - Continued									
1.1.1-Trichloroethane	71-55-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.1-Dichloropropylene	563-58-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Carbon Tetrachloride	56-23-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.2-Dichloroethane	107-06-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Trichloroethene	79-01-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Dibromomethane	74-95-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.1.2-Trichloroethane	79-00-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.3-Dichloropropane	142-28-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Tetrachloroethene	127-18-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.1.1.2-Tetrachloroethane	630-20-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
trans-1.4-Dichloro-2-butene	110-57-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
cis-1.4-Dichloro-2-butene	1476-11-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.1.2.2-Tetrachloroethane	79-34-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.2.3-Trichloropropane	96-18-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Pentachloroethane	76-01-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
EP074F: Halogenated Aromatic Compounds									
Chlorobenzene	108-90-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Bromobenzene	108-86-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2-Chlorotoluene	95-49-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
4-Chlorotoluene	106-43-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.2.3-Trichlorobenzene	87-61-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
EP074G: Trihalomethanes									
Chloroform	67-66-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Bromodichloromethane	75-27-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Dibromochloromethane	124-48-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Bromoform	75-25-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg		**0.7**	<0.5	<0.5	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	HA16_0.0_0.1_220824	HA16_1.4_1.5_220824	HA17_0.5_0.6_220824	HA17_4.0_4.2_220824	HA20_0.0_0.1_220824
				Sampling date / time	24-Aug-2022 00:00	24-Aug-2022 00:00	24-Aug-2022 00:00	24-Aug-2022 00:00	24-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2230964-015	ES2230964-017	ES2230964-019	ES2230964-023	ES2230964-030
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Fluoranthene	206-44-0	0.5	mg/kg		**1.4**	<0.5	<0.5	<0.5	<0.5
Pyrene	129-00-0	0.5	mg/kg		**1.2**	<0.5	<0.5	<0.5	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg		**0.6**	<0.5	<0.5	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg		**0.5**	<0.5	<0.5	<0.5	<0.5
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		**0.8**	<0.5	<0.5	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg		**0.6**	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		**5.8**	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		**0.7**	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		**1.0**	**0.6**	**0.6**	**0.6**	**0.6**
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		**1.4**	**1.2**	**1.2**	**1.2**	**1.2**
EP075A: 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	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
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	1	mg/kg		<1	<1	<1	<1	<1
EP075B: Polynuclear Aromatic Hydrocarbons									
2-Methylnaphthalene	91-57-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2-Chloronaphthalene	91-58-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
N-2-Fluorenyl Acetamide	53-96-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
7.12-Dimethylbenz(a)anthracene	57-97-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
3-Methylcholanthrene	56-49-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
EP075C: Phthalate Esters									

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	HA16_0.0_0.1_220824	HA16_1.4_1.5_220824	HA17_0.5_0.6_220824	HA17_4.0_4.2_220824	HA20_0.0_0.1_220824
				Sampling date / time	24-Aug-2022 00:00	24-Aug-2022 00:00	24-Aug-2022 00:00	24-Aug-2022 00:00	24-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2230964-015	ES2230964-017	ES2230964-019	ES2230964-023	ES2230964-030
					Result	Result	Result	Result	Result
EP075C: Phthalate Esters - Continued									
Dimethyl phthalate	131-11-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Diethyl phthalate	84-66-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Di-n-butyl phthalate	84-74-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Butyl benzyl phthalate	85-68-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
bis(2-ethylhexyl) phthalate	117-81-7	5.0	mg/kg		<5.0	<5.0	<5.0	<5.0	<5.0
Di-n-octylphthalate	117-84-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
EP075D: Nitrosamines									
N-Nitrosomethylethylamine	10595-95-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
N-Nitrosodiethylamine	55-18-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
N-Nitrosopyrrolidine	930-55-2	1.0	mg/kg		<1.0	<1.0	<1.0	<1.0	<1.0
N-Nitrosomorpholine	59-89-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
N-Nitrosodi-n-propylamine	621-64-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
N-Nitrosopiperidine	100-75-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
N-Nitrosodibutylamine	924-16-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	1.0	mg/kg		<1.0	<1.0	<1.0	<1.0	<1.0
Methapyrilene	91-80-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
EP075E: Nitroaromatics and Ketones									
2-Picoline	109-06-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Acetophenone	98-86-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Nitrobenzene	98-95-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Isophorone	78-59-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2.6-Dinitrotoluene	606-20-2	1.0	mg/kg		<1.0	<1.0	<1.0	<1.0	<1.0
2.4-Dinitrotoluene	121-14-2	1.0	mg/kg		<1.0	<1.0	<1.0	<1.0	<1.0
1-Naphthylamine	134-32-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
4-Nitroquinoline-N-oxide	56-57-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
5-Nitro-o-toluidine	99-55-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Azobenzene	103-33-3	1	mg/kg		<1	<1	<1	<1	<1
1.3.5-Trinitrobenzene	99-35-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Phenacetin	62-44-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
4-Aminobiphenyl	92-67-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Pentachloronitrobenzene	82-68-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Pronamide	23950-58-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Dimethylaminoazobenzene	60-11-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Chlorobenzilate	510-15-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	HA16_0.0_0.1_220824	HA16_1.4_1.5_220824	HA17_0.5_0.6_220824	HA17_4.0_4.2_220824	HA20_0.0_0.1_220824
				Sampling date / time	24-Aug-2022 00:00	24-Aug-2022 00:00	24-Aug-2022 00:00	24-Aug-2022 00:00	24-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2230964-015	ES2230964-017	ES2230964-019	ES2230964-023	ES2230964-030
					Result	Result	Result	Result	Result
EP075E: Nitroaromatics and Ketones - Continued									
EP075F: Haloethers									
Bis(2-chloroethyl) ether	111-44-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Bis(2-chloroethoxy) methane	111-91-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
4-Chlorophenyl phenyl ether	7005-72-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
4-Bromophenyl phenyl ether	101-55-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
EP075G: Chlorinated Hydrocarbons									
1.3-Dichlorobenzene	541-73-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.4-Dichlorobenzene	106-46-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.2-Dichlorobenzene	95-50-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Hexachloroethane	67-72-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Hexachloropropylene	1888-71-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Hexachlorobutadiene	87-68-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Hexachlorocyclopentadiene	77-47-4	2.5	mg/kg		<2.5	<2.5	<2.5	<2.5	<2.5
Pentachlorobenzene	608-93-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Hexachlorobenzene (HCB)	118-74-1	1.0	mg/kg		<1.0	<1.0	<1.0	<1.0	<1.0
EP075H: Anilines and Benzidines									
Aniline	62-53-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
4-Chloroaniline	106-47-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
2-Nitroaniline	88-74-4	1.0	mg/kg		<1.0	<1.0	<1.0	<1.0	<1.0
3-Nitroaniline	99-09-2	1.0	mg/kg		<1.0	<1.0	<1.0	<1.0	<1.0
Dibenzofuran	132-64-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
4-Nitroaniline	100-01-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Carbazole	86-74-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
3.3`-Dichlorobenzidine	91-94-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
C29 - C36 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg		<50	<50	<50	<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	HA16_0.0_0.1_220824	HA16_1.4_1.5_220824	HA17_0.5_0.6_220824	HA17_4.0_4.2_220824	HA20_0.0_0.1_220824
				Sampling date / time	24-Aug-2022 00:00	24-Aug-2022 00:00	24-Aug-2022 00:00	24-Aug-2022 00:00	24-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2230964-015	ES2230964-017	ES2230964-019	ES2230964-023	ES2230964-030
					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	<100	<100	<100	<100
>C34 - C40 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		<50	<50	<50	<50	<50
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		<50	<50	<50	<50	<50
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ 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
EP202A: Phenoxyacetic Acid Herbicides by LCMS									
4-Chlorophenoxy acetic acid	122-88-3	0.02	mg/kg		<0.02	<0.02	<0.02	<0.02	<0.02
2.4-DB	94-82-6	0.02	mg/kg		<0.02	<0.02	<0.02	<0.02	<0.02
Dicamba	1918-00-9	0.02	mg/kg		<0.02	<0.02	<0.02	<0.02	<0.02
Mecoprop	93-65-2	0.02	mg/kg		<0.02	<0.02	<0.02	<0.02	<0.02
MCPA	94-74-6	0.02	mg/kg		<0.02	<0.02	<0.02	<0.02	<0.02
2.4-DP	120-36-5	0.02	mg/kg		<0.02	<0.02	<0.02	<0.02	<0.02
2.4-D	94-75-7	0.02	mg/kg		<0.02	<0.02	<0.02	<0.02	<0.02
Triclopyr	55335-06-3	0.02	mg/kg		<0.02	<0.02	<0.02	<0.02	<0.02
2.4.5-TP (Silvex)	93-72-1	0.02	mg/kg		<0.02	<0.02	<0.02	<0.02	<0.02
2.4.5-T	93-76-5	0.02	mg/kg		<0.02	<0.02	<0.02	<0.02	<0.02
MCPB	94-81-5	0.02	mg/kg		<0.02	<0.02	<0.02	<0.02	<0.02
Picloram	1918-02-1	0.02	mg/kg		<0.02	<0.02	<0.02	<0.02	<0.02
Clopyralid	1702-17-6	0.02	mg/kg		<0.02	<0.02	<0.02	<0.02	<0.02
Fluroxypyr	69377-81-7	0.02	mg/kg		<0.02	<0.02	<0.02	<0.02	<0.02
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	HA16_0.0_0.1_220824	HA16_1.4_1.5_220824	HA17_0.5_0.6_220824	HA17_4.0_4.2_220824	HA20_0.0_0.1_220824
				Sampling date / time	24-Aug-2022 00:00	24-Aug-2022 00:00	24-Aug-2022 00:00	24-Aug-2022 00:00	24-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2230964-015	ES2230964-017	ES2230964-019	ES2230964-023	ES2230964-030
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids - Continued									
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg		**0.0002**	**0.0005**	<0.0002	<0.0002	<0.0002
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg		**0.0058**	**0.0002**	<0.0002	<0.0002	<0.0002
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg		<0.0002	<0.0002	<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	<0.001	<0.001
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg		**0.0002**	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg		**0.0005**	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg		**0.0003**	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005

Analytical Results

Sub-Matrix: **SOIL**
(Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Sample ID	HA16_0.0_0.1_220824	HA16_1.4_1.5_220824	HA17_0.5_0.6_220824	HA17_4.0_4.2_220824	HA20_0.0_0.1_220824
				Sampling date / time	24-Aug-2022 00:00	24-Aug-2022 00:00	24-Aug-2022 00:00	24-Aug-2022 00:00	24-Aug-2022 00:00
					ES2230964-015	ES2230964-017	ES2230964-019	ES2230964-023	ES2230964-030
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<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	<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	<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	<0.0005	<0.0005
EP231P: PFAS Sums									
Sum of PFAS	----	0.0002	mg/kg		**0.0070**	**0.0007**	<0.0002	<0.0002	<0.0002
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg		**0.0060**	**0.0007**	<0.0002	<0.0002	<0.0002
Sum of PFAS (WA DER List)	----	0.0002	mg/kg		**0.0062**	**0.0007**	<0.0002	<0.0002	<0.0002
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		**90.2**	**79.3**	**76.5**	**76.6**	**117**
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%		**54.9**	**65.5**	**61.2**	**56.1**	**111**
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%		**58.1**	**65.6**	**52.2**	**47.6**	**114**
EP074S: VOC Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.5	%		**76.6**	**75.8**	**96.3**	**85.2**	**80.8**
Toluene-D8	2037-26-5	0.5	%		**83.6**	**83.1**	**105**	**93.8**	**88.7**
4-Bromofluorobenzene	460-00-4	0.5	%		**75.0**	**76.3**	**98.3**	**88.3**	**83.2**
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		**71.4**	**81.8**	**85.2**	**74.2**	**81.4**
2-Chlorophenol-D4	93951-73-6	0.5	%		**81.9**	**94.5**	**96.7**	**84.7**	**92.8**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	HA16_0.0_0.1_220824	HA16_1.4_1.5_220824	HA17_0.5_0.6_220824	HA17_4.0_4.2_220824	HA20_0.0_0.1_220824
				Sampling date / time	24-Aug-2022 00:00	24-Aug-2022 00:00	24-Aug-2022 00:00	24-Aug-2022 00:00	24-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2230964-015	ES2230964-017	ES2230964-019	ES2230964-023	ES2230964-030
					Result	Result	Result	Result	Result
EP075(SIM)S: Phenolic Compound Surrogates - Continued									
2.4.6-Tribromophenol	118-79-6	0.5	%		68.0	71.3	79.9	66.7	65.6
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		92.0	97.5	105	94.6	107
Anthracene-d10	1719-06-8	0.5	%		79.5	90.9	97.0	83.9	97.4
4-Terphenyl-d14	1718-51-0	0.5	%		84.6	93.3	101	90.8	102
EP075S: Acid Extractable Surrogates									
2-Fluorophenol	367-12-4	0.5	%		90.2	91.6	101	96.8	95.1
Phenol-d6	13127-88-3	0.5	%		82.2	79.0	89.2	83.7	79.8
2-Chlorophenol-D4	93951-73-6	0.5	%		89.6	91.6	100	95.2	93.2
2.4.6-Tribromophenol	118-79-6	0.5	%		65.4	39.1	40.0	32.9	36.2
EP075T: Base/Neutral Extractable Surrogates									
Nitrobenzene-D5	4165-60-0	0.5	%		92.4	94.7	102	94.3	101
1.2-Dichlorobenzene-D4	2199-69-1	0.5	%		83.8	90.4	94.7	89.8	95.9
2-Fluorobiphenyl	321-60-8	0.5	%		99.9	110	118	107	115
Anthracene-d10	1719-06-8	0.5	%		86.2	104	105	94.3	100
4-Terphenyl-d14	1718-51-0	0.5	%		76.9	87.1	78.1	68.9	84.9
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		80.6	79.9	102	90.0	85.2
Toluene-D8	2037-26-5	0.2	%		81.1	80.6	102	90.8	85.9
4-Bromofluorobenzene	460-00-4	0.2	%		78.0	79.8	99.7	92.4	85.0
EP202S: Phenoxyacetic Acid Herbicide Surrogate									
2.4-Dichlorophenyl Acetic Acid	19719-28-9	0.02	%		60.2	88.7	61.4	63.6	55.8
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.0002	%		92.5	97.5	99.5	102	85.5
13C8-PFOA	----	0.0002	%		94.5	103	94.0	98.0	90.0

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	HA20_1.2_1.3_220824	HA25_0.1_0.2_220824	HA25_0.4_0.5_220824	QC102_220824	QC501_220825
				Sampling date / time	24-Aug-2022 00:00	24-Aug-2022 00:00	24-Aug-2022 00:00	24-Aug-2022 00:00	25-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2230964-032	ES2230964-034	ES2230964-035	ES2230964-037	ES2230964-045
					Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%		17.7	24.9	13.1	13.0	9.9
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		----	353	94.8	148	----
APPROVED IDENTIFIER:	----	-	--		----	J.SPOONER	J.SPOONER	J.SPOONER	----
EG005(ED093)T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg		8	22	8	6	----
Cadmium	7440-43-9	1	mg/kg		<1	<1	<1	<1	----
Chromium	7440-47-3	2	mg/kg		35	16	17	20	----
Copper	7440-50-8	5	mg/kg		10	41	19	6	----
Lead	7439-92-1	5	mg/kg		11	13	10	10	----
Nickel	7440-02-0	2	mg/kg		26	70	28	13	----
Zinc	7440-66-6	5	mg/kg		27	28	31	16	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		<0.1	0.1	<0.1	<0.1	----
EP066: Polychlorinated Biphenyls (PCB)									
Total Polychlorinated biphenyls	----	0.1	mg/kg		<0.1	<0.1	<0.1	<0.1	----
EP068A: Organochlorine Pesticides (OC)									
alpha-BHC	319-84-6	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	----
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	----
beta-BHC	319-85-7	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	----
gamma-BHC	58-89-9	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	----
delta-BHC	319-86-8	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	----
Heptachlor	76-44-8	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	----
Aldrin	309-00-2	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	----
Heptachlor epoxide	1024-57-3	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	----
^ Total Chlordane (sum)	----	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	----
trans-Chlordane	5103-74-2	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	----
alpha-Endosulfan	959-98-8	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	----
cis-Chlordane	5103-71-9	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	HA20_1.2_1.3_220824	HA25_0.1_0.2_220824	HA25_0.4_0.5_220824	QC102_220824	QC501_220825
				Sampling date / time	24-Aug-2022 00:00	24-Aug-2022 00:00	24-Aug-2022 00:00	24-Aug-2022 00:00	25-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2230964-032	ES2230964-034	ES2230964-035	ES2230964-037	ES2230964-045
					Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued									
Dieldrin	60-57-1	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	----
4.4`-DDE	72-55-9	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	----
Endrin	72-20-8	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	----
beta-Endosulfan	33213-65-9	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	----
^ Endosulfan (sum)	115-29-7	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	----
4.4`-DDD	72-54-8	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	----
Endrin aldehyde	7421-93-4	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	----
Endosulfan sulfate	1031-07-8	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	----
4.4`-DDT	50-29-3	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	----
Endrin ketone	53494-70-5	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	----
Methoxychlor	72-43-5	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	----
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	----
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	----
EP068B: Organophosphorus Pesticides (OP)									
Dichlorvos	62-73-7	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	----
Demeton-S-methyl	919-86-8	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	----
Monocrotophos	6923-22-4	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	----
Dimethoate	60-51-5	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	----
Diazinon	333-41-5	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	----
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	----
Parathion-methyl	298-00-0	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	----
Malathion	121-75-5	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	----
Fenthion	55-38-9	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	----
Chlorpyrifos	2921-88-2	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	----
Parathion	56-38-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	----
Pirimphos-ethyl	23505-41-1	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	----
Chlorfenvinphos	470-90-6	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	----
Bromophos-ethyl	4824-78-6	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	----
Fenamiphos	22224-92-6	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	----
Prothiofos	34643-46-4	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	----
Ethion	563-12-2	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	----
Carbophenothion	786-19-6	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	----
Azinphos Methyl	86-50-0	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	----
EP074A: Monocyclic Aromatic Hydrocarbons									

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	HA20_1.2_1.3_220824	HA25_0.1_0.2_220824	HA25_0.4_0.5_220824	QC102_220824	QC501_220825
				Sampling date / time	24-Aug-2022 00:00	24-Aug-2022 00:00	24-Aug-2022 00:00	24-Aug-2022 00:00	25-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2230964-032	ES2230964-034	ES2230964-035	ES2230964-037	ES2230964-045
					Result	Result	Result	Result	Result
EP074A: Monocyclic Aromatic Hydrocarbons - Continued									
Styrene	100-42-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Isopropylbenzene	98-82-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
n-Propylbenzene	103-65-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
1.3.5-Trimethylbenzene	108-67-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
sec-Butylbenzene	135-98-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
1.2.4-Trimethylbenzene	95-63-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
tert-Butylbenzene	98-06-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
p-Isopropyltoluene	99-87-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
n-Butylbenzene	104-51-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
EP074B: Oxygenated Compounds									
Vinyl Acetate	108-05-4	5	mg/kg		<5	<5	<5	<5	----
2-Butanone (MEK)	78-93-3	5	mg/kg		<5	<5	<5	<5	----
4-Methyl-2-pentanone (MIBK)	108-10-1	5	mg/kg		<5	<5	<5	<5	----
2-Hexanone (MBK)	591-78-6	5	mg/kg		<5	<5	<5	<5	----
EP074C: Sulfonated Compounds									
Carbon disulfide	75-15-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
EP074D: Fumigants									
2.2-Dichloropropane	594-20-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
1.2-Dichloropropane	78-87-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
cis-1.3-Dichloropropylene	10061-01-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
trans-1.3-Dichloropropylene	10061-02-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
1.2-Dibromoethane (EDB)	106-93-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
EP074E: Halogenated Aliphatic Compounds									
Dichlorodifluoromethane	75-71-8	5	mg/kg		<5	<5	<5	<5	----
Chloromethane	74-87-3	5	mg/kg		<5	<5	<5	<5	----
Vinyl chloride	75-01-4	5	mg/kg		<5	<5	<5	<5	----
Bromomethane	74-83-9	5	mg/kg		<5	<5	<5	<5	----
Chloroethane	75-00-3	5	mg/kg		<5	<5	<5	<5	----
Trichlorofluoromethane	75-69-4	5	mg/kg		<5	<5	<5	<5	----
1.1-Dichloroethene	75-35-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Iodomethane	74-88-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
trans-1.2-Dichloroethene	156-60-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
1.1-Dichloroethane	75-34-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
cis-1.2-Dichloroethene	156-59-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	HA20_1.2_1.3_220824	HA25_0.1_0.2_220824	HA25_0.4_0.5_220824	QC102_220824	QC501_220825
				Sampling date / time	24-Aug-2022 00:00	24-Aug-2022 00:00	24-Aug-2022 00:00	24-Aug-2022 00:00	25-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2230964-032	ES2230964-034	ES2230964-035	ES2230964-037	ES2230964-045
					Result	Result	Result	Result	Result
EP074E: Halogenated Aliphatic Compounds - Continued									
1.1.1-Trichloroethane	71-55-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
1.1-Dichloropropylene	563-58-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Carbon Tetrachloride	56-23-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
1.2-Dichloroethane	107-06-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Trichloroethene	79-01-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Dibromomethane	74-95-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
1.1.2-Trichloroethane	79-00-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
1.3-Dichloropropane	142-28-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Tetrachloroethene	127-18-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
1.1.1.2-Tetrachloroethane	630-20-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
trans-1.4-Dichloro-2-butene	110-57-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
cis-1.4-Dichloro-2-butene	1476-11-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
1.1.2.2-Tetrachloroethane	79-34-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
1.2.3-Trichloropropane	96-18-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Pentachloroethane	76-01-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
1.2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
EP074F: Halogenated Aromatic Compounds									
Chlorobenzene	108-90-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Bromobenzene	108-86-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
2-Chlorotoluene	95-49-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
4-Chlorotoluene	106-43-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
1.2.3-Trichlorobenzene	87-61-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
EP074G: Trihalomethanes									
Chloroform	67-66-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Bromodichloromethane	75-27-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Dibromochloromethane	124-48-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Bromoform	75-25-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Acenaphthylene	208-96-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Acenaphthene	83-32-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Fluorene	86-73-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Phenanthrene	85-01-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Anthracene	120-12-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	HA20_1.2_1.3_220824	HA25_0.1_0.2_220824	HA25_0.4_0.5_220824	QC102_220824	QC501_220825
				Sampling date / time	24-Aug-2022 00:00	24-Aug-2022 00:00	24-Aug-2022 00:00	24-Aug-2022 00:00	25-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2230964-032	ES2230964-034	ES2230964-035	ES2230964-037	ES2230964-045
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Fluoranthene	206-44-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Pyrene	129-00-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Benz(a)anthracene	56-55-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Chrysene	218-01-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		**0.6**	**0.6**	**0.6**	**0.6**	----
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		**1.2**	**1.2**	**1.2**	**1.2**	----
EP075A: Phenolic Compounds									
Phenol	108-95-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
2-Chlorophenol	95-57-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
2-Methylphenol	95-48-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
3- & 4-Methylphenol	1319-77-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
2-Nitrophenol	88-75-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
2.4-Dimethylphenol	105-67-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
2.4-Dichlorophenol	120-83-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
2.6-Dichlorophenol	87-65-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Pentachlorophenol	87-86-5	1	mg/kg		<1	<1	<1	<1	----
EP075B: Polynuclear Aromatic Hydrocarbons									
2-Methylnaphthalene	91-57-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
2-Chloronaphthalene	91-58-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
N-2-Fluorenyl Acetamide	53-96-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
7.12-Dimethylbenz(a)anthracene	57-97-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
3-Methylcholanthrene	56-49-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
EP075C: Phthalate Esters									

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	HA20_1.2_1.3_220824	HA25_0.1_0.2_220824	HA25_0.4_0.5_220824	QC102_220824	QC501_220825
				Sampling date / time	24-Aug-2022 00:00	24-Aug-2022 00:00	24-Aug-2022 00:00	24-Aug-2022 00:00	25-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2230964-032	ES2230964-034	ES2230964-035	ES2230964-037	ES2230964-045
					Result	Result	Result	Result	Result
EP075C: Phthalate Esters - Continued									
Dimethyl phthalate	131-11-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Diethyl phthalate	84-66-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Di-n-butyl phthalate	84-74-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Butyl benzyl phthalate	85-68-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
bis(2-ethylhexyl) phthalate	117-81-7	5.0	mg/kg		<5.0	<5.0	<5.0	<5.0	----
Di-n-octylphthalate	117-84-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
EP075D: Nitrosamines									
N-Nitrosomethylethylamine	10595-95-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
N-Nitrosodiethylamine	55-18-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
N-Nitrosopyrrolidine	930-55-2	1.0	mg/kg		<1.0	<1.0	<1.0	<1.0	----
N-Nitrosomorpholine	59-89-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
N-Nitrosodi-n-propylamine	621-64-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
N-Nitrosopiperidine	100-75-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
N-Nitrosodibutylamine	924-16-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	1.0	mg/kg		<1.0	<1.0	<1.0	<1.0	----
Methapyrilene	91-80-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
EP075E: Nitroaromatics and Ketones									
2-Picoline	109-06-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Acetophenone	98-86-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Nitrobenzene	98-95-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Isophorone	78-59-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
2.6-Dinitrotoluene	606-20-2	1.0	mg/kg		<1.0	<1.0	<1.0	<1.0	----
2.4-Dinitrotoluene	121-14-2	1.0	mg/kg		<1.0	<1.0	<1.0	<1.0	----
1-Naphthylamine	134-32-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
4-Nitroquinoline-N-oxide	56-57-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
5-Nitro-o-toluidine	99-55-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Azobenzene	103-33-3	1	mg/kg		<1	<1	<1	<1	----
1.3.5-Trinitrobenzene	99-35-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Phenacetin	62-44-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
4-Aminobiphenyl	92-67-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Pentachloronitrobenzene	82-68-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Pronamide	23950-58-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Dimethylaminoazobenzene	60-11-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Chlorobenzilate	510-15-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	HA20_1.2_1.3_220824	HA25_0.1_0.2_220824	HA25_0.4_0.5_220824	QC102_220824	QC501_220825
				Sampling date / time	24-Aug-2022 00:00	24-Aug-2022 00:00	24-Aug-2022 00:00	24-Aug-2022 00:00	25-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2230964-032	ES2230964-034	ES2230964-035	ES2230964-037	ES2230964-045
					Result	Result	Result	Result	Result
EP075E: Nitroaromatics and Ketones - Continued									
EP075F: Haloethers									
Bis(2-chloroethyl) ether	111-44-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Bis(2-chloroethoxy) methane	111-91-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
4-Chlorophenyl phenyl ether	7005-72-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
4-Bromophenyl phenyl ether	101-55-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
EP075G: Chlorinated Hydrocarbons									
1.3-Dichlorobenzene	541-73-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
1.4-Dichlorobenzene	106-46-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
1.2-Dichlorobenzene	95-50-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Hexachloroethane	67-72-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Hexachloropropylene	1888-71-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Hexachlorobutadiene	87-68-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Hexachlorocyclopentadiene	77-47-4	2.5	mg/kg		<2.5	<2.5	<2.5	<2.5	----
Pentachlorobenzene	608-93-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Hexachlorobenzene (HCB)	118-74-1	1.0	mg/kg		<1.0	<1.0	<1.0	<1.0	----
EP075H: Anilines and Benzidines									
Aniline	62-53-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
4-Chloroaniline	106-47-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
2-Nitroaniline	88-74-4	1.0	mg/kg		<1.0	<1.0	<1.0	<1.0	----
3-Nitroaniline	99-09-2	1.0	mg/kg		<1.0	<1.0	<1.0	<1.0	----
Dibenzofuran	132-64-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
4-Nitroaniline	100-01-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Carbazole	86-74-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
3.3`-Dichlorobenzidine	91-94-1	0.5	mg/kg		<0.5	<0.5	<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	----
C15 - C28 Fraction	----	100	mg/kg		<100	<100	<100	<100	----
C29 - C36 Fraction	----	100	mg/kg		<100	<100	<100	<100	----
^ C10 - C36 Fraction (sum)	----	50	mg/kg		<50	<50	<50	<50	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	<10	<10	<10

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	HA20_1.2_1.3_220824	HA25_0.1_0.2_220824	HA25_0.4_0.5_220824	QC102_220824	QC501_220825
			Sampling date / time	24-Aug-2022 00:00	24-Aug-2022 00:00	24-Aug-2022 00:00	24-Aug-2022 00:00	25-Aug-2022 00:00
Compound	CAS Number	LOR	Unit	ES2230964-032	ES2230964-034	ES2230964-035	ES2230964-037	ES2230964-045
				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	----
>C16 - C34 Fraction	----	100	mg/kg	<100	<100	<100	<100	----
>C34 - C40 Fraction	----	100	mg/kg	<100	<100	<100	<100	----
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	<50	<50	<50	----
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	<50	<50	<50	<50	----
EP080: BTEXN								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
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
EP202A: Phenoxyacetic Acid Herbicides by LCMS								
4-Chlorophenoxy acetic acid	122-88-3	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	----
2.4-DB	94-82-6	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	----
Dicamba	1918-00-9	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	----
Mecoprop	93-65-2	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	----
MCPA	94-74-6	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	----
2.4-DP	120-36-5	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	----
2.4-D	94-75-7	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	----
Triclopyr	55335-06-3	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	----
2.4.5-TP (Silvex)	93-72-1	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	----
2.4.5-T	93-76-5	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	----
MCPB	94-81-5	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	----
Picloram	1918-02-1	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	----
Clopyralid	1702-17-6	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	----
Fluroxypyr	69377-81-7	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	----
EP231A: Perfluoroalkyl Sulfonic Acids								
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	HA20_1.2_1.3_220824	HA25_0.1_0.2_220824	HA25_0.4_0.5_220824	QC102_220824	QC501_220825
				Sampling date / time	24-Aug-2022 00:00	24-Aug-2022 00:00	24-Aug-2022 00:00	24-Aug-2022 00:00	25-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2230964-032	ES2230964-034	ES2230964-035	ES2230964-037	ES2230964-045
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids - Continued									
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg		<0.0002	**0.0002**	**0.0004**	<0.0002	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg		<0.0002	**0.0063**	**0.0120**	<0.0002	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg		<0.0002	**0.0004**	**0.0007**	<0.0002	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg		<0.0002	**0.0223**	**0.0344**	<0.0002	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg		<0.0002	<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	<0.001	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg		<0.0002	**0.0002**	**0.0003**	<0.0002	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg		<0.0002	**0.0004**	**0.0005**	<0.0002	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg		<0.0002	**0.0005**	**0.0008**	<0.0002	----
Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg		<0.0002	**0.0254**	**0.0308**	<0.0002	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg		<0.0002	**0.0003**	**0.0003**	<0.0002	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg		<0.0002	**0.0024**	**0.0021**	<0.0002	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	----
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	----
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	----
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	HA20_1.2_1.3_220824	HA25_0.1_0.2_220824	HA25_0.4_0.5_220824	QC102_220824	QC501_220825
				Sampling date / time	24-Aug-2022 00:00	24-Aug-2022 00:00	24-Aug-2022 00:00	24-Aug-2022 00:00	25-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2230964-032	ES2230964-034	ES2230964-035	ES2230964-037	ES2230964-045
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg		<0.0005	<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	<0.0005	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	----
EP231P: PFAS Sums									
Sum of PFAS	----	0.0002	mg/kg		<0.0002	**0.0584**	**0.0823**	<0.0002	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg		<0.0002	**0.0286**	**0.0464**	<0.0002	----
Sum of PFAS (WA DER List)	----	0.0002	mg/kg		<0.0002	**0.0297**	**0.0480**	<0.0002	----
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		**87.1**	**94.8**	**73.1**	**84.5**	----
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%		**67.0**	**74.6**	**56.7**	**64.5**	----
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%		**67.2**	**78.2**	**55.4**	**57.3**	----
EP074S: VOC Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.5	%		**74.1**	**95.7**	**86.2**	**77.6**	----
Toluene-D8	2037-26-5	0.5	%		**77.8**	**99.1**	**93.6**	**85.3**	----
4-Bromofluorobenzene	460-00-4	0.5	%		**77.0**	**88.3**	**83.3**	**81.3**	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		**87.3**	**66.0**	**78.0**	**75.2**	----
2-Chlorophenol-D4	93951-73-6	0.5	%		**95.5**	**70.4**	**88.6**	**86.4**	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	HA20_1.2_1.3_220824	HA25_0.1_0.2_220824	HA25_0.4_0.5_220824	QC102_220824	QC501_220825
				Sampling date / time	24-Aug-2022 00:00	24-Aug-2022 00:00	24-Aug-2022 00:00	24-Aug-2022 00:00	25-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2230964-032	ES2230964-034	ES2230964-035	ES2230964-037	ES2230964-045
					Result	Result	Result	Result	Result
EP075(SIM)S: Phenolic Compound Surrogates - Continued									
2.4.6-Tribromophenol	118-79-6	0.5	%		68.0	41.0	68.6	68.2	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		108	102	99.1	95.3	----
Anthracene-d10	1719-06-8	0.5	%		96.6	116	82.8	88.1	----
4-Terphenyl-d14	1718-51-0	0.5	%		102	96.6	93.4	91.0	----
EP075S: Acid Extractable Surrogates									
2-Fluorophenol	367-12-4	0.5	%		97.5	79.8	96.3	100	----
Phenol-d6	13127-88-3	0.5	%		82.1	67.4	87.0	83.2	----
2-Chlorophenol-D4	93951-73-6	0.5	%		99.4	87.3	98.2	95.1	----
2.4.6-Tribromophenol	118-79-6	0.5	%		33.8	86.8	62.4	65.1	----
EP075T: Base/Neutral Extractable Surrogates									
Nitrobenzene-D5	4165-60-0	0.5	%		103	78.2	98.2	93.7	----
1.2-Dichlorobenzene-D4	2199-69-1	0.5	%		100	93.3	92.4	88.9	----
2-Fluorobiphenyl	321-60-8	0.5	%		118	99.5	113	109	----
Anthracene-d10	1719-06-8	0.5	%		106	85.9	91.4	93.0	----
4-Terphenyl-d14	1718-51-0	0.5	%		85.0	66.7	81.5	80.6	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		78.1	101	90.9	82.0	109
Toluene-D8	2037-26-5	0.2	%		75.6	96.3	90.7	82.6	99.3
4-Bromofluorobenzene	460-00-4	0.2	%		81.4	89.3	86.4	83.6	90.0
EP202S: Phenoxyacetic Acid Herbicide Surrogate									
2.4-Dichlorophenyl Acetic Acid	19719-28-9	0.02	%		56.2	75.3	55.2	78.2	----
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.0002	%		97.5	93.0	96.5	97.0	----
13C8-PFOA	----	0.0002	%		100	106	99.5	108	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	SED01_220826	SED02_220826	QC103_220824	SS01_220826	SS02_220826
			Sampling date / time	26-Aug-2022 00:00	26-Aug-2022 00:00	24-Aug-2022 00:00	26-Aug-2022 00:00	26-Aug-2022 00:00
Compound	CAS Number	LOR	Unit	ES2230964-053	ES2230964-054	ES2230964-060	ES2230964-061	ES2230964-062
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	33.2	32.0	56.7	20.7	23.3
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	----	----	No	----	----
Asbestos (Trace)	1332-21-4	5	Fibres	----	----	No	----	----
Asbestos Type	1332-21-4	-	--	----	----	-	----	----
Synthetic Mineral Fibre	----	0.1	g/kg	----	----	No	----	----
Organic Fibre	----	0.1	g/kg	----	----	No	----	----
Sample weight (dry)	----	0.01	g	----	----	70.3	----	----
APPROVED IDENTIFIER:	----	-	--	----	----	J.SPOONER	----	----
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	13	8	24	13	6
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	30	21	32	8	12
Copper	7440-50-8	5	mg/kg	10	11	359	66	30
Lead	7439-92-1	5	mg/kg	12	11	33	85	10
Nickel	7440-02-0	2	mg/kg	20	19	144	28	48
Zinc	7440-66-6	5	mg/kg	56	31	288	81	22
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.5	0.2	<0.1
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
^ Total Chlordane (sum)	----	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	SED01_220826	SED02_220826	QC103_220824	SS01_220826	SS02_220826
				Sampling date / time	26-Aug-2022 00:00	26-Aug-2022 00:00	24-Aug-2022 00:00	26-Aug-2022 00:00	26-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2230964-053	ES2230964-054	ES2230964-060	ES2230964-061	ES2230964-062
					Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued									
Dieldrin	60-57-1	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDE	72-55-9	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Endrin	72-20-8	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
beta-Endosulfan	33213-65-9	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
^ Endosulfan (sum)	115-29-7	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDD	72-54-8	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Endrin aldehyde	7421-93-4	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Endosulfan sulfate	1031-07-8	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDT	50-29-3	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Endrin ketone	53494-70-5	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Methoxychlor	72-43-5	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
EP068B: Organophosphorus Pesticides (OP)									
Dichlorvos	62-73-7	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Demeton-S-methyl	919-86-8	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Monocrotophos	6923-22-4	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Dimethoate	60-51-5	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Diazinon	333-41-5	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Parathion-methyl	298-00-0	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Malathion	121-75-5	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Fenthion	55-38-9	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Chlorpyrifos	2921-88-2	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Parathion	56-38-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Pirimphos-ethyl	23505-41-1	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Chlorfenvinphos	470-90-6	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Bromophos-ethyl	4824-78-6	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Fenamiphos	22224-92-6	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Prothiofos	34643-46-4	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Ethion	563-12-2	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Carbophenothion	786-19-6	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Azinphos Methyl	86-50-0	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
EP074A: Monocyclic Aromatic Hydrocarbons									

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	SED01_220826	SED02_220826	QC103_220824	SS01_220826	SS02_220826
				Sampling date / time	26-Aug-2022 00:00	26-Aug-2022 00:00	24-Aug-2022 00:00	26-Aug-2022 00:00	26-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2230964-053	ES2230964-054	ES2230964-060	ES2230964-061	ES2230964-062
					Result	Result	Result	Result	Result
EP074A: Monocyclic Aromatic Hydrocarbons - Continued									
Styrene	100-42-5	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
Isopropylbenzene	98-82-8	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
n-Propylbenzene	103-65-1	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
1.3.5-Trimethylbenzene	108-67-8	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
sec-Butylbenzene	135-98-8	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
1.2.4-Trimethylbenzene	95-63-6	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
tert-Butylbenzene	98-06-6	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
p-Isopropyltoluene	99-87-6	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
n-Butylbenzene	104-51-8	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
EP074B: Oxygenated Compounds									
Vinyl Acetate	108-05-4	5	mg/kg		<5	<5	<5	----	----
2-Butanone (MEK)	78-93-3	5	mg/kg		<5	<5	<5	----	----
4-Methyl-2-pentanone (MIBK)	108-10-1	5	mg/kg		<5	<5	<5	----	----
2-Hexanone (MBK)	591-78-6	5	mg/kg		<5	<5	<5	----	----
EP074C: Sulfonated Compounds									
Carbon disulfide	75-15-0	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
EP074D: Fumigants									
2.2-Dichloropropane	594-20-7	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
1.2-Dichloropropane	78-87-5	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
cis-1.3-Dichloropropylene	10061-01-5	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
trans-1.3-Dichloropropylene	10061-02-6	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
1.2-Dibromoethane (EDB)	106-93-4	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
EP074E: Halogenated Aliphatic Compounds									
Dichlorodifluoromethane	75-71-8	5	mg/kg		<5	<5	<5	----	----
Chloromethane	74-87-3	5	mg/kg		<5	<5	<5	----	----
Vinyl chloride	75-01-4	5	mg/kg		<5	<5	<5	----	----
Bromomethane	74-83-9	5	mg/kg		<5	<5	<5	----	----
Chloroethane	75-00-3	5	mg/kg		<5	<5	<5	----	----
Trichlorofluoromethane	75-69-4	5	mg/kg		<5	<5	<5	----	----
1.1-Dichloroethene	75-35-4	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
Iodomethane	74-88-4	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
trans-1.2-Dichloroethene	156-60-5	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
1.1-Dichloroethane	75-34-3	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
cis-1.2-Dichloroethene	156-59-2	0.5	mg/kg		<0.5	<0.5	<0.5	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	SED01_220826	SED02_220826	QC103_220824	SS01_220826	SS02_220826
				Sampling date / time	26-Aug-2022 00:00	26-Aug-2022 00:00	24-Aug-2022 00:00	26-Aug-2022 00:00	26-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2230964-053	ES2230964-054	ES2230964-060	ES2230964-061	ES2230964-062
					Result	Result	Result	Result	Result
EP074E: Halogenated Aliphatic Compounds - Continued									
1.1.1-Trichloroethane	71-55-6	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
1.1-Dichloropropylene	563-58-6	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
Carbon Tetrachloride	56-23-5	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
1.2-Dichloroethane	107-06-2	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
Trichloroethene	79-01-6	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
Dibromomethane	74-95-3	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
1.1.2-Trichloroethane	79-00-5	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
1.3-Dichloropropane	142-28-9	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
Tetrachloroethene	127-18-4	0.5	mg/kg		<0.5	<0.5	**0.9**	----	----
1.1.1.2-Tetrachloroethane	630-20-6	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
trans-1.4-Dichloro-2-butene	110-57-6	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
cis-1.4-Dichloro-2-butene	1476-11-5	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
1.1.2.2-Tetrachloroethane	79-34-5	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
1.2.3-Trichloropropane	96-18-4	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
Pentachloroethane	76-01-7	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
1.2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
EP074F: Halogenated Aromatic Compounds									
Chlorobenzene	108-90-7	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
Bromobenzene	108-86-1	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
2-Chlorotoluene	95-49-8	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
4-Chlorotoluene	106-43-4	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
1.2.3-Trichlorobenzene	87-61-6	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
EP074G: Trihalomethanes									
Chloroform	67-66-3	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
Bromodichloromethane	75-27-4	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
Dibromochloromethane	124-48-1	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
Bromoform	75-25-2	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
EP075(SIM)A: Phenolic Compounds									
Phenol	108-95-2	0.5	mg/kg		----	----	----	<0.5	<0.5
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	1	mg/kg		----	----	----	<1	<1
2-Nitrophenol	88-75-5	0.5	mg/kg		----	----	----	<0.5	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg		----	----	----	<0.5	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	SED01_220826	SED02_220826	QC103_220824	SS01_220826	SS02_220826
				Sampling date / time	26-Aug-2022 00:00	26-Aug-2022 00:00	24-Aug-2022 00:00	26-Aug-2022 00:00	26-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2230964-053	ES2230964-054	ES2230964-060	ES2230964-061	ES2230964-062
					Result	Result	Result	Result	Result
EP075(SIM)A: Phenolic Compounds - Continued									
2.4-Dichlorophenol	120-83-2	0.5	mg/kg		----	----	----	<0.5	<0.5
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	2	mg/kg		----	----	----	<2	<2
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		<0.5	<0.5	<0.8	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg		<0.5	<0.5	<0.8	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg		<0.5	<0.5	<0.8	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg		<0.5	<0.5	<0.8	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg		<0.5	<0.5	<0.8	**1.5**	**1.8**
Anthracene	120-12-7	0.5	mg/kg		<0.5	<0.5	<0.8	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg		<0.5	<0.5	<0.8	**1.1**	**1.3**
Pyrene	129-00-0	0.5	mg/kg		<0.5	<0.5	<0.8	**0.9**	**0.9**
Benz(a)anthracene	56-55-3	0.5	mg/kg		<0.5	<0.5	<0.8	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg		<0.5	<0.5	<0.8	**0.5**	<0.5
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		<0.5	<0.5	<0.8	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		<0.5	<0.5	<0.8	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg		<0.5	<0.5	<0.8	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		<0.5	<0.5	<0.8	<0.5	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		<0.5	<0.5	<0.8	<0.5	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		<0.5	<0.5	<0.8	<0.5	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		<0.5	<0.5	<0.5	**4.0**	**4.0**
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		**0.6**	**0.6**	**1.0**	**0.6**	**0.6**
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		**1.2**	**1.2**	**1.9**	**1.2**	**1.2**
EP075A: Phenolic Compounds									
Phenol	108-95-2	0.5	mg/kg		<0.5	<0.5	<0.6	----	----
2-Chlorophenol	95-57-8	0.5	mg/kg		<0.5	<0.5	<0.6	----	----
2-Methylphenol	95-48-7	0.5	mg/kg		<0.5	<0.5	<0.6	----	----
3- & 4-Methylphenol	1319-77-3	0.5	mg/kg		**1.4**	<0.5	<0.6	----	----
2-Nitrophenol	88-75-5	0.5	mg/kg		<0.5	<0.5	<0.6	----	----
2.4-Dimethylphenol	105-67-9	0.5	mg/kg		<0.5	<0.5	<0.6	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	SED01_220826	SED02_220826	QC103_220824	SS01_220826	SS02_220826
				Sampling date / time	26-Aug-2022 00:00	26-Aug-2022 00:00	24-Aug-2022 00:00	26-Aug-2022 00:00	26-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2230964-053	ES2230964-054	ES2230964-060	ES2230964-061	ES2230964-062
					Result	Result	Result	Result	Result
EP075A: Phenolic Compounds - Continued									
2.4-Dichlorophenol	120-83-2	0.5	mg/kg		<0.5	<0.5	<0.6	----	----
2.6-Dichlorophenol	87-65-0	0.5	mg/kg		<0.5	<0.5	<0.6	----	----
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg		<0.5	<0.5	<0.6	----	----
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg		<0.5	<0.5	<0.6	----	----
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg		<0.5	<0.5	<0.6	----	----
Pentachlorophenol	87-86-5	1	mg/kg		<1	<1	<1	----	----
EP075B: Polynuclear Aromatic Hydrocarbons									
2-Methylnaphthalene	91-57-6	0.5	mg/kg		<0.5	<0.5	<0.6	----	----
2-Chloronaphthalene	91-58-7	0.5	mg/kg		<0.5	<0.5	<0.6	----	----
N-2-Fluorenyl Acetamide	53-96-3	0.5	mg/kg		<0.5	<0.5	<0.6	----	----
7.12-Dimethylbenz(a)anthracene	57-97-6	0.5	mg/kg		<0.5	<0.5	<0.6	----	----
3-Methylcholanthrene	56-49-5	0.5	mg/kg		<0.5	<0.5	<0.6	----	----
EP075C: Phthalate Esters									
Dimethyl phthalate	131-11-3	0.5	mg/kg		<0.5	<0.5	<0.6	----	----
Diethyl phthalate	84-66-2	0.5	mg/kg		<0.5	<0.5	<0.6	----	----
Di-n-butyl phthalate	84-74-2	0.5	mg/kg		<0.5	<0.5	<0.6	----	----
Butyl benzyl phthalate	85-68-7	0.5	mg/kg		<0.5	<0.5	<0.6	----	----
bis(2-ethylhexyl) phthalate	117-81-7	5.0	mg/kg		<5.0	<5.0	<5.0	----	----
Di-n-octylphthalate	117-84-0	0.5	mg/kg		<0.5	<0.5	<0.6	----	----
EP075D: Nitrosamines									
N-Nitrosomethylethylamine	10595-95-6	0.5	mg/kg		<0.5	<0.5	<0.6	----	----
N-Nitrosodiethylamine	55-18-5	0.5	mg/kg		<0.5	<0.5	<0.6	----	----
N-Nitrosopyrrolidine	930-55-2	1.0	mg/kg		<1.0	<1.0	<1.0	----	----
N-Nitrosomorpholine	59-89-2	0.5	mg/kg		<0.5	<0.5	<0.6	----	----
N-Nitrosodi-n-propylamine	621-64-7	0.5	mg/kg		<0.5	<0.5	<0.6	----	----
N-Nitrosopiperidine	100-75-4	0.5	mg/kg		<0.5	<0.5	<0.6	----	----
N-Nitrosodibutylamine	924-16-3	0.5	mg/kg		<0.5	<0.5	<0.6	----	----
N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	1.0	mg/kg		<1.0	<1.0	<1.2	----	----
Methapyrilene	91-80-5	0.5	mg/kg		<0.5	<0.5	<0.6	----	----
EP075E: Nitroaromatics and Ketones									
2-Picoline	109-06-8	0.5	mg/kg		<0.5	<0.5	<0.6	----	----
Acetophenone	98-86-2	0.5	mg/kg		<0.5	<0.5	<0.6	----	----
Nitrobenzene	98-95-3	0.5	mg/kg		<0.5	<0.5	<0.6	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	SED01_220826	SED02_220826	QC103_220824	SS01_220826	SS02_220826
				Sampling date / time	26-Aug-2022 00:00	26-Aug-2022 00:00	24-Aug-2022 00:00	26-Aug-2022 00:00	26-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2230964-053	ES2230964-054	ES2230964-060	ES2230964-061	ES2230964-062
					Result	Result	Result	Result	Result
EP075E: Nitroaromatics and Ketones - Continued									
Isophorone	78-59-1	0.5	mg/kg		<0.5	<0.5	<0.6	----	----
2.6-Dinitrotoluene	606-20-2	1.0	mg/kg		<1.0	<1.0	<1.0	----	----
2.4-Dinitrotoluene	121-14-2	1.0	mg/kg		<1.0	<1.0	<1.0	----	----
1-Naphthylamine	134-32-7	0.5	mg/kg		<0.5	<0.5	<0.6	----	----
4-Nitroquinoline-N-oxide	56-57-5	0.5	mg/kg		<0.5	<0.5	<0.6	----	----
5-Nitro-o-toluidine	99-55-8	0.5	mg/kg		<0.5	<0.5	<0.6	----	----
Azobenzene	103-33-3	1	mg/kg		<1	<1	<1	----	----
1.3.5-Trinitrobenzene	99-35-4	0.5	mg/kg		<0.5	<0.5	<0.6	----	----
Phenacetin	62-44-2	0.5	mg/kg		<0.5	<0.5	<0.6	----	----
4-Aminobiphenyl	92-67-1	0.5	mg/kg		<0.5	<0.5	<0.6	----	----
Pentachloronitrobenzene	82-68-8	0.5	mg/kg		<0.5	<0.5	<0.6	----	----
Pronamide	23950-58-5	0.5	mg/kg		<0.5	<0.5	<0.6	----	----
Dimethylaminoazobenzene	60-11-7	0.5	mg/kg		<0.5	<0.5	<0.6	----	----
Chlorobenzilate	510-15-6	0.5	mg/kg		<0.5	<0.5	<0.6	----	----
EP075F: Haloethers									
Bis(2-chloroethyl) ether	111-44-4	0.5	mg/kg		<0.5	<0.5	<0.6	----	----
Bis(2-chloroethoxy) methane	111-91-1	0.5	mg/kg		<0.5	<0.5	<0.6	----	----
4-Chlorophenyl phenyl ether	7005-72-3	0.5	mg/kg		<0.5	<0.5	<0.6	----	----
4-Bromophenyl phenyl ether	101-55-3	0.5	mg/kg		<0.5	<0.5	<0.6	----	----
EP075G: Chlorinated Hydrocarbons									
1.3-Dichlorobenzene	541-73-1	0.5	mg/kg		<0.5	<0.5	<0.6	----	----
1.4-Dichlorobenzene	106-46-7	0.5	mg/kg		<0.5	<0.5	<0.6	----	----
1.2-Dichlorobenzene	95-50-1	0.5	mg/kg		<0.5	<0.5	<0.6	----	----
Hexachloroethane	67-72-1	0.5	mg/kg		<0.5	<0.5	<0.6	----	----
1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg		<0.5	<0.5	<0.6	----	----
Hexachloropropylene	1888-71-7	0.5	mg/kg		<0.5	<0.5	<0.6	----	----
Hexachlorobutadiene	87-68-3	0.5	mg/kg		<0.5	<0.5	<0.6	----	----
Hexachlorocyclopentadiene	77-47-4	2.5	mg/kg		<2.5	<2.5	<2.5	----	----
Pentachlorobenzene	608-93-5	0.5	mg/kg		<0.5	<0.5	<0.6	----	----
Hexachlorobenzene (HCB)	118-74-1	1.0	mg/kg		<1.0	<1.0	<1.0	----	----
EP075H: Anilines and Benzidines									
Aniline	62-53-3	0.5	mg/kg		<0.5	<0.5	<0.6	----	----
4-Chloroaniline	106-47-8	0.5	mg/kg		<0.5	<0.5	<0.6	----	----
2-Nitroaniline	88-74-4	1.0	mg/kg		<1.0	<1.0	<1.0	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	SED01_220826	SED02_220826	QC103_220824	SS01_220826	SS02_220826
				Sampling date / time	26-Aug-2022 00:00	26-Aug-2022 00:00	24-Aug-2022 00:00	26-Aug-2022 00:00	26-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2230964-053	ES2230964-054	ES2230964-060	ES2230964-061	ES2230964-062
					Result	Result	Result	Result	Result
EP075H: Anilines and Benzidines - Continued									
3-Nitroaniline	99-09-2	1.0	mg/kg		<1.0	<1.0	<1.0	----	----
Dibenzofuran	132-64-9	0.5	mg/kg		<0.5	<0.5	<0.6	----	----
4-Nitroaniline	100-01-6	0.5	mg/kg		<0.5	<0.5	<0.6	----	----
Carbazole	86-74-8	0.5	mg/kg		<0.5	<0.5	<0.6	----	----
3.3`-Dichlorobenzidine	91-94-1	0.5	mg/kg		<0.5	<0.5	<0.6	----	----
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		**140**	<100	<100	**250**	**290**
C29 - C36 Fraction	----	100	mg/kg		<100	<100	<100	**140**	**150**
^ C10 - C36 Fraction (sum)	----	50	mg/kg		**140**	<50	<50	**390**	**440**
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg		<50	<50	<50	**50**	<50
>C16 - C34 Fraction	----	100	mg/kg		**190**	<100	<100	**320**	**380**
>C34 - C40 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		**190**	<50	<50	**370**	**380**
^ >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
EP202A: Phenoxyacetic Acid Herbicides by LCMS									
4-Chlorophenoxy acetic acid	122-88-3	0.02	mg/kg		<0.02	<0.02	<0.02	<0.02	<0.02
2.4-DB	94-82-6	0.02	mg/kg		<0.02	<0.02	<0.02	<0.02	<0.02
Dicamba	1918-00-9	0.02	mg/kg		<0.02	<0.02	<0.02	<0.02	<0.02

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	SED01_220826	SED02_220826	QC103_220824	SS01_220826	SS02_220826
				Sampling date / time	26-Aug-2022 00:00	26-Aug-2022 00:00	24-Aug-2022 00:00	26-Aug-2022 00:00	26-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2230964-053	ES2230964-054	ES2230964-060	ES2230964-061	ES2230964-062
					Result	Result	Result	Result	Result
EP202A: Phenoxyacetic Acid Herbicides by LCMS - Continued									
Mecoprop	93-65-2	0.02	mg/kg		<0.02	<0.02	<0.02	<0.02	<0.02
MCPA	94-74-6	0.02	mg/kg		<0.02	<0.02	<0.02	<0.02	<0.02
2.4-DP	120-36-5	0.02	mg/kg		<0.02	<0.02	<0.02	<0.02	<0.02
2.4-D	94-75-7	0.02	mg/kg		<0.02	<0.02	<0.02	<0.02	<0.02
Triclopyr	55335-06-3	0.02	mg/kg		<0.02	<0.02	<0.02	<0.02	<0.02
2.4.5-TP (Silvex)	93-72-1	0.02	mg/kg		<0.02	<0.02	<0.02	<0.02	<0.02
2.4.5-T	93-76-5	0.02	mg/kg		<0.02	<0.02	<0.02	<0.02	<0.02
MCPB	94-81-5	0.02	mg/kg		<0.02	<0.02	<0.02	<0.02	<0.02
Picloram	1918-02-1	0.02	mg/kg		<0.02	<0.02	<0.02	<0.02	<0.02
Clopyralid	1702-17-6	0.02	mg/kg		<0.02	<0.02	<0.02	<0.02	<0.02
Fluroxypyr	69377-81-7	0.02	mg/kg		<0.02	<0.02	<0.02	<0.02	<0.02
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg		----	----	**0.0014**	----	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg		----	----	**0.0059**	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg		----	----	**0.168**	----	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg		----	----	**0.0089**	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg		----	----	**0.290**	----	----
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		----	----	**0.0014**	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg		----	----	**0.0080**	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg		----	----	**0.0015**	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg		----	----	**0.0056**	----	----
Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg		----	----	**0.0744**	----	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg		----	----	**0.0014**	----	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg		----	----	**0.0825**	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	SED01_220826	SED02_220826	QC103_220824	SS01_220826	SS02_220826
				Sampling date / time	26-Aug-2022 00:00	26-Aug-2022 00:00	24-Aug-2022 00:00	26-Aug-2022 00:00	26-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2230964-053	ES2230964-054	ES2230964-060	ES2230964-061	ES2230964-062
					Result	Result	Result	Result	Result
EP231B: Perfluoroalkyl Carboxylic Acids - Continued									
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg		----	----	**0.0013**	----	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg		----	----	**0.0434**	----	----
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	----	----
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		----	----	**0.694**	----	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg		----	----	**0.458**	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	SED01_220826	SED02_220826	QC103_220824	SS01_220826	SS02_220826
				Sampling date / time	26-Aug-2022 00:00	26-Aug-2022 00:00	24-Aug-2022 00:00	26-Aug-2022 00:00	26-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2230964-053	ES2230964-054	ES2230964-060	ES2230964-061	ES2230964-062
					Result	Result	Result	Result	Result
EP231P: PFAS Sums - Continued									
Sum of PFAS (WA DER List)	----	0.0002	mg/kg		----	----	0.476	----	----
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		75.6	76.6	79.2	73.6	82.3
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%		89.4	87.4	66.4	85.9	94.0
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%		97.6	90.5	68.1	92.6	105
EP074S: VOC Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.5	%		86.7	90.8	87.6	----	----
Toluene-D8	2037-26-5	0.5	%		93.0	78.3	81.0	----	----
4-Bromofluorobenzene	460-00-4	0.5	%		86.4	78.6	65.3	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		83.2	86.6	67.2	75.9	66.9
2-Chlorophenol-D4	93951-73-6	0.5	%		90.9	95.0	77.8	83.4	71.4
2.4.6-Tribromophenol	118-79-6	0.5	%		88.3	92.0	61.6	80.8	64.7
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		96.0	99.0	88.6	92.9	96.0
Anthracene-d10	1719-06-8	0.5	%		93.0	95.8	73.4	82.9	69.6
4-Terphenyl-d14	1718-51-0	0.5	%		90.6	95.5	71.8	86.8	85.8
EP075S: Acid Extractable Surrogates									
2-Fluorophenol	367-12-4	0.5	%		105	108	89.5	----	----
Phenol-d6	13127-88-3	0.5	%		94.0	93.2	82.3	----	----
2-Chlorophenol-D4	93951-73-6	0.5	%		105	107	87.9	----	----
2.4.6-Tribromophenol	118-79-6	0.5	%		90.1	65.6	70.4	----	----
EP075T: Base/Neutral Extractable Surrogates									
Nitrobenzene-D5	4165-60-0	0.5	%		106	105	90.2	----	----
1.2-Dichlorobenzene-D4	2199-69-1	0.5	%		96.9	99.0	82.4	----	----
2-Fluorobiphenyl	321-60-8	0.5	%		121	123	104	----	----
Anthracene-d10	1719-06-8	0.5	%		106	107	64.5	----	----
4-Terphenyl-d14	1718-51-0	0.5	%		95.1	84.5	62.0	----	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		91.5	86.4	85.4	93.5	112
Toluene-D8	2037-26-5	0.2	%		90.1	78.5	76.3	78.4	92.4
4-Bromofluorobenzene	460-00-4	0.2	%		88.7	90.3	72.0	75.1	76.9

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	SED01_220826	SED02_220826	QC103_220824	SS01_220826	SS02_220826
				Sampling date / time	26-Aug-2022 00:00	26-Aug-2022 00:00	24-Aug-2022 00:00	26-Aug-2022 00:00	26-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2230964-053	ES2230964-054	ES2230964-060	ES2230964-061	ES2230964-062
					Result	Result	Result	Result	Result
EP202S: Phenoxyacetic Acid Herbicide Surrogate									
2.4-Dichlorophenyl Acetic Acid	19719-28-9	0.02	%		**64.2**	**83.8**	**73.7**	**57.2**	**64.4**
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.0002	%		**----**	**----**	**118**	**----**	**----**
13C8-PFOA	----	0.0002	%		**----**	**----**	**93.5**	**----**	**----**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	SS03_220826	SS04_220826	SS05_220826	SS06_220826	SS07_220826
				Sampling date / time	26-Aug-2022 00:00	26-Aug-2022 00:00	26-Aug-2022 00:00	26-Aug-2022 00:00	26-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2230964-063	ES2230964-064	ES2230964-065	ES2230964-066	ES2230964-067
					Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%		10.7	23.3	10.3	15.1	22.2
EG005(ED093)T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg		5	6	<5	6	17
Cadmium	7440-43-9	1	mg/kg		<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg		9	13	10	10	10
Copper	7440-50-8	5	mg/kg		26	30	20	23	38
Lead	7439-92-1	5	mg/kg		14	11	8	12	16
Nickel	7440-02-0	2	mg/kg		23	49	28	32	34
Zinc	7440-66-6	5	mg/kg		36	30	26	18	18
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		<0.1	<0.1	<0.1	<0.1	<0.1
EP066: Polychlorinated Biphenyls (PCB)									
Total Polychlorinated biphenyls	----	0.1	mg/kg		<0.1	<0.1	<0.1	<0.1	<0.1
EP068A: Organochlorine Pesticides (OC)									
alpha-BHC	319-84-6	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
beta-BHC	319-85-7	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
gamma-BHC	58-89-9	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
delta-BHC	319-86-8	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor	76-44-8	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Aldrin	309-00-2	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor epoxide	1024-57-3	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
^ Total Chlordane (sum)	----	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
trans-Chlordane	5103-74-2	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
alpha-Endosulfan	959-98-8	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
cis-Chlordane	5103-71-9	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Dieldrin	60-57-1	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDE	72-55-9	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Endrin	72-20-8	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
beta-Endosulfan	33213-65-9	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
^ Endosulfan (sum)	115-29-7	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
4.4`-DDD	72-54-8	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Endrin aldehyde	7421-93-4	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
Endosulfan sulfate	1031-07-8	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	SS03_220826	SS04_220826	SS05_220826	SS06_220826	SS07_220826
			Sampling date / time	26-Aug-2022 00:00	26-Aug-2022 00:00	26-Aug-2022 00:00	26-Aug-2022 00:00	26-Aug-2022 00:00
Compound	CAS Number	LOR	Unit	ES2230964-063	ES2230964-064	ES2230964-065	ES2230964-066	ES2230964-067
				Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued								
4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
EP068B: Organophosphorus Pesticides (OP)								
Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
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

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	SS03_220826	SS04_220826	SS05_220826	SS06_220826	SS07_220826
				Sampling date / time	26-Aug-2022 00:00	26-Aug-2022 00:00	26-Aug-2022 00:00	26-Aug-2022 00:00	26-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2230964-063	ES2230964-064	ES2230964-065	ES2230964-066	ES2230964-067
					Result	Result	Result	Result	Result
EP075(SIM)A: Phenolic Compounds - Continued									
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		**2.6**	**1.9**	**1.5**	**1.7**	**2.8**
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		**1.4**	**1.2**	**0.9**	**1.0**	**1.4**
Pyrene	129-00-0	0.5	mg/kg		**1.0**	**0.9**	**0.6**	**0.6**	**1.0**
Benz(a)anthracene	56-55-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	**0.5**
Chrysene	218-01-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	**0.6**
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		**5.0**	**4.0**	**3.0**	**3.3**	**6.3**
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		**0.6**	**0.6**	**0.6**	**0.6**	**0.6**
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		**1.2**	**1.2**	**1.2**	**1.2**	**1.2**
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg		**340**	**340**	**300**	**290**	**290**
C29 - C36 Fraction	----	100	mg/kg		**160**	**170**	**160**	**140**	**140**
^ C10 - C36 Fraction (sum)	----	50	mg/kg		**500**	**510**	**460**	**430**	**430**
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	SS03_220826	SS04_220826	SS05_220826	SS06_220826	SS07_220826
			Sampling date / time	26-Aug-2022 00:00	26-Aug-2022 00:00	26-Aug-2022 00:00	26-Aug-2022 00:00	26-Aug-2022 00:00
Compound	CAS Number	LOR	Unit	ES2230964-063	ES2230964-064	ES2230964-065	ES2230964-066	ES2230964-067
				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	**80**	<50	**50**	**60**	**60**
>C16 - C34 Fraction	----	100	mg/kg	**400**	**440**	**380**	**380**	**350**
>C34 - C40 Fraction	----	100	mg/kg	**110**	<100	**110**	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	**590**	**440**	**540**	**440**	**410**
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	**80**	<50	**50**	**60**	**60**
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
EP202A: Phenoxyacetic Acid Herbicides by LCMS								
4-Chlorophenoxy acetic acid	122-88-3	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
2.4-DB	94-82-6	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
Dicamba	1918-00-9	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
Mecoprop	93-65-2	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
MCPA	94-74-6	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
2.4-DP	120-36-5	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
2.4-D	94-75-7	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
Triclopyr	55335-06-3	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
2.4.5-TP (Silvex)	93-72-1	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
2.4.5-T	93-76-5	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
MCPB	94-81-5	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
Picloram	1918-02-1	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
Clopyralid	1702-17-6	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
Fluroxypyr	69377-81-7	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02
EP066S: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	**74.2**	**70.9**	**72.1**	**75.8**	**77.4**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	SS03_220826	SS04_220826	SS05_220826	SS06_220826	SS07_220826
				Sampling date / time	26-Aug-2022 00:00	26-Aug-2022 00:00	26-Aug-2022 00:00	26-Aug-2022 00:00	26-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2230964-063	ES2230964-064	ES2230964-065	ES2230964-066	ES2230964-067
					Result	Result	Result	Result	Result
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%		90.3	77.8	83.1	87.4	96.5
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%		87.0	84.2	87.2	94.3	99.9
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		77.8	63.8	75.3	63.6	75.2
2-Chlorophenol-D4	93951-73-6	0.5	%		85.8	68.3	83.1	70.6	81.9
2.4.6-Tribromophenol	118-79-6	0.5	%		91.5	63.7	83.2	72.8	81.5
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		92.4	88.3	90.4	90.2	93.4
Anthracene-d10	1719-06-8	0.5	%		81.0	74.5	81.6	69.0	81.6
4-Terphenyl-d14	1718-51-0	0.5	%		86.2	82.2	84.3	77.1	87.5
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		89.9	87.4	102	94.1	91.4
Toluene-D8	2037-26-5	0.2	%		78.5	76.3	86.8	88.0	79.9
4-Bromofluorobenzene	460-00-4	0.2	%		88.4	87.7	81.8	90.8	77.5
EP202S: Phenoxyacetic Acid Herbicide Surrogate									
2.4-Dichlorophenyl Acetic Acid	19719-28-9	0.02	%		62.9	69.6	66.3	60.8	64.1

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	SS08_220826	SS09_220826	SS10_220826	QC105_220826	----
				Sampling date / time	26-Aug-2022 00:00	26-Aug-2022 00:00	26-Aug-2022 00:00	26-Aug-2022 00:00	----
Compound	CAS Number	LOR	Unit		ES2230964-068	ES2230964-069	ES2230964-070	ES2230964-071	--------
					Result	Result	Result	Result	----
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%		26.5	45.2	20.6	32.6	----
EG005(ED093)T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg		<5	6	7	<5	----
Cadmium	7440-43-9	1	mg/kg		<1	<1	<1	<1	----
Chromium	7440-47-3	2	mg/kg		7	9	8	6	----
Copper	7440-50-8	5	mg/kg		18	32	24	29	----
Lead	7439-92-1	5	mg/kg		10	11	9	27	----
Nickel	7440-02-0	2	mg/kg		33	33	26	20	----
Zinc	7440-66-6	5	mg/kg		9	23	13	28	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		<0.1	<0.1	<0.1	<0.1	----
EP066: Polychlorinated Biphenyls (PCB)									
Total Polychlorinated biphenyls	----	0.1	mg/kg		<0.1	<0.1	<0.1	<0.1	----
EP068A: Organochlorine Pesticides (OC)									
alpha-BHC	319-84-6	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	----
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	----
beta-BHC	319-85-7	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	----
gamma-BHC	58-89-9	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	----
delta-BHC	319-86-8	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	----
Heptachlor	76-44-8	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	----
Aldrin	309-00-2	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	----
Heptachlor epoxide	1024-57-3	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	----
^ Total Chlordane (sum)	----	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	----
trans-Chlordane	5103-74-2	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	----
alpha-Endosulfan	959-98-8	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	----
cis-Chlordane	5103-71-9	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	----
Dieldrin	60-57-1	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	----
4.4`-DDE	72-55-9	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	----
Endrin	72-20-8	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	----
beta-Endosulfan	33213-65-9	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	----
^ Endosulfan (sum)	115-29-7	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	----
4.4`-DDD	72-54-8	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	----
Endrin aldehyde	7421-93-4	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	----
Endosulfan sulfate	1031-07-8	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	SS08_220826	SS09_220826	SS10_220826	QC105_220826	----
			Sampling date / time	26-Aug-2022 00:00	26-Aug-2022 00:00	26-Aug-2022 00:00	26-Aug-2022 00:00	----
Compound	CAS Number	LOR	Unit	ES2230964-068	ES2230964-069	ES2230964-070	ES2230964-071	--------
				Result	Result	Result	Result	----
EP068A: Organochlorine Pesticides (OC) - Continued								
4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	----
Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	----
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
EP068B: Organophosphorus Pesticides (OP)								
Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	----
Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	----
Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	----
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	<1	<1	----
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	SS08_220826	SS09_220826	SS10_220826	QC105_220826	----
			Sampling date / time	26-Aug-2022 00:00	26-Aug-2022 00:00	26-Aug-2022 00:00	26-Aug-2022 00:00	----
Compound	CAS Number	LOR	Unit	ES2230964-068	ES2230964-069	ES2230964-070	ES2230964-071	--------
				Result	Result	Result	Result	----
EP075(SIM)A: Phenolic Compounds - Continued								
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	<2	<2	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
Phenanthrene	85-01-8	0.5	mg/kg	**3.0**	**1.0**	**1.0**	**2.7**	----
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
Fluoranthene	206-44-0	0.5	mg/kg	**1.7**	**0.6**	**0.5**	**1.5**	----
Pyrene	129-00-0	0.5	mg/kg	**1.2**	<0.5	<0.5	**1.0**	----
Benz(a)anthracene	56-55-3	0.5	mg/kg	**0.6**	<0.5	<0.5	**0.5**	----
Chrysene	218-01-9	0.5	mg/kg	**0.6**	<0.5	<0.5	**0.6**	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	**7.1**	**1.6**	**1.5**	**6.3**	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	**0.6**	**0.6**	**0.6**	**0.6**	----
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	**1.2**	**1.2**	**1.2**	**1.2**	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	----
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	----
C15 - C28 Fraction	----	100	mg/kg	**520**	**200**	**140**	**360**	----
C29 - C36 Fraction	----	100	mg/kg	**210**	<100	<100	**150**	----
^ C10 - C36 Fraction (sum)	----	50	mg/kg	**730**	**200**	**140**	**510**	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	<10	<10	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	SS08_220826	SS09_220826	SS10_220826	QC105_220826	----
			Sampling date / time	26-Aug-2022 00:00	26-Aug-2022 00:00	26-Aug-2022 00:00	26-Aug-2022 00:00	----
Compound	CAS Number	LOR	Unit	ES2230964-068	ES2230964-069	ES2230964-070	ES2230964-071	--------
				Result	Result	Result	Result	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued								
^ **C6 - C10 Fraction minus BTEX (F1)**	C6_C10-BTEX	10	mg/kg	<10	<10	<10	<10	----
>C10 - C16 Fraction	----	50	mg/kg	**100**	<50	<50	<50	----
>C16 - C34 Fraction	----	100	mg/kg	**640**	**260**	**180**	**450**	----
>C34 - C40 Fraction	----	100	mg/kg	**110**	<100	<100	<100	----
^ **>C10 - C40 Fraction (sum)**	----	50	mg/kg	**850**	**260**	**180**	**450**	----
^ **>C10 - C16 Fraction minus Naphthalene (F2)**	----	50	mg/kg	**100**	<50	<50	<50	----
EP080: BTEXN								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	----
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
^ **Sum of BTEX**	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	----
^ **Total Xylenes**	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	----
EP202A: Phenoxyacetic Acid Herbicides by LCMS								
4-Chlorophenoxy acetic acid	122-88-3	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	----
2.4-DB	94-82-6	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	----
Dicamba	1918-00-9	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	----
Mecoprop	93-65-2	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	----
MCPA	94-74-6	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	----
2.4-DP	120-36-5	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	----
2.4-D	94-75-7	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	----
Triclopyr	55335-06-3	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	----
2.4.5-TP (Silvex)	93-72-1	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	----
2.4.5-T	93-76-5	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	----
MCPB	94-81-5	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	----
Picloram	1918-02-1	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	----
Clopyralid	1702-17-6	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	----
Fluroxypyr	69377-81-7	0.02	mg/kg	<0.02	<0.02	<0.02	<0.02	----
EP066S: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	**73.7**	**86.9**	**74.9**	**88.0**	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	SS08_220826	SS09_220826	SS10_220826	QC105_220826	----
				Sampling date / time	26-Aug-2022 00:00	26-Aug-2022 00:00	26-Aug-2022 00:00	26-Aug-2022 00:00	----
Compound	CAS Number	LOR	Unit		ES2230964-068	ES2230964-069	ES2230964-070	ES2230964-071	--------
					Result	Result	Result	Result	----
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%		84.1	100	79.3	109	----
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%		83.0	96.6	81.1	111	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		69.5	78.9	80.4	73.3	----
2-Chlorophenol-D4	93951-73-6	0.5	%		76.1	84.5	89.0	82.0	----
2.4.6-Tribromophenol	118-79-6	0.5	%		71.4	73.6	92.5	86.9	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		92.7	91.1	95.4	91.9	----
Anthracene-d10	1719-06-8	0.5	%		79.7	87.1	88.4	79.8	----
4-Terphenyl-d14	1718-51-0	0.5	%		86.3	89.7	90.4	86.8	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		85.8	87.1	90.6	107	----
Toluene-D8	2037-26-5	0.2	%		77.0	88.8	82.4	102	----
4-Bromofluorobenzene	460-00-4	0.2	%		81.5	94.5	88.8	83.2	----
EP202S: Phenoxyacetic Acid Herbicide Surrogate									
2.4-Dichlorophenyl Acetic Acid	19719-28-9	0.02	%		60.1	56.3	67.1	59.2	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	SW01_220826	SW02_220826	QC300_220822	QC301_220823	QC302_220824
			Sampling date / time	26-Aug-2022 00:00	26-Aug-2022 00:00	22-Aug-2022 00:00	23-Aug-2022 00:00	24-Aug-2022 00:00
Compound	CAS Number	LOR	Unit	ES2230964-051	ES2230964-052	ES2230964-055	ES2230964-056	ES2230964-057
				Result	Result	Result	Result	Result
EG020T: Total Metals by ICP-MS								
Arsenic	7440-38-2	0.001	mg/L	**0.001**	<0.001	<0.001	<0.001	<0.001
Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Copper	7440-50-8	0.001	mg/L	**0.001**	**0.002**	<0.001	**0.003**	**0.003**
Nickel	7440-02-0	0.001	mg/L	**0.016**	**0.015**	<0.001	<0.001	<0.001
Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Zinc	7440-66-6	0.005	mg/L	<0.005	<0.005	<0.005	<0.005	<0.005
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
EP066: Polychlorinated Biphenyls (PCB)								
^ Total Polychlorinated biphenyls	----	1	µg/L	<1	<1	<1	<1	<1
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Hexachlorobenzene (HCB)	118-74-1	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
beta-BHC	319-85-7	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
gamma-BHC	58-89-9	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
delta-BHC	319-86-8	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Heptachlor	76-44-8	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Aldrin	309-00-2	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Heptachlor epoxide	1024-57-3	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
trans-Chlordane	5103-74-2	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
alpha-Endosulfan	959-98-8	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
cis-Chlordane	5103-71-9	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Dieldrin	60-57-1	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
4.4`-DDE	72-55-9	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Endrin	72-20-8	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
beta-Endosulfan	33213-65-9	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
4.4`-DDD	72-54-8	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Endrin aldehyde	7421-93-4	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Endosulfan sulfate	1031-07-8	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
4.4`-DDT	50-29-3	2.0	µg/L	<2.0	<2.0	<2.0	<2.0	<2.0
Endrin ketone	53494-70-5	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Methoxychlor	72-43-5	2.0	µg/L	<2.0	<2.0	<2.0	<2.0	<2.0
^ Total Chlordane (sum)	----	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	SW01_220826	SW02_220826	QC300_220822	QC301_220823	QC302_220824
			Sampling date / time	26-Aug-2022 00:00	26-Aug-2022 00:00	22-Aug-2022 00:00	23-Aug-2022 00:00	24-Aug-2022 00:00
Compound	CAS Number	LOR	Unit	ES2230964-051	ES2230964-052	ES2230964-055	ES2230964-056	ES2230964-057
				Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued								
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
EP068B: Organophosphorus Pesticides (OP)								
Dichlorvos	62-73-7	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Demeton-S-methyl	919-86-8	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Monocrotophos	6923-22-4	2.0	µg/L	<2.0	<2.0	<2.0	<2.0	<2.0
Dimethoate	60-51-5	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Diazinon	333-41-5	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Chlorpyrifos-methyl	5598-13-0	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Parathion-methyl	298-00-0	2.0	µg/L	<2.0	<2.0	<2.0	<2.0	<2.0
Malathion	121-75-5	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Fenthion	55-38-9	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Chlorpyrifos	2921-88-2	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Parathion	56-38-2	2.0	µg/L	<2.0	<2.0	<2.0	<2.0	<2.0
Pirimphos-ethyl	23505-41-1	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Chlorfenvinphos	470-90-6	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Bromophos-ethyl	4824-78-6	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Fenamiphos	22224-92-6	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Prothiofos	34643-46-4	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Ethion	563-12-2	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Carbophenothion	786-19-6	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Azinphos Methyl	86-50-0	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
EP074A: Monocyclic Aromatic Hydrocarbons								
Styrene	100-42-5	5	µg/L	<5	<5	<5	<5	<5
Isopropylbenzene	98-82-8	5	µg/L	<5	<5	<5	<5	<5
n-Propylbenzene	103-65-1	5	µg/L	<5	<5	<5	<5	<5
1.3.5-Trimethylbenzene	108-67-8	5	µg/L	<5	<5	<5	<5	<5
sec-Butylbenzene	135-98-8	5	µg/L	<5	<5	<5	<5	<5
1.2.4-Trimethylbenzene	95-63-6	5	µg/L	<5	<5	<5	<5	<5
tert-Butylbenzene	98-06-6	5	µg/L	<5	<5	<5	<5	<5
p-Isopropyltoluene	99-87-6	5	µg/L	<5	<5	<5	<5	<5
n-Butylbenzene	104-51-8	5	µg/L	<5	<5	<5	<5	<5
EP074B: Oxygenated Compounds								

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	SW01_220826	SW02_220826	QC300_220822	QC301_220823	QC302_220824
				Sampling date / time	26-Aug-2022 00:00	26-Aug-2022 00:00	22-Aug-2022 00:00	23-Aug-2022 00:00	24-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2230964-051	ES2230964-052	ES2230964-055	ES2230964-056	ES2230964-057
					Result	Result	Result	Result	Result
EP074B: Oxygenated Compounds - Continued									
Vinyl Acetate	108-05-4	50	µg/L		<50	<50	<50	<50	<50
2-Butanone (MEK)	78-93-3	50	µg/L		<50	<50	<50	<50	<50
4-Methyl-2-pentanone (MIBK)	108-10-1	50	µg/L		<50	<50	<50	<50	<50
2-Hexanone (MBK)	591-78-6	50	µg/L		<50	<50	<50	<50	<50
EP074C: Sulfonated Compounds									
Carbon disulfide	75-15-0	5	µg/L		<5	<5	<5	<5	<5
EP074D: Fumigants									
2.2-Dichloropropane	594-20-7	5	µg/L		<5	<5	<5	<5	<5
1.2-Dichloropropane	78-87-5	5	µg/L		<5	<5	<5	<5	<5
cis-1.3-Dichloropropylene	10061-01-5	5	µg/L		<5	<5	<5	<5	<5
trans-1.3-Dichloropropylene	10061-02-6	5	µg/L		<5	<5	<5	<5	<5
1.2-Dibromoethane (EDB)	106-93-4	5	µg/L		<5	<5	<5	<5	<5
EP074E: Halogenated Aliphatic Compounds									
Dichlorodifluoromethane	75-71-8	50	µg/L		<50	<50	<50	<50	<50
Chloromethane	74-87-3	50	µg/L		<50	<50	<50	<50	<50
Vinyl chloride	75-01-4	50	µg/L		<50	<50	<50	<50	<50
Bromomethane	74-83-9	50	µg/L		<50	<50	<50	<50	<50
Chloroethane	75-00-3	50	µg/L		<50	<50	<50	<50	<50
Trichlorofluoromethane	75-69-4	50	µg/L		<50	<50	<50	<50	<50
1.1-Dichloroethene	75-35-4	5	µg/L		<5	<5	<5	<5	<5
Iodomethane	74-88-4	5	µg/L		<5	<5	<5	<5	<5
trans-1.2-Dichloroethene	156-60-5	5	µg/L		<5	<5	<5	<5	<5
1.1-Dichloroethane	75-34-3	5	µg/L		<5	<5	<5	<5	<5
cis-1.2-Dichloroethene	156-59-2	5	µg/L		<5	<5	<5	<5	<5
1.1.1-Trichloroethane	71-55-6	5	µg/L		<5	<5	<5	<5	<5
1.1-Dichloropropylene	563-58-6	5	µg/L		<5	<5	<5	<5	<5
Carbon Tetrachloride	56-23-5	5	µg/L		<5	<5	<5	<5	<5
1.2-Dichloroethane	107-06-2	5	µg/L		<5	<5	<5	<5	<5
Trichloroethene	79-01-6	5	µg/L		<5	<5	<5	<5	<5
Dibromomethane	74-95-3	5	µg/L		<5	<5	<5	<5	<5
1.1.2-Trichloroethane	79-00-5	5	µg/L		<5	<5	<5	<5	<5
1.3-Dichloropropane	142-28-9	5	µg/L		<5	<5	<5	<5	<5
Tetrachloroethene	127-18-4	5	µg/L		<5	<5	<5	<5	<5
1.1.1.2-Tetrachloroethane	630-20-6	5	µg/L		<5	<5	<5	<5	<5

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	SW01_220826	SW02_220826	QC300_220822	QC301_220823	QC302_220824
				Sampling date / time	26-Aug-2022 00:00	26-Aug-2022 00:00	22-Aug-2022 00:00	23-Aug-2022 00:00	24-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2230964-051	ES2230964-052	ES2230964-055	ES2230964-056	ES2230964-057
					Result	Result	Result	Result	Result
EP074E: Halogenated Aliphatic Compounds - Continued									
trans-1.4-Dichloro-2-butene	110-57-6	5	µg/L		<5	<5	<5	<5	<5
cis-1.4-Dichloro-2-butene	1476-11-5	5	µg/L		<5	<5	<5	<5	<5
1.1.2.2-Tetrachloroethane	79-34-5	5	µg/L		<5	<5	<5	<5	<5
1.2.3-Trichloropropane	96-18-4	5	µg/L		<5	<5	<5	<5	<5
Pentachloroethane	76-01-7	5	µg/L		<5	<5	<5	<5	<5
1.2-Dibromo-3-chloropropane	96-12-8	5	µg/L		<5	<5	<5	<5	<5
EP074F: Halogenated Aromatic Compounds									
Chlorobenzene	108-90-7	5	µg/L		<5	<5	<5	<5	<5
Bromobenzene	108-86-1	5	µg/L		<5	<5	<5	<5	<5
2-Chlorotoluene	95-49-8	5	µg/L		<5	<5	<5	<5	<5
4-Chlorotoluene	106-43-4	5	µg/L		<5	<5	<5	<5	<5
1.2.3-Trichlorobenzene	87-61-6	5	µg/L		<5	<5	<5	<5	<5
EP074G: Trihalomethanes									
Chloroform	67-66-3	5	µg/L		<5	<5	**5**	<5	<5
Bromodichloromethane	75-27-4	5	µg/L		<5	<5	<5	<5	<5
Dibromochloromethane	124-48-1	5	µg/L		<5	<5	<5	<5	<5
Bromoform	75-25-2	5	µg/L		<5	<5	<5	<5	<5
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Acenaphthylene	208-96-8	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Acenaphthene	83-32-9	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Fluorene	86-73-7	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Phenanthrene	85-01-8	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Anthracene	120-12-7	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Fluoranthene	206-44-0	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Pyrene	129-00-0	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benz(a)anthracene	56-55-3	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Chrysene	218-01-9	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(k)fluoranthene	207-08-9	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(a)pyrene	50-32-8	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	SW01_220826	SW02_220826	QC300_220822	QC301_220823	QC302_220824
				Sampling date / time	26-Aug-2022 00:00	26-Aug-2022 00:00	22-Aug-2022 00:00	23-Aug-2022 00:00	24-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2230964-051	ES2230964-052	ES2230964-055	ES2230964-056	ES2230964-057
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
EP075A: Phenolic Compounds									
Phenol	108-95-2	2	µg/L		<2	<2	<2	<2	<2
2-Chlorophenol	95-57-8	2	µg/L		<2	<2	<2	<2	<2
2-Methylphenol	95-48-7	2	µg/L		<2	<2	<2	<2	<2
3- & 4-Methylphenol	1319-77-3	4	µg/L		<4	<4	<4	<4	<4
2-Nitrophenol	88-75-5	2	µg/L		<2	<2	<2	<2	<2
2.4-Dimethylphenol	105-67-9	2	µg/L		<2	<2	<2	<2	<2
2.4-Dichlorophenol	120-83-2	2	µg/L		<2	<2	<2	<2	<2
2.6-Dichlorophenol	87-65-0	2	µg/L		<2	<2	<2	<2	<2
4-Chloro-3-methylphenol	59-50-7	2	µg/L		<2	<2	<2	<2	<2
2.4.6-Trichlorophenol	88-06-2	2	µg/L		<2	<2	<2	<2	<2
2.4.5-Trichlorophenol	95-95-4	2	µg/L		<2	<2	<2	<2	<2
Pentachlorophenol	87-86-5	4	µg/L		<4	<4	<4	<4	<4
EP075B: Polynuclear Aromatic Hydrocarbons									
2-Methylnaphthalene	91-57-6	2	µg/L		<2	<2	<2	<2	<2
2-Chloronaphthalene	91-58-7	2	µg/L		<2	<2	<2	<2	<2
N-2-Fluorenyl Acetamide	53-96-3	2	µg/L		<2	<2	<2	<2	<2
7.12-Dimethylbenz(a)anthracene	57-97-6	2	µg/L		<2	<2	<2	<2	<2
3-Methylcholanthrene	56-49-5	2	µg/L		<2	<2	<2	<2	<2
EP075C: Phthalate Esters									
Dimethyl phthalate	131-11-3	2	µg/L		<2	<2	<2	<2	<2
Diethyl phthalate	84-66-2	2	µg/L		<2	<2	<2	<2	<2
Di-n-butyl phthalate	84-74-2	2	µg/L		<2	<2	<2	<2	<2
Butyl benzyl phthalate	85-68-7	2	µg/L		<2	<2	<2	<2	<2
bis(2-ethylhexyl) phthalate	117-81-7	10	µg/L		<10	<10	<10	<10	<10
Di-n-octylphthalate	117-84-0	2	µg/L		<2	<2	<2	<2	<2
EP075D: Nitrosamines									
N-Nitrosomethylethylamine	10595-95-6	2	µg/L		<2	<2	<2	<2	<2
N-Nitrosodiethylamine	55-18-5	2	µg/L		<2	<2	<2	<2	<2
N-Nitrosopyrrolidine	930-55-2	4	µg/L		<4	<4	<4	<4	<4
N-Nitrosomorpholine	59-89-2	2	µg/L		<2	<2	<2	<2	<2
N-Nitrosodi-n-propylamine	621-64-7	2	µg/L		<2	<2	<2	<2	<2

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	SW01_220826	SW02_220826	QC300_220822	QC301_220823	QC302_220824
				Sampling date / time	26-Aug-2022 00:00	26-Aug-2022 00:00	22-Aug-2022 00:00	23-Aug-2022 00:00	24-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2230964-051	ES2230964-052	ES2230964-055	ES2230964-056	ES2230964-057
					Result	Result	Result	Result	Result
EP075D: Nitrosamines - Continued									
N-Nitrosopiperidine	100-75-4	2	µg/L		<2	<2	<2	<2	<2
N-Nitrosodibutylamine	924-16-3	2	µg/L		<2	<2	<2	<2	<2
N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	4	µg/L		<4	<4	<4	<4	<4
Methapyrilene	91-80-5	2	µg/L		<2	<2	<2	<2	<2
EP075E: Nitroaromatics and Ketones									
2-Picoline	109-06-8	2	µg/L		<2	<2	<2	<2	<2
Acetophenone	98-86-2	2	µg/L		<2	<2	<2	<2	<2
Nitrobenzene	98-95-3	2	µg/L		<2	<2	<2	<2	<2
Isophorone	78-59-1	2	µg/L		<2	<2	<2	<2	<2
2.6-Dinitrotoluene	606-20-2	4	µg/L		<4	<4	<4	<4	<4
2.4-Dinitrotoluene	121-14-2	4	µg/L		<4	<4	<4	<4	<4
1-Naphthylamine	134-32-7	2	µg/L		<2	<2	<2	<2	<2
4-Nitroquinoline-N-oxide	56-57-5	2	µg/L		<2	<2	<2	<2	<2
5-Nitro-o-toluidine	99-55-8	2	µg/L		<2	<2	<2	<2	<2
Azobenzene	103-33-3	2	µg/L		<2	<2	<2	<2	<2
1.3.5-Trinitrobenzene	99-35-4	2	µg/L		<2	<2	<2	<2	<2
Phenacetin	62-44-2	2	µg/L		<2	<2	<2	<2	<2
4-Aminobiphenyl	92-67-1	2	µg/L		<2	<2	<2	<2	<2
Pentachloronitrobenzene	82-68-8	2	µg/L		<2	<2	<2	<2	<2
Pronamide	23950-58-5	2	µg/L		<2	<2	<2	<2	<2
Dimethylaminoazobenzene	60-11-7	2	µg/L		<2	<2	<2	<2	<2
Chlorobenzilate	510-15-6	2	µg/L		<2	<2	<2	<2	<2
EP075F: Haloethers									
Bis(2-chloroethyl) ether	111-44-4	2	µg/L		<2	<2	<2	<2	<2
Bis(2-chloroethoxy) methane	111-91-1	2	µg/L		<2	<2	<2	<2	<2
4-Chlorophenyl phenyl ether	7005-72-3	2	µg/L		<2	<2	<2	<2	<2
4-Bromophenyl phenyl ether	101-55-3	2	µg/L		<2	<2	<2	<2	<2
EP075G: Chlorinated Hydrocarbons									
1.3-Dichlorobenzene	541-73-1	2	µg/L		<2	<2	<2	<2	<2
1.4-Dichlorobenzene	106-46-7	2	µg/L		<2	<2	<2	<2	<2
1.2-Dichlorobenzene	95-50-1	2	µg/L		<2	<2	<2	<2	<2
Hexachloroethane	67-72-1	2	µg/L		<2	<2	<2	<2	<2
1.2.4-Trichlorobenzene	120-82-1	2	µg/L		<2	<2	<2	<2	<2

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	SW01_220826	SW02_220826	QC300_220822	QC301_220823	QC302_220824
				Sampling date / time	26-Aug-2022 00:00	26-Aug-2022 00:00	22-Aug-2022 00:00	23-Aug-2022 00:00	24-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2230964-051	ES2230964-052	ES2230964-055	ES2230964-056	ES2230964-057
					Result	Result	Result	Result	Result
EP075G: Chlorinated Hydrocarbons - Continued									
Hexachloropropylene	1888-71-7	2	µg/L		<2	<2	<2	<2	<2
Hexachlorobutadiene	87-68-3	2	µg/L		<2	<2	<2	<2	<2
Hexachlorocyclopentadiene	77-47-4	10	µg/L		<10	<10	<10	<10	<10
Pentachlorobenzene	608-93-5	2	µg/L		<2	<2	<2	<2	<2
Hexachlorobenzene (HCB)	118-74-1	4	µg/L		<4	<4	<4	<4	<4
EP075H: Anilines and Benzidines									
Aniline	62-53-3	2	µg/L		<2	<2	<2	<2	<2
4-Chloroaniline	106-47-8	2	µg/L		<2	<2	<2	<2	<2
2-Nitroaniline	88-74-4	4	µg/L		<4	<4	<4	<4	<4
3-Nitroaniline	99-09-2	4	µg/L		<4	<4	<4	<4	<4
Dibenzofuran	132-64-9	2	µg/L		<2	<2	<2	<2	<2
4-Nitroaniline	100-01-6	2	µg/L		<2	<2	<2	<2	<2
Carbazole	86-74-8	2	µg/L		<2	<2	<2	<2	<2
3.3`-Dichlorobenzidine	91-94-1	2	µg/L		<2	<2	<2	<2	<2
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	20	µg/L		<20	<20	<20	<20	<20
C10 - C14 Fraction	----	50	µg/L		<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	µg/L		<100	<100	<100	<100	<100
C29 - C36 Fraction	----	50	µg/L		<50	<50	<50	<50	<50
^ C10 - C36 Fraction (sum)	----	50	µg/L		<50	<50	<50	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	20	µg/L		<20	<20	<20	<20	<20
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	20	µg/L		<20	<20	<20	<20	<20
>C10 - C16 Fraction	----	100	µg/L		<100	<100	<100	<100	<100
>C16 - C34 Fraction	----	100	µg/L		<100	<100	<100	<100	<100
>C34 - C40 Fraction	----	100	µg/L		<100	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	100	µg/L		<100	<100	<100	<100	<100
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	100	µg/L		<100	<100	<100	<100	<100
EP080: BTEXN									
Benzene	71-43-2	1	µg/L		<1	<1	<1	<1	<1
Toluene	108-88-3	2	µg/L		<2	<2	<2	<2	<2
Ethylbenzene	100-41-4	2	µg/L		<2	<2	<2	<2	<2

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	SW01_220826	SW02_220826	QC300_220822	QC301_220823	QC302_220824
				Sampling date / time	26-Aug-2022 00:00	26-Aug-2022 00:00	22-Aug-2022 00:00	23-Aug-2022 00:00	24-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2230964-051	ES2230964-052	ES2230964-055	ES2230964-056	ES2230964-057
					Result	Result	Result	Result	Result
EP080: BTEXN - Continued									
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L		<2	<2	<2	<2	<2
ortho-Xylene	95-47-6	2	µg/L		<2	<2	<2	<2	<2
^ Total Xylenes	----	2	µg/L		<2	<2	<2	<2	<2
^ Sum of BTEX	----	1	µg/L		<1	<1	<1	<1	<1
Naphthalene	91-20-3	5	µg/L		<5	<5	<5	<5	<5
EP202A: Phenoxyacetic Acid Herbicides by LCMS									
4-Chlorophenoxy acetic acid	122-88-3	10	µg/L		<10	<10	----	----	----
2.4-DB	94-82-6	10	µg/L		<10	<10	----	----	----
Dicamba	1918-00-9	10	µg/L		<10	<10	----	----	----
Mecoprop	93-65-2	10	µg/L		<10	<10	----	----	----
MCPA	94-74-6	10	µg/L		<10	<10	----	----	----
2.4-DP	120-36-5	10	µg/L		<10	<10	----	----	----
2.4-D	94-75-7	10	µg/L		<10	<10	----	----	----
Triclopyr	55335-06-3	10	µg/L		<10	<10	----	----	----
Silvex (2.4.5-TP/Fenoprop)	93-72-1	10	µg/L		<10	<10	----	----	----
2.4.5-T	93-76-5	10	µg/L		<10	<10	----	----	----
MCPB	94-81-5	10	µg/L		<10	<10	----	----	----
Picloram	1918-02-1	10	µg/L		<10	<10	----	----	----
Clopyralid	1702-17-6	10	µg/L		<10	<10	----	----	----
Fluroxypyr	69377-81-7	10	µg/L		<10	<10	----	----	----
2.6-D	575-90-6	10	µg/L		<10	<10	----	----	----
2.4.6-T	575-89-3	10	µg/L		<10	<10	----	----	----
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	SW01_220826	SW02_220826	QC300_220822	QC301_220823	QC302_220824
				Sampling date / time	26-Aug-2022 00:00	26-Aug-2022 00:00	22-Aug-2022 00:00	23-Aug-2022 00:00	24-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2230964-051	ES2230964-052	ES2230964-055	ES2230964-056	ES2230964-057
					Result	Result	Result	Result	Result
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	SW01_220826	SW02_220826	QC300_220822	QC301_220823	QC302_220824
				Sampling date / time	26-Aug-2022 00:00	26-Aug-2022 00:00	22-Aug-2022 00:00	23-Aug-2022 00:00	24-Aug-2022 00:00
Compound	CAS Number	LOR	Unit		ES2230964-051	ES2230964-052	ES2230964-055	ES2230964-056	ES2230964-057
					Result	Result	Result	Result	Result
EP231D: (n:2) Fluorotelomer Sulfonic Acids - Continued									
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Sum of PFAS (WA DER List)	----	0.01	µg/L		<0.01	<0.01	<0.01	<0.01	<0.01
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	1	%		**108**	**90.5**	**102**	**114**	**87.0**
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.5	%		**83.7**	**69.4**	**77.3**	**90.1**	**70.2**
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.5	%		**94.3**	**71.7**	**75.7**	**93.9**	**68.4**
EP074S: VOC Surrogates									
1.2-Dichloroethane-D4	17060-07-0	5	%		**104**	**109**	**103**	**88.3**	**100**
Toluene-D8	2037-26-5	5	%		**100**	**112**	**109**	**106**	**108**
4-Bromofluorobenzene	460-00-4	5	%		**94.5**	**101**	**101**	**102**	**101**
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	1.0	%		**28.7**	**25.3**	**25.1**	**25.9**	**28.1**
2-Chlorophenol-D4	93951-73-6	1.0	%		**60.0**	**67.1**	**68.9**	**64.7**	**59.3**
2.4.6-Tribromophenol	118-79-6	1.0	%		**62.0**	**46.4**	**50.9**	**61.2**	**50.7**
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	1.0	%		**92.9**	**79.5**	**78.2**	**81.8**	**84.1**
Anthracene-d10	1719-06-8	1.0	%		**90.5**	**84.1**	**89.2**	**98.0**	**88.3**
4-Terphenyl-d14	1718-51-0	1.0	%		**91.2**	**87.7**	**98.4**	**91.0**	**89.5**
EP075S: Acid Extractable Surrogates									
2-Fluorophenol	367-12-4	2	%		**39.0**	**32.9**	**39.1**	**42.8**	**42.6**
Phenol-d6	13127-88-3	2	%		**40.0**	**35.2**	**35.5**	**40.7**	**35.2**
2-Chlorophenol-D4	93951-73-6	2	%		**83.9**	**74.4**	**76.6**	**83.7**	**77.5**
2.4.6-Tribromophenol	118-79-6	2	%		**76.0**	**56.1**	**61.6**	**72.6**	**53.5**

Analytical Results

Sub-Matrix: **WATER**
(Matrix: **WATER**)

Compound	CAS Number	LOR	Unit	Sample ID	SW01_220826	SW02_220826	QC300_220822	QC301_220823	QC302_220824
				Sampling date / time	26-Aug-2022 00:00	26-Aug-2022 00:00	22-Aug-2022 00:00	23-Aug-2022 00:00	24-Aug-2022 00:00
					ES2230964-051	ES2230964-052	ES2230964-055	ES2230964-056	ES2230964-057
					Result	Result	Result	Result	Result
EP075T: Base/Neutral Extractable Surrogates									
Nitrobenzene-D5	4165-60-0	2	%		**66.3**	**58.7**	**58.6**	**74.9**	**73.3**
1.2-Dichlorobenzene-D4	2199-69-1	2	%		**69.8**	**61.4**	**58.8**	**59.5**	**62.2**
2-Fluorobiphenyl	321-60-8	2	%		**92.6**	**80.1**	**78.1**	**81.4**	**81.4**
Anthracene-d10	1719-06-8	2	%		**95.7**	**80.8**	**82.6**	**93.5**	**86.2**
4-Terphenyl-d14	1718-51-0	2	%		**95.7**	**79.4**	**88.3**	**99.8**	**78.7**
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	2	%		**110**	**115**	**109**	**93.3**	**106**
Toluene-D8	2037-26-5	2	%		**97.2**	**108**	**106**	**103**	**105**
4-Bromofluorobenzene	460-00-4	2	%		**97.7**	**105**	**105**	**111**	**104**
EP202S: Phenoxyacetic Acid Herbicide Surrogate									
2.4-Dichlorophenyl Acetic Acid	19719-28-9	10	%		**100**	**107**	**----**	**----**	**----**
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		**94.3**	**103**	**102**	**108**	**102**
13C8-PFOA	----	0.02	%		**97.6**	**95.3**	**99.8**	**101**	**95.2**

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	QC303_220825	QC304_220826	QC104	----	----
				Sampling date / time	25-Aug-2022 00:00	26-Aug-2022 00:00	26-Aug-2022 00:00	----	----
Compound	CAS Number	LOR	Unit		ES2230964-058	ES2230964-059	ES2230964-073	--------	--------
					Result	Result	Result	----	----
EG020F: Dissolved Metals by ICP-MS									
Arsenic	7440-38-2	0.001	mg/L		----	----	**0.001**	----	----
Cadmium	7440-43-9	0.0001	mg/L		----	----	<0.0001	----	----
Chromium	7440-47-3	0.001	mg/L		----	----	<0.001	----	----
Copper	7440-50-8	0.001	mg/L		----	----	**0.002**	----	----
Lead	7439-92-1	0.001	mg/L		----	----	<0.001	----	----
Nickel	7440-02-0	0.001	mg/L		----	----	**0.016**	----	----
Zinc	7440-66-6	0.005	mg/L		----	----	<0.005	----	----
EG020T: Total Metals by ICP-MS									
Arsenic	7440-38-2	0.001	mg/L		<0.001	<0.001	<0.001	----	----
Cadmium	7440-43-9	0.0001	mg/L		<0.0001	<0.0001	<0.0001	----	----
Chromium	7440-47-3	0.001	mg/L		<0.001	<0.001	<0.001	----	----
Copper	7440-50-8	0.001	mg/L		<0.001	<0.001	**0.002**	----	----
Nickel	7440-02-0	0.001	mg/L		<0.001	<0.001	**0.015**	----	----
Lead	7439-92-1	0.001	mg/L		<0.001	<0.001	<0.001	----	----
Zinc	7440-66-6	0.005	mg/L		<0.005	<0.005	<0.005	----	----
EG035F: Dissolved Mercury by FIMS									
Mercury	7439-97-6	0.0001	mg/L		----	----	<0.0001	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.0001	mg/L		<0.0001	<0.0001	<0.0001	----	----
EP066: Polychlorinated Biphenyls (PCB)									
^ Total Polychlorinated biphenyls	----	1	µg/L		<1	<1	----	----	----
EP068A: Organochlorine Pesticides (OC)									
alpha-BHC	319-84-6	0.5	µg/L		<0.5	<0.5	<0.5	----	----
Hexachlorobenzene (HCB)	118-74-1	0.5	µg/L		<0.5	<0.5	<0.5	----	----
beta-BHC	319-85-7	0.5	µg/L		<0.5	<0.5	<0.5	----	----
gamma-BHC	58-89-9	0.5	µg/L		<0.5	<0.5	<0.5	----	----
delta-BHC	319-86-8	0.5	µg/L		<0.5	<0.5	<0.5	----	----
Heptachlor	76-44-8	0.5	µg/L		<0.5	<0.5	<0.5	----	----
Aldrin	309-00-2	0.5	µg/L		<0.5	<0.5	<0.5	----	----
Heptachlor epoxide	1024-57-3	0.5	µg/L		<0.5	<0.5	<0.5	----	----
trans-Chlordane	5103-74-2	0.5	µg/L		<0.5	<0.5	<0.5	----	----
alpha-Endosulfan	959-98-8	0.5	µg/L		<0.5	<0.5	<0.5	----	----
cis-Chlordane	5103-71-9	0.5	µg/L		<0.5	<0.5	<0.5	----	----
Dieldrin	60-57-1	0.5	µg/L		<0.5	<0.5	<0.5	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	QC303_220825	QC304_220826	QC104	----	----
			Sampling date / time	25-Aug-2022 00:00	26-Aug-2022 00:00	26-Aug-2022 00:00	----	----
Compound	CAS Number	LOR	Unit	ES2230964-058	ES2230964-059	ES2230964-073	--------	--------
				Result	Result	Result	----	----
EP068A: Organochlorine Pesticides (OC) - Continued								
4.4`-DDE	72-55-9	0.5	µg/L	<0.5	<0.5	<0.5	----	----
Endrin	72-20-8	0.5	µg/L	<0.5	<0.5	<0.5	----	----
beta-Endosulfan	33213-65-9	0.5	µg/L	<0.5	<0.5	<0.5	----	----
4.4`-DDD	72-54-8	0.5	µg/L	<0.5	<0.5	<0.5	----	----
Endrin aldehyde	7421-93-4	0.5	µg/L	<0.5	<0.5	<0.5	----	----
Endosulfan sulfate	1031-07-8	0.5	µg/L	<0.5	<0.5	<0.5	----	----
4.4`-DDT	50-29-3	2.0	µg/L	<2.0	<2.0	<2.0	----	----
Endrin ketone	53494-70-5	0.5	µg/L	<0.5	<0.5	<0.5	----	----
Methoxychlor	72-43-5	2.0	µg/L	<2.0	<2.0	<2.0	----	----
^ Total Chlordane (sum)	----	0.5	µg/L	<0.5	<0.5	<0.5	----	----
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.5	µg/L	<0.5	<0.5	<0.5	----	----
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.5	µg/L	<0.5	<0.5	<0.5	----	----
EP068B: Organophosphorus Pesticides (OP)								
Dichlorvos	62-73-7	0.5	µg/L	<0.5	<0.5	<0.5	----	----
Demeton-S-methyl	919-86-8	0.5	µg/L	<0.5	<0.5	<0.5	----	----
Monocrotophos	6923-22-4	2.0	µg/L	<2.0	<2.0	<2.0	----	----
Dimethoate	60-51-5	0.5	µg/L	<0.5	<0.5	<0.5	----	----
Diazinon	333-41-5	0.5	µg/L	<0.5	<0.5	<0.5	----	----
Chlorpyrifos-methyl	5598-13-0	0.5	µg/L	<0.5	<0.5	<0.5	----	----
Parathion-methyl	298-00-0	2.0	µg/L	<2.0	<2.0	<2.0	----	----
Malathion	121-75-5	0.5	µg/L	<0.5	<0.5	<0.5	----	----
Fenthion	55-38-9	0.5	µg/L	<0.5	<0.5	<0.5	----	----
Chlorpyrifos	2921-88-2	0.5	µg/L	<0.5	<0.5	<0.5	----	----
Parathion	56-38-2	2.0	µg/L	<2.0	<2.0	<2.0	----	----
Pirimphos-ethyl	23505-41-1	0.5	µg/L	<0.5	<0.5	<0.5	----	----
Chlorfenvinphos	470-90-6	0.5	µg/L	<0.5	<0.5	<0.5	----	----
Bromophos-ethyl	4824-78-6	0.5	µg/L	<0.5	<0.5	<0.5	----	----
Fenamiphos	22224-92-6	0.5	µg/L	<0.5	<0.5	<0.5	----	----
Prothiofos	34643-46-4	0.5	µg/L	<0.5	<0.5	<0.5	----	----
Ethion	563-12-2	0.5	µg/L	<0.5	<0.5	<0.5	----	----
Carbophenothion	786-19-6	0.5	µg/L	<0.5	<0.5	<0.5	----	----
Azinphos Methyl	86-50-0	0.5	µg/L	<0.5	<0.5	<0.5	----	----
EP074A: Monocyclic Aromatic Hydrocarbons								
Styrene	100-42-5	5	µg/L	<5	<5	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	QC303_220825	QC304_220826	QC104	----	----
				Sampling date / time	25-Aug-2022 00:00	26-Aug-2022 00:00	26-Aug-2022 00:00	----	----
Compound	CAS Number	LOR	Unit		ES2230964-058	ES2230964-059	ES2230964-073	--------	--------
					Result	Result	Result	----	----
EP074A: Monocyclic Aromatic Hydrocarbons - Continued									
Isopropylbenzene	98-82-8	5	µg/L		<5	<5	----	----	----
n-Propylbenzene	103-65-1	5	µg/L		<5	<5	----	----	----
1.3.5-Trimethylbenzene	108-67-8	5	µg/L		<5	<5	----	----	----
sec-Butylbenzene	135-98-8	5	µg/L		<5	<5	----	----	----
1.2.4-Trimethylbenzene	95-63-6	5	µg/L		<5	<5	----	----	----
tert-Butylbenzene	98-06-6	5	µg/L		<5	<5	----	----	----
p-Isopropyltoluene	99-87-6	5	µg/L		<5	<5	----	----	----
n-Butylbenzene	104-51-8	5	µg/L		<5	<5	----	----	----
EP074B: Oxygenated Compounds									
Vinyl Acetate	108-05-4	50	µg/L		<50	<50	----	----	----
2-Butanone (MEK)	78-93-3	50	µg/L		<50	<50	----	----	----
4-Methyl-2-pentanone (MIBK)	108-10-1	50	µg/L		<50	<50	----	----	----
2-Hexanone (MBK)	591-78-6	50	µg/L		<50	<50	----	----	----
EP074C: Sulfonated Compounds									
Carbon disulfide	75-15-0	5	µg/L		<5	<5	----	----	----
EP074D: Fumigants									
2.2-Dichloropropane	594-20-7	5	µg/L		<5	<5	----	----	----
1.2-Dichloropropane	78-87-5	5	µg/L		<5	<5	----	----	----
cis-1.3-Dichloropropylene	10061-01-5	5	µg/L		<5	<5	----	----	----
trans-1.3-Dichloropropylene	10061-02-6	5	µg/L		<5	<5	----	----	----
1.2-Dibromoethane (EDB)	106-93-4	5	µg/L		<5	<5	----	----	----
EP074E: Halogenated Aliphatic Compounds									
Dichlorodifluoromethane	75-71-8	50	µg/L		<50	<50	----	----	----
Chloromethane	74-87-3	50	µg/L		<50	<50	----	----	----
Vinyl chloride	75-01-4	50	µg/L		<50	<50	----	----	----
Bromomethane	74-83-9	50	µg/L		<50	<50	----	----	----
Chloroethane	75-00-3	50	µg/L		<50	<50	----	----	----
Trichlorofluoromethane	75-69-4	50	µg/L		<50	<50	----	----	----
1.1-Dichloroethene	75-35-4	5	µg/L		<5	<5	----	----	----
Iodomethane	74-88-4	5	µg/L		<5	<5	----	----	----
trans-1.2-Dichloroethene	156-60-5	5	µg/L		<5	<5	----	----	----
1.1-Dichloroethane	75-34-3	5	µg/L		<5	<5	----	----	----
cis-1.2-Dichloroethene	156-59-2	5	µg/L		<5	<5	----	----	----
1.1.1-Trichloroethane	71-55-6	5	µg/L		<5	<5	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	QC303_220825	QC304_220826	QC104	----	----
				Sampling date / time	25-Aug-2022 00:00	26-Aug-2022 00:00	26-Aug-2022 00:00	----	----
Compound	CAS Number	LOR	Unit		ES2230964-058	ES2230964-059	ES2230964-073	--------	--------
					Result	Result	Result	----	----
EP074E: Halogenated Aliphatic Compounds - Continued									
1.1-Dichloropropylene	563-58-6	5	µg/L		<5	<5	----	----	----
Carbon Tetrachloride	56-23-5	5	µg/L		<5	<5	----	----	----
1.2-Dichloroethane	107-06-2	5	µg/L		<5	<5	----	----	----
Trichloroethene	79-01-6	5	µg/L		<5	<5	----	----	----
Dibromomethane	74-95-3	5	µg/L		<5	<5	----	----	----
1.1.2-Trichloroethane	79-00-5	5	µg/L		<5	<5	----	----	----
1.3-Dichloropropane	142-28-9	5	µg/L		<5	<5	----	----	----
Tetrachloroethene	127-18-4	5	µg/L		<5	<5	----	----	----
1.1.1.2-Tetrachloroethane	630-20-6	5	µg/L		<5	<5	----	----	----
trans-1.4-Dichloro-2-butene	110-57-6	5	µg/L		<5	<5	----	----	----
cis-1.4-Dichloro-2-butene	1476-11-5	5	µg/L		<5	<5	----	----	----
1.1.2.2-Tetrachloroethane	79-34-5	5	µg/L		<5	<5	----	----	----
1.2.3-Trichloropropane	96-18-4	5	µg/L		<5	<5	----	----	----
Pentachloroethane	76-01-7	5	µg/L		<5	<5	----	----	----
1.2-Dibromo-3-chloropropane	96-12-8	5	µg/L		<5	<5	----	----	----
EP074F: Halogenated Aromatic Compounds									
Chlorobenzene	108-90-7	5	µg/L		<5	<5	----	----	----
Bromobenzene	108-86-1	5	µg/L		<5	<5	----	----	----
2-Chlorotoluene	95-49-8	5	µg/L		<5	<5	----	----	----
4-Chlorotoluene	106-43-4	5	µg/L		<5	<5	----	----	----
1.2.3-Trichlorobenzene	87-61-6	5	µg/L		<5	<5	----	----	----
EP074G: Trihalomethanes									
Chloroform	67-66-3	5	µg/L		<5	<5	----	----	----
Bromodichloromethane	75-27-4	5	µg/L		<5	<5	----	----	----
Dibromochloromethane	124-48-1	5	µg/L		<5	<5	----	----	----
Bromoform	75-25-2	5	µg/L		<5	<5	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	1.0	µg/L		<1.0	<1.0	<1.0	----	----
Acenaphthylene	208-96-8	1.0	µg/L		<1.0	<1.0	<1.0	----	----
Acenaphthene	83-32-9	1.0	µg/L		<1.0	<1.0	<1.0	----	----
Fluorene	86-73-7	1.0	µg/L		<1.0	<1.0	<1.0	----	----
Phenanthrene	85-01-8	1.0	µg/L		<1.0	<1.0	<1.0	----	----
Anthracene	120-12-7	1.0	µg/L		<1.0	<1.0	<1.0	----	----
Fluoranthene	206-44-0	1.0	µg/L		<1.0	<1.0	<1.0	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	QC303_220825	QC304_220826	QC104	----	----
				Sampling date / time	25-Aug-2022 00:00	26-Aug-2022 00:00	26-Aug-2022 00:00	----	----
Compound	CAS Number	LOR	Unit		ES2230964-058	ES2230964-059	ES2230964-073	--------	--------
					Result	Result	Result	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Pyrene	129-00-0	1.0	µg/L		<1.0	<1.0	<1.0	----	----
Benz(a)anthracene	56-55-3	1.0	µg/L		<1.0	<1.0	<1.0	----	----
Chrysene	218-01-9	1.0	µg/L		<1.0	<1.0	<1.0	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L		<1.0	<1.0	<1.0	----	----
Benzo(k)fluoranthene	207-08-9	1.0	µg/L		<1.0	<1.0	<1.0	----	----
Benzo(a)pyrene	50-32-8	0.5	µg/L		<0.5	<0.5	<0.5	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L		<1.0	<1.0	<1.0	----	----
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L		<1.0	<1.0	<1.0	----	----
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L		<1.0	<1.0	<1.0	----	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	µg/L		<0.5	<0.5	<0.5	----	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	µg/L		<0.5	<0.5	<0.5	----	----
EP075A: Phenolic Compounds									
Phenol	108-95-2	2	µg/L		<2	----	----	----	----
2-Chlorophenol	95-57-8	2	µg/L		<2	----	----	----	----
2-Methylphenol	95-48-7	2	µg/L		<2	----	----	----	----
3- & 4-Methylphenol	1319-77-3	4	µg/L		<4	----	----	----	----
2-Nitrophenol	88-75-5	2	µg/L		<2	----	----	----	----
2.4-Dimethylphenol	105-67-9	2	µg/L		<2	----	----	----	----
2.4-Dichlorophenol	120-83-2	2	µg/L		<2	----	----	----	----
2.6-Dichlorophenol	87-65-0	2	µg/L		<2	----	----	----	----
4-Chloro-3-methylphenol	59-50-7	2	µg/L		<2	----	----	----	----
2.4.6-Trichlorophenol	88-06-2	2	µg/L		<2	----	----	----	----
2.4.5-Trichlorophenol	95-95-4	2	µg/L		<2	----	----	----	----
Pentachlorophenol	87-86-5	4	µg/L		<4	----	----	----	----
EP075B: Polynuclear Aromatic Hydrocarbons									
2-Methylnaphthalene	91-57-6	2	µg/L		<2	<2	----	----	----
2-Chloronaphthalene	91-58-7	2	µg/L		<2	<2	----	----	----
N-2-Fluorenyl Acetamide	53-96-3	2	µg/L		<2	<2	----	----	----
7.12-Dimethylbenz(a)anthracene	57-97-6	2	µg/L		<2	<2	----	----	----
3-Methylcholanthrene	56-49-5	2	µg/L		<2	<2	----	----	----
EP075C: Phthalate Esters									
Dimethyl phthalate	131-11-3	2	µg/L		<2	<2	----	----	----
Diethyl phthalate	84-66-2	2	µg/L		<2	<2	----	----	----
Di-n-butyl phthalate	84-74-2	2	µg/L		<2	<2	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	QC303_220825	QC304_220826	QC104	----	----
			Sampling date / time	25-Aug-2022 00:00	26-Aug-2022 00:00	26-Aug-2022 00:00	----	----
Compound	CAS Number	LOR	Unit	ES2230964-058	ES2230964-059	ES2230964-073	--------	--------
				Result	Result	Result	----	----
EP075C: Phthalate Esters - Continued								
Butyl benzyl phthalate	85-68-7	2	µg/L	<2	<2	----	----	----
bis(2-ethylhexyl) phthalate	117-81-7	10	µg/L	<10	<10	----	----	----
Di-n-octylphthalate	117-84-0	2	µg/L	<2	<2	----	----	----
EP075D: Nitrosamines								
N-Nitrosomethylethylamine	10595-95-6	2	µg/L	<2	<2	----	----	----
N-Nitrosodiethylamine	55-18-5	2	µg/L	<2	<2	----	----	----
N-Nitrosopyrrolidine	930-55-2	4	µg/L	<4	<4	----	----	----
N-Nitrosomorpholine	59-89-2	2	µg/L	<2	<2	----	----	----
N-Nitrosodi-n-propylamine	621-64-7	2	µg/L	<2	<2	----	----	----
N-Nitrosopiperidine	100-75-4	2	µg/L	<2	<2	----	----	----
N-Nitrosodibutylamine	924-16-3	2	µg/L	<2	<2	----	----	----
N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	4	µg/L	<4	<4	----	----	----
Methapyrilene	91-80-5	2	µg/L	<2	<2	----	----	----
EP075E: Nitroaromatics and Ketones								
2-Picoline	109-06-8	2	µg/L	<2	<2	----	----	----
Acetophenone	98-86-2	2	µg/L	<2	<2	----	----	----
Nitrobenzene	98-95-3	2	µg/L	<2	<2	----	----	----
Isophorone	78-59-1	2	µg/L	<2	<2	----	----	----
2.6-Dinitrotoluene	606-20-2	4	µg/L	<4	<4	----	----	----
2.4-Dinitrotoluene	121-14-2	4	µg/L	<4	<4	----	----	----
1-Naphthylamine	134-32-7	2	µg/L	<2	<2	----	----	----
4-Nitroquinoline-N-oxide	56-57-5	2	µg/L	<2	<2	----	----	----
5-Nitro-o-toluidine	99-55-8	2	µg/L	<2	<2	----	----	----
Azobenzene	103-33-3	2	µg/L	<2	<2	----	----	----
1.3.5-Trinitrobenzene	99-35-4	2	µg/L	<2	<2	----	----	----
Phenacetin	62-44-2	2	µg/L	<2	<2	----	----	----
4-Aminobiphenyl	92-67-1	2	µg/L	<2	<2	----	----	----
Pentachloronitrobenzene	82-68-8	2	µg/L	<2	<2	----	----	----
Pronamide	23950-58-5	2	µg/L	<2	<2	----	----	----
Dimethylaminoazobenzene	60-11-7	2	µg/L	<2	<2	----	----	----
Chlorobenzilate	510-15-6	2	µg/L	<2	<2	----	----	----
EP075F: Haloethers								
Bis(2-chloroethyl) ether	111-44-4	2	µg/L	<2	<2	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	QC303_220825	QC304_220826	QC104	----	----
				Sampling date / time	25-Aug-2022 00:00	26-Aug-2022 00:00	26-Aug-2022 00:00	----	----
Compound	CAS Number	LOR	Unit		ES2230964-058	ES2230964-059	ES2230964-073	--------	--------
					Result	Result	Result	----	----
EP075F: Haloethers - Continued									
Bis(2-chloroethoxy) methane	111-91-1	2	µg/L		<2	<2	----	----	----
4-Chlorophenyl phenyl ether	7005-72-3	2	µg/L		<2	<2	----	----	----
4-Bromophenyl phenyl ether	101-55-3	2	µg/L		<2	<2	----	----	----
EP075G: Chlorinated Hydrocarbons									
1.3-Dichlorobenzene	541-73-1	2	µg/L		<2	<2	----	----	----
1.4-Dichlorobenzene	106-46-7	2	µg/L		<2	<2	----	----	----
1.2-Dichlorobenzene	95-50-1	2	µg/L		<2	<2	----	----	----
Hexachloroethane	67-72-1	2	µg/L		<2	<2	----	----	----
1.2.4-Trichlorobenzene	120-82-1	2	µg/L		<2	<2	----	----	----
Hexachloropropylene	1888-71-7	2	µg/L		<2	<2	----	----	----
Hexachlorobutadiene	87-68-3	2	µg/L		<2	<2	----	----	----
Hexachlorocyclopentadiene	77-47-4	10	µg/L		<10	<10	----	----	----
Pentachlorobenzene	608-93-5	2	µg/L		<2	<2	----	----	----
Hexachlorobenzene (HCB)	118-74-1	4	µg/L		<4	<4	----	----	----
EP075H: Anilines and Benzidines									
Aniline	62-53-3	2	µg/L		<2	<2	----	----	----
4-Chloroaniline	106-47-8	2	µg/L		<2	<2	----	----	----
2-Nitroaniline	88-74-4	4	µg/L		<4	<4	----	----	----
3-Nitroaniline	99-09-2	4	µg/L		<4	<4	----	----	----
Dibenzofuran	132-64-9	2	µg/L		<2	<2	----	----	----
4-Nitroaniline	100-01-6	2	µg/L		<2	<2	----	----	----
Carbazole	86-74-8	2	µg/L		<2	<2	----	----	----
3.3`-Dichlorobenzidine	91-94-1	2	µg/L		<2	<2	----	----	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	20	µg/L		<20	<20	<20	----	----
C10 - C14 Fraction	----	50	µg/L		<50	<50	<50	----	----
C15 - C28 Fraction	----	100	µg/L		<100	<100	<100	----	----
C29 - C36 Fraction	----	50	µg/L		<50	<50	<50	----	----
^ C10 - C36 Fraction (sum)	----	50	µg/L		<50	<50	<50	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	20	µg/L		<20	<20	<20	----	----
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	20	µg/L		<20	<20	<20	----	----
>C10 - C16 Fraction	----	100	µg/L		<100	<100	<100	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	QC303_220825	QC304_220826	QC104	----	----
				Sampling date / time	25-Aug-2022 00:00	26-Aug-2022 00:00	26-Aug-2022 00:00	----	----
Compound	CAS Number	LOR	Unit		ES2230964-058	ES2230964-059	ES2230964-073	--------	--------
					Result	Result	Result	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued									
>C16 - C34 Fraction	----	100	µg/L		<100	<100	<100	----	----
>C34 - C40 Fraction	----	100	µg/L		<100	<100	<100	----	----
^ >C10 - C40 Fraction (sum)	----	100	µg/L		<100	<100	<100	----	----
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	100	µg/L		<100	<100	<100	----	----
EP080: BTEXN									
Benzene	71-43-2	1	µg/L		<1	<1	<1	----	----
Toluene	108-88-3	2	µg/L		<2	<2	<2	----	----
Ethylbenzene	100-41-4	2	µg/L		<2	<2	<2	----	----
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L		<2	<2	<2	----	----
ortho-Xylene	95-47-6	2	µg/L		<2	<2	<2	----	----
^ Total Xylenes	----	2	µg/L		<2	<2	<2	----	----
^ Sum of BTEX	----	1	µg/L		<1	<1	<1	----	----
Naphthalene	91-20-3	5	µg/L		<5	<5	<5	----	----
EP202A: Phenoxyacetic Acid Herbicides by LCMS									
4-Chlorophenoxy acetic acid	122-88-3	10	µg/L		----	----	<10	----	----
2.4-DB	94-82-6	10	µg/L		----	----	<10	----	----
Dicamba	1918-00-9	10	µg/L		----	----	<10	----	----
Mecoprop	93-65-2	10	µg/L		----	----	<10	----	----
MCPA	94-74-6	10	µg/L		----	----	<10	----	----
2.4-DP	120-36-5	10	µg/L		----	----	<10	----	----
2.4-D	94-75-7	10	µg/L		----	----	<10	----	----
Triclopyr	55335-06-3	10	µg/L		----	----	<10	----	----
Silvex (2.4.5-TP/Fenoprop)	93-72-1	10	µg/L		----	----	<10	----	----
2.4.5-T	93-76-5	10	µg/L		----	----	<10	----	----
MCPB	94-81-5	10	µg/L		----	----	<10	----	----
Picloram	1918-02-1	10	µg/L		----	----	<10	----	----
Clopyralid	1702-17-6	10	µg/L		----	----	<10	----	----
Fluroxypyr	69377-81-7	10	µg/L		----	----	<10	----	----
2.6-D	575-90-6	10	µg/L		----	----	<10	----	----
2.4.6-T	575-89-3	10	µg/L		----	----	<10	----	----
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		<0.02	----	<0.02	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	QC303_220825	QC304_220826	QC104	----	----
				Sampling date / time	25-Aug-2022 00:00	26-Aug-2022 00:00	26-Aug-2022 00:00	----	----
Compound	CAS Number	LOR	Unit		ES2230964-058	ES2230964-059	ES2230964-073	--------	--------
					Result	Result	Result	----	----
EP231A: Perfluoroalkyl Sulfonic Acids - Continued									
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	----	<0.02	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		<0.01	----	<0.01	----	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	----	<0.02	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		<0.01	----	<0.01	----	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	----	<0.02	----	----
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	----	<0.1	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	----	<0.02	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	----	<0.02	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	----	<0.02	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	----	<0.01	----	----
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	----	<0.02	----	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	----	<0.02	----	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	----	<0.02	----	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	----	<0.02	----	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	----	<0.02	----	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	----	<0.05	----	----
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	----	<0.02	----	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	----	<0.05	----	----
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	----	<0.05	----	----
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	----	<0.05	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	QC303_220825	QC304_220826	QC104	----	----
				Sampling date / time	25-Aug-2022 00:00	26-Aug-2022 00:00	26-Aug-2022 00:00	----	----
Compound	CAS Number	LOR	Unit		ES2230964-058	ES2230964-059	ES2230964-073	--------	--------
					Result	Result	Result	----	----
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	----	<0.05	----	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	----	<0.02	----	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	----	<0.02	----	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	----	<0.05	----	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	----	<0.05	----	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	----	<0.05	----	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	----	<0.05	----	----
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		<0.01	----	<0.01	----	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		<0.01	----	<0.01	----	----
Sum of PFAS (WA DER List)	----	0.01	µg/L		<0.01	----	<0.01	----	----
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	1	%		**115**	**105**	----	----	----
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.5	%		**95.5**	**85.4**	**63.2**	----	----
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.5	%		**97.4**	**85.5**	**67.9**	----	----
EP074S: VOC Surrogates									
1.2-Dichloroethane-D4	17060-07-0	5	%		**105**	**105**	----	----	----
Toluene-D8	2037-26-5	5	%		**110**	**107**	----	----	----
4-Bromofluorobenzene	460-00-4	5	%		**101**	**99.1**	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	1.0	%		**28.4**	**25.6**	**29.3**	----	----
2-Chlorophenol-D4	93951-73-6	1.0	%		**62.6**	**56.8**	**56.6**	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	QC303_220825	QC304_220826	QC104	----	----
				Sampling date / time	25-Aug-2022 00:00	26-Aug-2022 00:00	26-Aug-2022 00:00	----	----
Compound	CAS Number	LOR	Unit		ES2230964-058	ES2230964-059	ES2230964-073	--------	--------
					Result	Result	Result	----	----
EP075(SIM)S: Phenolic Compound Surrogates - Continued									
2.4.6-Tribromophenol	118-79-6	1.0	%		62.4	59.5	48.8	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	1.0	%		94.5	87.8	67.8	----	----
Anthracene-d10	1719-06-8	1.0	%		93.5	94.8	75.3	----	----
4-Terphenyl-d14	1718-51-0	1.0	%		96.0	97.1	72.6	----	----
EP075S: Acid Extractable Surrogates									
2-Fluorophenol	367-12-4	2	%		50.5	46.0	----	----	----
Phenol-d6	13127-88-3	2	%		43.6	38.1	----	----	----
2-Chlorophenol-D4	93951-73-6	2	%		92.7	83.2	----	----	----
2.4.6-Tribromophenol	118-79-6	2	%		73.2	64.2	----	----	----
EP075T: Base/Neutral Extractable Surrogates									
Nitrobenzene-D5	4165-60-0	2	%		85.0	81.4	----	----	----
1.2-Dichlorobenzene-D4	2199-69-1	2	%		75.3	69.2	----	----	----
2-Fluorobiphenyl	321-60-8	2	%		96.1	87.6	----	----	----
Anthracene-d10	1719-06-8	2	%		97.9	96.7	----	----	----
4-Terphenyl-d14	1718-51-0	2	%		105	93.6	----	----	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	2	%		111	111	113	----	----
Toluene-D8	2037-26-5	2	%		107	104	107	----	----
4-Bromofluorobenzene	460-00-4	2	%		104	104	104	----	----
EP202S: Phenoxyacetic Acid Herbicide Surrogate									
2.4-Dichlorophenyl Acetic Acid	19719-28-9	10	%		----	----	107	----	----
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		109	----	104	----	----
13C8-PFOA	----	0.02	%		93.6	----	93.4	----	----

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	HA05_0.1_0.2_220824 - 24-Aug-2022 00:00	Soil sample.
EA200: Description	HA05_1.0_1.1_220824 - 24-Aug-2022 00:00	Soil sample.
EA200: Description	HA11_0.0_0.1_220824 - 24-Aug-2022 00:00	Soil sample.
EA200: Description	HA14_0.1_0.2_220824 - 24-Aug-2022 00:00	Soil sample.
EA200: Description	HA16_0.0_0.1_220824 - 24-Aug-2022 00:00	Soil sample.
EA200: Description	HA20_0.0_0.1_220824 - 24-Aug-2022 00:00	Soil sample.
EA200: Description	HA25_0.1_0.2_220824 - 24-Aug-2022 00:00	Soil sample.
EA200: Description	HA25_0.4_0.5_220824 - 24-Aug-2022 00:00	Soil sample.
EA200: Description	QC102_220824 - 24-Aug-2022 00:00	Soil sample.
EA200: Description	QC103_220824 - 24-Aug-2022 00:00	Soil sample.

Surrogate Control Limits

Sub-Matrix: **SOIL**

Compound	CAS Number	Recovery Limits (%) 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
EP202S: Phenoxyacetic Acid Herbicide Surrogate			
2.4-Dichlorophenyl Acetic Acid	19719-28-9	45	139
EP231S: PFAS Surrogate			
13C4-PFOS	----	60	120
13C8-PFOA	----	60	120

Sub-Matrix: WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP066S: PCB Surrogate			
Decachlorobiphenyl	2051-24-3	45	134
EP068S: Organochlorine Pesticide Surrogate			
Dibromo-DDE	21655-73-2	67	111
EP068T: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	67	111
EP074S: VOC Surrogates			
1.2-Dichloroethane-D4	17060-07-0	78	133
Toluene-D8	2037-26-5	79	129
4-Bromofluorobenzene	460-00-4	81	124
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	10	44
2-Chlorophenol-D4	93951-73-6	14	94
2.4.6-Tribromophenol	118-79-6	17	125
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	20	104
Anthracene-d10	1719-06-8	27	113
4-Terphenyl-d14	1718-51-0	32	112
EP075S: Acid Extractable Surrogates			
2-Fluorophenol	367-12-4	10	117
Phenol-d6	13127-88-3	10	69
2-Chlorophenol-D4	93951-73-6	21	130
2.4.6-Tribromophenol	118-79-6	10	151
EP075T: Base/Neutral Extractable Surrogates			
Nitrobenzene-D5	4165-60-0	29	142
1.2-Dichlorobenzene-D4	2199-69-1	24	121
2-Fluorobiphenyl	321-60-8	27	135
Anthracene-d10	1719-06-8	27	113
4-Terphenyl-d14	1718-51-0	21	123
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	71	137
Toluene-D8	2037-26-5	79	131
4-Bromofluorobenzene	460-00-4	70	128
EP202S: Phenoxyacetic Acid Herbicide Surrogate			
2.4-Dichlorophenyl Acetic Acid	19719-28-9	64	140
EP231S: PFAS Surrogate			
13C4-PFOS	----	60	120
13C8-PFOA	----	60	120

Inter-Laboratory Testing

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

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

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **ES2230964**	Page	: 1 of 47
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: TAMA ARMANI	Telephone	: +61 2 8784 8555
Project	: 60619756 211-30	Date Samples Received	: 30-Aug-2022
Site	: ----	Issue Date	: 23-Sep-2022
Sampler	: P.Dean	No. of samples received	: 72
Order number	: 60619756	No. of samples analysed	: 42

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.**
- **Surrogate recovery outliers exist for all regular sample matrices - please see following pages for full details.**

Outliers : Analysis Holding Time Compliance

- **Analysis Holding Time Outliers exist - please see following pages for full details.**

Outliers : Frequency of Quality Control Samples

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

Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Laboratory Control Spike (LCS) Recoveries							
EP075E: Nitroaromatics and Ketones	QC-4563561-002	----	**Pentachloronitrobenzene**	82-68-8	112 %	56.0-110%	**Recovery greater than upper control limit**
EP075F: Haloethers	QC-4563561-002	----	**4-Bromophenyl phenyl ether**	101-55-3	111 %	58.0-110%	**Recovery greater than upper control limit**
Matrix Spike (MS) Recoveries							
EP202A: Phenoxyacetic Acid Herbicides by LCMS	ES2230964--053	SED01_220826	**Picloram**	1918-02-1	34.0 %	49.0-138%	**Recovery less than lower data quality objective**
EP202A: Phenoxyacetic Acid Herbicides by LCMS	ES2230964--053	SED01_220826	**Clopyralid**	1702-17-6	37.7 %	49.0-149%	**Recovery less than lower data quality objective**
EP231A: Perfluoroalkyl Sulfonic Acids	ES2230964--001	HA05_0.1_0.2_220824	**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	ES2230964--001	HA05_0.1_0.2_220824	**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	ES2230964--001	HA05_0.1_0.2_220824	**Perfluorononanoic acid (PFNA)**	375-95-1	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP231B: Perfluoroalkyl Carboxylic Acids	ES2230964--001	HA05_0.1_0.2_220824	**Perfluoroundecanoic acid (PFUnDA)**	2058-94-8	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP231B: Perfluoroalkyl Carboxylic Acids	ES2230964--001	HA05_0.1_0.2_220824	**Perfluorotridecanoic acid (PFTrDA)**	72629-94-8	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**

Matrix: **WATER**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Laboratory Control Spike (LCS) Recoveries							
EP075A: Phenolic Compounds	QC-4563503-002	----	**Pentachlorophenol**	87-86-5	105 %	12.8-95.0%	**Recovery greater than upper control limit**
EP075E: Nitroaromatics and Ketones	QC-4563503-002	----	**2-Picoline**	109-06-8	35.8 %	41.0-109%	**Recovery less than lower control limit**
EP075E: Nitroaromatics and Ketones	QC-4563503-002	----	**4-Nitroquinoline-N-oxide**	56-57-5	117 %	40.0-96.0%	**Recovery greater than upper control limit**
EP075E: Nitroaromatics and Ketones	QC-4563503-002	----	**1.3.5-Trinitrobenzene**	99-35-4	117 %	46.0-108%	**Recovery greater than upper control limit**
EP075F: Haloethers	QC-4563503-002	----	**Bis(2-chloroethyl) ether**	111-44-4	64.5 %	69.1-112%	**Recovery less than lower control limit**
Matrix Spike (MS) Recoveries							
EP202A: Phenoxyacetic Acid Herbicides by LCMS	EM2216786--001	Anonymous	**Picloram**	1918-02-1	50.2 %	70.0-144%	**Recovery less than lower data quality objective**

Matrix: **WATER**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Matrix Spike (MS) Recoveries - Continued							
EP202A: Phenoxyacetic Acid Herbicides by LCMS	EM2216786--001	Anonymous	**Clopyralid**	1702-17-6	34.7 %	70.0-145%	**Recovery less than lower data quality objective**

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	ES2230964-054	SED02_220826	**2-Fluorobiphenyl**	321-60-8	123 %	35.0-121 %	**Recovery greater than upper data quality objective**

Sub-Matrix: **WATER**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Samples Submitted							
EP068S: Organochlorine Pesticide Surrogate	ES2230964-073	QC104	**Dibromo-DDE**	21655-73-2	63.2 %	66.5-111 %	**Recovery less than lower data quality objective**

Outliers : Analysis Holding Time Compliance

Matrix: **SOIL**

Method / **Container** / Client Sample ID(s)		*Extraction / Preparation*			*Analysis*		
		Date extracted	*Due for extraction*	***Days overdue***	*Date analysed*	*Due for analysis*	***Days overdue***
EA055: Moisture Content (Dried @ 105-110°C)							
Soil Glass Jar - Unpreserved							
HA05_0.1_0.2_220824,	HA05_1.0_1.1_220824,	----	----	----	09-Sep-2022	07-Sep-2022	**2**
HA08_0.1_0.2_220824,	HA08_1.2_1.3_220824,						
HA10_0.1_0.2_220824,	HA10_0.5_0.6_220824,						
HA11_0.0_0.1_220824,	HA11_1.0_1.1_220824,						
HA14_0.1_0.2_220824,	HA14_0.6_0.7_220824,						
HA16_0.0_0.1_220824,	HA16_1.4_1.5_220824,						
HA17_0.5_0.6_220824,	HA17_4.0_4.2_220824,						
HA20_0.0_0.1_220824,	HA20_1.2_1.3_220824,						
HA25_0.1_0.2_220824,	HA25_0.4_0.5_220824,						
QC102_220824,	QC103_220824						
EP074A: Monocyclic Aromatic Hydrocarbons							

Matrix: **SOIL**

Method / Container / Client Sample ID(s)		Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Days overdue	Date analysed	Due for analysis	Days overdue
EP074A: Monocyclic Aromatic Hydrocarbons - Analysis Holding Time Compliance							
Soil Glass Jar - Unpreserved							
HA05_0.1_0.2_220824,	HA05_1.0_1.1_220824,	06-Sep-2022	31-Aug-2022	6	07-Sep-2022	31-Aug-2022	7
HA08_0.1_0.2_220824,	HA08_1.2_1.3_220824,						
HA10_0.1_0.2_220824,	HA10_0.5_0.6_220824,						
HA11_0.0_0.1_220824,	HA11_1.0_1.1_220824,						
HA14_0.1_0.2_220824,	HA14_0.6_0.7_220824,						
HA16_0.0_0.1_220824,	HA16_1.4_1.5_220824,						
HA17_0.5_0.6_220824,	HA17_4.0_4.2_220824,						
HA20_0.0_0.1_220824,	HA20_1.2_1.3_220824,						
HA25_0.1_0.2_220824,	HA25_0.4_0.5_220824,						
QC102_220824,	QC103_220824						
Soil Glass Jar - Unpreserved							
SED01_220826,	SED02_220826	06-Sep-2022	02-Sep-2022	4	07-Sep-2022	02-Sep-2022	5
EP074B: Oxygenated Compounds							
Soil Glass Jar - Unpreserved							
HA05_0.1_0.2_220824,	HA05_1.0_1.1_220824,	06-Sep-2022	31-Aug-2022	6	07-Sep-2022	31-Aug-2022	7
HA08_0.1_0.2_220824,	HA08_1.2_1.3_220824,						
HA10_0.1_0.2_220824,	HA10_0.5_0.6_220824,						
HA11_0.0_0.1_220824,	HA11_1.0_1.1_220824,						
HA14_0.1_0.2_220824,	HA14_0.6_0.7_220824,						
HA16_0.0_0.1_220824,	HA16_1.4_1.5_220824,						
HA17_0.5_0.6_220824,	HA17_4.0_4.2_220824,						
HA20_0.0_0.1_220824,	HA20_1.2_1.3_220824,						
HA25_0.1_0.2_220824,	HA25_0.4_0.5_220824,						
QC102_220824,	QC103_220824						
Soil Glass Jar - Unpreserved							
SED01_220826,	SED02_220826	06-Sep-2022	02-Sep-2022	4	07-Sep-2022	02-Sep-2022	5
EP074C: Sulfonated Compounds							
Soil Glass Jar - Unpreserved							
HA05_0.1_0.2_220824,	HA05_1.0_1.1_220824,	06-Sep-2022	31-Aug-2022	6	07-Sep-2022	31-Aug-2022	7
HA08_0.1_0.2_220824,	HA08_1.2_1.3_220824,						
HA10_0.1_0.2_220824,	HA10_0.5_0.6_220824,						
HA11_0.0_0.1_220824,	HA11_1.0_1.1_220824,						
HA14_0.1_0.2_220824,	HA14_0.6_0.7_220824,						
HA16_0.0_0.1_220824,	HA16_1.4_1.5_220824,						
HA17_0.5_0.6_220824,	HA17_4.0_4.2_220824,						
HA20_0.0_0.1_220824,	HA20_1.2_1.3_220824,						
HA25_0.1_0.2_220824,	HA25_0.4_0.5_220824,						
QC102_220824,	QC103_220824						
Soil Glass Jar - Unpreserved							
SED01_220826,	SED02_220826	06-Sep-2022	02-Sep-2022	4	07-Sep-2022	02-Sep-2022	5

Matrix: **SOIL**

Method / Container / Client Sample ID(s)		Extraction / Preparation: Date extracted	Extraction / Preparation: Due for extraction	Extraction / Preparation: Days overdue	Analysis: Date analysed	Analysis: Due for analysis	Analysis: Days overdue
EP074D: Fumigants							
Soil Glass Jar - Unpreserved							
HA05_0.1_0.2_220824,	HA05_1.0_1.1_220824,	06-Sep-2022	31-Aug-2022	**6**	07-Sep-2022	31-Aug-2022	**7**
HA08_0.1_0.2_220824,	HA08_1.2_1.3_220824,						
HA10_0.1_0.2_220824,	HA10_0.5_0.6_220824,						
HA11_0.0_0.1_220824,	HA11_1.0_1.1_220824,						
HA14_0.1_0.2_220824,	HA14_0.6_0.7_220824,						
HA16_0.0_0.1_220824,	HA16_1.4_1.5_220824,						
HA17_0.5_0.6_220824,	HA17_4.0_4.2_220824,						
HA20_0.0_0.1_220824,	HA20_1.2_1.3_220824,						
HA25_0.1_0.2_220824,	HA25_0.4_0.5_220824,						
QC102_220824,	QC103_220824						
Soil Glass Jar - Unpreserved							
SED01_220826,	SED02_220826	06-Sep-2022	02-Sep-2022	**4**	07-Sep-2022	02-Sep-2022	**5**
EP074E: Halogenated Aliphatic Compounds							
Soil Glass Jar - Unpreserved							
HA05_0.1_0.2_220824,	HA05_1.0_1.1_220824,	06-Sep-2022	31-Aug-2022	**6**	07-Sep-2022	31-Aug-2022	**7**
HA08_0.1_0.2_220824,	HA08_1.2_1.3_220824,						
HA10_0.1_0.2_220824,	HA10_0.5_0.6_220824,						
HA11_0.0_0.1_220824,	HA11_1.0_1.1_220824,						
HA14_0.1_0.2_220824,	HA14_0.6_0.7_220824,						
HA16_0.0_0.1_220824,	HA16_1.4_1.5_220824,						
HA17_0.5_0.6_220824,	HA17_4.0_4.2_220824,						
HA20_0.0_0.1_220824,	HA20_1.2_1.3_220824,						
HA25_0.1_0.2_220824,	HA25_0.4_0.5_220824,						
QC102_220824,	QC103_220824						
Soil Glass Jar - Unpreserved							
SED01_220826,	SED02_220826	06-Sep-2022	02-Sep-2022	**4**	07-Sep-2022	02-Sep-2022	**5**
EP074F: Halogenated Aromatic Compounds							
Soil Glass Jar - Unpreserved							
HA05_0.1_0.2_220824,	HA05_1.0_1.1_220824,	06-Sep-2022	31-Aug-2022	**6**	07-Sep-2022	31-Aug-2022	**7**
HA08_0.1_0.2_220824,	HA08_1.2_1.3_220824,						
HA10_0.1_0.2_220824,	HA10_0.5_0.6_220824,						
HA11_0.0_0.1_220824,	HA11_1.0_1.1_220824,						
HA14_0.1_0.2_220824,	HA14_0.6_0.7_220824,						
HA16_0.0_0.1_220824,	HA16_1.4_1.5_220824,						
HA17_0.5_0.6_220824,	HA17_4.0_4.2_220824,						
HA20_0.0_0.1_220824,	HA20_1.2_1.3_220824,						
HA25_0.1_0.2_220824,	HA25_0.4_0.5_220824,						
QC102_220824,	QC103_220824						
Soil Glass Jar - Unpreserved							
SED01_220826,	SED02_220826	06-Sep-2022	02-Sep-2022	**4**	07-Sep-2022	02-Sep-2022	**5**

Matrix: **SOIL**

Method / Container / Client Sample ID(s)		Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Days overdue	Date analysed	Due for analysis	Days overdue
EP074G: Trihalomethanes							
Soil Glass Jar - Unpreserved							
HA05_0.1_0.2_220824,	HA05_1.0_1.1_220824,	06-Sep-2022	31-Aug-2022	**6**	07-Sep-2022	31-Aug-2022	**7**
HA08_0.1_0.2_220824,	HA08_1.2_1.3_220824,						
HA10_0.1_0.2_220824,	HA10_0.5_0.6_220824,						
HA11_0.0_0.1_220824,	HA11_1.0_1.1_220824,						
HA14_0.1_0.2_220824,	HA14_0.6_0.7_220824,						
HA16_0.0_0.1_220824,	HA16_1.4_1.5_220824,						
HA17_0.5_0.6_220824,	HA17_4.0_4.2_220824,						
HA20_0.0_0.1_220824,	HA20_1.2_1.3_220824,						
HA25_0.1_0.2_220824,	HA25_0.4_0.5_220824,						
QC102_220824,	QC103_220824						
Soil Glass Jar - Unpreserved							
SED01_220826,	SED02_220826	06-Sep-2022	02-Sep-2022	**4**	07-Sep-2022	02-Sep-2022	**5**
EP202A: Phenoxyacetic Acid Herbicides by LCMS							
Soil Glass Jar - Unpreserved							
HA05_0.1_0.2_220824,	HA05_1.0_1.1_220824,	09-Sep-2022	07-Sep-2022	**2**	----	----	----
HA08_0.1_0.2_220824,	HA08_1.2_1.3_220824,						
HA10_0.1_0.2_220824,	HA10_0.5_0.6_220824,						
HA11_0.0_0.1_220824,	HA11_1.0_1.1_220824,						
HA14_0.1_0.2_220824,	HA14_0.6_0.7_220824,						
HA16_0.0_0.1_220824,	HA16_1.4_1.5_220824,						
HA17_0.5_0.6_220824,	HA17_4.0_4.2_220824,						
HA20_0.0_0.1_220824,	HA20_1.2_1.3_220824,						
HA25_0.1_0.2_220824,	HA25_0.4_0.5_220824,						
QC102_220824,	QC103_220824						

Matrix: **WATER**

Method / Container / Client Sample ID(s)	Extraction / Preparation			Analysis		
	Date extracted	Due for extraction	Days overdue	Date analysed	Due for analysis	Days overdue
EP066: Polychlorinated Biphenyls (PCB)						
Amber Glass Bottle - Unpreserved						
QC300_220822	06-Sep-2022	29-Aug-2022	**8**	----	----	----
Amber Glass Bottle - Unpreserved						
QC301_220823	06-Sep-2022	30-Aug-2022	**7**	----	----	----
Amber Glass Bottle - Unpreserved						
QC302_220824	06-Sep-2022	31-Aug-2022	**6**	----	----	----
Amber Glass Bottle - Unpreserved						
QC303_220825	06-Sep-2022	01-Sep-2022	**5**	----	----	----

Matrix: **WATER**

Method / Container / Client Sample ID(s)	Extraction / Preparation			Analysis		
	Date extracted	Due for extraction	Days overdue	Date analysed	Due for analysis	Days overdue
EP066: Polychlorinated Biphenyls (PCB) - Analysis Holding Time Compliance						
Amber Glass Bottle - Unpreserved SW01_220826, SW02_220826, QC304_220826	06-Sep-2022	02-Sep-2022	**4**	----	----	----
EP068A: Organochlorine Pesticides (OC)						
Amber Glass Bottle - Unpreserved QC300_220822	06-Sep-2022	29-Aug-2022	**8**	----	----	----
Amber Glass Bottle - Unpreserved QC301_220823	06-Sep-2022	30-Aug-2022	**7**	----	----	----
Amber Glass Bottle - Unpreserved QC302_220824	06-Sep-2022	31-Aug-2022	**6**	----	----	----
Amber Glass Bottle - Unpreserved QC303_220825	06-Sep-2022	01-Sep-2022	**5**	----	----	----
Amber Glass Bottle - Unpreserved SW01_220826, SW02_220826, QC304_220826	06-Sep-2022	02-Sep-2022	**4**	----	----	----
Amber Glass Bottle - Unpreserved QC104	07-Sep-2022	02-Sep-2022	**5**	----	----	----
EP068B: Organophosphorus Pesticides (OP)						
Amber Glass Bottle - Unpreserved QC300_220822	06-Sep-2022	29-Aug-2022	**8**	----	----	----
Amber Glass Bottle - Unpreserved QC301_220823	06-Sep-2022	30-Aug-2022	**7**	----	----	----
Amber Glass Bottle - Unpreserved QC302_220824	06-Sep-2022	31-Aug-2022	**6**	----	----	----
Amber Glass Bottle - Unpreserved QC303_220825	06-Sep-2022	01-Sep-2022	**5**	----	----	----
Amber Glass Bottle - Unpreserved SW01_220826, SW02_220826, QC304_220826	06-Sep-2022	02-Sep-2022	**4**	----	----	----
Amber Glass Bottle - Unpreserved QC104	07-Sep-2022	02-Sep-2022	**5**	----	----	----
EP074A: Monocyclic Aromatic Hydrocarbons						
Amber Glass Bottle - Unpreserved QC300_220822	06-Sep-2022	29-Aug-2022	**8**	06-Sep-2022	29-Aug-2022	**8**
Amber Glass Bottle - Unpreserved QC301_220823	06-Sep-2022	30-Aug-2022	**7**	06-Sep-2022	30-Aug-2022	**7**
Amber Glass Bottle - Unpreserved QC302_220824	06-Sep-2022	31-Aug-2022	**6**	06-Sep-2022	31-Aug-2022	**6**
Amber Glass Bottle - Unpreserved QC303_220825	06-Sep-2022	01-Sep-2022	**5**	06-Sep-2022	01-Sep-2022	**5**

Matrix: **WATER**

Method / Container / Client Sample ID(s)	Extraction / Preparation			Analysis		
	Date extracted	Due for extraction	Days overdue	Date analysed	Due for analysis	Days overdue
EP074A: Monocyclic Aromatic Hydrocarbons - Analysis Holding Time Compliance						
Amber Glass Bottle - Unpreserved						
SW01_220826, SW02_220826	06-Sep-2022	02-Sep-2022	4	06-Sep-2022	02-Sep-2022	4
EP074B: Oxygenated Compounds						
Amber Glass Bottle - Unpreserved						
QC300_220822	06-Sep-2022	29-Aug-2022	8	06-Sep-2022	29-Aug-2022	8
Amber Glass Bottle - Unpreserved						
QC301_220823	06-Sep-2022	30-Aug-2022	7	06-Sep-2022	30-Aug-2022	7
Amber Glass Bottle - Unpreserved						
QC302_220824	06-Sep-2022	31-Aug-2022	6	06-Sep-2022	31-Aug-2022	6
Amber Glass Bottle - Unpreserved						
QC303_220825	06-Sep-2022	01-Sep-2022	5	06-Sep-2022	01-Sep-2022	5
Amber Glass Bottle - Unpreserved						
SW01_220826, SW02_220826	06-Sep-2022	02-Sep-2022	4	06-Sep-2022	02-Sep-2022	4
EP074C: Sulfonated Compounds						
Amber Glass Bottle - Unpreserved						
QC300_220822	06-Sep-2022	29-Aug-2022	8	06-Sep-2022	29-Aug-2022	8
Amber Glass Bottle - Unpreserved						
QC301_220823	06-Sep-2022	30-Aug-2022	7	06-Sep-2022	30-Aug-2022	7
Amber Glass Bottle - Unpreserved						
QC302_220824	06-Sep-2022	31-Aug-2022	6	06-Sep-2022	31-Aug-2022	6
Amber Glass Bottle - Unpreserved						
QC303_220825	06-Sep-2022	01-Sep-2022	5	06-Sep-2022	01-Sep-2022	5
Amber Glass Bottle - Unpreserved						
SW01_220826, SW02_220826	06-Sep-2022	02-Sep-2022	4	06-Sep-2022	02-Sep-2022	4
EP074D: Fumigants						
Amber Glass Bottle - Unpreserved						
QC300_220822	06-Sep-2022	29-Aug-2022	8	06-Sep-2022	29-Aug-2022	8
Amber Glass Bottle - Unpreserved						
QC301_220823	06-Sep-2022	30-Aug-2022	7	06-Sep-2022	30-Aug-2022	7
Amber Glass Bottle - Unpreserved						
QC302_220824	06-Sep-2022	31-Aug-2022	6	06-Sep-2022	31-Aug-2022	6
Amber Glass Bottle - Unpreserved						
QC303_220825	06-Sep-2022	01-Sep-2022	5	06-Sep-2022	01-Sep-2022	5
Amber Glass Bottle - Unpreserved						
SW01_220826, SW02_220826	06-Sep-2022	02-Sep-2022	4	06-Sep-2022	02-Sep-2022	4
EP074E: Halogenated Aliphatic Compounds						
Amber Glass Bottle - Unpreserved						
QC300_220822	06-Sep-2022	29-Aug-2022	8	06-Sep-2022	29-Aug-2022	8
Amber Glass Bottle - Unpreserved						
QC301_220823	06-Sep-2022	30-Aug-2022	7	06-Sep-2022	30-Aug-2022	7

Matrix: **WATER**

Method / Container / Client Sample ID(s)	Extraction / Preparation			Analysis		
	Date extracted	Due for extraction	Days overdue	Date analysed	Due for analysis	Days overdue
EP074E: Halogenated Aliphatic Compounds - Analysis Holding Time Compliance						
Amber Glass Bottle - Unpreserved QC302_220824	06-Sep-2022	31-Aug-2022	6	06-Sep-2022	31-Aug-2022	6
Amber Glass Bottle - Unpreserved QC303_220825	06-Sep-2022	01-Sep-2022	5	06-Sep-2022	01-Sep-2022	5
Amber Glass Bottle - Unpreserved SW01_220826, SW02_220826	06-Sep-2022	02-Sep-2022	4	06-Sep-2022	02-Sep-2022	4
EP074F: Halogenated Aromatic Compounds						
Amber Glass Bottle - Unpreserved QC300_220822	06-Sep-2022	29-Aug-2022	8	06-Sep-2022	29-Aug-2022	8
Amber Glass Bottle - Unpreserved QC301_220823	06-Sep-2022	30-Aug-2022	7	06-Sep-2022	30-Aug-2022	7
Amber Glass Bottle - Unpreserved QC302_220824	06-Sep-2022	31-Aug-2022	6	06-Sep-2022	31-Aug-2022	6
Amber Glass Bottle - Unpreserved QC303_220825	06-Sep-2022	01-Sep-2022	5	06-Sep-2022	01-Sep-2022	5
Amber Glass Bottle - Unpreserved SW01_220826, SW02_220826	06-Sep-2022	02-Sep-2022	4	06-Sep-2022	02-Sep-2022	4
EP074G: Trihalomethanes						
Amber Glass Bottle - Unpreserved QC300_220822	06-Sep-2022	29-Aug-2022	8	06-Sep-2022	29-Aug-2022	8
Amber Glass Bottle - Unpreserved QC301_220823	06-Sep-2022	30-Aug-2022	7	06-Sep-2022	30-Aug-2022	7
Amber Glass Bottle - Unpreserved QC302_220824	06-Sep-2022	31-Aug-2022	6	06-Sep-2022	31-Aug-2022	6
Amber Glass Bottle - Unpreserved QC303_220825	06-Sep-2022	01-Sep-2022	5	06-Sep-2022	01-Sep-2022	5
Amber Glass Bottle - Unpreserved SW01_220826, SW02_220826	06-Sep-2022	02-Sep-2022	4	06-Sep-2022	02-Sep-2022	4
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons						
Amber Glass Bottle - Unpreserved QC300_220822	06-Sep-2022	29-Aug-2022	8	----	----	----
Amber Glass Bottle - Unpreserved QC301_220823	06-Sep-2022	30-Aug-2022	7	----	----	----
Amber Glass Bottle - Unpreserved QC302_220824	06-Sep-2022	31-Aug-2022	6	----	----	----
Amber Glass Bottle - Unpreserved QC303_220825	06-Sep-2022	01-Sep-2022	5	----	----	----
Amber Glass Bottle - Unpreserved SW01_220826, SW02_220826, QC304_220826	06-Sep-2022	02-Sep-2022	4	----	----	----

Matrix: **WATER**

Method / Container / Client Sample ID(s)	Extraction / Preparation			Analysis		
	Date extracted	Due for extraction	Days overdue	Date analysed	Due for analysis	Days overdue
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Analysis Holding Time Compliance						
Amber Glass Bottle - Unpreserved						
QC104	07-Sep-2022	02-Sep-2022	5	----	----	----
EP075A: Phenolic Compounds						
Amber Glass Bottle - Unpreserved						
QC300_220822	06-Sep-2022	29-Aug-2022	8	----	----	----
Amber Glass Bottle - Unpreserved						
QC301_220823	06-Sep-2022	30-Aug-2022	7	----	----	----
Amber Glass Bottle - Unpreserved						
QC302_220824	06-Sep-2022	31-Aug-2022	6	----	----	----
Amber Glass Bottle - Unpreserved						
QC303_220825	06-Sep-2022	01-Sep-2022	5	----	----	----
Amber Glass Bottle - Unpreserved						
SW01_220826, SW02_220826	06-Sep-2022	02-Sep-2022	4	----	----	----
EP075B: Polynuclear Aromatic Hydrocarbons						
Amber Glass Bottle - Unpreserved						
QC300_220822	06-Sep-2022	29-Aug-2022	8	----	----	----
Amber Glass Bottle - Unpreserved						
QC301_220823	06-Sep-2022	30-Aug-2022	7	----	----	----
Amber Glass Bottle - Unpreserved						
QC302_220824	06-Sep-2022	31-Aug-2022	6	----	----	----
Amber Glass Bottle - Unpreserved						
QC303_220825	06-Sep-2022	01-Sep-2022	5	----	----	----
Amber Glass Bottle - Unpreserved						
SW01_220826, SW02_220826, QC304_220826	06-Sep-2022	02-Sep-2022	4	----	----	----
EP075C: Phthalate Esters						
Amber Glass Bottle - Unpreserved						
QC300_220822	06-Sep-2022	29-Aug-2022	8	----	----	----
Amber Glass Bottle - Unpreserved						
QC301_220823	06-Sep-2022	30-Aug-2022	7	----	----	----
Amber Glass Bottle - Unpreserved						
QC302_220824	06-Sep-2022	31-Aug-2022	6	----	----	----
Amber Glass Bottle - Unpreserved						
QC303_220825	06-Sep-2022	01-Sep-2022	5	----	----	----
Amber Glass Bottle - Unpreserved						
SW01_220826, SW02_220826, QC304_220826	06-Sep-2022	02-Sep-2022	4	----	----	----
EP075D: Nitrosamines						
Amber Glass Bottle - Unpreserved						
QC300_220822	06-Sep-2022	29-Aug-2022	8	----	----	----

Matrix: **WATER**

Method / Container / Client Sample ID(s)	Extraction / Preparation			Analysis		
	Date extracted	Due for extraction	Days overdue	Date analysed	Due for analysis	Days overdue
EP075D: Nitrosamines - Analysis Holding Time Compliance						
Amber Glass Bottle - Unpreserved QC301_220823	06-Sep-2022	30-Aug-2022	7	----	----	----
Amber Glass Bottle - Unpreserved QC302_220824	06-Sep-2022	31-Aug-2022	6	----	----	----
Amber Glass Bottle - Unpreserved QC303_220825	06-Sep-2022	01-Sep-2022	5	----	----	----
Amber Glass Bottle - Unpreserved SW01_220826, SW02_220826, QC304_220826	06-Sep-2022	02-Sep-2022	4	----	----	----
EP075E: Nitroaromatics and Ketones						
Amber Glass Bottle - Unpreserved QC300_220822	06-Sep-2022	29-Aug-2022	8	----	----	----
Amber Glass Bottle - Unpreserved QC301_220823	06-Sep-2022	30-Aug-2022	7	----	----	----
Amber Glass Bottle - Unpreserved QC302_220824	06-Sep-2022	31-Aug-2022	6	----	----	----
Amber Glass Bottle - Unpreserved QC303_220825	06-Sep-2022	01-Sep-2022	5	----	----	----
Amber Glass Bottle - Unpreserved SW01_220826, SW02_220826, QC304_220826	06-Sep-2022	02-Sep-2022	4	----	----	----
EP075F: Haloethers						
Amber Glass Bottle - Unpreserved QC300_220822	06-Sep-2022	29-Aug-2022	8	----	----	----
Amber Glass Bottle - Unpreserved QC301_220823	06-Sep-2022	30-Aug-2022	7	----	----	----
Amber Glass Bottle - Unpreserved QC302_220824	06-Sep-2022	31-Aug-2022	6	----	----	----
Amber Glass Bottle - Unpreserved QC303_220825	06-Sep-2022	01-Sep-2022	5	----	----	----
Amber Glass Bottle - Unpreserved SW01_220826, SW02_220826, QC304_220826	06-Sep-2022	02-Sep-2022	4	----	----	----
EP075G: Chlorinated Hydrocarbons						
Amber Glass Bottle - Unpreserved QC300_220822	06-Sep-2022	29-Aug-2022	8	----	----	----
Amber Glass Bottle - Unpreserved QC301_220823	06-Sep-2022	30-Aug-2022	7	----	----	----
Amber Glass Bottle - Unpreserved QC302_220824	06-Sep-2022	31-Aug-2022	6	----	----	----

Matrix: **WATER**

Method / Container / Client Sample ID(s)	Extraction / Preparation			Analysis		
	Date extracted	Due for extraction	Days overdue	Date analysed	Due for analysis	Days overdue
EP075G: Chlorinated Hydrocarbons - Analysis Holding Time Compliance						
Amber Glass Bottle - Unpreserved QC303_220825	06-Sep-2022	01-Sep-2022	5	----	----	----
Amber Glass Bottle - Unpreserved SW01_220826, SW02_220826, QC304_220826	06-Sep-2022	02-Sep-2022	4	----	----	----
EP075H: Anilines and Benzidines						
Amber Glass Bottle - Unpreserved QC300_220822	06-Sep-2022	29-Aug-2022	8	----	----	----
Amber Glass Bottle - Unpreserved QC301_220823	06-Sep-2022	30-Aug-2022	7	----	----	----
Amber Glass Bottle - Unpreserved QC302_220824	06-Sep-2022	31-Aug-2022	6	----	----	----
Amber Glass Bottle - Unpreserved QC303_220825	06-Sep-2022	01-Sep-2022	5	----	----	----
Amber Glass Bottle - Unpreserved SW01_220826, SW02_220826, QC304_220826	06-Sep-2022	02-Sep-2022	4	----	----	----
EP080/071: Total Petroleum Hydrocarbons						
Amber Glass Bottle - Unpreserved QC300_220822	06-Sep-2022	29-Aug-2022	8	06-Sep-2022	29-Aug-2022	8
Amber Glass Bottle - Unpreserved QC300_220822	06-Sep-2022	29-Aug-2022	8	----	----	----
Amber Glass Bottle - Unpreserved QC301_220823	06-Sep-2022	30-Aug-2022	7	06-Sep-2022	30-Aug-2022	7
Amber Glass Bottle - Unpreserved QC301_220823	06-Sep-2022	30-Aug-2022	7	----	----	----
Amber Glass Bottle - Unpreserved QC302_220824	06-Sep-2022	31-Aug-2022	6	06-Sep-2022	31-Aug-2022	6
Amber Glass Bottle - Unpreserved QC302_220824	06-Sep-2022	31-Aug-2022	6	----	----	----
Amber Glass Bottle - Unpreserved QC303_220825	06-Sep-2022	01-Sep-2022	5	06-Sep-2022	01-Sep-2022	5
Amber Glass Bottle - Unpreserved QC303_220825	06-Sep-2022	01-Sep-2022	5	----	----	----
Amber Glass Bottle - Unpreserved SW01_220826, SW02_220826	06-Sep-2022	02-Sep-2022	4	06-Sep-2022	02-Sep-2022	4
Amber Glass Bottle - Unpreserved SW01_220826, SW02_220826, QC304_220826	06-Sep-2022	02-Sep-2022	4	----	----	----
Amber Glass Bottle - Unpreserved QC104	07-Sep-2022	02-Sep-2022	5	----	----	----

Matrix: **WATER**

Method / Container / Client Sample ID(s)	Extraction / Preparation			Analysis		
	Date extracted	Due for extraction	Days overdue	Date analysed	Due for analysis	Days overdue
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions						
Amber Glass Bottle - Unpreserved QC300_220822	06-Sep-2022	29-Aug-2022	8	06-Sep-2022	29-Aug-2022	8
Amber Glass Bottle - Unpreserved QC300_220822	06-Sep-2022	29-Aug-2022	8	----	----	----
Amber Glass Bottle - Unpreserved QC301_220823	06-Sep-2022	30-Aug-2022	7	06-Sep-2022	30-Aug-2022	7
Amber Glass Bottle - Unpreserved QC301_220823	06-Sep-2022	30-Aug-2022	7	----	----	----
Amber Glass Bottle - Unpreserved QC302_220824	06-Sep-2022	31-Aug-2022	6	06-Sep-2022	31-Aug-2022	6
Amber Glass Bottle - Unpreserved QC302_220824	06-Sep-2022	31-Aug-2022	6	----	----	----
Amber Glass Bottle - Unpreserved QC303_220825	06-Sep-2022	01-Sep-2022	5	06-Sep-2022	01-Sep-2022	5
Amber Glass Bottle - Unpreserved QC303_220825	06-Sep-2022	01-Sep-2022	5	----	----	----
Amber Glass Bottle - Unpreserved SW01_220826, SW02_220826	06-Sep-2022	02-Sep-2022	4	06-Sep-2022	02-Sep-2022	4
Amber Glass Bottle - Unpreserved SW01_220826, SW02_220826, QC304_220826	06-Sep-2022	02-Sep-2022	4	----	----	----
Amber Glass Bottle - Unpreserved QC104	07-Sep-2022	02-Sep-2022	5	----	----	----
EP080: BTEXN						
Amber Glass Bottle - Unpreserved QC300_220822	06-Sep-2022	29-Aug-2022	8	06-Sep-2022	29-Aug-2022	8
Amber Glass Bottle - Unpreserved QC301_220823	06-Sep-2022	30-Aug-2022	7	06-Sep-2022	30-Aug-2022	7
Amber Glass Bottle - Unpreserved QC302_220824	06-Sep-2022	31-Aug-2022	6	06-Sep-2022	31-Aug-2022	6
Amber Glass Bottle - Unpreserved QC303_220825	06-Sep-2022	01-Sep-2022	5	06-Sep-2022	01-Sep-2022	5
Amber Glass Bottle - Unpreserved SW01_220826, SW02_220826	06-Sep-2022	02-Sep-2022	4	06-Sep-2022	02-Sep-2022	4
EP202A: Phenoxyacetic Acid Herbicides by LCMS						
Amber Glass Bottle - Unpreserved SW01_220826, SW02_220826	----	----	----	07-Sep-2022	02-Sep-2022	5
Amber Glass Bottle - Unpreserved QC104	----	----	----	09-Sep-2022	02-Sep-2022	7

Outliers : Frequency of Quality Control Samples

Matrix: **WATER**

Quality Control Sample Type / Method	Count QC	Count Regular	Rate (%) Actual	Rate (%) Expected	Quality Control Specification
Laboratory Duplicates (DUP)					
PAH/Phenols (GC/MS - SIM)	0	10	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	0	9	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	0	7	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
Semivolatile Organic Compounds	0	7	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	0	10	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)					
PAH/Phenols (GC/MS - SIM)	0	10	0.00	5.00	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	0	9	0.00	5.00	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	0	7	0.00	5.00	NEPM 2013 B3 & ALS QC Standard
Semivolatile Organic Compounds	0	7	0.00	5.00	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	0	10	0.00	5.00	NEPM 2013 B3 & ALS QC Standard

Analysis Holding Time Compliance

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

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

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

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

Matrix: **SOIL**

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

Method / *Container / Client Sample ID(s)*	*Sample Date*	*Extraction / Preparation* Date extracted	Due for extraction	Evaluation	*Analysis* Date analysed	Due for analysis	Evaluation
EA055: Moisture Content (Dried @ 105-110°C)							
Soil Glass Jar - Unpreserved (EA055)							
HA05_0.1_0.2_220824, HA05_1.0_1.1_220824, HA08_0.1_0.2_220824, HA08_1.2_1.3_220824, HA10_0.1_0.2_220824, HA10_0.5_0.6_220824, HA11_0.0_0.1_220824, HA11_1.0_1.1_220824, HA14_0.1_0.2_220824, HA14_0.6_0.7_220824, HA16_0.0_0.1_220824, HA16_1.4_1.5_220824, HA17_0.5_0.6_220824, HA17_4.0_4.2_220824, HA20_0.0_0.1_220824, HA20_1.2_1.3_220824, HA25_0.1_0.2_220824, HA25_0.4_0.5_220824, QC102_220824, QC103_220824	**24-Aug-2022**	**----**	----	----	**09-Sep-2022**	07-Sep-2022	×
Soil Glass Jar - Unpreserved (EA055)							
QC501_220825	**25-Aug-2022**	**----**	----	----	**08-Sep-2022**	08-Sep-2022	✓
Soil Glass Jar - Unpreserved (EA055)							

Matrix: **SOIL**

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

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA055: Moisture Content (Dried @ 105-110°C) - Continued								
SED01_220826,	SED02_220826,	**26-Aug-2022**	**----**	----	----	**09-Sep-2022**	09-Sep-2022	✓
SS01_220826,	SS02_220826,							
SS03_220826,	SS04_220826,							
SS05_220826,	SS06_220826,							
SS07_220826,	SS08_220826,							
SS09_220826,	SS10_220826,							
QC105_220826								
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Snap Lock Bag - Friable Asbestos/PSD Bag (EA200)								
HA05_0.1_0.2_220824,	HA05_1.0_1.1_220824,	**24-Aug-2022**	**----**	----	----	**21-Sep-2022**	20-Feb-2023	✓
HA11_0.0_0.1_220824,	HA14_0.1_0.2_220824,							
HA16_0.0_0.1_220824,	HA20_0.0_0.1_220824,							
HA25_0.1_0.2_220824,	HA25_0.4_0.5_220824,							
QC102_220824,	QC103_220824							
EG005(ED093)T: Total Metals by ICP-AES								
Soil Glass Jar - Unpreserved (EG005T)								
HA05_0.1_0.2_220824,	HA05_1.0_1.1_220824,	**24-Aug-2022**	**09-Sep-2022**	20-Feb-2023	✓	**12-Sep-2022**	20-Feb-2023	✓
HA08_0.1_0.2_220824,	HA08_1.2_1.3_220824,							
HA10_0.1_0.2_220824,	HA10_0.5_0.6_220824,							
HA11_0.0_0.1_220824,	HA11_1.0_1.1_220824,							
HA14_0.1_0.2_220824,	HA14_0.6_0.7_220824,							
HA16_0.0_0.1_220824,	HA16_1.4_1.5_220824,							
HA17_0.5_0.6_220824,	HA17_4.0_4.2_220824,							
HA20_0.0_0.1_220824,	HA20_1.2_1.3_220824,							
HA25_0.1_0.2_220824,	HA25_0.4_0.5_220824,							
QC102_220824,	QC103_220824							
Soil Glass Jar - Unpreserved (EG005T)								
SED01_220826,	SED02_220826,	**26-Aug-2022**	**09-Sep-2022**	22-Feb-2023	✓	**12-Sep-2022**	22-Feb-2023	✓
SS01_220826,	SS02_220826,							
SS03_220826,	SS04_220826,							
SS05_220826,	SS06_220826,							
SS07_220826,	SS08_220826,							
SS09_220826,	SS10_220826,							
QC105_220826								

Matrix: **SOIL**

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

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG035T: Total Recoverable Mercury by FIMS							
Soil Glass Jar - Unpreserved (EG035T)							
HA05_0.1_0.2_220824, HA05_1.0_1.1_220824, HA08_0.1_0.2_220824, HA08_1.2_1.3_220824, HA10_0.1_0.2_220824, HA10_0.5_0.6_220824, HA11_0.0_0.1_220824, HA11_1.0_1.1_220824, HA14_0.1_0.2_220824, HA14_0.6_0.7_220824, HA16_0.0_0.1_220824, HA16_1.4_1.5_220824, HA17_0.5_0.6_220824, HA17_4.0_4.2_220824, HA20_0.0_0.1_220824, HA20_1.2_1.3_220824, HA25_0.1_0.2_220824, HA25_0.4_0.5_220824, QC102_220824, QC103_220824	**24-Aug-2022**	**09-Sep-2022**	21-Sep-2022	✓	**12-Sep-2022**	21-Sep-2022	✓
Soil Glass Jar - Unpreserved (EG035T)							
SED01_220826, SED02_220826, SS01_220826, SS02_220826, SS03_220826, SS04_220826, SS05_220826, SS06_220826, SS07_220826, SS08_220826, SS09_220826, SS10_220826, QC105_220826	**26-Aug-2022**	**09-Sep-2022**	23-Sep-2022	✓	**12-Sep-2022**	23-Sep-2022	✓
EP066: Polychlorinated Biphenyls (PCB)							
Soil Glass Jar - Unpreserved (EP066)							
HA05_0.1_0.2_220824, HA05_1.0_1.1_220824, HA08_0.1_0.2_220824, HA08_1.2_1.3_220824, HA10_0.1_0.2_220824, HA10_0.5_0.6_220824, HA11_0.0_0.1_220824, HA11_1.0_1.1_220824, HA14_0.1_0.2_220824, HA14_0.6_0.7_220824, HA16_0.0_0.1_220824, HA16_1.4_1.5_220824, HA17_0.5_0.6_220824, HA17_4.0_4.2_220824, HA20_0.0_0.1_220824, HA20_1.2_1.3_220824, HA25_0.1_0.2_220824, HA25_0.4_0.5_220824, QC102_220824, QC103_220824	**24-Aug-2022**	**07-Sep-2022**	07-Sep-2022	✓	**09-Sep-2022**	17-Oct-2022	✓
Soil Glass Jar - Unpreserved (EP066)							
SED01_220826, SED02_220826, SS01_220826, SS02_220826, SS03_220826, SS04_220826, SS05_220826, SS06_220826, SS07_220826, SS08_220826, SS09_220826, SS10_220826, QC105_220826	**26-Aug-2022**	**07-Sep-2022**	09-Sep-2022	✓	**09-Sep-2022**	17-Oct-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)							
HA05_0.1_0.2_220824, HA05_1.0_1.1_220824, HA08_0.1_0.2_220824, HA08_1.2_1.3_220824, HA10_0.1_0.2_220824, HA10_0.5_0.6_220824, HA11_0.0_0.1_220824, HA11_1.0_1.1_220824, HA14_0.1_0.2_220824, HA14_0.6_0.7_220824, HA16_0.0_0.1_220824, HA16_1.4_1.5_220824, HA17_0.5_0.6_220824, HA17_4.0_4.2_220824, HA20_0.0_0.1_220824, HA20_1.2_1.3_220824, HA25_0.1_0.2_220824, HA25_0.4_0.5_220824, QC102_220824, QC103_220824	**24-Aug-2022**	**07-Sep-2022**	07-Sep-2022	✓	**09-Sep-2022**	17-Oct-2022	✓
Soil Glass Jar - Unpreserved (EP068)							
SED01_220826, SED02_220826, SS01_220826, SS02_220826, SS03_220826, SS04_220826, SS05_220826, SS06_220826, SS07_220826, SS08_220826, SS09_220826, SS10_220826, QC105_220826	**26-Aug-2022**	**07-Sep-2022**	09-Sep-2022	✓	**09-Sep-2022**	17-Oct-2022	✓
EP068B: Organophosphorus Pesticides (OP)							
Soil Glass Jar - Unpreserved (EP068)							
HA05_0.1_0.2_220824, HA05_1.0_1.1_220824, HA08_0.1_0.2_220824, HA08_1.2_1.3_220824, HA10_0.1_0.2_220824, HA10_0.5_0.6_220824, HA11_0.0_0.1_220824, HA11_1.0_1.1_220824, HA14_0.1_0.2_220824, HA14_0.6_0.7_220824, HA16_0.0_0.1_220824, HA16_1.4_1.5_220824, HA17_0.5_0.6_220824, HA17_4.0_4.2_220824, HA20_0.0_0.1_220824, HA20_1.2_1.3_220824, HA25_0.1_0.2_220824, HA25_0.4_0.5_220824, QC102_220824, QC103_220824	**24-Aug-2022**	**07-Sep-2022**	07-Sep-2022	✓	**09-Sep-2022**	17-Oct-2022	✓
Soil Glass Jar - Unpreserved (EP068)							
SED01_220826, SED02_220826, SS01_220826, SS02_220826, SS03_220826, SS04_220826, SS05_220826, SS06_220826, SS07_220826, SS08_220826, SS09_220826, SS10_220826, QC105_220826	**26-Aug-2022**	**07-Sep-2022**	09-Sep-2022	✓	**09-Sep-2022**	17-Oct-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)								
HA05_0.1_0.2_220824,	HA05_1.0_1.1_220824,	**24-Aug-2022**	**06-Sep-2022**	31-Aug-2022	×	**07-Sep-2022**	31-Aug-2022	×
HA08_0.1_0.2_220824,	HA08_1.2_1.3_220824,							
HA10_0.1_0.2_220824,	HA10_0.5_0.6_220824,							
HA11_0.0_0.1_220824,	HA11_1.0_1.1_220824,							
HA14_0.1_0.2_220824,	HA14_0.6_0.7_220824,							
HA16_0.0_0.1_220824,	HA16_1.4_1.5_220824,							
HA17_0.5_0.6_220824,	HA17_4.0_4.2_220824,							
HA20_0.0_0.1_220824,	HA20_1.2_1.3_220824,							
HA25_0.1_0.2_220824,	HA25_0.4_0.5_220824,							
QC102_220824,	QC103_220824							
Soil Glass Jar - Unpreserved (EP074)								
SED01_220826,	SED02_220826	**26-Aug-2022**	**06-Sep-2022**	02-Sep-2022	×	**07-Sep-2022**	02-Sep-2022	×
EP074B: Oxygenated Compounds								
Soil Glass Jar - Unpreserved (EP074)								
HA05_0.1_0.2_220824,	HA05_1.0_1.1_220824,	**24-Aug-2022**	**06-Sep-2022**	31-Aug-2022	×	**07-Sep-2022**	31-Aug-2022	×
HA08_0.1_0.2_220824,	HA08_1.2_1.3_220824,							
HA10_0.1_0.2_220824,	HA10_0.5_0.6_220824,							
HA11_0.0_0.1_220824,	HA11_1.0_1.1_220824,							
HA14_0.1_0.2_220824,	HA14_0.6_0.7_220824,							
HA16_0.0_0.1_220824,	HA16_1.4_1.5_220824,							
HA17_0.5_0.6_220824,	HA17_4.0_4.2_220824,							
HA20_0.0_0.1_220824,	HA20_1.2_1.3_220824,							
HA25_0.1_0.2_220824,	HA25_0.4_0.5_220824,							
QC102_220824,	QC103_220824							
Soil Glass Jar - Unpreserved (EP074)								
SED01_220826,	SED02_220826	**26-Aug-2022**	**06-Sep-2022**	02-Sep-2022	×	**07-Sep-2022**	02-Sep-2022	×
EP074C: Sulfonated Compounds								
Soil Glass Jar - Unpreserved (EP074)								
HA05_0.1_0.2_220824,	HA05_1.0_1.1_220824,	**24-Aug-2022**	**06-Sep-2022**	31-Aug-2022	×	**07-Sep-2022**	31-Aug-2022	×
HA08_0.1_0.2_220824,	HA08_1.2_1.3_220824,							
HA10_0.1_0.2_220824,	HA10_0.5_0.6_220824,							
HA11_0.0_0.1_220824,	HA11_1.0_1.1_220824,							
HA14_0.1_0.2_220824,	HA14_0.6_0.7_220824,							
HA16_0.0_0.1_220824,	HA16_1.4_1.5_220824,							
HA17_0.5_0.6_220824,	HA17_4.0_4.2_220824,							
HA20_0.0_0.1_220824,	HA20_1.2_1.3_220824,							
HA25_0.1_0.2_220824,	HA25_0.4_0.5_220824,							
QC102_220824,	QC103_220824							
Soil Glass Jar - Unpreserved (EP074)								
SED01_220826,	SED02_220826	**26-Aug-2022**	**06-Sep-2022**	02-Sep-2022	×	**07-Sep-2022**	02-Sep-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
EP074D: Fumigants								
Soil Glass Jar - Unpreserved (EP074)								
HA05_0.1_0.2_220824,	HA05_1.0_1.1_220824,	**24-Aug-2022**	**06-Sep-2022**	31-Aug-2022	×	**07-Sep-2022**	31-Aug-2022	×
HA08_0.1_0.2_220824,	HA08_1.2_1.3_220824,							
HA10_0.1_0.2_220824,	HA10_0.5_0.6_220824,							
HA11_0.0_0.1_220824,	HA11_1.0_1.1_220824,							
HA14_0.1_0.2_220824,	HA14_0.6_0.7_220824,							
HA16_0.0_0.1_220824,	HA16_1.4_1.5_220824,							
HA17_0.5_0.6_220824,	HA17_4.0_4.2_220824,							
HA20_0.0_0.1_220824,	HA20_1.2_1.3_220824,							
HA25_0.1_0.2_220824,	HA25_0.4_0.5_220824,							
QC102_220824,	QC103_220824							
Soil Glass Jar - Unpreserved (EP074)								
SED01_220826,	SED02_220826	**26-Aug-2022**	**06-Sep-2022**	02-Sep-2022	×	**07-Sep-2022**	02-Sep-2022	×
EP074E: Halogenated Aliphatic Compounds								
Soil Glass Jar - Unpreserved (EP074)								
HA05_0.1_0.2_220824,	HA05_1.0_1.1_220824,	**24-Aug-2022**	**06-Sep-2022**	31-Aug-2022	×	**07-Sep-2022**	31-Aug-2022	×
HA08_0.1_0.2_220824,	HA08_1.2_1.3_220824,							
HA10_0.1_0.2_220824,	HA10_0.5_0.6_220824,							
HA11_0.0_0.1_220824,	HA11_1.0_1.1_220824,							
HA14_0.1_0.2_220824,	HA14_0.6_0.7_220824,							
HA16_0.0_0.1_220824,	HA16_1.4_1.5_220824,							
HA17_0.5_0.6_220824,	HA17_4.0_4.2_220824,							
HA20_0.0_0.1_220824,	HA20_1.2_1.3_220824,							
HA25_0.1_0.2_220824,	HA25_0.4_0.5_220824,							
QC102_220824,	QC103_220824							
Soil Glass Jar - Unpreserved (EP074)								
SED01_220826,	SED02_220826	**26-Aug-2022**	**06-Sep-2022**	02-Sep-2022	×	**07-Sep-2022**	02-Sep-2022	×
EP074F: Halogenated Aromatic Compounds								
Soil Glass Jar - Unpreserved (EP074)								
HA05_0.1_0.2_220824,	HA05_1.0_1.1_220824,	**24-Aug-2022**	**06-Sep-2022**	31-Aug-2022	×	**07-Sep-2022**	31-Aug-2022	×
HA08_0.1_0.2_220824,	HA08_1.2_1.3_220824,							
HA10_0.1_0.2_220824,	HA10_0.5_0.6_220824,							
HA11_0.0_0.1_220824,	HA11_1.0_1.1_220824,							
HA14_0.1_0.2_220824,	HA14_0.6_0.7_220824,							
HA16_0.0_0.1_220824,	HA16_1.4_1.5_220824,							
HA17_0.5_0.6_220824,	HA17_4.0_4.2_220824,							
HA20_0.0_0.1_220824,	HA20_1.2_1.3_220824,							
HA25_0.1_0.2_220824,	HA25_0.4_0.5_220824,							
QC102_220824,	QC103_220824							
Soil Glass Jar - Unpreserved (EP074)								
SED01_220826,	SED02_220826	**26-Aug-2022**	**06-Sep-2022**	02-Sep-2022	×	**07-Sep-2022**	02-Sep-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
EP074G: Trihalomethanes								
Soil Glass Jar - Unpreserved (EP074)								
HA05_0.1_0.2_220824,	HA05_1.0_1.1_220824,	**24-Aug-2022**	**06-Sep-2022**	31-Aug-2022	×	**07-Sep-2022**	31-Aug-2022	×
HA08_0.1_0.2_220824,	HA08_1.2_1.3_220824,							
HA10_0.1_0.2_220824,	HA10_0.5_0.6_220824,							
HA11_0.0_0.1_220824,	HA11_1.0_1.1_220824,							
HA14_0.1_0.2_220824,	HA14_0.6_0.7_220824,							
HA16_0.0_0.1_220824,	HA16_1.4_1.5_220824,							
HA17_0.5_0.6_220824,	HA17_4.0_4.2_220824,							
HA20_0.0_0.1_220824,	HA20_1.2_1.3_220824,							
HA25_0.1_0.2_220824,	HA25_0.4_0.5_220824,							
QC102_220824,	QC103_220824							
Soil Glass Jar - Unpreserved (EP074)								
SED01_220826,	SED02_220826	**26-Aug-2022**	**06-Sep-2022**	02-Sep-2022	×	**07-Sep-2022**	02-Sep-2022	×
EP075(SIM)A: Phenolic Compounds								
Soil Glass Jar - Unpreserved (EP075(SIM))								
SS01_220826,	SS02_220826,	**26-Aug-2022**	**07-Sep-2022**	09-Sep-2022	✓	**09-Sep-2022**	17-Oct-2022	✓
SS03_220826,	SS04_220826,							
SS05_220826,	SS06_220826,							
SS07_220826,	SS08_220826,							
SS09_220826,	SS10_220826,							
QC105_220826								
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Soil Glass Jar - Unpreserved (EP075(SIM))								
HA05_0.1_0.2_220824,	HA05_1.0_1.1_220824,	**24-Aug-2022**	**07-Sep-2022**	07-Sep-2022	✓	**09-Sep-2022**	17-Oct-2022	✓
HA08_0.1_0.2_220824,	HA08_1.2_1.3_220824,							
HA10_0.1_0.2_220824,	HA10_0.5_0.6_220824,							
HA11_0.0_0.1_220824,	HA11_1.0_1.1_220824,							
HA14_0.1_0.2_220824,	HA14_0.6_0.7_220824,							
HA16_0.0_0.1_220824,	HA16_1.4_1.5_220824,							
HA17_0.5_0.6_220824,	HA17_4.0_4.2_220824,							
HA20_0.0_0.1_220824,	HA20_1.2_1.3_220824,							
HA25_0.1_0.2_220824,	HA25_0.4_0.5_220824,							
QC102_220824,	QC103_220824							
Soil Glass Jar - Unpreserved (EP075(SIM))								
SED01_220826,	SED02_220826,	**26-Aug-2022**	**07-Sep-2022**	09-Sep-2022	✓	**09-Sep-2022**	17-Oct-2022	✓
SS01_220826,	SS02_220826,							
SS03_220826,	SS04_220826,							
SS05_220826,	SS06_220826,							
SS07_220826,	SS08_220826,							
SS09_220826,	SS10_220826,							
QC105_220826								

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)								
HA05_0.1_0.2_220824,	HA05_1.0_1.1_220824,	**24-Aug-2022**	**07-Sep-2022**	07-Sep-2022	✓	**09-Sep-2022**	17-Oct-2022	✓
HA08_0.1_0.2_220824,	HA08_1.2_1.3_220824,							
HA10_0.1_0.2_220824,	HA10_0.5_0.6_220824,							
HA11_0.0_0.1_220824,	HA11_1.0_1.1_220824,							
HA14_0.1_0.2_220824,	HA14_0.6_0.7_220824,							
HA16_0.0_0.1_220824,	HA16_1.4_1.5_220824,							
HA17_0.5_0.6_220824,	HA17_4.0_4.2_220824,							
HA20_0.0_0.1_220824,	HA20_1.2_1.3_220824,							
HA25_0.1_0.2_220824,	HA25_0.4_0.5_220824,							
QC102_220824,	QC103_220824							
Soil Glass Jar - Unpreserved (EP075)								
SED01_220826,	SED02_220826	**26-Aug-2022**	**07-Sep-2022**	09-Sep-2022	✓	**09-Sep-2022**	17-Oct-2022	✓
EP075B: Polynuclear Aromatic Hydrocarbons								
Soil Glass Jar - Unpreserved (EP075)								
HA05_0.1_0.2_220824,	HA05_1.0_1.1_220824,	**24-Aug-2022**	**07-Sep-2022**	07-Sep-2022	✓	**09-Sep-2022**	17-Oct-2022	✓
HA08_0.1_0.2_220824,	HA08_1.2_1.3_220824,							
HA10_0.1_0.2_220824,	HA10_0.5_0.6_220824,							
HA11_0.0_0.1_220824,	HA11_1.0_1.1_220824,							
HA14_0.1_0.2_220824,	HA14_0.6_0.7_220824,							
HA16_0.0_0.1_220824,	HA16_1.4_1.5_220824,							
HA17_0.5_0.6_220824,	HA17_4.0_4.2_220824,							
HA20_0.0_0.1_220824,	HA20_1.2_1.3_220824,							
HA25_0.1_0.2_220824,	HA25_0.4_0.5_220824,							
QC102_220824,	QC103_220824							
Soil Glass Jar - Unpreserved (EP075)								
SED01_220826,	SED02_220826	**26-Aug-2022**	**07-Sep-2022**	09-Sep-2022	✓	**09-Sep-2022**	17-Oct-2022	✓
EP075C: Phthalate Esters								
Soil Glass Jar - Unpreserved (EP075)								
HA05_0.1_0.2_220824,	HA05_1.0_1.1_220824,	**24-Aug-2022**	**07-Sep-2022**	07-Sep-2022	✓	**09-Sep-2022**	17-Oct-2022	✓
HA08_0.1_0.2_220824,	HA08_1.2_1.3_220824,							
HA10_0.1_0.2_220824,	HA10_0.5_0.6_220824,							
HA11_0.0_0.1_220824,	HA11_1.0_1.1_220824,							
HA14_0.1_0.2_220824,	HA14_0.6_0.7_220824,							
HA16_0.0_0.1_220824,	HA16_1.4_1.5_220824,							
HA17_0.5_0.6_220824,	HA17_4.0_4.2_220824,							
HA20_0.0_0.1_220824,	HA20_1.2_1.3_220824,							
HA25_0.1_0.2_220824,	HA25_0.4_0.5_220824,							
QC102_220824,	QC103_220824							
Soil Glass Jar - Unpreserved (EP075)								
SED01_220826,	SED02_220826	**26-Aug-2022**	**07-Sep-2022**	09-Sep-2022	✓	**09-Sep-2022**	17-Oct-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
EP075D: Nitrosamines								
Soil Glass Jar - Unpreserved (EP075)								
HA05_0.1_0.2_220824,	HA05_1.0_1.1_220824,	**24-Aug-2022**	**07-Sep-2022**	07-Sep-2022	✓	**09-Sep-2022**	17-Oct-2022	✓
HA08_0.1_0.2_220824,	HA08_1.2_1.3_220824,							
HA10_0.1_0.2_220824,	HA10_0.5_0.6_220824,							
HA11_0.0_0.1_220824,	HA11_1.0_1.1_220824,							
HA14_0.1_0.2_220824,	HA14_0.6_0.7_220824,							
HA16_0.0_0.1_220824,	HA16_1.4_1.5_220824,							
HA17_0.5_0.6_220824,	HA17_4.0_4.2_220824,							
HA20_0.0_0.1_220824,	HA20_1.2_1.3_220824,							
HA25_0.1_0.2_220824,	HA25_0.4_0.5_220824,							
QC102_220824,	QC103_220824							
Soil Glass Jar - Unpreserved (EP075)								
SED01_220826,	SED02_220826	**26-Aug-2022**	**07-Sep-2022**	09-Sep-2022	✓	**09-Sep-2022**	17-Oct-2022	✓
EP075E: Nitroaromatics and Ketones								
Soil Glass Jar - Unpreserved (EP075)								
HA05_0.1_0.2_220824,	HA05_1.0_1.1_220824,	**24-Aug-2022**	**07-Sep-2022**	07-Sep-2022	✓	**09-Sep-2022**	17-Oct-2022	✓
HA08_0.1_0.2_220824,	HA08_1.2_1.3_220824,							
HA10_0.1_0.2_220824,	HA10_0.5_0.6_220824,							
HA11_0.0_0.1_220824,	HA11_1.0_1.1_220824,							
HA14_0.1_0.2_220824,	HA14_0.6_0.7_220824,							
HA16_0.0_0.1_220824,	HA16_1.4_1.5_220824,							
HA17_0.5_0.6_220824,	HA17_4.0_4.2_220824,							
HA20_0.0_0.1_220824,	HA20_1.2_1.3_220824,							
HA25_0.1_0.2_220824,	HA25_0.4_0.5_220824,							
QC102_220824,	QC103_220824							
Soil Glass Jar - Unpreserved (EP075)								
SED01_220826,	SED02_220826	**26-Aug-2022**	**07-Sep-2022**	09-Sep-2022	✓	**09-Sep-2022**	17-Oct-2022	✓
EP075F: Haloethers								
Soil Glass Jar - Unpreserved (EP075)								
HA05_0.1_0.2_220824,	HA05_1.0_1.1_220824,	**24-Aug-2022**	**07-Sep-2022**	07-Sep-2022	✓	**09-Sep-2022**	17-Oct-2022	✓
HA08_0.1_0.2_220824,	HA08_1.2_1.3_220824,							
HA10_0.1_0.2_220824,	HA10_0.5_0.6_220824,							
HA11_0.0_0.1_220824,	HA11_1.0_1.1_220824,							
HA14_0.1_0.2_220824,	HA14_0.6_0.7_220824,							
HA16_0.0_0.1_220824,	HA16_1.4_1.5_220824,							
HA17_0.5_0.6_220824,	HA17_4.0_4.2_220824,							
HA20_0.0_0.1_220824,	HA20_1.2_1.3_220824,							
HA25_0.1_0.2_220824,	HA25_0.4_0.5_220824,							
QC102_220824,	QC103_220824							
Soil Glass Jar - Unpreserved (EP075)								
SED01_220826,	SED02_220826	**26-Aug-2022**	**07-Sep-2022**	09-Sep-2022	✓	**09-Sep-2022**	17-Oct-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
EP075G: Chlorinated Hydrocarbons								
Soil Glass Jar - Unpreserved (EP075)								
HA05_0.1_0.2_220824,	HA05_1.0_1.1_220824,	**24-Aug-2022**	**07-Sep-2022**	07-Sep-2022	✓	**09-Sep-2022**	17-Oct-2022	✓
HA08_0.1_0.2_220824,	HA08_1.2_1.3_220824,							
HA10_0.1_0.2_220824,	HA10_0.5_0.6_220824,							
HA11_0.0_0.1_220824,	HA11_1.0_1.1_220824,							
HA14_0.1_0.2_220824,	HA14_0.6_0.7_220824,							
HA16_0.0_0.1_220824,	HA16_1.4_1.5_220824,							
HA17_0.5_0.6_220824,	HA17_4.0_4.2_220824,							
HA20_0.0_0.1_220824,	HA20_1.2_1.3_220824,							
HA25_0.1_0.2_220824,	HA25_0.4_0.5_220824,							
QC102_220824,	QC103_220824							
Soil Glass Jar - Unpreserved (EP075)								
SED01_220826,	SED02_220826	**26-Aug-2022**	**07-Sep-2022**	09-Sep-2022	✓	**09-Sep-2022**	17-Oct-2022	✓
EP075H: Anilines and Benzidines								
Soil Glass Jar - Unpreserved (EP075)								
HA05_0.1_0.2_220824,	HA05_1.0_1.1_220824,	**24-Aug-2022**	**07-Sep-2022**	07-Sep-2022	✓	**09-Sep-2022**	17-Oct-2022	✓
HA08_0.1_0.2_220824,	HA08_1.2_1.3_220824,							
HA10_0.1_0.2_220824,	HA10_0.5_0.6_220824,							
HA11_0.0_0.1_220824,	HA11_1.0_1.1_220824,							
HA14_0.1_0.2_220824,	HA14_0.6_0.7_220824,							
HA16_0.0_0.1_220824,	HA16_1.4_1.5_220824,							
HA17_0.5_0.6_220824,	HA17_4.0_4.2_220824,							
HA20_0.0_0.1_220824,	HA20_1.2_1.3_220824,							
HA25_0.1_0.2_220824,	HA25_0.4_0.5_220824,							
QC102_220824,	QC103_220824							
Soil Glass Jar - Unpreserved (EP075)								
SED01_220826,	SED02_220826	**26-Aug-2022**	**07-Sep-2022**	09-Sep-2022	✓	**09-Sep-2022**	17-Oct-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 Petroleum Hydrocarbons							
Soil Glass Jar - Unpreserved (EP080)							
HA05_0.1_0.2_220824, HA05_1.0_1.1_220824, HA08_0.1_0.2_220824, HA08_1.2_1.3_220824, HA10_0.1_0.2_220824, HA10_0.5_0.6_220824, HA11_0.0_0.1_220824, HA11_1.0_1.1_220824, HA14_0.1_0.2_220824, HA14_0.6_0.7_220824, HA16_0.0_0.1_220824, HA16_1.4_1.5_220824, HA17_0.5_0.6_220824, HA17_4.0_4.2_220824, HA20_0.0_0.1_220824, HA20_1.2_1.3_220824, HA25_0.1_0.2_220824, HA25_0.4_0.5_220824, QC102_220824, QC103_220824	**24-Aug-2022**	**06-Sep-2022**	07-Sep-2022	✓	**07-Sep-2022**	07-Sep-2022	✓
Soil Glass Jar - Unpreserved (EP071)							
HA05_0.1_0.2_220824, HA05_1.0_1.1_220824, HA08_0.1_0.2_220824, HA08_1.2_1.3_220824, HA10_0.1_0.2_220824, HA10_0.5_0.6_220824, HA11_0.0_0.1_220824, HA11_1.0_1.1_220824, HA14_0.1_0.2_220824, HA14_0.6_0.7_220824, HA16_0.0_0.1_220824, HA16_1.4_1.5_220824, HA17_0.5_0.6_220824, HA17_4.0_4.2_220824, HA20_0.0_0.1_220824, HA20_1.2_1.3_220824, HA25_0.1_0.2_220824, HA25_0.4_0.5_220824, QC102_220824, QC103_220824	**24-Aug-2022**	**07-Sep-2022**	07-Sep-2022	✓	**09-Sep-2022**	17-Oct-2022	✓
Soil Glass Jar - Unpreserved (EP080)							
QC501_220825	**25-Aug-2022**	**06-Sep-2022**	08-Sep-2022	✓	**07-Sep-2022**	08-Sep-2022	✓
Soil Glass Jar - Unpreserved (EP080)							
SED01_220826, SED02_220826, SS01_220826, SS02_220826, SS03_220826, SS04_220826, SS05_220826, SS06_220826, SS07_220826, SS08_220826, SS09_220826, SS10_220826, QC105_220826	**26-Aug-2022**	**06-Sep-2022**	09-Sep-2022	✓	**07-Sep-2022**	09-Sep-2022	✓
Soil Glass Jar - Unpreserved (EP071)							
SED01_220826, SED02_220826, SS01_220826, SS02_220826, SS03_220826, SS04_220826, SS05_220826, SS06_220826, SS07_220826, SS08_220826, SS09_220826, SS10_220826, QC105_220826	**26-Aug-2022**	**07-Sep-2022**	09-Sep-2022	✓	**09-Sep-2022**	17-Oct-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)							
HA05_0.1_0.2_220824, HA05_1.0_1.1_220824, HA08_0.1_0.2_220824, HA08_1.2_1.3_220824, HA10_0.1_0.2_220824, HA10_0.5_0.6_220824, HA11_0.0_0.1_220824, HA11_1.0_1.1_220824, HA14_0.1_0.2_220824, HA14_0.6_0.7_220824, HA16_0.0_0.1_220824, HA16_1.4_1.5_220824, HA17_0.5_0.6_220824, HA17_4.0_4.2_220824, HA20_0.0_0.1_220824, HA20_1.2_1.3_220824, HA25_0.1_0.2_220824, HA25_0.4_0.5_220824, QC102_220824, QC103_220824	**24-Aug-2022**	**06-Sep-2022**	07-Sep-2022	✓	**07-Sep-2022**	07-Sep-2022	✓
Soil Glass Jar - Unpreserved (EP071)							
HA05_0.1_0.2_220824, HA05_1.0_1.1_220824, HA08_0.1_0.2_220824, HA08_1.2_1.3_220824, HA10_0.1_0.2_220824, HA10_0.5_0.6_220824, HA11_0.0_0.1_220824, HA11_1.0_1.1_220824, HA14_0.1_0.2_220824, HA14_0.6_0.7_220824, HA16_0.0_0.1_220824, HA16_1.4_1.5_220824, HA17_0.5_0.6_220824, HA17_4.0_4.2_220824, HA20_0.0_0.1_220824, HA20_1.2_1.3_220824, HA25_0.1_0.2_220824, HA25_0.4_0.5_220824, QC102_220824, QC103_220824	**24-Aug-2022**	**07-Sep-2022**	07-Sep-2022	✓	**09-Sep-2022**	17-Oct-2022	✓
Soil Glass Jar - Unpreserved (EP080)							
QC501_220825	**25-Aug-2022**	**06-Sep-2022**	08-Sep-2022	✓	**07-Sep-2022**	08-Sep-2022	✓
Soil Glass Jar - Unpreserved (EP080)							
SED01_220826, SED02_220826, SS01_220826, SS02_220826, SS03_220826, SS04_220826, SS05_220826, SS06_220826, SS07_220826, SS08_220826, SS09_220826, SS10_220826, QC105_220826	**26-Aug-2022**	**06-Sep-2022**	09-Sep-2022	✓	**07-Sep-2022**	09-Sep-2022	✓
Soil Glass Jar - Unpreserved (EP071)							
SED01_220826, SED02_220826, SS01_220826, SS02_220826, SS03_220826, SS04_220826, SS05_220826, SS06_220826, SS07_220826, SS08_220826, SS09_220826, SS10_220826, QC105_220826	**26-Aug-2022**	**07-Sep-2022**	09-Sep-2022	✓	**09-Sep-2022**	17-Oct-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: BTEXN							
Soil Glass Jar - Unpreserved (EP080)							
HA05_0.1_0.2_220824, HA05_1.0_1.1_220824, HA08_0.1_0.2_220824, HA08_1.2_1.3_220824, HA10_0.1_0.2_220824, HA10_0.5_0.6_220824, HA11_0.0_0.1_220824, HA11_1.0_1.1_220824, HA14_0.1_0.2_220824, HA14_0.6_0.7_220824, HA16_0.0_0.1_220824, HA16_1.4_1.5_220824, HA17_0.5_0.6_220824, HA17_4.0_4.2_220824, HA20_0.0_0.1_220824, HA20_1.2_1.3_220824, HA25_0.1_0.2_220824, HA25_0.4_0.5_220824, QC102_220824, QC103_220824	**24-Aug-2022**	**06-Sep-2022**	07-Sep-2022	✓	**07-Sep-2022**	07-Sep-2022	✓
Soil Glass Jar - Unpreserved (EP080)							
QC501_220825	**25-Aug-2022**	**06-Sep-2022**	08-Sep-2022	✓	**07-Sep-2022**	08-Sep-2022	✓
Soil Glass Jar - Unpreserved (EP080)							
SED01_220826, SED02_220826, SS01_220826, SS02_220826, SS03_220826, SS04_220826, SS05_220826, SS06_220826, SS07_220826, SS08_220826, SS09_220826, SS10_220826, QC105_220826	**26-Aug-2022**	**06-Sep-2022**	09-Sep-2022	✓	**07-Sep-2022**	09-Sep-2022	✓
EP202A: Phenoxyacetic Acid Herbicides by LCMS							
Soil Glass Jar - Unpreserved (EP202)							
HA05_0.1_0.2_220824, HA05_1.0_1.1_220824, HA08_0.1_0.2_220824, HA08_1.2_1.3_220824, HA10_0.1_0.2_220824, HA10_0.5_0.6_220824, HA11_0.0_0.1_220824, HA11_1.0_1.1_220824, HA14_0.1_0.2_220824, HA14_0.6_0.7_220824, HA16_0.0_0.1_220824, HA16_1.4_1.5_220824, HA17_0.5_0.6_220824, HA17_4.0_4.2_220824, HA20_0.0_0.1_220824, HA20_1.2_1.3_220824, HA25_0.1_0.2_220824, HA25_0.4_0.5_220824, QC102_220824, QC103_220824	**24-Aug-2022**	**09-Sep-2022**	07-Sep-2022	×	**09-Sep-2022**	19-Oct-2022	✓
Soil Glass Jar - Unpreserved (EP202)							
SED01_220826, SED02_220826, SS01_220826, SS02_220826, SS03_220826, SS04_220826, SS05_220826, SS06_220826, SS07_220826, SS08_220826, SS09_220826, SS10_220826, QC105_220826	**26-Aug-2022**	**09-Sep-2022**	09-Sep-2022	✓	**09-Sep-2022**	19-Oct-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
EP231A: Perfluoroalkyl Sulfonic Acids								
HDPE Soil Jar (EP231X)								
HA05_0.1_0.2_220824,	HA08_0.1_0.2_220824,	**24-Aug-2022**	**08-Sep-2022**	20-Feb-2023	✓	**12-Sep-2022**	18-Oct-2022	✓
HA08_1.2_1.3_220824,	HA10_0.1_0.2_220824,							
HA11_0.0_0.1_220824,	HA11_1.0_1.1_220824,							
HA14_0.1_0.2_220824,	HA14_0.6_0.7_220824,							
HA16_0.0_0.1_220824,	HA16_1.4_1.5_220824,							
HA17_0.5_0.6_220824,	HA20_0.0_0.1_220824,							
HA20_1.2_1.3_220824,	HA25_0.4_0.5_220824,							
QC102_220824,	QC103_220824							
Soil Glass Jar - Unpreserved (EP231X)								
HA05_1.0_1.1_220824,	HA10_0.5_0.6_220824,	**24-Aug-2022**	**08-Sep-2022**	20-Feb-2023	✓	**12-Sep-2022**	18-Oct-2022	✓
HA17_4.0_4.2_220824,	HA25_0.1_0.2_220824							
EP231B: Perfluoroalkyl Carboxylic Acids								
HDPE Soil Jar (EP231X)								
HA05_0.1_0.2_220824,	HA08_0.1_0.2_220824,	**24-Aug-2022**	**08-Sep-2022**	20-Feb-2023	✓	**12-Sep-2022**	18-Oct-2022	✓
HA08_1.2_1.3_220824,	HA10_0.1_0.2_220824,							
HA11_0.0_0.1_220824,	HA11_1.0_1.1_220824,							
HA14_0.1_0.2_220824,	HA14_0.6_0.7_220824,							
HA16_0.0_0.1_220824,	HA16_1.4_1.5_220824,							
HA17_0.5_0.6_220824,	HA20_0.0_0.1_220824,							
HA20_1.2_1.3_220824,	HA25_0.4_0.5_220824,							
QC102_220824,	QC103_220824							
Soil Glass Jar - Unpreserved (EP231X)								
HA05_1.0_1.1_220824,	HA10_0.5_0.6_220824,	**24-Aug-2022**	**08-Sep-2022**	20-Feb-2023	✓	**12-Sep-2022**	18-Oct-2022	✓
HA17_4.0_4.2_220824,	HA25_0.1_0.2_220824							
EP231C: Perfluoroalkyl Sulfonamides								
HDPE Soil Jar (EP231X)								
HA05_0.1_0.2_220824,	HA08_0.1_0.2_220824,	**24-Aug-2022**	**08-Sep-2022**	20-Feb-2023	✓	**12-Sep-2022**	18-Oct-2022	✓
HA08_1.2_1.3_220824,	HA10_0.1_0.2_220824,							
HA11_0.0_0.1_220824,	HA11_1.0_1.1_220824,							
HA14_0.1_0.2_220824,	HA14_0.6_0.7_220824,							
HA16_0.0_0.1_220824,	HA16_1.4_1.5_220824,							
HA17_0.5_0.6_220824,	HA20_0.0_0.1_220824,							
HA20_1.2_1.3_220824,	HA25_0.4_0.5_220824,							
QC102_220824,	QC103_220824							
Soil Glass Jar - Unpreserved (EP231X)								
HA05_1.0_1.1_220824,	HA10_0.5_0.6_220824,	**24-Aug-2022**	**08-Sep-2022**	20-Feb-2023	✓	**12-Sep-2022**	18-Oct-2022	✓
HA17_4.0_4.2_220824,	HA25_0.1_0.2_220824							

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)							
HA05_0.1_0.2_220824, HA08_0.1_0.2_220824, HA08_1.2_1.3_220824, HA10_0.1_0.2_220824, HA11_0.0_0.1_220824, HA11_1.0_1.1_220824, HA14_0.1_0.2_220824, HA14_0.6_0.7_220824, HA16_0.0_0.1_220824, HA16_1.4_1.5_220824, HA17_0.5_0.6_220824, HA20_0.0_0.1_220824, HA20_1.2_1.3_220824, HA25_0.4_0.5_220824, QC102_220824, QC103_220824	**24-Aug-2022**	**08-Sep-2022**	20-Feb-2023	✓	**12-Sep-2022**	18-Oct-2022	✓
Soil Glass Jar - Unpreserved (EP231X)							
HA05_1.0_1.1_220824, HA10_0.5_0.6_220824, HA17_4.0_4.2_220824, HA25_0.1_0.2_220824	**24-Aug-2022**	**08-Sep-2022**	20-Feb-2023	✓	**12-Sep-2022**	18-Oct-2022	✓
EP231P: PFAS Sums							
HDPE Soil Jar (EP231X)							
HA05_0.1_0.2_220824, HA08_0.1_0.2_220824, HA08_1.2_1.3_220824, HA10_0.1_0.2_220824, HA11_0.0_0.1_220824, HA11_1.0_1.1_220824, HA14_0.1_0.2_220824, HA14_0.6_0.7_220824, HA16_0.0_0.1_220824, HA16_1.4_1.5_220824, HA17_0.5_0.6_220824, HA20_0.0_0.1_220824, HA20_1.2_1.3_220824, HA25_0.4_0.5_220824, QC102_220824, QC103_220824	**24-Aug-2022**	**08-Sep-2022**	20-Feb-2023	✓	**12-Sep-2022**	18-Oct-2022	✓
Soil Glass Jar - Unpreserved (EP231X)							
HA05_1.0_1.1_220824, HA10_0.5_0.6_220824, HA17_4.0_4.2_220824, HA25_0.1_0.2_220824	**24-Aug-2022**	**08-Sep-2022**	20-Feb-2023	✓	**12-Sep-2022**	18-Oct-2022	✓

Matrix: **WATER**

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

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG020F: Dissolved Metals by ICP-MS							
Clear Plastic Bottle - Nitric Acid; Filtered (EG020A-F)							
QC104	**26-Aug-2022**	**----**	----	----	**08-Sep-2022**	22-Feb-2023	✓

Matrix: **WATER**

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

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG020T: Total Metals by ICP-MS							
Clear Plastic Bottle - Nitric Acid; Unfiltered (EG020A-T)							
QC300_220822	**22-Aug-2022**	**08-Sep-2022**	18-Feb-2023	✓	**08-Sep-2022**	18-Feb-2023	✓
Clear Plastic Bottle - Nitric Acid; Unfiltered (EG020A-T)							
QC301_220823	**23-Aug-2022**	**08-Sep-2022**	19-Feb-2023	✓	**08-Sep-2022**	19-Feb-2023	✓
Clear Plastic Bottle - Nitric Acid; Unfiltered (EG020A-T)							
QC302_220824	**24-Aug-2022**	**08-Sep-2022**	20-Feb-2023	✓	**08-Sep-2022**	20-Feb-2023	✓
Clear Plastic Bottle - Nitric Acid; Unfiltered (EG020A-T)							
QC303_220825	**25-Aug-2022**	**08-Sep-2022**	21-Feb-2023	✓	**08-Sep-2022**	21-Feb-2023	✓
Clear Plastic Bottle - Nitric Acid; Unfiltered (EG020A-T)							
SW01_220826, SW02_220826, QC304_220826, QC104	**26-Aug-2022**	**08-Sep-2022**	22-Feb-2023	✓	**08-Sep-2022**	22-Feb-2023	✓
EG035F: Dissolved Mercury by FIMS							
Clear Plastic Bottle - Nitric Acid; Filtered (EG035F)							
QC104	**26-Aug-2022**	**----**	----	----	**08-Sep-2022**	23-Sep-2022	✓
EG035T: Total Recoverable Mercury by FIMS							
Clear Plastic Bottle - Nitric Acid; Unfiltered (EG035T)							
QC300_220822	**22-Aug-2022**	**----**	----	----	**08-Sep-2022**	19-Sep-2022	✓
Clear Plastic Bottle - Nitric Acid; Unfiltered (EG035T)							
QC301_220823	**23-Aug-2022**	**----**	----	----	**08-Sep-2022**	20-Sep-2022	✓
Clear Plastic Bottle - Nitric Acid; Unfiltered (EG035T)							
QC302_220824	**24-Aug-2022**	**----**	----	----	**08-Sep-2022**	21-Sep-2022	✓
Clear Plastic Bottle - Nitric Acid; Unfiltered (EG035T)							
QC303_220825	**25-Aug-2022**	**----**	----	----	**08-Sep-2022**	22-Sep-2022	✓
Clear Plastic Bottle - Nitric Acid; Unfiltered (EG035T)							
SW01_220826, SW02_220826, QC304_220826, QC104	**26-Aug-2022**	**----**	----	----	**08-Sep-2022**	23-Sep-2022	✓
EP066: Polychlorinated Biphenyls (PCB)							
Amber Glass Bottle - Unpreserved (EP066)							
QC300_220822	**22-Aug-2022**	**06-Sep-2022**	29-Aug-2022	×	**07-Sep-2022**	16-Oct-2022	✓
Amber Glass Bottle - Unpreserved (EP066)							
QC301_220823	**23-Aug-2022**	**06-Sep-2022**	30-Aug-2022	×	**07-Sep-2022**	16-Oct-2022	✓
Amber Glass Bottle - Unpreserved (EP066)							
QC302_220824	**24-Aug-2022**	**06-Sep-2022**	31-Aug-2022	×	**07-Sep-2022**	16-Oct-2022	✓
Amber Glass Bottle - Unpreserved (EP066)							
QC303_220825	**25-Aug-2022**	**06-Sep-2022**	01-Sep-2022	×	**07-Sep-2022**	16-Oct-2022	✓
Amber Glass Bottle - Unpreserved (EP066)							
SW01_220826, SW02_220826, QC304_220826	**26-Aug-2022**	**06-Sep-2022**	02-Sep-2022	×	**07-Sep-2022**	16-Oct-2022	✓

Matrix: **WATER**

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

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP068A: Organochlorine Pesticides (OC)							
Amber Glass Bottle - Unpreserved (EP068) QC300_220822	**22-Aug-2022**	**06-Sep-2022**	29-Aug-2022	×	**07-Sep-2022**	16-Oct-2022	✓
Amber Glass Bottle - Unpreserved (EP068) QC301_220823	**23-Aug-2022**	**06-Sep-2022**	30-Aug-2022	×	**07-Sep-2022**	16-Oct-2022	✓
Amber Glass Bottle - Unpreserved (EP068) QC302_220824	**24-Aug-2022**	**06-Sep-2022**	31-Aug-2022	×	**07-Sep-2022**	16-Oct-2022	✓
Amber Glass Bottle - Unpreserved (EP068) QC303_220825	**25-Aug-2022**	**06-Sep-2022**	01-Sep-2022	×	**07-Sep-2022**	16-Oct-2022	✓
Amber Glass Bottle - Unpreserved (EP068) SW01_220826, SW02_220826, QC304_220826	**26-Aug-2022**	**06-Sep-2022**	02-Sep-2022	×	**07-Sep-2022**	16-Oct-2022	✓
Amber Glass Bottle - Unpreserved (EP068) QC104	**26-Aug-2022**	**07-Sep-2022**	02-Sep-2022	×	**08-Sep-2022**	17-Oct-2022	✓
EP068B: Organophosphorus Pesticides (OP)							
Amber Glass Bottle - Unpreserved (EP068) QC300_220822	**22-Aug-2022**	**06-Sep-2022**	29-Aug-2022	×	**07-Sep-2022**	16-Oct-2022	✓
Amber Glass Bottle - Unpreserved (EP068) QC301_220823	**23-Aug-2022**	**06-Sep-2022**	30-Aug-2022	×	**07-Sep-2022**	16-Oct-2022	✓
Amber Glass Bottle - Unpreserved (EP068) QC302_220824	**24-Aug-2022**	**06-Sep-2022**	31-Aug-2022	×	**07-Sep-2022**	16-Oct-2022	✓
Amber Glass Bottle - Unpreserved (EP068) QC303_220825	**25-Aug-2022**	**06-Sep-2022**	01-Sep-2022	×	**07-Sep-2022**	16-Oct-2022	✓
Amber Glass Bottle - Unpreserved (EP068) SW01_220826, SW02_220826, QC304_220826	**26-Aug-2022**	**06-Sep-2022**	02-Sep-2022	×	**07-Sep-2022**	16-Oct-2022	✓
Amber Glass Bottle - Unpreserved (EP068) QC104	**26-Aug-2022**	**07-Sep-2022**	02-Sep-2022	×	**08-Sep-2022**	17-Oct-2022	✓
EP074A: Monocyclic Aromatic Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP074) QC300_220822	**22-Aug-2022**	**06-Sep-2022**	29-Aug-2022	×	**06-Sep-2022**	29-Aug-2022	×
Amber Glass Bottle - Unpreserved (EP074) QC301_220823	**23-Aug-2022**	**06-Sep-2022**	30-Aug-2022	×	**06-Sep-2022**	30-Aug-2022	×
Amber Glass Bottle - Unpreserved (EP074) QC302_220824	**24-Aug-2022**	**06-Sep-2022**	31-Aug-2022	×	**06-Sep-2022**	31-Aug-2022	×
Amber Glass Bottle - Unpreserved (EP074) QC303_220825	**25-Aug-2022**	**06-Sep-2022**	01-Sep-2022	×	**06-Sep-2022**	01-Sep-2022	×
Amber Glass Bottle - Unpreserved (EP074) SW01_220826, SW02_220826	**26-Aug-2022**	**06-Sep-2022**	02-Sep-2022	×	**06-Sep-2022**	02-Sep-2022	×
Amber VOC Vial - Sulfuric Acid (EP074) QC304_220826	**26-Aug-2022**	**06-Sep-2022**	09-Sep-2022	✓	**06-Sep-2022**	09-Sep-2022	✓

Matrix: **WATER**

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

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP074B: Oxygenated Compounds							
Amber Glass Bottle - Unpreserved (EP074) QC300_220822	**22-Aug-2022**	**06-Sep-2022**	29-Aug-2022	×	**06-Sep-2022**	29-Aug-2022	×
Amber Glass Bottle - Unpreserved (EP074) QC301_220823	**23-Aug-2022**	**06-Sep-2022**	30-Aug-2022	×	**06-Sep-2022**	30-Aug-2022	×
Amber Glass Bottle - Unpreserved (EP074) QC302_220824	**24-Aug-2022**	**06-Sep-2022**	31-Aug-2022	×	**06-Sep-2022**	31-Aug-2022	×
Amber Glass Bottle - Unpreserved (EP074) QC303_220825	**25-Aug-2022**	**06-Sep-2022**	01-Sep-2022	×	**06-Sep-2022**	01-Sep-2022	×
Amber Glass Bottle - Unpreserved (EP074) SW01_220826, SW02_220826	**26-Aug-2022**	**06-Sep-2022**	02-Sep-2022	×	**06-Sep-2022**	02-Sep-2022	×
Amber VOC Vial - Sulfuric Acid (EP074) QC304_220826	**26-Aug-2022**	**06-Sep-2022**	09-Sep-2022	✓	**06-Sep-2022**	09-Sep-2022	✓
EP074C: Sulfonated Compounds							
Amber Glass Bottle - Unpreserved (EP074) QC300_220822	**22-Aug-2022**	**06-Sep-2022**	29-Aug-2022	×	**06-Sep-2022**	29-Aug-2022	×
Amber Glass Bottle - Unpreserved (EP074) QC301_220823	**23-Aug-2022**	**06-Sep-2022**	30-Aug-2022	×	**06-Sep-2022**	30-Aug-2022	×
Amber Glass Bottle - Unpreserved (EP074) QC302_220824	**24-Aug-2022**	**06-Sep-2022**	31-Aug-2022	×	**06-Sep-2022**	31-Aug-2022	×
Amber Glass Bottle - Unpreserved (EP074) QC303_220825	**25-Aug-2022**	**06-Sep-2022**	01-Sep-2022	×	**06-Sep-2022**	01-Sep-2022	×
Amber Glass Bottle - Unpreserved (EP074) SW01_220826, SW02_220826	**26-Aug-2022**	**06-Sep-2022**	02-Sep-2022	×	**06-Sep-2022**	02-Sep-2022	×
Amber VOC Vial - Sulfuric Acid (EP074) QC304_220826	**26-Aug-2022**	**06-Sep-2022**	09-Sep-2022	✓	**06-Sep-2022**	09-Sep-2022	✓
EP074D: Fumigants							
Amber Glass Bottle - Unpreserved (EP074) QC300_220822	**22-Aug-2022**	**06-Sep-2022**	29-Aug-2022	×	**06-Sep-2022**	29-Aug-2022	×
Amber Glass Bottle - Unpreserved (EP074) QC301_220823	**23-Aug-2022**	**06-Sep-2022**	30-Aug-2022	×	**06-Sep-2022**	30-Aug-2022	×
Amber Glass Bottle - Unpreserved (EP074) QC302_220824	**24-Aug-2022**	**06-Sep-2022**	31-Aug-2022	×	**06-Sep-2022**	31-Aug-2022	×
Amber Glass Bottle - Unpreserved (EP074) QC303_220825	**25-Aug-2022**	**06-Sep-2022**	01-Sep-2022	×	**06-Sep-2022**	01-Sep-2022	×
Amber Glass Bottle - Unpreserved (EP074) SW01_220826, SW02_220826	**26-Aug-2022**	**06-Sep-2022**	02-Sep-2022	×	**06-Sep-2022**	02-Sep-2022	×
Amber VOC Vial - Sulfuric Acid (EP074) QC304_220826	**26-Aug-2022**	**06-Sep-2022**	09-Sep-2022	✓	**06-Sep-2022**	09-Sep-2022	✓

Matrix: **WATER**

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

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP074E: Halogenated Aliphatic Compounds							
Amber Glass Bottle - Unpreserved (EP074) QC300_220822	**22-Aug-2022**	**06-Sep-2022**	29-Aug-2022	×	**06-Sep-2022**	29-Aug-2022	×
Amber Glass Bottle - Unpreserved (EP074) QC301_220823	**23-Aug-2022**	**06-Sep-2022**	30-Aug-2022	×	**06-Sep-2022**	30-Aug-2022	×
Amber Glass Bottle - Unpreserved (EP074) QC302_220824	**24-Aug-2022**	**06-Sep-2022**	31-Aug-2022	×	**06-Sep-2022**	31-Aug-2022	×
Amber Glass Bottle - Unpreserved (EP074) QC303_220825	**25-Aug-2022**	**06-Sep-2022**	01-Sep-2022	×	**06-Sep-2022**	01-Sep-2022	×
Amber Glass Bottle - Unpreserved (EP074) SW01_220826, SW02_220826	**26-Aug-2022**	**06-Sep-2022**	02-Sep-2022	×	**06-Sep-2022**	02-Sep-2022	×
Amber VOC Vial - Sulfuric Acid (EP074) QC304_220826	**26-Aug-2022**	**06-Sep-2022**	09-Sep-2022	✓	**06-Sep-2022**	09-Sep-2022	✓
EP074F: Halogenated Aromatic Compounds							
Amber Glass Bottle - Unpreserved (EP074) QC300_220822	**22-Aug-2022**	**06-Sep-2022**	29-Aug-2022	×	**06-Sep-2022**	29-Aug-2022	×
Amber Glass Bottle - Unpreserved (EP074) QC301_220823	**23-Aug-2022**	**06-Sep-2022**	30-Aug-2022	×	**06-Sep-2022**	30-Aug-2022	×
Amber Glass Bottle - Unpreserved (EP074) QC302_220824	**24-Aug-2022**	**06-Sep-2022**	31-Aug-2022	×	**06-Sep-2022**	31-Aug-2022	×
Amber Glass Bottle - Unpreserved (EP074) QC303_220825	**25-Aug-2022**	**06-Sep-2022**	01-Sep-2022	×	**06-Sep-2022**	01-Sep-2022	×
Amber Glass Bottle - Unpreserved (EP074) SW01_220826, SW02_220826	**26-Aug-2022**	**06-Sep-2022**	02-Sep-2022	×	**06-Sep-2022**	02-Sep-2022	×
Amber VOC Vial - Sulfuric Acid (EP074) QC304_220826	**26-Aug-2022**	**06-Sep-2022**	09-Sep-2022	✓	**06-Sep-2022**	09-Sep-2022	✓
EP074G: Trihalomethanes							
Amber Glass Bottle - Unpreserved (EP074) QC300_220822	**22-Aug-2022**	**06-Sep-2022**	29-Aug-2022	×	**06-Sep-2022**	29-Aug-2022	×
Amber Glass Bottle - Unpreserved (EP074) QC301_220823	**23-Aug-2022**	**06-Sep-2022**	30-Aug-2022	×	**06-Sep-2022**	30-Aug-2022	×
Amber Glass Bottle - Unpreserved (EP074) QC302_220824	**24-Aug-2022**	**06-Sep-2022**	31-Aug-2022	×	**06-Sep-2022**	31-Aug-2022	×
Amber Glass Bottle - Unpreserved (EP074) QC303_220825	**25-Aug-2022**	**06-Sep-2022**	01-Sep-2022	×	**06-Sep-2022**	01-Sep-2022	×
Amber Glass Bottle - Unpreserved (EP074) SW01_220826, SW02_220826	**26-Aug-2022**	**06-Sep-2022**	02-Sep-2022	×	**06-Sep-2022**	02-Sep-2022	×
Amber VOC Vial - Sulfuric Acid (EP074) QC304_220826	**26-Aug-2022**	**06-Sep-2022**	09-Sep-2022	✓	**06-Sep-2022**	09-Sep-2022	✓

Matrix: **WATER**

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

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP075(SIM)) QC300_220822	**22-Aug-2022**	**06-Sep-2022**	29-Aug-2022	×	**07-Sep-2022**	16-Oct-2022	✓
Amber Glass Bottle - Unpreserved (EP075(SIM)) QC301_220823	**23-Aug-2022**	**06-Sep-2022**	30-Aug-2022	×	**07-Sep-2022**	16-Oct-2022	✓
Amber Glass Bottle - Unpreserved (EP075(SIM)) QC302_220824	**24-Aug-2022**	**06-Sep-2022**	31-Aug-2022	×	**07-Sep-2022**	16-Oct-2022	✓
Amber Glass Bottle - Unpreserved (EP075(SIM)) QC303_220825	**25-Aug-2022**	**06-Sep-2022**	01-Sep-2022	×	**07-Sep-2022**	16-Oct-2022	✓
Amber Glass Bottle - Unpreserved (EP075(SIM)) SW01_220826, SW02_220826, QC304_220826	**26-Aug-2022**	**06-Sep-2022**	02-Sep-2022	×	**07-Sep-2022**	16-Oct-2022	✓
Amber Glass Bottle - Unpreserved (EP075(SIM)) QC104	**26-Aug-2022**	**07-Sep-2022**	02-Sep-2022	×	**08-Sep-2022**	17-Oct-2022	✓
EP075A: Phenolic Compounds							
Amber Glass Bottle - Unpreserved (EP075) QC300_220822	**22-Aug-2022**	**06-Sep-2022**	29-Aug-2022	×	**08-Sep-2022**	16-Oct-2022	✓
Amber Glass Bottle - Unpreserved (EP075) QC301_220823	**23-Aug-2022**	**06-Sep-2022**	30-Aug-2022	×	**08-Sep-2022**	16-Oct-2022	✓
Amber Glass Bottle - Unpreserved (EP075) QC302_220824	**24-Aug-2022**	**06-Sep-2022**	31-Aug-2022	×	**08-Sep-2022**	16-Oct-2022	✓
Amber Glass Bottle - Unpreserved (EP075) QC303_220825	**25-Aug-2022**	**06-Sep-2022**	01-Sep-2022	×	**08-Sep-2022**	16-Oct-2022	✓
Amber Glass Bottle - Unpreserved (EP075) SW01_220826, SW02_220826	**26-Aug-2022**	**06-Sep-2022**	02-Sep-2022	×	**08-Sep-2022**	16-Oct-2022	✓
EP075B: Polynuclear Aromatic Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP075) QC300_220822	**22-Aug-2022**	**06-Sep-2022**	29-Aug-2022	×	**08-Sep-2022**	16-Oct-2022	✓
Amber Glass Bottle - Unpreserved (EP075) QC301_220823	**23-Aug-2022**	**06-Sep-2022**	30-Aug-2022	×	**08-Sep-2022**	16-Oct-2022	✓
Amber Glass Bottle - Unpreserved (EP075) QC302_220824	**24-Aug-2022**	**06-Sep-2022**	31-Aug-2022	×	**08-Sep-2022**	16-Oct-2022	✓
Amber Glass Bottle - Unpreserved (EP075) QC303_220825	**25-Aug-2022**	**06-Sep-2022**	01-Sep-2022	×	**08-Sep-2022**	16-Oct-2022	✓
Amber Glass Bottle - Unpreserved (EP075) SW01_220826, SW02_220826, QC304_220826	**26-Aug-2022**	**06-Sep-2022**	02-Sep-2022	×	**08-Sep-2022**	16-Oct-2022	✓

Matrix: **WATER**

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

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP075C: Phthalate Esters							
Amber Glass Bottle - Unpreserved (EP075) QC300_220822	**22-Aug-2022**	**06-Sep-2022**	29-Aug-2022	×	**08-Sep-2022**	16-Oct-2022	✓
Amber Glass Bottle - Unpreserved (EP075) QC301_220823	**23-Aug-2022**	**06-Sep-2022**	30-Aug-2022	×	**08-Sep-2022**	16-Oct-2022	✓
Amber Glass Bottle - Unpreserved (EP075) QC302_220824	**24-Aug-2022**	**06-Sep-2022**	31-Aug-2022	×	**08-Sep-2022**	16-Oct-2022	✓
Amber Glass Bottle - Unpreserved (EP075) QC303_220825	**25-Aug-2022**	**06-Sep-2022**	01-Sep-2022	×	**08-Sep-2022**	16-Oct-2022	✓
Amber Glass Bottle - Unpreserved (EP075) SW01_220826, SW02_220826, QC304_220826	**26-Aug-2022**	**06-Sep-2022**	02-Sep-2022	×	**08-Sep-2022**	16-Oct-2022	✓
EP075D: Nitrosamines							
Amber Glass Bottle - Unpreserved (EP075) QC300_220822	**22-Aug-2022**	**06-Sep-2022**	29-Aug-2022	×	**08-Sep-2022**	16-Oct-2022	✓
Amber Glass Bottle - Unpreserved (EP075) QC301_220823	**23-Aug-2022**	**06-Sep-2022**	30-Aug-2022	×	**08-Sep-2022**	16-Oct-2022	✓
Amber Glass Bottle - Unpreserved (EP075) QC302_220824	**24-Aug-2022**	**06-Sep-2022**	31-Aug-2022	×	**08-Sep-2022**	16-Oct-2022	✓
Amber Glass Bottle - Unpreserved (EP075) QC303_220825	**25-Aug-2022**	**06-Sep-2022**	01-Sep-2022	×	**08-Sep-2022**	16-Oct-2022	✓
Amber Glass Bottle - Unpreserved (EP075) SW01_220826, SW02_220826, QC304_220826	**26-Aug-2022**	**06-Sep-2022**	02-Sep-2022	×	**08-Sep-2022**	16-Oct-2022	✓
EP075E: Nitroaromatics and Ketones							
Amber Glass Bottle - Unpreserved (EP075) QC300_220822	**22-Aug-2022**	**06-Sep-2022**	29-Aug-2022	×	**08-Sep-2022**	16-Oct-2022	✓
Amber Glass Bottle - Unpreserved (EP075) QC301_220823	**23-Aug-2022**	**06-Sep-2022**	30-Aug-2022	×	**08-Sep-2022**	16-Oct-2022	✓
Amber Glass Bottle - Unpreserved (EP075) QC302_220824	**24-Aug-2022**	**06-Sep-2022**	31-Aug-2022	×	**08-Sep-2022**	16-Oct-2022	✓
Amber Glass Bottle - Unpreserved (EP075) QC303_220825	**25-Aug-2022**	**06-Sep-2022**	01-Sep-2022	×	**08-Sep-2022**	16-Oct-2022	✓
Amber Glass Bottle - Unpreserved (EP075) SW01_220826, SW02_220826, QC304_220826	**26-Aug-2022**	**06-Sep-2022**	02-Sep-2022	×	**08-Sep-2022**	16-Oct-2022	✓

Matrix: **WATER**

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

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP075F: Haloethers							
Amber Glass Bottle - Unpreserved (EP075) QC300_220822	**22-Aug-2022**	**06-Sep-2022**	29-Aug-2022	×	**08-Sep-2022**	16-Oct-2022	✓
Amber Glass Bottle - Unpreserved (EP075) QC301_220823	**23-Aug-2022**	**06-Sep-2022**	30-Aug-2022	×	**08-Sep-2022**	16-Oct-2022	✓
Amber Glass Bottle - Unpreserved (EP075) QC302_220824	**24-Aug-2022**	**06-Sep-2022**	31-Aug-2022	×	**08-Sep-2022**	16-Oct-2022	✓
Amber Glass Bottle - Unpreserved (EP075) QC303_220825	**25-Aug-2022**	**06-Sep-2022**	01-Sep-2022	×	**08-Sep-2022**	16-Oct-2022	✓
Amber Glass Bottle - Unpreserved (EP075) SW01_220826, SW02_220826, QC304_220826	**26-Aug-2022**	**06-Sep-2022**	02-Sep-2022	×	**08-Sep-2022**	16-Oct-2022	✓
EP075G: Chlorinated Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP075) QC300_220822	**22-Aug-2022**	**06-Sep-2022**	29-Aug-2022	×	**08-Sep-2022**	16-Oct-2022	✓
Amber Glass Bottle - Unpreserved (EP075) QC301_220823	**23-Aug-2022**	**06-Sep-2022**	30-Aug-2022	×	**08-Sep-2022**	16-Oct-2022	✓
Amber Glass Bottle - Unpreserved (EP075) QC302_220824	**24-Aug-2022**	**06-Sep-2022**	31-Aug-2022	×	**08-Sep-2022**	16-Oct-2022	✓
Amber Glass Bottle - Unpreserved (EP075) QC303_220825	**25-Aug-2022**	**06-Sep-2022**	01-Sep-2022	×	**08-Sep-2022**	16-Oct-2022	✓
Amber Glass Bottle - Unpreserved (EP075) SW01_220826, SW02_220826, QC304_220826	**26-Aug-2022**	**06-Sep-2022**	02-Sep-2022	×	**08-Sep-2022**	16-Oct-2022	✓
EP075H: Anilines and Benzidines							
Amber Glass Bottle - Unpreserved (EP075) QC300_220822	**22-Aug-2022**	**06-Sep-2022**	29-Aug-2022	×	**08-Sep-2022**	16-Oct-2022	✓
Amber Glass Bottle - Unpreserved (EP075) QC301_220823	**23-Aug-2022**	**06-Sep-2022**	30-Aug-2022	×	**08-Sep-2022**	16-Oct-2022	✓
Amber Glass Bottle - Unpreserved (EP075) QC302_220824	**24-Aug-2022**	**06-Sep-2022**	31-Aug-2022	×	**08-Sep-2022**	16-Oct-2022	✓
Amber Glass Bottle - Unpreserved (EP075) QC303_220825	**25-Aug-2022**	**06-Sep-2022**	01-Sep-2022	×	**08-Sep-2022**	16-Oct-2022	✓
Amber Glass Bottle - Unpreserved (EP075) SW01_220826, SW02_220826, QC304_220826	**26-Aug-2022**	**06-Sep-2022**	02-Sep-2022	×	**08-Sep-2022**	16-Oct-2022	✓

Matrix: **WATER**

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

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080/071: Total Petroleum Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP071) QC300_220822	**22-Aug-2022**	**06-Sep-2022**	29-Aug-2022	×	**07-Sep-2022**	16-Oct-2022	✓
Amber Glass Bottle - Unpreserved (EP080) QC300_220822	**22-Aug-2022**	**06-Sep-2022**	29-Aug-2022	×	**06-Sep-2022**	29-Aug-2022	×
Amber Glass Bottle - Unpreserved (EP071) QC301_220823	**23-Aug-2022**	**06-Sep-2022**	30-Aug-2022	×	**07-Sep-2022**	16-Oct-2022	✓
Amber Glass Bottle - Unpreserved (EP080) QC301_220823	**23-Aug-2022**	**06-Sep-2022**	30-Aug-2022	×	**06-Sep-2022**	30-Aug-2022	×
Amber Glass Bottle - Unpreserved (EP071) QC302_220824	**24-Aug-2022**	**06-Sep-2022**	31-Aug-2022	×	**07-Sep-2022**	16-Oct-2022	✓
Amber Glass Bottle - Unpreserved (EP080) QC302_220824	**24-Aug-2022**	**06-Sep-2022**	31-Aug-2022	×	**06-Sep-2022**	31-Aug-2022	×
Amber Glass Bottle - Unpreserved (EP071) QC303_220825	**25-Aug-2022**	**06-Sep-2022**	01-Sep-2022	×	**07-Sep-2022**	16-Oct-2022	✓
Amber Glass Bottle - Unpreserved (EP080) QC303_220825	**25-Aug-2022**	**06-Sep-2022**	01-Sep-2022	×	**06-Sep-2022**	01-Sep-2022	×
Amber Glass Bottle - Unpreserved (EP071) SW01_220826	**26-Aug-2022**	**06-Sep-2022**	02-Sep-2022	×	**07-Sep-2022**	16-Oct-2022	✓
Amber Glass Bottle - Unpreserved (EP080) SW01_220826	**26-Aug-2022**	**06-Sep-2022**	02-Sep-2022	×	**06-Sep-2022**	02-Sep-2022	×
Amber Glass Bottle - Unpreserved (EP071) SW02_220826	**26-Aug-2022**	**06-Sep-2022**	02-Sep-2022	×	**07-Sep-2022**	16-Oct-2022	✓
Amber Glass Bottle - Unpreserved (EP080) SW02_220826	**26-Aug-2022**	**06-Sep-2022**	02-Sep-2022	×	**06-Sep-2022**	02-Sep-2022	×
Amber Glass Bottle - Unpreserved (EP071) QC304_220826	**26-Aug-2022**	**06-Sep-2022**	02-Sep-2022	×	**07-Sep-2022**	16-Oct-2022	✓
Amber Glass Bottle - Unpreserved (EP071) QC104	**26-Aug-2022**	**07-Sep-2022**	02-Sep-2022	×	**09-Sep-2022**	17-Oct-2022	✓
Amber VOC Vial - Sulfuric Acid (EP080) QC304_220826	**26-Aug-2022**	**06-Sep-2022**	09-Sep-2022	✓	**06-Sep-2022**	09-Sep-2022	✓
Amber VOC Vial - Sulfuric Acid (EP080) QC104	**26-Aug-2022**	**09-Sep-2022**	09-Sep-2022	✓	**09-Sep-2022**	09-Sep-2022	✓

Matrix: **WATER**

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

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions							
Amber Glass Bottle - Unpreserved (EP071) QC300_220822	**22-Aug-2022**	**06-Sep-2022**	29-Aug-2022	×	**07-Sep-2022**	16-Oct-2022	✓
Amber Glass Bottle - Unpreserved (EP080) QC300_220822	**22-Aug-2022**	**06-Sep-2022**	29-Aug-2022	×	**06-Sep-2022**	29-Aug-2022	×
Amber Glass Bottle - Unpreserved (EP071) QC301_220823	**23-Aug-2022**	**06-Sep-2022**	30-Aug-2022	×	**07-Sep-2022**	16-Oct-2022	✓
Amber Glass Bottle - Unpreserved (EP080) QC301_220823	**23-Aug-2022**	**06-Sep-2022**	30-Aug-2022	×	**06-Sep-2022**	30-Aug-2022	×
Amber Glass Bottle - Unpreserved (EP071) QC302_220824	**24-Aug-2022**	**06-Sep-2022**	31-Aug-2022	×	**07-Sep-2022**	16-Oct-2022	✓
Amber Glass Bottle - Unpreserved (EP080) QC302_220824	**24-Aug-2022**	**06-Sep-2022**	31-Aug-2022	×	**06-Sep-2022**	31-Aug-2022	×
Amber Glass Bottle - Unpreserved (EP071) QC303_220825	**25-Aug-2022**	**06-Sep-2022**	01-Sep-2022	×	**07-Sep-2022**	16-Oct-2022	✓
Amber Glass Bottle - Unpreserved (EP080) QC303_220825	**25-Aug-2022**	**06-Sep-2022**	01-Sep-2022	×	**06-Sep-2022**	01-Sep-2022	×
Amber Glass Bottle - Unpreserved (EP071) SW01_220826	**26-Aug-2022**	**06-Sep-2022**	02-Sep-2022	×	**07-Sep-2022**	16-Oct-2022	✓
Amber Glass Bottle - Unpreserved (EP080) SW01_220826	**26-Aug-2022**	**06-Sep-2022**	02-Sep-2022	×	**06-Sep-2022**	02-Sep-2022	×
Amber Glass Bottle - Unpreserved (EP071) SW02_220826	**26-Aug-2022**	**06-Sep-2022**	02-Sep-2022	×	**07-Sep-2022**	16-Oct-2022	✓
Amber Glass Bottle - Unpreserved (EP080) SW02_220826	**26-Aug-2022**	**06-Sep-2022**	02-Sep-2022	×	**06-Sep-2022**	02-Sep-2022	×
Amber Glass Bottle - Unpreserved (EP071) QC304_220826	**26-Aug-2022**	**06-Sep-2022**	02-Sep-2022	×	**07-Sep-2022**	16-Oct-2022	✓
Amber Glass Bottle - Unpreserved (EP071) QC104	**26-Aug-2022**	**07-Sep-2022**	02-Sep-2022	×	**09-Sep-2022**	17-Oct-2022	✓
Amber VOC Vial - Sulfuric Acid (EP080) QC304_220826	**26-Aug-2022**	**06-Sep-2022**	09-Sep-2022	✓	**06-Sep-2022**	09-Sep-2022	✓
Amber VOC Vial - Sulfuric Acid (EP080) QC104	**26-Aug-2022**	**09-Sep-2022**	09-Sep-2022	✓	**09-Sep-2022**	09-Sep-2022	✓

Matrix: **WATER**

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

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080: BTEXN							
Amber Glass Bottle - Unpreserved (EP080) QC300_220822	**22-Aug-2022**	**06-Sep-2022**	29-Aug-2022	×	**06-Sep-2022**	29-Aug-2022	×
Amber Glass Bottle - Unpreserved (EP080) QC301_220823	**23-Aug-2022**	**06-Sep-2022**	30-Aug-2022	×	**06-Sep-2022**	30-Aug-2022	×
Amber Glass Bottle - Unpreserved (EP080) QC302_220824	**24-Aug-2022**	**06-Sep-2022**	31-Aug-2022	×	**06-Sep-2022**	31-Aug-2022	×
Amber Glass Bottle - Unpreserved (EP080) QC303_220825	**25-Aug-2022**	**06-Sep-2022**	01-Sep-2022	×	**06-Sep-2022**	01-Sep-2022	×
Amber Glass Bottle - Unpreserved (EP080) SW01_220826, SW02_220826	**26-Aug-2022**	**06-Sep-2022**	02-Sep-2022	×	**06-Sep-2022**	02-Sep-2022	×
Amber VOC Vial - Sulfuric Acid (EP080) QC304_220826	**26-Aug-2022**	**06-Sep-2022**	09-Sep-2022	✓	**06-Sep-2022**	09-Sep-2022	✓
Amber VOC Vial - Sulfuric Acid (EP080) QC104	**26-Aug-2022**	**09-Sep-2022**	09-Sep-2022	✓	**09-Sep-2022**	09-Sep-2022	✓
EP202A: Phenoxyacetic Acid Herbicides by LCMS							
Amber Glass Bottle - Unpreserved (EP202-SL) SW01_220826, SW02_220826	**26-Aug-2022**	**----**	----	----	**07-Sep-2022**	02-Sep-2022	×
Amber Glass Bottle - Unpreserved (EP202-SL) QC104	**26-Aug-2022**	**----**	----	----	**09-Sep-2022**	02-Sep-2022	×
EP231A: Perfluoroalkyl Sulfonic Acids							
Amber Glass Bottle - Unpreserved (EP231X) QC300_220822	**22-Aug-2022**	**09-Sep-2022**	18-Feb-2023	✓	**12-Sep-2022**	18-Feb-2023	✓
Amber Glass Bottle - Unpreserved (EP231X) QC301_220823	**23-Aug-2022**	**09-Sep-2022**	19-Feb-2023	✓	**12-Sep-2022**	19-Feb-2023	✓
Amber Glass Bottle - Unpreserved (EP231X) QC302_220824	**24-Aug-2022**	**09-Sep-2022**	20-Feb-2023	✓	**12-Sep-2022**	20-Feb-2023	✓
Amber Glass Bottle - Unpreserved (EP231X) QC303_220825	**25-Aug-2022**	**09-Sep-2022**	21-Feb-2023	✓	**12-Sep-2022**	21-Feb-2023	✓
Amber Glass Bottle - Unpreserved (EP231X) SW01_220826, SW02_220826	**26-Aug-2022**	**09-Sep-2022**	22-Feb-2023	✓	**12-Sep-2022**	22-Feb-2023	✓
HDPE (no PTFE) (EP231X) QC104	**26-Aug-2022**	**09-Sep-2022**	22-Feb-2023	✓	**12-Sep-2022**	22-Feb-2023	✓

Matrix: **WATER**

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

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP231B: Perfluoroalkyl Carboxylic Acids							
Amber Glass Bottle - Unpreserved (EP231X) QC300_220822	**22-Aug-2022**	**09-Sep-2022**	18-Feb-2023	✓	**12-Sep-2022**	18-Feb-2023	✓
Amber Glass Bottle - Unpreserved (EP231X) QC301_220823	**23-Aug-2022**	**09-Sep-2022**	19-Feb-2023	✓	**12-Sep-2022**	19-Feb-2023	✓
Amber Glass Bottle - Unpreserved (EP231X) QC302_220824	**24-Aug-2022**	**09-Sep-2022**	20-Feb-2023	✓	**12-Sep-2022**	20-Feb-2023	✓
Amber Glass Bottle - Unpreserved (EP231X) QC303_220825	**25-Aug-2022**	**09-Sep-2022**	21-Feb-2023	✓	**12-Sep-2022**	21-Feb-2023	✓
Amber Glass Bottle - Unpreserved (EP231X) SW01_220826, SW02_220826	**26-Aug-2022**	**09-Sep-2022**	22-Feb-2023	✓	**12-Sep-2022**	22-Feb-2023	✓
HDPE (no PTFE) (EP231X) QC104	**26-Aug-2022**	**09-Sep-2022**	22-Feb-2023	✓	**12-Sep-2022**	22-Feb-2023	✓
EP231C: Perfluoroalkyl Sulfonamides							
Amber Glass Bottle - Unpreserved (EP231X) QC300_220822	**22-Aug-2022**	**09-Sep-2022**	18-Feb-2023	✓	**12-Sep-2022**	18-Feb-2023	✓
Amber Glass Bottle - Unpreserved (EP231X) QC301_220823	**23-Aug-2022**	**09-Sep-2022**	19-Feb-2023	✓	**12-Sep-2022**	19-Feb-2023	✓
Amber Glass Bottle - Unpreserved (EP231X) QC302_220824	**24-Aug-2022**	**09-Sep-2022**	20-Feb-2023	✓	**12-Sep-2022**	20-Feb-2023	✓
Amber Glass Bottle - Unpreserved (EP231X) QC303_220825	**25-Aug-2022**	**09-Sep-2022**	21-Feb-2023	✓	**12-Sep-2022**	21-Feb-2023	✓
Amber Glass Bottle - Unpreserved (EP231X) SW01_220826, SW02_220826	**26-Aug-2022**	**09-Sep-2022**	22-Feb-2023	✓	**12-Sep-2022**	22-Feb-2023	✓
HDPE (no PTFE) (EP231X) QC104	**26-Aug-2022**	**09-Sep-2022**	22-Feb-2023	✓	**12-Sep-2022**	22-Feb-2023	✓
EP231D: (n:2) Fluorotelomer Sulfonic Acids							
Amber Glass Bottle - Unpreserved (EP231X) QC300_220822	**22-Aug-2022**	**09-Sep-2022**	18-Feb-2023	✓	**12-Sep-2022**	18-Feb-2023	✓
Amber Glass Bottle - Unpreserved (EP231X) QC301_220823	**23-Aug-2022**	**09-Sep-2022**	19-Feb-2023	✓	**12-Sep-2022**	19-Feb-2023	✓
Amber Glass Bottle - Unpreserved (EP231X) QC302_220824	**24-Aug-2022**	**09-Sep-2022**	20-Feb-2023	✓	**12-Sep-2022**	20-Feb-2023	✓
Amber Glass Bottle - Unpreserved (EP231X) QC303_220825	**25-Aug-2022**	**09-Sep-2022**	21-Feb-2023	✓	**12-Sep-2022**	21-Feb-2023	✓
Amber Glass Bottle - Unpreserved (EP231X) SW01_220826, SW02_220826	**26-Aug-2022**	**09-Sep-2022**	22-Feb-2023	✓	**12-Sep-2022**	22-Feb-2023	✓
HDPE (no PTFE) (EP231X) QC104	**26-Aug-2022**	**09-Sep-2022**	22-Feb-2023	✓	**12-Sep-2022**	22-Feb-2023	✓

Matrix: **WATER**

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

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP231P: PFAS Sums							
Amber Glass Bottle - Unpreserved (EP231X)							
QC300_220822	**22-Aug-2022**	**09-Sep-2022**	18-Feb-2023	✓	**12-Sep-2022**	18-Feb-2023	✓
Amber Glass Bottle - Unpreserved (EP231X)							
QC301_220823	**23-Aug-2022**	**09-Sep-2022**	19-Feb-2023	✓	**12-Sep-2022**	19-Feb-2023	✓
Amber Glass Bottle - Unpreserved (EP231X)							
QC302_220824	**24-Aug-2022**	**09-Sep-2022**	20-Feb-2023	✓	**12-Sep-2022**	20-Feb-2023	✓
Amber Glass Bottle - Unpreserved (EP231X)							
QC303_220825	**25-Aug-2022**	**09-Sep-2022**	21-Feb-2023	✓	**12-Sep-2022**	21-Feb-2023	✓
Amber Glass Bottle - Unpreserved (EP231X)							
SW01_220826, SW02_220826	**26-Aug-2022**	**09-Sep-2022**	22-Feb-2023	✓	**12-Sep-2022**	22-Feb-2023	✓
HDPE (no PTFE) (EP231X)							
QC104	**26-Aug-2022**	**09-Sep-2022**	22-Feb-2023	✓	**12-Sep-2022**	22-Feb-2023	✓

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		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Moisture Content	EA055	6	60	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	4	33	**12.12**	**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	4	33	**12.12**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Phenoxyacetic Acid Herbicides (LCMS - Standard DL)	EP202	4	38	**10.53**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	4	33	**12.12**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Semivolatile Organic Compounds	EP075	3	22	**13.64**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	4	40	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	4	39	**10.26**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	4	33	**12.12**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	4	34	**11.76**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Volatile Organic Compounds	EP074	3	22	**13.64**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
PAH/Phenols (SIM)	EP075(SIM)	2	33	**6.06**	**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	2	33	**6.06**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Phenoxyacetic Acid Herbicides (LCMS - Standard DL)	EP202	2	38	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	2	33	**6.06**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Semivolatile Organic Compounds	EP075	2	22	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	2	40	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	2	39	**5.13**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	2	33	**6.06**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	34	**5.88**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Volatile Organic Compounds	EP074	2	22	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
PAH/Phenols (SIM)	EP075(SIM)	2	33	**6.06**	**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	2	33	**6.06**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Phenoxyacetic Acid Herbicides (LCMS - Standard DL)	EP202	2	38	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	2	33	**6.06**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Semivolatile Organic Compounds	EP075	2	22	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	2	40	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	2	39	**5.13**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	2	33	**6.06**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	34	**5.88**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Volatile Organic Compounds	EP074	2	22	**9.09**	**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		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Matrix Spikes (MS)							
PAH/Phenols (SIM)	EP075(SIM)	2	33	**6.06**	**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	2	33	**6.06**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Phenoxyacetic Acid Herbicides (LCMS - Standard DL)	EP202	2	38	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	2	33	**6.06**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Semivolatile Organic Compounds	EP075	2	22	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	2	40	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	2	39	**5.13**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	2	33	**6.06**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	34	**5.88**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Volatile Organic Compounds	EP074	2	22	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Matrix: **WATER**

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

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Dissolved Mercury by FIMS	EG035F	2	15	**13.33**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Metals by ICP-MS - Suite A	EG020A-F	2	15	**13.33**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	0	10	**0.00**	**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	0	9	**0.00**	**10.00**	×	NEPM 2013 B3 & ALS QC Standard
Phenoxyacetic Acid Herbicides (LCMS - Standard DL)	EP202-SL	2	19	**10.53**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	0	7	**0.00**	**10.00**	×	NEPM 2013 B3 & ALS QC Standard
Semivolatile Organic Compounds	EP075	0	7	**0.00**	**10.00**	×	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	3	29	**10.34**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-MS - Suite A	EG020A-T	2	19	**10.53**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	0	10	**0.00**	**10.00**	×	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	4	22	**18.18**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Volatile Organic Compounds	EP074	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Dissolved Mercury by FIMS	EG035F	1	15	**6.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Metals by ICP-MS - Suite A	EG020A-F	1	15	**6.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	2	10	**20.00**	**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	2	9	**22.22**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Phenoxyacetic Acid Herbicides (LCMS - Standard DL)	EP202-SL	2	19	**10.53**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	7	**14.29**	**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	2	29	**6.90**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-MS - Suite A	EG020A-T	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Matrix: **WATER**

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

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Control Samples (LCS) - Continued							
TRH - Semivolatile Fraction	EP071	2	10	**20.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	22	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Volatile Organic Compounds	EP074	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Dissolved Mercury by FIMS	EG035F	1	15	**6.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Metals by ICP-MS - Suite A	EG020A-F	1	15	**6.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	2	10	**20.00**	**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	2	9	**22.22**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Phenoxyacetic Acid Herbicides (LCMS - Standard DL)	EP202-SL	2	19	**10.53**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	7	**14.29**	**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	2	29	**6.90**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-MS - Suite A	EG020A-T	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	2	10	**20.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	22	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Volatile Organic Compounds	EP074	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Dissolved Mercury by FIMS	EG035F	1	15	**6.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Metals by ICP-MS - Suite A	EG020A-F	1	15	**6.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	0	10	**0.00**	**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	0	9	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard
Phenoxyacetic Acid Herbicides (LCMS - Standard DL)	EP202-SL	2	19	**10.53**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	0	7	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard
Semivolatile Organic Compounds	EP075	0	7	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	2	29	**6.90**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-MS - Suite A	EG020A-T	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	0	10	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	22	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Volatile Organic Compounds	EP074	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

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

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055	SOIL	In house: A gravimetric procedure based on weight loss over a 12 hour drying period at 105-110 degrees C. This method is compliant with NEPM Schedule B(3).
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 (SnCl2) (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 SnCl2 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)
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.
Phenoxyacetic Acid Herbicides (LCMS - Standard DL)	EP202	SOIL	In house: LCMS (Electrospray in negative mode). Residues of acid herbicides are extracted from soil samples under the alkaline condition. An aliquot of the alkaline aqueous phase is taken and acidified before a SPE cleanup. After eluting off from the SPE cartridge, residues of acid herbicides are dissolved in HPLC mobile phase prior to instrument analysis.

Analytical Methods	Method	Matrix	Method Descriptions
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.
Dissolved Metals by ICP-MS - Suite A	EG020A-F	WATER	In house: Referenced to APHA 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020. Samples are 0.45µm filtered prior to analysis. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector.
Total Metals by ICP-MS - Suite A	EG020A-T	WATER	In house: Referenced to APHA 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector.
Dissolved Mercury by FIMS	EG035F	WATER	In house: Referenced to APHA 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) Samples are 0.45µm filtered prior to analysis. FIM-AAS is an automated flameless atomic absorption technique. A bromate/bromide reagent is used to oxidise any organic mercury compounds in the filtered sample. The ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM Schedule B(3).
Total Mercury by FIMS	EG035T	WATER	In house: Referenced to APHA 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. A bromate/bromide reagent is used to oxidise any organic mercury compounds in the unfiltered sample. The ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM Schedule B(3).
Polychlorinated Biphenyls (PCB)	EP066	WATER	In house: Referenced to USEPA SW 846 - 8270 Sample extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)
Pesticides by GCMS	EP068	WATER	In house: Referenced to USEPA SW 846 - 8270 Sample extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)
TRH - Semivolatile Fraction	EP071	WATER	In house: Referenced to USEPA SW 846 - 8015 The sample extract is analysed by Capillary GC/FID and quantification is by comparison against an established 5 point calibration curve of n-Alkane standards. This method is compliant with the QC requirements of NEPM Schedule B(3)
Volatile Organic Compounds	EP074	WATER	In house: Referenced to USEPA SW 846 - 8260 Water samples are directly purged prior to analysis by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)
Semivolatile Organic Compounds	EP075	WATER	In house: Referenced to USEPA SW 846 - 8270 Sample extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)

Analytical Methods	Method	Matrix	Method Descriptions
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	WATER	In house: Referenced to USEPA SW 846 - 8270 Sample extracts are analysed by Capillary GC/MS in SIM Mode and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)
TRH Volatiles/BTEX	EP080	WATER	In house: Referenced to USEPA SW 846 - 8260 Water samples are directly purged prior to analysis by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. Alternatively, a sample is equilibrated in a headspace vial and a portion of the headspace determined by GCMS analysis. This method is compliant with the QC requirements of NEPM Schedule B(3)
Phenoxyacetic Acid Herbicides (LCMS - Standard DL)	EP202-SL	WATER	In house: LCMS (Electrospray in negative mode). After adding surrogate and acetic acid, water samples are injected on a C18 column for LC/MS determination.
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	WATER	In-house: Analysis of fresh and saline waters by Solid Phase Extraction (SPE) followed by LC-Electrospray-MS-MS, Negative Mode using MRM and internal standard quantitation. Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is 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
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).
Extraction for Phenoxy Acid Herbicides in Soils.	EP202-PR	SOIL	In-House: Alkaline extract followed by SPE clean up of acidified portion of the sample extract.
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.
Digestion for Total Recoverable Metals	EN25	WATER	In house: Referenced to USEPA SW846-3005. Method 3005 is a Nitric/Hydrochloric acid digestion procedure used to prepare surface and ground water samples for analysis by ICPAES or ICPMS. This method is compliant with NEPM Schedule B(3)
Separatory Funnel Extraction of Liquids	ORG14	WATER	In house: Referenced to USEPA SW 846 - 3510 100 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM Schedule B(3) . ALS default excludes sediment which may be resident in the container.
Volatiles Water Preparation	ORG16-W	WATER	A 5 mL aliquot or 5 mL of a diluted sample is added to a 40 mL VOC vial for purging.

Preparation Methods	Method	Matrix	Method Descriptions
Solid Phase Extraction (SPE) for PFAS in water	ORG72	WATER	In-house: Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures conform to US DoD QSM 5.3, table B-15 requirements.

QUALITY CONTROL REPORT

Work Order	: **ES2230964**	Page	: 1 of 68
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: TAMA ARMANI	Contact	: Sepan Mahamad
Address	: 17 WARABROOK BLVD NEWCASTLE Newcastle 2304	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: +61 2 8784 8555
Project	: 60619756 211-30	Date Samples Received	: 30-Aug-2022
Order number	: 60619756	Date Analysis Commenced	: 06-Sep-2022
C-O-C number	: ----	Issue Date	: 23-Sep-2022
Sampler	: P.Dean		
Site	: ----		
Quote number	: EN/004/21		
No. of samples received	: 72		
No. of samples analysed	: 42		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

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

This Quality Control Report contains the following information:

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

Signatories

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

Signatories	*Position*	*Accreditation Category*
Ankit Joshi	Senior Chemist - Inorganics	Sydney Inorganics, Smithfield, NSW
Edwandy Fadjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Franco Lentini	LCMS Coordinator	Sydney Inorganics, Smithfield, NSW
Franco Lentini	LCMS Coordinator	Sydney Organics, Smithfield, NSW
Jake Spooner	Laboratory Technician	Newcastle - Asbestos, Mayfield West, NSW
Wisam Marassa	Inorganics Coordinator	Sydney Inorganics, Smithfield, NSW

General Comments

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

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

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

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: 4570846)									
ES2230964-001	HA05_0.1_0.2_220824	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	24	22	10.5	0% - 50%
		EG005T: Nickel	7440-02-0	2	mg/kg	154	162	5.1	0% - 20%
		EG005T: Arsenic	7440-38-2	5	mg/kg	21	21	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	148	153	3.4	0% - 20%
		EG005T: Lead	7439-92-1	5	mg/kg	26	23	13.2	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	193	213	10.0	0% - 20%
ES2230964-015	HA16_0.0_0.1_220824	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	124	105	16.6	0% - 20%
		EG005T: Nickel	7440-02-0	2	mg/kg	44	42	3.7	0% - 20%
		EG005T: Arsenic	7440-38-2	5	mg/kg	20	15	27.4	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	40	32	23.7	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	22	15	34.9	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	120	101	17.5	0% - 20%
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 4570848)									
ES2230964-054	SED02_220826	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	21	19	7.1	0% - 50%
		EG005T: Nickel	7440-02-0	2	mg/kg	19	19	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	8	6	18.8	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	11	13	15.6	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	11	11	0.0	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	31	34	8.2	No Limit
ES2230964-069	SS09_220826	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	9	8	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 (%)*
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 4570848) - continued									
ES2230964-069	SS09_220826	EG005T: Nickel	7440-02-0	2	mg/kg	33	34	0.0	0% - 50%
		EG005T: Arsenic	7440-38-2	5	mg/kg	6	6	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	32	29	12.3	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	11	11	0.0	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	23	22	5.9	No Limit
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 4568837)									
EP2210599-082	Anonymous	EA055: Moisture Content	----	0.1	%	1.6	1.4	8.8	0% - 50%
ES2231711-014	Anonymous	EA055: Moisture Content	----	0.1	%	4.1	4.8	15.1	0% - 20%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 4570854)									
ES2230964-004	HA08_0.1_0.2_220824	EA055: Moisture Content	----	0.1	%	16.9	16.8	0.7	0% - 50%
ES2230964-023	HA17_4.0_4.2_220824	EA055: Moisture Content	----	0.1	%	13.6	13.0	4.7	0% - 50%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 4570855)									
ES2230964-061	SS01_220826	EA055: Moisture Content	----	0.1	%	20.7	22.4	7.6	0% - 20%
ES2231732-001	Anonymous	EA055: Moisture Content	----	0.1	%	37.7	33.2	12.5	0% - 20%
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 4570847)									
ES2230964-001	HA05_0.1_0.2_220824	EG035T: Mercury	7439-97-6	0.1	mg/kg	0.6	0.5	0.0	No Limit
ES2230964-015	HA16_0.0_0.1_220824	EG035T: Mercury	7439-97-6	0.1	mg/kg	0.2	0.2	0.0	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 4570849)									
ES2230964-054	SED02_220826	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
ES2230964-069	SS09_220826	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EP066: Polychlorinated Biphenyls (PCB) (QC Lot: 4563555)									
ES2230964-001	HA05_0.1_0.2_220824	EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
ES2230964-015	HA16_0.0_0.1_220824	EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EP066: Polychlorinated Biphenyls (PCB) (QC Lot: 4563562)									
ES2230964-069	SS09_220826	EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
ES2230964-053	SED01_220826	EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EP068A: Organochlorine Pesticides (OC) (QC Lot: 4563553)									
ES2230964-001	HA05_0.1_0.2_220824	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

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: 4563553) - continued									
ES2230964-001	HA05_0.1_0.2_220824	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
ES2230964-015	HA16_0.0_0.1_220824	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	0.21	0.23	9.1	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
EP068A: Organochlorine Pesticides (OC) (QC Lot: 4563560)									
ES2230964-069	SS09_220826	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

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: 4563560) - continued									
ES2230964-069	SS09_220826	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
ES2230964-053	SED01_220826	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: 4563553)									
ES2230964-001	HA05_0.1_0.2_220824	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

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: 4563553) - continued									
ES2230964-001	HA05_0.1_0.2_220824	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
ES2230964-015	HA16_0.0_0.1_220824	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
EP068B: Organophosphorus Pesticides (OP) (QC Lot: 4563560)									
ES2230964-069	SS09_220826	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

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: 4563560) - continued									
ES2230964-069	SS09_220826	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
ES2230964-053	SED01_220826	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
EP074A: Monocyclic Aromatic Hydrocarbons (QC Lot: 4563692)									
ES2230964-001	HA05_0.1_0.2_220824	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

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 (%)*
EP074A: Monocyclic Aromatic Hydrocarbons (QC Lot: 4563692) - continued									
ES2230964-001	HA05_0.1_0.2_220824	EP074: n-Butylbenzene	104-51-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
ES2230964-015	HA16_0.0_0.1_220824	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
EP074A: Monocyclic Aromatic Hydrocarbons (QC Lot: 4563698)									
ES2230964-054	SED02_220826	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: 4563692)									
ES2230964-001	HA05_0.1_0.2_220824	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
ES2230964-015	HA16_0.0_0.1_220824	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
EP074B: Oxygenated Compounds (QC Lot: 4563698)									
ES2230964-054	SED02_220826	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: 4563692)									
ES2230964-001	HA05_0.1_0.2_220824	EP074: Carbon disulfide	75-15-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
ES2230964-015	HA16_0.0_0.1_220824	EP074: Carbon disulfide	75-15-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP074C: Sulfonated Compounds (QC Lot: 4563698)									
ES2230964-054	SED02_220826	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 (%)*
EP074D: Fumigants (QC Lot: 4563692)									
ES2230964-001	HA05_0.1_0.2_220824	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
ES2230964-015	HA16_0.0_0.1_220824	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
EP074D: Fumigants (QC Lot: 4563698)									
ES2230964-054	SED02_220826	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: 4563692)									
ES2230964-001	HA05_0.1_0.2_220824	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

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: 4563692) - continued									
ES2230964-001	HA05_0.1_0.2_220824	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
ES2230964-015	HA16_0.0_0.1_220824	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
EP074E: Halogenated Aliphatic Compounds (QC Lot: 4563698)									
ES2230964-054	SED02_220826	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: 4563698) - continued									
ES2230964-054	SED02_220826	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: 4563692)									
ES2230964-001	HA05_0.1_0.2_220824	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
ES2230964-015	HA16_0.0_0.1_220824	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
EP074F: Halogenated Aromatic Compounds (QC Lot: 4563698)									
ES2230964-054	SED02_220826	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: 4563692)									
ES2230964-001	HA05_0.1_0.2_220824	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: 4563692) - continued									
ES2230964-001	HA05_0.1_0.2_220824	EP074: Bromoform	75-25-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
ES2230964-015	HA16_0.0_0.1_220824	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
EP074G: Trihalomethanes (QC Lot: 4563698)									
ES2230964-054	SED02_220826	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: 4563552)									
ES2230964-001	HA05_0.1_0.2_220824	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
ES2230964-015	HA16_0.0_0.1_220824	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)A: Phenolic Compounds (QC Lot: 4563559)									
ES2230964-069	SS09_220826	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

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: 4563559) - continued									
ES2230964-069	SS09_220826	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
ES2230964-053	SED01_220826	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	2	2	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: 4563552)									
ES2230964-001	HA05_0.1_0.2_220824	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	205-99-2 205-82-3	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

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: 4563552) - continued									
ES2230964-001	HA05_0.1_0.2_220824	EP075(SIM): Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
ES2230964-015	HA16_0.0_0.1_220824	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	0.7	0.8	14.6	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	1.4	1.8	30.2	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	1.2	1.8	39.9	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	0.6	1.0	50.5	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	0.5	0.9	49.9	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	0.8	1.3	51.8	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	0.6	1.0	54.9	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	5.8	9.1	44.3	0% - 50%
		EP075(SIM): Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	0.7	1.2	50.2	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4563559)									
ES2230964-069	SS09_220826	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	1.0	0.9	15.7	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	0.6	0.5	17.6	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	205-99-2 205-82-3	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

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: 4563559) - continued									
ES2230964-069	SS09_220826	EP075(SIM): Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	1.6	1.4	13.3	No Limit
		EP075(SIM): Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
ES2230964-053	SED01_220826	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	205-99-2 205-82-3	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
EP075A: Phenolic Compounds (QC Lot: 4563554)									
ES2230964-001	HA05_0.1_0.2_220824	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
ES2230964-015	HA16_0.0_0.1_220824	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

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: 4563554) - continued									
ES2230964-015	HA16_0.0_0.1_220824	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
EP075A: Phenolic Compounds (QC Lot: 4563561)									
ES2230964-053	SED01_220826	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	1.4	1.6	14.2	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: 4563554)									
ES2230964-001	HA05_0.1_0.2_220824	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
ES2230964-015	HA16_0.0_0.1_220824	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
EP075B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4563561)									
ES2230964-053	SED01_220826	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: 4563554)									

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: 4563554) - continued									
ES2230964-001	HA05_0.1_0.2_220824	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
ES2230964-015	HA16_0.0_0.1_220824	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
EP075C: Phthalate Esters (QC Lot: 4563561)									
ES2230964-053	SED01_220826	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: 4563554)									
ES2230964-001	HA05_0.1_0.2_220824	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
ES2230964-015	HA16_0.0_0.1_220824	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
EP075D: Nitrosamines (QC Lot: 4563561)									
ES2230964-053	SED01_220826	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

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: 4563561) - continued									
ES2230964-053	SED01_220826	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: 4563554)									
ES2230964-001	HA05_0.1_0.2_220824	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
ES2230964-015	HA16_0.0_0.1_220824	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: 4563554) - continued									
ES2230964-015	HA16_0.0_0.1_220824	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
EP075E: Nitroaromatics and Ketones (QC Lot: 4563561)									
ES2230964-053	SED01_220826	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: 4563554)									
ES2230964-001	HA05_0.1_0.2_220824	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
ES2230964-015	HA16_0.0_0.1_220824	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
EP075F: Haloethers (QC Lot: 4563561)									
ES2230964-053	SED01_220826	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: 4563554)									
ES2230964-001	HA05_0.1_0.2_220824	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

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: 4563554) - continued									
ES2230964-001	HA05_0.1_0.2_220824	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
ES2230964-015	HA16_0.0_0.1_220824	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
EP075G: Chlorinated Hydrocarbons (QC Lot: 4563561)									
ES2230964-053	SED01_220826	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: 4563554)									
ES2230964-001	HA05_0.1_0.2_220824	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
ES2230964-015	HA16_0.0_0.1_220824	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

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: 4563554) - continued									
ES2230964-015	HA16_0.0_0.1_220824	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
EP075H: Anilines and Benzidines (QC Lot: 4563561)									
ES2230964-053	SED01_220826	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: 4563551)									
ES2230964-001	HA05_0.1_0.2_220824	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
ES2230964-015	HA16_0.0_0.1_220824	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: 4563558)									
ES2230964-069	SS09_220826	EP071: C15 - C28 Fraction	----	100	mg/kg	200	150	26.4	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
ES2230964-053	SED01_220826	EP071: C15 - C28 Fraction	----	100	mg/kg	140	150	9.1	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: 4563693)									
ES2230964-001	HA05_0.1_0.2_220824	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
ES2230964-015	HA16_0.0_0.1_220824	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4563697)									
ES2230964-068	SS08_220826	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
ES2230964-054	SED02_220826	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4563551)									
ES2230964-001	HA05_0.1_0.2_220824	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
ES2230964-015	HA16_0.0_0.1_220824	EP071: >C16 - C34 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: 4563551) - continued									
ES2230964-015	HA16_0.0_0.1_220824	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: 4563558)									
ES2230964-069	SS09_220826	EP071: >C16 - C34 Fraction	----	100	mg/kg	260	230	10.9	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
ES2230964-053	SED01_220826	EP071: >C16 - C34 Fraction	----	100	mg/kg	190	190	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: 4563693)									
ES2230964-001	HA05_0.1_0.2_220824	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
ES2230964-015	HA16_0.0_0.1_220824	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: 4563697)									
ES2230964-068	SS08_220826	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
ES2230964-054	SED02_220826	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
EP080: BTEXN (QC Lot: 4563693)									
ES2230964-001	HA05_0.1_0.2_220824	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
ES2230964-015	HA16_0.0_0.1_220824	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: 4563697)									
ES2230964-068	SS08_220826	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
ES2230964-054	SED02_220826	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: 4563697) - continued									
ES2230964-054	SED02_220826	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
EP202A: Phenoxyacetic Acid Herbicides by LCMS (QC Lot: 4566769)									
ES2230964-001	HA05_0.1_0.2_220824	EP202: 4-Chlorophenoxy acetic acid	122-88-3	0.02	mg/kg	<0.04	<0.04	0.0	No Limit
		EP202: 2.4-DB	94-82-6	0.02	mg/kg	<0.04	<0.04	0.0	No Limit
		EP202: Dicamba	1918-00-9	0.02	mg/kg	<0.04	<0.04	0.0	No Limit
		EP202: Mecoprop	93-65-2	0.02	mg/kg	<0.04	<0.04	0.0	No Limit
		EP202: MCPA	94-74-6	0.02	mg/kg	<0.04	<0.04	0.0	No Limit
		EP202: 2.4-DP	120-36-5	0.02	mg/kg	<0.04	<0.04	0.0	No Limit
		EP202: 2.4-D	94-75-7	0.02	mg/kg	<0.04	<0.04	0.0	No Limit
		EP202: Triclopyr	55335-06-3	0.02	mg/kg	<0.04	<0.04	0.0	No Limit
		EP202: 2.4.5-TP (Silvex)	93-72-1	0.02	mg/kg	<0.04	<0.04	0.0	No Limit
		EP202: 2.4.5-T	93-76-5	0.02	mg/kg	<0.04	<0.04	0.0	No Limit
		EP202: MCPB	94-81-5	0.02	mg/kg	<0.04	<0.04	0.0	No Limit
		EP202: Picloram	1918-02-1	0.02	mg/kg	<0.04	<0.04	0.0	No Limit
		EP202: Clopyralid	1702-17-6	0.02	mg/kg	<0.04	<0.04	0.0	No Limit
		EP202: Fluroxypyr	69377-81-7	0.02	mg/kg	<0.04	<0.04	0.0	No Limit
ES2230964-015	HA16_0.0_0.1_220824	EP202: 4-Chlorophenoxy acetic acid	122-88-3	0.02	mg/kg	<0.02	<0.02	0.0	No Limit
		EP202: 2.4-DB	94-82-6	0.02	mg/kg	<0.02	<0.02	0.0	No Limit
		EP202: Dicamba	1918-00-9	0.02	mg/kg	<0.02	<0.02	0.0	No Limit
		EP202: Mecoprop	93-65-2	0.02	mg/kg	<0.02	<0.02	0.0	No Limit
		EP202: MCPA	94-74-6	0.02	mg/kg	<0.02	<0.02	0.0	No Limit
		EP202: 2.4-DP	120-36-5	0.02	mg/kg	<0.02	<0.02	0.0	No Limit
		EP202: 2.4-D	94-75-7	0.02	mg/kg	<0.02	<0.02	0.0	No Limit
		EP202: Triclopyr	55335-06-3	0.02	mg/kg	<0.02	<0.02	0.0	No Limit
		EP202: 2.4.5-TP (Silvex)	93-72-1	0.02	mg/kg	<0.02	<0.02	0.0	No Limit
		EP202: 2.4.5-T	93-76-5	0.02	mg/kg	<0.02	<0.02	0.0	No Limit
		EP202: MCPB	94-81-5	0.02	mg/kg	<0.02	<0.02	0.0	No Limit
		EP202: Picloram	1918-02-1	0.02	mg/kg	<0.02	<0.02	0.0	No Limit
		EP202: Clopyralid	1702-17-6	0.02	mg/kg	<0.02	<0.02	0.0	No Limit
		EP202: Fluroxypyr	69377-81-7	0.02	mg/kg	<0.02	<0.02	0.0	No Limit
EP202A: Phenoxyacetic Acid Herbicides by LCMS (QC Lot: 4566831)									
ES2230964-053	SED01_220826	EP202: 4-Chlorophenoxy acetic acid	122-88-3	0.02	mg/kg	<0.02	<0.02	0.0	No Limit
		EP202: 2.4-DB	94-82-6	0.02	mg/kg	<0.02	<0.02	0.0	No Limit
		EP202: Dicamba	1918-00-9	0.02	mg/kg	<0.02	<0.02	0.0	No Limit
		EP202: Mecoprop	93-65-2	0.02	mg/kg	<0.02	<0.02	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 (%)*
EP202A: Phenoxyacetic Acid Herbicides by LCMS (QC Lot: 4566831) - continued									
ES2230964-053	SED01_220826	EP202: MCPA	94-74-6	0.02	mg/kg	<0.02	<0.02	0.0	No Limit
		EP202: 2.4-DP	120-36-5	0.02	mg/kg	<0.02	<0.02	0.0	No Limit
		EP202: 2.4-D	94-75-7	0.02	mg/kg	<0.02	<0.02	0.0	No Limit
		EP202: Triclopyr	55335-06-3	0.02	mg/kg	<0.02	<0.02	0.0	No Limit
		EP202: 2.4.5-TP (Silvex)	93-72-1	0.02	mg/kg	<0.02	<0.02	0.0	No Limit
		EP202: 2.4.5-T	93-76-5	0.02	mg/kg	<0.02	<0.02	0.0	No Limit
		EP202: MCPB	94-81-5	0.02	mg/kg	<0.02	<0.02	0.0	No Limit
		EP202: Picloram	1918-02-1	0.02	mg/kg	<0.02	<0.02	0.0	No Limit
		EP202: Clopyralid	1702-17-6	0.02	mg/kg	<0.02	<0.02	0.0	No Limit
		EP202: Fluroxypyr	69377-81-7	0.02	mg/kg	<0.02	<0.02	0.0	No Limit
ES2230964-068	SS08_220826	EP202: 4-Chlorophenoxy acetic acid	122-88-3	0.02	mg/kg	<0.02	<0.02	0.0	No Limit
		EP202: 2.4-DB	94-82-6	0.02	mg/kg	<0.02	<0.02	0.0	No Limit
		EP202: Dicamba	1918-00-9	0.02	mg/kg	<0.02	<0.02	0.0	No Limit
		EP202: Mecoprop	93-65-2	0.02	mg/kg	<0.02	<0.02	0.0	No Limit
		EP202: MCPA	94-74-6	0.02	mg/kg	<0.02	<0.02	0.0	No Limit
		EP202: 2.4-DP	120-36-5	0.02	mg/kg	<0.02	<0.02	0.0	No Limit
		EP202: 2.4-D	94-75-7	0.02	mg/kg	<0.02	<0.02	0.0	No Limit
		EP202: Triclopyr	55335-06-3	0.02	mg/kg	<0.02	<0.02	0.0	No Limit
		EP202: 2.4.5-TP (Silvex)	93-72-1	0.02	mg/kg	<0.02	<0.02	0.0	No Limit
		EP202: 2.4.5-T	93-76-5	0.02	mg/kg	<0.02	<0.02	0.0	No Limit
		EP202: MCPB	94-81-5	0.02	mg/kg	<0.02	<0.02	0.0	No Limit
		EP202: Picloram	1918-02-1	0.02	mg/kg	<0.02	<0.02	0.0	No Limit
		EP202: Clopyralid	1702-17-6	0.02	mg/kg	<0.02	<0.02	0.0	No Limit
		EP202: Fluroxypyr	69377-81-7	0.02	mg/kg	<0.02	<0.02	0.0	No Limit
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 4566763)									
ES2230964-001	HA05_0.1_0.2_220824	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	0.0008	0.0009	13.2	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	0.0035	0.0041	14.7	0% - 20%
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	0.106	0.0986	7.0	0% - 20%
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	0.0055	0.0053	4.7	0% - 20%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	0.202	0.187	7.6	0% - 20%
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
ES2230964-015	HA16_0.0_0.1_220824	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	0.0003	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	0.0058	0.0051	11.6	0% - 20%
		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: 4566763)									
ES2230964-001	HA05_0.1_0.2_220824	EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	0.0008	0.0008	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	0.0042	0.0049	14.9	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 (%)
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 4566763) - continued									
ES2230964-001	HA05_0.1_0.2_220824	EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	0.0008	0.0009	12.3	No Limit
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	0.0031	0.0027	15.5	0% - 50%
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	0.0499	0.0460	8.2	0% - 20%
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	0.0008	0.0011	25.2	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	0.0410	0.0368	11.0	0% - 20%
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	0.0004	0.0003	38.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	0.0119	0.0100	17.0	0% - 20%
		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
ES2230964-015	HA16_0.0_0.1_220824	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	0.0005	0.0006	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	0.0003	0.0004	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: 4566763)									
ES2230964-001	HA05_0.1_0.2_220824	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
ES2230964-015	HA16_0.0_0.1_220824	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

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: 4566763) - continued									
ES2230964-015	HA16_0.0_0.1_220824	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: 4566763)									
ES2230964-001	HA05_0.1_0.2_220824	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
ES2230964-015	HA16_0.0_0.1_220824	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

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EG020F: Dissolved Metals by ICP-MS (QC Lot: 4566917)									
ES2230964-073	QC104	EG020A-F: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
		EG020A-F: Arsenic	7440-38-2	0.001	mg/L	0.001	0.001	0.0	No Limit
		EG020A-F: Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Copper	7440-50-8	0.001	mg/L	0.002	0.002	0.0	No Limit
		EG020A-F: Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Nickel	7440-02-0	0.001	mg/L	0.016	0.015	0.0	0% - 50%
		EG020A-F: Zinc	7440-66-6	0.005	mg/L	<0.005	<0.005	0.0	No Limit
ES2231865-001	Anonymous	EG020A-F: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
		EG020A-F: Arsenic	7440-38-2	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Copper	7440-50-8	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Nickel	7440-02-0	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Zinc	7440-66-6	0.005	mg/L	<0.005	<0.005	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EG020T: Total Metals by ICP-MS (QC Lot: 4566939)									
ES2228748-008	Anonymous	EG020A-T: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
		EG020A-T: Arsenic	7440-38-2	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Chromium	7440-47-3	0.001	mg/L	0.006	0.006	0.0	No Limit
		EG020A-T: Copper	7440-50-8	0.001	mg/L	0.022	0.023	0.0	0% - 20%
		EG020A-T: Lead	7439-92-1	0.001	mg/L	0.007	0.007	0.0	No Limit
		EG020A-T: Nickel	7440-02-0	0.001	mg/L	0.006	0.007	0.0	No Limit
		EG020A-T: Zinc	7440-66-6	0.005	mg/L	0.045	0.046	0.0	No Limit
ES2231838-001	Anonymous	EG020A-T: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
		EG020A-T: Arsenic	7440-38-2	0.001	mg/L	0.006	0.007	0.0	No Limit
		EG020A-T: Chromium	7440-47-3	0.001	mg/L	0.009	0.009	0.0	No Limit
		EG020A-T: Copper	7440-50-8	0.001	mg/L	0.020	0.020	0.0	0% - 50%
		EG020A-T: Lead	7439-92-1	0.001	mg/L	0.019	0.019	0.0	0% - 50%
		EG020A-T: Nickel	7440-02-0	0.001	mg/L	0.019	0.019	0.0	0% - 50%
		EG020A-T: Zinc	7440-66-6	0.005	mg/L	0.062	0.062	0.0	0% - 50%
EG035F: Dissolved Mercury by FIMS (QC Lot: 4566918)									
ES2231629-001	Anonymous	EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
EW2204142-001	Anonymous	EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 4564508)									
ES2230964-051	SW01_220826	EG035T: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
ES2231654-002	Anonymous	EG035T: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 4567003)									
ES2228748-011	Anonymous	EG035T: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
EP074A: Monocyclic Aromatic Hydrocarbons (QC Lot: 4563568)									
ES2230964-051	SW01_220826	EP074: Styrene	100-42-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: Isopropylbenzene	98-82-8	5	µg/L	<5	<5	0.0	No Limit
		EP074: n-Propylbenzene	103-65-1	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.3.5-Trimethylbenzene	108-67-8	5	µg/L	<5	<5	0.0	No Limit
		EP074: sec-Butylbenzene	135-98-8	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2.4-Trimethylbenzene	95-63-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: tert-Butylbenzene	98-06-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: p-Isopropyltoluene	99-87-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: n-Butylbenzene	104-51-8	5	µg/L	<5	<5	0.0	No Limit
ES2230964-059	QC304_220826	EP074: Styrene	100-42-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: Isopropylbenzene	98-82-8	5	µg/L	<5	<5	0.0	No Limit
		EP074: n-Propylbenzene	103-65-1	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.3.5-Trimethylbenzene	108-67-8	5	µg/L	<5	<5	0.0	No Limit
		EP074: sec-Butylbenzene	135-98-8	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2.4-Trimethylbenzene	95-63-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: tert-Butylbenzene	98-06-6	5	µg/L	<5	<5	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP074A: Monocyclic Aromatic Hydrocarbons (QC Lot: 4563568) - continued									
ES2230964-059	QC304_220826	EP074: p-Isopropyltoluene	99-87-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: n-Butylbenzene	104-51-8	5	µg/L	<5	<5	0.0	No Limit
EP074B: Oxygenated Compounds (QC Lot: 4563568)									
ES2230964-051	SW01_220826	EP074: Vinyl Acetate	108-05-4	50	µg/L	<50	<50	0.0	No Limit
		EP074: 2-Butanone (MEK)	78-93-3	50	µg/L	<50	<50	0.0	No Limit
		EP074: 4-Methyl-2-pentanone (MIBK)	108-10-1	50	µg/L	<50	<50	0.0	No Limit
		EP074: 2-Hexanone (MBK)	591-78-6	50	µg/L	<50	<50	0.0	No Limit
ES2230964-059	QC304_220826	EP074: Vinyl Acetate	108-05-4	50	µg/L	<50	<50	0.0	No Limit
		EP074: 2-Butanone (MEK)	78-93-3	50	µg/L	<50	<50	0.0	No Limit
		EP074: 4-Methyl-2-pentanone (MIBK)	108-10-1	50	µg/L	<50	<50	0.0	No Limit
		EP074: 2-Hexanone (MBK)	591-78-6	50	µg/L	<50	<50	0.0	No Limit
EP074C: Sulfonated Compounds (QC Lot: 4563568)									
ES2230964-051	SW01_220826	EP074: Carbon disulfide	75-15-0	5	µg/L	<5	<5	0.0	No Limit
ES2230964-059	QC304_220826	EP074: Carbon disulfide	75-15-0	5	µg/L	<5	<5	0.0	No Limit
EP074D: Fumigants (QC Lot: 4563568)									
ES2230964-051	SW01_220826	EP074: 2.2-Dichloropropane	594-20-7	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2-Dichloropropane	78-87-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: cis-1.3-Dichloropropylene	10061-01-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: trans-1.3-Dichloropropylene	10061-02-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2-Dibromoethane (EDB)	106-93-4	5	µg/L	<5	<5	0.0	No Limit
ES2230964-059	QC304_220826	EP074: 2.2-Dichloropropane	594-20-7	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2-Dichloropropane	78-87-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: cis-1.3-Dichloropropylene	10061-01-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: trans-1.3-Dichloropropylene	10061-02-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2-Dibromoethane (EDB)	106-93-4	5	µg/L	<5	<5	0.0	No Limit
EP074E: Halogenated Aliphatic Compounds (QC Lot: 4563568)									
ES2230964-051	SW01_220826	EP074: 1.1-Dichloroethene	75-35-4	5	µg/L	<5	<5	0.0	No Limit
		EP074: Iodomethane	74-88-4	5	µg/L	<5	<5	0.0	No Limit
		EP074: trans-1.2-Dichloroethene	156-60-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.1-Dichloroethane	75-34-3	5	µg/L	<5	<5	0.0	No Limit
		EP074: cis-1.2-Dichloroethene	156-59-2	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.1.1-Trichloroethane	71-55-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.1-Dichloropropylene	563-58-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: Carbon Tetrachloride	56-23-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2-Dichloroethane	107-06-2	5	µg/L	<5	<5	0.0	No Limit
		EP074: Trichloroethene	79-01-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: Dibromomethane	74-95-3	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.1.2-Trichloroethane	79-00-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.3-Dichloropropane	142-28-9	5	µg/L	<5	<5	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP074E: Halogenated Aliphatic Compounds (QC Lot: 4563568) - continued									
ES2230964-051	SW01_220826	EP074: Tetrachloroethene	127-18-4	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.1.1.2-Tetrachloroethane	630-20-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: trans-1.4-Dichloro-2-butene	110-57-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: cis-1.4-Dichloro-2-butene	1476-11-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.1.2.2-Tetrachloroethane	79-34-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2.3-Trichloropropane	96-18-4	5	µg/L	<5	<5	0.0	No Limit
		EP074: Pentachloroethane	76-01-7	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2-Dibromo-3-chloropropane	96-12-8	5	µg/L	<5	<5	0.0	No Limit
		EP074: Dichlorodifluoromethane	75-71-8	50	µg/L	<50	<50	0.0	No Limit
		EP074: Chloromethane	74-87-3	50	µg/L	<50	<50	0.0	No Limit
		EP074: Vinyl chloride	75-01-4	50	µg/L	<50	<50	0.0	No Limit
		EP074: Bromomethane	74-83-9	50	µg/L	<50	<50	0.0	No Limit
		EP074: Chloroethane	75-00-3	50	µg/L	<50	<50	0.0	No Limit
		EP074: Trichlorofluoromethane	75-69-4	50	µg/L	<50	<50	0.0	No Limit
ES2230964-059	QC304_220826	EP074: 1.1-Dichloroethene	75-35-4	5	µg/L	<5	<5	0.0	No Limit
		EP074: Iodomethane	74-88-4	5	µg/L	<5	<5	0.0	No Limit
		EP074: trans-1.2-Dichloroethene	156-60-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.1-Dichloroethane	75-34-3	5	µg/L	<5	<5	0.0	No Limit
		EP074: cis-1.2-Dichloroethene	156-59-2	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.1.1-Trichloroethane	71-55-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.1-Dichloropropylene	563-58-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: Carbon Tetrachloride	56-23-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2-Dichloroethane	107-06-2	5	µg/L	<5	<5	0.0	No Limit
		EP074: Trichloroethene	79-01-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: Dibromomethane	74-95-3	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.1.2-Trichloroethane	79-00-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.3-Dichloropropane	142-28-9	5	µg/L	<5	<5	0.0	No Limit
		EP074: Tetrachloroethene	127-18-4	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.1.1.2-Tetrachloroethane	630-20-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: trans-1.4-Dichloro-2-butene	110-57-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: cis-1.4-Dichloro-2-butene	1476-11-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.1.2.2-Tetrachloroethane	79-34-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2.3-Trichloropropane	96-18-4	5	µg/L	<5	<5	0.0	No Limit
		EP074: Pentachloroethane	76-01-7	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2-Dibromo-3-chloropropane	96-12-8	5	µg/L	<5	<5	0.0	No Limit
		EP074: Dichlorodifluoromethane	75-71-8	50	µg/L	<50	<50	0.0	No Limit
		EP074: Chloromethane	74-87-3	50	µg/L	<50	<50	0.0	No Limit
		EP074: Vinyl chloride	75-01-4	50	µg/L	<50	<50	0.0	No Limit
		EP074: Bromomethane	74-83-9	50	µg/L	<50	<50	0.0	No Limit
		EP074: Chloroethane	75-00-3	50	µg/L	<50	<50	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP074E: Halogenated Aliphatic Compounds (QC Lot: 4563568) - continued									
ES2230964-059	QC304_220826	EP074: Trichlorofluoromethane	75-69-4	50	µg/L	<50	<50	0.0	No Limit
EP074F: Halogenated Aromatic Compounds (QC Lot: 4563568)									
ES2230964-051	SW01_220826	EP074: Chlorobenzene	108-90-7	5	µg/L	<5	<5	0.0	No Limit
		EP074: Bromobenzene	108-86-1	5	µg/L	<5	<5	0.0	No Limit
		EP074: 2-Chlorotoluene	95-49-8	5	µg/L	<5	<5	0.0	No Limit
		EP074: 4-Chlorotoluene	106-43-4	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2.3-Trichlorobenzene	87-61-6	5	µg/L	<5	<5	0.0	No Limit
ES2230964-059	QC304_220826	EP074: Chlorobenzene	108-90-7	5	µg/L	<5	<5	0.0	No Limit
		EP074: Bromobenzene	108-86-1	5	µg/L	<5	<5	0.0	No Limit
		EP074: 2-Chlorotoluene	95-49-8	5	µg/L	<5	<5	0.0	No Limit
		EP074: 4-Chlorotoluene	106-43-4	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2.3-Trichlorobenzene	87-61-6	5	µg/L	<5	<5	0.0	No Limit
EP074G: Trihalomethanes (QC Lot: 4563568)									
ES2230964-051	SW01_220826	EP074: Chloroform	67-66-3	5	µg/L	<5	<5	0.0	No Limit
		EP074: Bromodichloromethane	75-27-4	5	µg/L	<5	<5	0.0	No Limit
		EP074: Dibromochloromethane	124-48-1	5	µg/L	<5	<5	0.0	No Limit
		EP074: Bromoform	75-25-2	5	µg/L	<5	<5	0.0	No Limit
ES2230964-059	QC304_220826	EP074: Chloroform	67-66-3	5	µg/L	<5	<5	0.0	No Limit
		EP074: Bromodichloromethane	75-27-4	5	µg/L	<5	<5	0.0	No Limit
		EP074: Dibromochloromethane	124-48-1	5	µg/L	<5	<5	0.0	No Limit
		EP074: Bromoform	75-25-2	5	µg/L	<5	<5	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4563569)									
ES2230964-051	SW01_220826	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
ES2230964-059	QC304_220826	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4569308)									
ES2231751-004	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
ES2231751-001	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4563569)									
ES2230964-051	SW01_220826	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.0	No Limit
ES2230964-059	QC304_220826	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4569308)									
ES2231751-004	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.0	No Limit
ES2231751-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.0	No Limit
EP080: BTEXN (QC Lot: 4563569)									
ES2230964-051	SW01_220826	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP080: BTEXN (QC Lot: 4563569) - continued									
ES2230964-051	SW01_220826	EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit
ES2230964-059	QC304_220826	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit
EP080: BTEXN (QC Lot: 4569308)									
ES2231751-004	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit
ES2231751-001	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit
EP202A: Phenoxyacetic Acid Herbicides by LCMS (QC Lot: 4564375)									
EM2216786-001	Anonymous	EP202-SL: 4-Chlorophenoxy acetic acid	122-88-3	10	µg/L	<10	<10	0.0	No Limit
		EP202-SL: 2.4-DB	94-82-6	10	µg/L	<10	<10	0.0	No Limit
		EP202-SL: Dicamba	1918-00-9	10	µg/L	<10	<10	0.0	No Limit
		EP202-SL: Mecoprop	93-65-2	10	µg/L	<10	<10	0.0	No Limit
		EP202-SL: MCPA	94-74-6	10	µg/L	<10	<10	0.0	No Limit
		EP202-SL: 2.4-DP	120-36-5	10	µg/L	<10	<10	0.0	No Limit
		EP202-SL: 2.4-D	94-75-7	10	µg/L	<10	<10	0.0	No Limit
		EP202-SL: Triclopyr	55335-06-3	10	µg/L	<10	<10	0.0	No Limit
		EP202-SL: Silvex (2.4.5-TP/Fenoprop)	93-72-1	10	µg/L	<10	<10	0.0	No Limit
		EP202-SL: 2.4.5-T	93-76-5	10	µg/L	<10	<10	0.0	No Limit
		EP202-SL: MCPB	94-81-5	10	µg/L	<10	<10	0.0	No Limit
		EP202-SL: Picloram	1918-02-1	10	µg/L	<10	<10	0.0	No Limit
		EP202-SL: Clopyralid	1702-17-6	10	µg/L	<10	<10	0.0	No Limit
		EP202-SL: Fluroxypyr	69377-81-7	10	µg/L	<10	<10	0.0	No Limit
EP202A: Phenoxyacetic Acid Herbicides by LCMS (QC Lot: 4569866)									

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP202A: Phenoxyacetic Acid Herbicides by LCMS (QC Lot: 4569866) - continued									
EM2216817-021	Anonymous	EP202-SL: 4-Chlorophenoxy acetic acid	122-88-3	10	µg/L	<10	<10	0.0	No Limit
		EP202-SL: 2.4-DB	94-82-6	10	µg/L	<10	<10	0.0	No Limit
		EP202-SL: Dicamba	1918-00-9	10	µg/L	<10	<10	0.0	No Limit
		EP202-SL: Mecoprop	93-65-2	10	µg/L	<10	<10	0.0	No Limit
		EP202-SL: MCPA	94-74-6	10	µg/L	<10	<10	0.0	No Limit
		EP202-SL: 2.4-DP	120-36-5	10	µg/L	<10	<10	0.0	No Limit
		EP202-SL: 2.4-D	94-75-7	10	µg/L	<10	<10	0.0	No Limit
		EP202-SL: Triclopyr	55335-06-3	10	µg/L	<10	<10	0.0	No Limit
		EP202-SL: Silvex (2.4.5-TP/Fenoprop)	93-72-1	10	µg/L	<10	<10	0.0	No Limit
		EP202-SL: 2.4.5-T	93-76-5	10	µg/L	<10	<10	0.0	No Limit
		EP202-SL: MCPB	94-81-5	10	µg/L	<10	<10	0.0	No Limit
		EP202-SL: Picloram	1918-02-1	10	µg/L	<10	<10	0.0	No Limit
		EP202-SL: Clopyralid	1702-17-6	10	µg/L	<10	<10	0.0	No Limit
		EP202-SL: Fluroxypyr	69377-81-7	10	µg/L	<10	<10	0.0	No Limit
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 4567726)									
ES2230964-051	SW01_220826	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
ES2230964-073	QC104	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 4567726)									
ES2230964-051	SW01_220826	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit
ES2230964-073	QC104	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 4567726) - continued									
ES2230964-073	QC104	EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 4567726)									
ES2230964-051	SW01_220826	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
ES2230964-073	QC104	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 4567726)									
ES2230964-051	SW01_220826	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 4567726) - continued									
ES2230964-051	SW01_220826	EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
ES2230964-073	QC104	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231P: PFAS Sums (QC Lot: 4567726)									
ES2230964-051	SW01_220826	EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	<0.01	0.0	No Limit
ES2230964-073	QC104	EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	<0.01	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 Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 4570846)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	121.1 mg/kg	101	88.0	113
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	0.74 mg/kg	92.9	70.0	130
EG005T: Chromium	7440-47-3	2	mg/kg	<2	19.6 mg/kg	102	68.0	132
EG005T: Copper	7440-50-8	5	mg/kg	<5	52.9 mg/kg	98.4	89.0	111
EG005T: Lead	7439-92-1	5	mg/kg	<5	60.8 mg/kg	97.7	82.0	119
EG005T: Nickel	7440-02-0	2	mg/kg	<2	15.3 mg/kg	95.5	80.0	120
EG005T: Zinc	7440-66-6	5	mg/kg	<5	139.3 mg/kg	87.7	66.0	133
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 4570848)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	121.1 mg/kg	106	88.0	113
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	0.74 mg/kg	121	70.0	130
EG005T: Chromium	7440-47-3	2	mg/kg	<2	19.6 mg/kg	120	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	110	82.0	119
EG005T: Nickel	7440-02-0	2	mg/kg	<2	15.3 mg/kg	109	80.0	120
EG005T: Zinc	7440-66-6	5	mg/kg	<5	139.3 mg/kg	100	66.0	133
EG035T: Total Recoverable Mercury by FIMS (QCLot: 4570847)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	0.087 mg/kg	89.6	70.0	125
EG035T: Total Recoverable Mercury by FIMS (QCLot: 4570849)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	0.087 mg/kg	95.4	70.0	125
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 4563555)								
EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	1 mg/kg	102	62.0	126
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 4563562)								
EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	2 mg/kg	83.5	62.0	126
EP068A: Organochlorine Pesticides (OC) (QCLot: 4563553)								
EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	0.5 mg/kg	100	69.0	113
EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	0.5 mg/kg	104	65.0	117
EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	0.5 mg/kg	101	67.0	119
EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	0.5 mg/kg	98.4	68.0	116
EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	92.0	65.0	117
EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	0.5 mg/kg	99.7	67.0	115
EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	0.5 mg/kg	103	69.0	115
EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	0.5 mg/kg	102	62.0	118
EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	0.5 mg/kg	95.8	63.0	117

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP068A: Organochlorine Pesticides (OC) (QCLot: 4563553) - continued								
EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	0.5 mg/kg	98.6	66.0	116
EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	0.5 mg/kg	89.9	64.0	116
EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	0.5 mg/kg	93.5	66.0	116
EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	0.5 mg/kg	89.9	67.0	115
EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	0.5 mg/kg	92.1	67.0	123
EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	0.5 mg/kg	95.5	69.0	115
EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	0.5 mg/kg	93.2	69.0	121
EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	0.5 mg/kg	95.6	56.0	120
EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	0.5 mg/kg	92.7	62.0	124
EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	0.5 mg/kg	87.7	66.0	120
EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	0.5 mg/kg	100	64.0	122
EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	0.5 mg/kg	86.2	54.0	130
EP068A: Organochlorine Pesticides (OC) (QCLot: 4563560)								
EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	0.5 mg/kg	83.5	69.0	113
EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	0.5 mg/kg	83.5	65.0	117
EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	0.5 mg/kg	86.0	67.0	119
EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	0.5 mg/kg	86.7	68.0	116
EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	78.9	65.0	117
EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	0.5 mg/kg	83.4	67.0	115
EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	0.5 mg/kg	83.5	69.0	115
EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	0.5 mg/kg	85.2	62.0	118
EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	0.5 mg/kg	83.7	63.0	117
EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	0.5 mg/kg	85.0	66.0	116
EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	0.5 mg/kg	83.8	64.0	116
EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	0.5 mg/kg	81.1	66.0	116
EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	0.5 mg/kg	81.8	67.0	115
EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	0.5 mg/kg	85.2	67.0	123
EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	0.5 mg/kg	80.7	69.0	115
EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	0.5 mg/kg	88.7	69.0	121
EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	0.5 mg/kg	80.3	56.0	120
EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	0.5 mg/kg	85.8	62.0	124
EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	0.5 mg/kg	86.1	66.0	120
EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	0.5 mg/kg	86.3	64.0	122
EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	0.5 mg/kg	81.6	54.0	130
EP068B: Organophosphorus Pesticides (OP) (QCLot: 4563553)								
EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	0.5 mg/kg	80.8	59.0	119
EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	84.1	62.0	128
EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	0.5 mg/kg	84.2	54.0	126
EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	0.5 mg/kg	106	67.0	119

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP068B: Organophosphorus Pesticides (OP) (QCLot: 4563553) - continued								
EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	0.5 mg/kg	89.4	70.0	120
EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	0.5 mg/kg	92.8	72.0	120
EP068: Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	0.5 mg/kg	100	68.0	120
EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	0.5 mg/kg	94.1	68.0	122
EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	0.5 mg/kg	95.4	69.0	117
EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	0.5 mg/kg	92.1	76.0	118
EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	0.5 mg/kg	99.7	64.0	122
EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	0.5 mg/kg	98.1	70.0	116
EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	0.5 mg/kg	90.6	69.0	121
EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	0.5 mg/kg	101	66.0	118
EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	0.5 mg/kg	92.0	68.0	124
EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	0.5 mg/kg	94.4	62.0	112
EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	0.5 mg/kg	82.9	68.0	120
EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	0.5 mg/kg	90.8	65.0	127
EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	0.5 mg/kg	103	41.0	123
EP068B: Organophosphorus Pesticides (OP) (QCLot: 4563560)								
EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	0.5 mg/kg	79.2	59.0	119
EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	84.5	62.0	128
EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	0.5 mg/kg	84.9	54.0	126
EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	0.5 mg/kg	81.4	67.0	119
EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	0.5 mg/kg	91.4	70.0	120
EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	0.5 mg/kg	83.9	72.0	120
EP068: Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	0.5 mg/kg	81.1	68.0	120
EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	0.5 mg/kg	82.2	68.0	122
EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	0.5 mg/kg	81.5	69.0	117
EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	0.5 mg/kg	82.3	76.0	118
EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	0.5 mg/kg	80.0	64.0	122
EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	0.5 mg/kg	82.5	70.0	116
EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	0.5 mg/kg	83.0	69.0	121
EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	0.5 mg/kg	85.0	66.0	118
EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	0.5 mg/kg	76.7	68.0	124
EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	0.5 mg/kg	84.5	62.0	112
EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	0.5 mg/kg	83.3	68.0	120
EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	0.5 mg/kg	85.1	65.0	127
EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	0.5 mg/kg	56.3	41.0	123
EP074A: Monocyclic Aromatic Hydrocarbons (QCLot: 4563692)								
EP074: Styrene	100-42-5	0.5	mg/kg	<0.5	1 mg/kg	83.2	67.0	113
EP074: Isopropylbenzene	98-82-8	0.5	mg/kg	<0.5	1 mg/kg	85.0	65.0	117
EP074: n-Propylbenzene	103-65-1	0.5	mg/kg	<0.5	1 mg/kg	83.4	66.0	122

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP074A: Monocyclic Aromatic Hydrocarbons (QCLot: 4563692) - continued								
EP074: 1.3.5-Trimethylbenzene	108-67-8	0.5	mg/kg	<0.5	1 mg/kg	84.8	68.0	118
EP074: sec-Butylbenzene	135-98-8	0.5	mg/kg	<0.5	1 mg/kg	84.3	69.0	119
EP074: 1.2.4-Trimethylbenzene	95-63-6	0.5	mg/kg	<0.5	1 mg/kg	85.7	69.0	117
EP074: tert-Butylbenzene	98-06-6	0.5	mg/kg	<0.5	1 mg/kg	84.9	69.0	115
EP074: p-Isopropyltoluene	99-87-6	0.5	mg/kg	<0.5	1 mg/kg	83.5	66.0	118
EP074: n-Butylbenzene	104-51-8	0.5	mg/kg	<0.5	1 mg/kg	84.6	59.0	125
EP074A: Monocyclic Aromatic Hydrocarbons (QCLot: 4563698)								
EP074: Styrene	100-42-5	0.5	mg/kg	<0.5	1 mg/kg	77.1	67.0	113
EP074: Isopropylbenzene	98-82-8	0.5	mg/kg	<0.5	1 mg/kg	74.4	65.0	117
EP074: n-Propylbenzene	103-65-1	0.5	mg/kg	<0.5	1 mg/kg	78.2	66.0	122
EP074: 1.3.5-Trimethylbenzene	108-67-8	0.5	mg/kg	<0.5	1 mg/kg	78.3	68.0	118
EP074: sec-Butylbenzene	135-98-8	0.5	mg/kg	<0.5	1 mg/kg	74.5	69.0	119
EP074: 1.2.4-Trimethylbenzene	95-63-6	0.5	mg/kg	<0.5	1 mg/kg	73.9	69.0	117
EP074: tert-Butylbenzene	98-06-6	0.5	mg/kg	<0.5	1 mg/kg	74.5	69.0	115
EP074: p-Isopropyltoluene	99-87-6	0.5	mg/kg	<0.5	1 mg/kg	68.4	66.0	118
EP074: n-Butylbenzene	104-51-8	0.5	mg/kg	<0.5	1 mg/kg	69.3	59.0	125
EP074B: Oxygenated Compounds (QCLot: 4563692)								
EP074: Vinyl Acetate	108-05-4	5	mg/kg	<5	10 mg/kg	82.2	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	85.0	62.0	132
EP074: 2-Hexanone (MBK)	591-78-6	5	mg/kg	<5	10 mg/kg	91.2	54.0	136
EP074B: Oxygenated Compounds (QCLot: 4563698)								
EP074: Vinyl Acetate	108-05-4	5	mg/kg	<5	10 mg/kg	89.6	29.6	156
EP074: 2-Butanone (MEK)	78-93-3	5	mg/kg	<5	10 mg/kg	60.9	58.0	136
EP074: 4-Methyl-2-pentanone (MIBK)	108-10-1	5	mg/kg	<5	10 mg/kg	100	62.0	132
EP074: 2-Hexanone (MBK)	591-78-6	5	mg/kg	<5	10 mg/kg	80.6	54.0	136
EP074C: Sulfonated Compounds (QCLot: 4563692)								
EP074: Carbon disulfide	75-15-0	0.5	mg/kg	<0.5	1 mg/kg	84.6	54.0	126
EP074C: Sulfonated Compounds (QCLot: 4563698)								
EP074: Carbon disulfide	75-15-0	0.5	mg/kg	<0.5	1 mg/kg	78.0	54.0	126
EP074D: Fumigants (QCLot: 4563692)								
EP074: 2.2-Dichloropropane	594-20-7	0.5	mg/kg	<0.5	1 mg/kg	85.0	60.0	126
EP074: 1.2-Dichloropropane	78-87-5	0.5	mg/kg	<0.5	1 mg/kg	87.5	68.0	124
EP074: cis-1.3-Dichloropropylene	10061-01-5	0.5	mg/kg	<0.5	1 mg/kg	86.6	51.0	119
EP074: trans-1.3-Dichloropropylene	10061-02-6	0.5	mg/kg	<0.5	1 mg/kg	86.7	52.0	114
EP074: 1.2-Dibromoethane (EDB)	106-93-4	0.5	mg/kg	<0.5	1 mg/kg	89.2	63.0	115
EP074D: Fumigants (QCLot: 4563698)								
EP074: 2.2-Dichloropropane	594-20-7	0.5	mg/kg	<0.5	1 mg/kg	72.7	60.0	126

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP074D: Fumigants (QCLot: 4563698) - continued								
EP074: 1.2-Dichloropropane	78-87-5	0.5	mg/kg	<0.5	1 mg/kg	94.0	68.0	124
EP074: cis-1.3-Dichloropropylene	10061-01-5	0.5	mg/kg	<0.5	1 mg/kg	84.7	51.0	119
EP074: trans-1.3-Dichloropropylene	10061-02-6	0.5	mg/kg	<0.5	1 mg/kg	86.0	52.0	114
EP074: 1.2-Dibromoethane (EDB)	106-93-4	0.5	mg/kg	<0.5	1 mg/kg	91.2	63.0	115
EP074E: Halogenated Aliphatic Compounds (QCLot: 4563692)								
EP074: Dichlorodifluoromethane	75-71-8	5	mg/kg	<5	10 mg/kg	84.5	30.0	148
EP074: Chloromethane	74-87-3	5	mg/kg	<5	10 mg/kg	81.8	41.0	141
EP074: Vinyl chloride	75-01-4	5	mg/kg	<5	10 mg/kg	87.2	43.0	147
EP074: Bromomethane	74-83-9	5	mg/kg	<5	10 mg/kg	90.3	47.0	141
EP074: Chloroethane	75-00-3	5	mg/kg	<5	10 mg/kg	81.8	49.0	143
EP074: Trichlorofluoromethane	75-69-4	5	mg/kg	<5	10 mg/kg	81.4	49.0	135
EP074: 1.1-Dichloroethene	75-35-4	0.5	mg/kg	<0.5	1 mg/kg	83.3	54.0	126
EP074: Iodomethane	74-88-4	0.5	mg/kg	<0.5	1 mg/kg	81.5	43.0	129
EP074: trans-1.2-Dichloroethene	156-60-5	0.5	mg/kg	<0.5	1 mg/kg	84.8	64.0	120
EP074: 1.1-Dichloroethane	75-34-3	0.5	mg/kg	<0.5	1 mg/kg	85.6	67.0	125
EP074: cis-1.2-Dichloroethene	156-59-2	0.5	mg/kg	<0.5	1 mg/kg	87.1	69.0	121
EP074: 1.1.1-Trichloroethane	71-55-6	0.5	mg/kg	<0.5	1 mg/kg	84.9	65.0	117
EP074: 1.1-Dichloropropylene	563-58-6	0.5	mg/kg	<0.5	1 mg/kg	84.0	65.0	123
EP074: Carbon Tetrachloride	56-23-5	0.5	mg/kg	<0.5	1 mg/kg	84.1	59.0	125
EP074: 1.2-Dichloroethane	107-06-2	0.5	mg/kg	<0.5	1 mg/kg	88.3	65.0	125
EP074: Trichloroethene	79-01-6	0.5	mg/kg	<0.5	1 mg/kg	86.2	70.0	118
EP074: Dibromomethane	74-95-3	0.5	mg/kg	<0.5	1 mg/kg	88.5	68.0	118
EP074: 1.1.2-Trichloroethane	79-00-5	0.5	mg/kg	<0.5	1 mg/kg	88.3	64.0	126
EP074: 1.3-Dichloropropane	142-28-9	0.5	mg/kg	<0.5	1 mg/kg	89.1	68.0	122
EP074: Tetrachloroethene	127-18-4	0.5	mg/kg	<0.5	1 mg/kg	83.4	67.0	143
EP074: 1.1.1.2-Tetrachloroethane	630-20-6	0.5	mg/kg	<0.5	1 mg/kg	87.6	62.0	122
EP074: trans-1.4-Dichloro-2-butene	110-57-6	0.5	mg/kg	<0.5	1 mg/kg	84.0	54.0	128
EP074: cis-1.4-Dichloro-2-butene	1476-11-5	0.5	mg/kg	<0.5	1 mg/kg	86.3	55.0	129
EP074: 1.1.2.2-Tetrachloroethane	79-34-5	0.5	mg/kg	<0.5	1 mg/kg	88.7	65.0	121
EP074: 1.2.3-Trichloropropane	96-18-4	0.5	mg/kg	<0.5	1 mg/kg	88.4	61.0	125
EP074: Pentachloroethane	76-01-7	0.5	mg/kg	<0.5	1 mg/kg	89.4	19.8	134
EP074: 1.2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg	<0.5	1 mg/kg	90.0	53.0	129
EP074E: Halogenated Aliphatic Compounds (QCLot: 4563698)								
EP074: Dichlorodifluoromethane	75-71-8	5	mg/kg	<5	10 mg/kg	43.6	30.0	148
EP074: Chloromethane	74-87-3	5	mg/kg	<5	10 mg/kg	62.9	41.0	141
EP074: Vinyl chloride	75-01-4	5	mg/kg	<5	10 mg/kg	69.5	43.0	147
EP074: Bromomethane	74-83-9	5	mg/kg	<5	10 mg/kg	67.6	47.0	141
EP074: Chloroethane	75-00-3	5	mg/kg	<5	10 mg/kg	77.6	49.0	143
EP074: Trichlorofluoromethane	75-69-4	5	mg/kg	<5	10 mg/kg	78.8	49.0	135

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP074E: Halogenated Aliphatic Compounds (QCLot: 4563698) - continued								
EP074: 1.1-Dichloroethene	75-35-4	0.5	mg/kg	<0.5	1 mg/kg	78.4	54.0	126
EP074: Iodomethane	74-88-4	0.5	mg/kg	<0.5	1 mg/kg	57.6	43.0	129
EP074: trans-1.2-Dichloroethene	156-60-5	0.5	mg/kg	<0.5	1 mg/kg	74.6	64.0	120
EP074: 1.1-Dichloroethane	75-34-3	0.5	mg/kg	<0.5	1 mg/kg	87.8	67.0	125
EP074: cis-1.2-Dichloroethene	156-59-2	0.5	mg/kg	<0.5	1 mg/kg	81.7	69.0	121
EP074: 1.1.1-Trichloroethane	71-55-6	0.5	mg/kg	<0.5	1 mg/kg	72.5	65.0	117
EP074: 1.1-Dichloropropylene	563-58-6	0.5	mg/kg	<0.5	1 mg/kg	72.0	65.0	123
EP074: Carbon Tetrachloride	56-23-5	0.5	mg/kg	<0.5	1 mg/kg	69.9	59.0	125
EP074: 1.2-Dichloroethane	107-06-2	0.5	mg/kg	<0.5	1 mg/kg	95.4	65.0	125
EP074: Trichloroethene	79-01-6	0.5	mg/kg	<0.5	1 mg/kg	77.3	70.0	118
EP074: Dibromomethane	74-95-3	0.5	mg/kg	<0.5	1 mg/kg	90.4	68.0	118
EP074: 1.1.2-Trichloroethane	79-00-5	0.5	mg/kg	<0.5	1 mg/kg	97.7	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	67.1	67.0	143
EP074: 1.1.1.2-Tetrachloroethane	630-20-6	0.5	mg/kg	<0.5	1 mg/kg	80.1	62.0	122
EP074: trans-1.4-Dichloro-2-butene	110-57-6	0.5	mg/kg	<0.5	1 mg/kg	86.3	54.0	128
EP074: cis-1.4-Dichloro-2-butene	1476-11-5	0.5	mg/kg	<0.5	1 mg/kg	94.0	55.0	129
EP074: 1.1.2.2-Tetrachloroethane	79-34-5	0.5	mg/kg	<0.5	1 mg/kg	94.1	65.0	121
EP074: 1.2.3-Trichloropropane	96-18-4	0.5	mg/kg	<0.5	1 mg/kg	86.9	61.0	125
EP074: Pentachloroethane	76-01-7	0.5	mg/kg	<0.5	1 mg/kg	77.4	19.8	134
EP074: 1.2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg	<0.5	1 mg/kg	98.5	53.0	129
EP074F: Halogenated Aromatic Compounds (QCLot: 4563692)								
EP074: Chlorobenzene	108-90-7	0.5	mg/kg	<0.5	1 mg/kg	87.1	68.0	116
EP074: Bromobenzene	108-86-1	0.5	mg/kg	<0.5	1 mg/kg	86.5	70.0	114
EP074: 2-Chlorotoluene	95-49-8	0.5	mg/kg	<0.5	1 mg/kg	86.0	68.0	122
EP074: 4-Chlorotoluene	106-43-4	0.5	mg/kg	<0.5	1 mg/kg	85.8	67.0	123
EP074: 1.2.3-Trichlorobenzene	87-61-6	0.5	mg/kg	<0.5	1 mg/kg	90.3	52.0	122
EP074F: Halogenated Aromatic Compounds (QCLot: 4563698)								
EP074: Chlorobenzene	108-90-7	0.5	mg/kg	<0.5	1 mg/kg	76.5	68.0	116
EP074: Bromobenzene	108-86-1	0.5	mg/kg	<0.5	1 mg/kg	78.6	70.0	114
EP074: 2-Chlorotoluene	95-49-8	0.5	mg/kg	<0.5	1 mg/kg	80.1	68.0	122
EP074: 4-Chlorotoluene	106-43-4	0.5	mg/kg	<0.5	1 mg/kg	81.4	67.0	123
EP074: 1.2.3-Trichlorobenzene	87-61-6	0.5	mg/kg	<0.5	1 mg/kg	73.7	52.0	122
EP074G: Trihalomethanes (QCLot: 4563692)								
EP074: Chloroform	67-66-3	0.5	mg/kg	<0.5	1 mg/kg	88.0	66.0	124
EP074: Bromodichloromethane	75-27-4	0.5	mg/kg	<0.5	1 mg/kg	85.6	61.0	121
EP074: Dibromochloromethane	124-48-1	0.5	mg/kg	<0.5	1 mg/kg	86.7	63.0	121
EP074: Bromoform	75-25-2	0.5	mg/kg	<0.5	1 mg/kg	85.7	60.0	126

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP074G: Trihalomethanes (QCLot: 4563698)								
EP074: Chloroform	67-66-3	0.5	mg/kg	<0.5	1 mg/kg	88.7	66.0	124
EP074: Bromodichloromethane	75-27-4	0.5	mg/kg	<0.5	1 mg/kg	91.3	61.0	121
EP074: Dibromochloromethane	124-48-1	0.5	mg/kg	<0.5	1 mg/kg	85.7	63.0	121
EP074: Bromoform	75-25-2	0.5	mg/kg	<0.5	1 mg/kg	77.9	60.0	126
EP075(SIM)A: Phenolic Compounds (QCLot: 4563552)								
EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	6 mg/kg	102	71.0	125
EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	6 mg/kg	104	72.0	124
EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	6 mg/kg	97.2	71.0	123
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	12 mg/kg	102	67.0	127
EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	6 mg/kg	84.3	54.0	114
EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	6 mg/kg	99.6	68.0	126
EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	6 mg/kg	99.7	66.0	120
EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	6 mg/kg	98.9	70.0	120
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	6 mg/kg	94.4	70.0	116
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	6 mg/kg	97.4	54.0	114
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	6 mg/kg	94.2	60.0	114
EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	12 mg/kg	51.7	10.0	80.0
EP075(SIM)A: Phenolic Compounds (QCLot: 4563559)								
EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	6 mg/kg	102	71.0	125
EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	6 mg/kg	100	72.0	124
EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	6 mg/kg	101	71.0	123
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	12 mg/kg	104	67.0	127
EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	6 mg/kg	78.0	54.0	114
EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	6 mg/kg	95.2	68.0	126
EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	6 mg/kg	87.9	66.0	120
EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	6 mg/kg	87.8	70.0	120
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	6 mg/kg	86.7	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	90.6	60.0	114
EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	12 mg/kg	49.7	10.0	80.0
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4563552)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	6 mg/kg	100	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	97.8	73.0	127
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	6 mg/kg	107	72.0	126
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	6 mg/kg	98.5	75.0	127
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	6 mg/kg	105	77.0	127
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	6 mg/kg	104	73.0	127

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4563552) - continued								
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	6 mg/kg	102	74.0	128
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	6 mg/kg	98.6	69.0	123
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	6 mg/kg	96.5	75.0	127
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	6 mg/kg	100	68.0	116
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	6 mg/kg	101	74.0	126
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	6 mg/kg	95.0	70.0	126
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	6 mg/kg	89.7	61.0	121
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	6 mg/kg	86.6	62.0	118
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	6 mg/kg	90.2	63.0	121
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4563559)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	6 mg/kg	98.6	77.0	125
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	6 mg/kg	104	72.0	124
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	6 mg/kg	107	73.0	127
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	6 mg/kg	107	72.0	126
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	6 mg/kg	104	75.0	127
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	6 mg/kg	109	77.0	127
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	6 mg/kg	104	73.0	127
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	6 mg/kg	104	74.0	128
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	6 mg/kg	97.2	69.0	123
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	6 mg/kg	103	75.0	127
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	6 mg/kg	91.8	68.0	116
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	6 mg/kg	102	74.0	126
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	6 mg/kg	89.6	70.0	126
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	6 mg/kg	87.0	61.0	121
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	6 mg/kg	86.0	62.0	118
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	6 mg/kg	86.4	63.0	121
EP075A: Phenolic Compounds (QCLot: 4563554)								
EP075: Phenol	108-95-2	0.5	mg/kg	<0.5	1.5 mg/kg	90.6	64.0	114
EP075: 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	1.5 mg/kg	92.0	57.0	115
EP075: 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	1.5 mg/kg	97.7	55.0	117
EP075: 3- & 4-Methylphenol	1319-77-3	0.5	mg/kg	<0.5	1.5 mg/kg	91.7	46.0	122
EP075: 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	1.5 mg/kg	91.4	47.0	117
EP075: 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	1.5 mg/kg	93.1	13.7	108
EP075: 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	1.5 mg/kg	80.4	47.0	105
EP075: 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	1.5 mg/kg	99.6	48.0	110
EP075: 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	1.5 mg/kg	106	57.0	113
EP075: 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	1.5 mg/kg	94.0	49.0	109

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP075A: Phenolic Compounds (QCLot: 4563554) - continued								
EP075: 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	1.5 mg/kg	96.9	49.0	107
EP075: Pentachlorophenol	87-86-5	1	mg/kg	<1	3 mg/kg	54.1	12.0	76.0
EP075A: Phenolic Compounds (QCLot: 4563561)								
EP075: Phenol	108-95-2	0.5	mg/kg	<0.5	1.5 mg/kg	93.5	64.0	114
EP075: 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	1.5 mg/kg	92.0	57.0	115
EP075: 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	1.5 mg/kg	101	55.0	117
EP075: 3- & 4-Methylphenol	1319-77-3	0.5	mg/kg	<0.5	1.5 mg/kg	101	46.0	122
EP075: 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	1.5 mg/kg	90.3	47.0	117
EP075: 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	1.5 mg/kg	99.3	13.7	108
EP075: 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	1.5 mg/kg	95.4	47.0	105
EP075: 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	1.5 mg/kg	91.4	48.0	110
EP075: 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	1.5 mg/kg	100	57.0	113
EP075: 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	1.5 mg/kg	87.9	49.0	109
EP075: 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	1.5 mg/kg	94.0	49.0	107
EP075: Pentachlorophenol	87-86-5	1	mg/kg	<1	3 mg/kg	63.1	12.0	76.0
EP075B: Polynuclear Aromatic Hydrocarbons (QCLot: 4563554)								
EP075: 2-Methylnaphthalene	91-57-6	0.5	mg/kg	<0.5	1.5 mg/kg	104	58.0	116
EP075: 2-Chloronaphthalene	91-58-7	0.5	mg/kg	<0.5	1.5 mg/kg	99.9	54.0	112
EP075: N-2-Fluorenyl Acetamide	53-96-3	0.5	mg/kg	<0.5	1.5 mg/kg	79.3	58.0	114
EP075: 7.12-Dimethylbenz(a)anthracene	57-97-6	0.5	mg/kg	<0.5	1.5 mg/kg	95.9	48.1	106
EP075: 3-Methylcholanthrene	56-49-5	0.5	mg/kg	<0.5	1.5 mg/kg	91.2	50.0	116
EP075B: Polynuclear Aromatic Hydrocarbons (QCLot: 4563561)								
EP075: 2-Methylnaphthalene	91-57-6	0.5	mg/kg	<0.5	1.5 mg/kg	94.0	58.0	116
EP075: 2-Chloronaphthalene	91-58-7	0.5	mg/kg	<0.5	1.5 mg/kg	97.8	54.0	112
EP075: N-2-Fluorenyl Acetamide	53-96-3	0.5	mg/kg	<0.5	1.5 mg/kg	85.0	58.0	114
EP075: 7.12-Dimethylbenz(a)anthracene	57-97-6	0.5	mg/kg	<0.5	1.5 mg/kg	94.3	48.1	106
EP075: 3-Methylcholanthrene	56-49-5	0.5	mg/kg	<0.5	1.5 mg/kg	88.9	50.0	116
EP075C: Phthalate Esters (QCLot: 4563554)								
EP075: Dimethyl phthalate	131-11-3	0.5	mg/kg	<0.5	1.5 mg/kg	113	60.0	118
EP075: Diethyl phthalate	84-66-2	0.5	mg/kg	<0.5	1.5 mg/kg	90.6	65.0	115
EP075: Di-n-butyl phthalate	84-74-2	0.5	mg/kg	<0.5	1.5 mg/kg	93.3	65.0	121
EP075: Butyl benzyl phthalate	85-68-7	0.5	mg/kg	<0.5	1.5 mg/kg	95.4	62.0	116
EP075: bis(2-ethylhexyl) phthalate	117-81-7	----	mg/kg	----	1.5 mg/kg	89.3	69.0	133
EP075: Di-n-octylphthalate	117-84-0	0.5	mg/kg	<0.5	1.5 mg/kg	88.8	62.0	124
EP075C: Phthalate Esters (QCLot: 4563561)								
EP075: Dimethyl phthalate	131-11-3	0.5	mg/kg	<0.5	1.5 mg/kg	106	60.0	118
EP075: Diethyl phthalate	84-66-2	0.5	mg/kg	<0.5	1.5 mg/kg	90.6	65.0	115
EP075: Di-n-butyl phthalate	84-74-2	0.5	mg/kg	<0.5	1.5 mg/kg	93.2	65.0	121

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP075C: Phthalate Esters (QCLot: 4563561) - continued								
EP075: Butyl benzyl phthalate	85-68-7	0.5	mg/kg	<0.5	1.5 mg/kg	94.4	62.0	116
EP075: bis(2-ethylhexyl) phthalate	117-81-7	----	mg/kg	----	1.5 mg/kg	88.4	69.0	133
EP075: Di-n-octylphthalate	117-84-0	0.5	mg/kg	<0.5	1.5 mg/kg	84.8	62.0	124
EP075D: Nitrosamines (QCLot: 4563554)								
EP075: N-Nitrosomethylethylamine	10595-95-6	0.5	mg/kg	<0.5	1.5 mg/kg	70.8	39.4	124
EP075: N-Nitrosodiethylamine	55-18-5	0.5	mg/kg	<0.5	1.5 mg/kg	94.5	59.0	117
EP075: N-Nitrosopyrrolidine	930-55-2	0.5	mg/kg	<0.5	1.5 mg/kg	108	53.0	125
EP075: N-Nitrosomorpholine	59-89-2	0.5	mg/kg	<0.5	1.5 mg/kg	108	65.0	121
EP075: N-Nitrosodi-n-propylamine	621-64-7	0.5	mg/kg	<0.5	1.5 mg/kg	105	59.0	123
EP075: N-Nitrosopiperidine	100-75-4	0.5	mg/kg	<0.5	1.5 mg/kg	104	57.0	115
EP075: N-Nitrosodibutylamine	924-16-3	0.5	mg/kg	<0.5	1.5 mg/kg	102	57.0	119
EP075: N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	0.5	mg/kg	<0.6	3 mg/kg	90.7	42.0	112
EP075: Methapyrilene	91-80-5	0.5	mg/kg	<0.5	1.5 mg/kg	83.4	16.3	123
EP075D: Nitrosamines (QCLot: 4563561)								
EP075: N-Nitrosomethylethylamine	10595-95-6	0.5	mg/kg	<0.5	1.5 mg/kg	83.4	39.4	124
EP075: N-Nitrosodiethylamine	55-18-5	0.5	mg/kg	<0.5	1.5 mg/kg	92.9	59.0	117
EP075: N-Nitrosopyrrolidine	930-55-2	0.5	mg/kg	<0.5	1.5 mg/kg	109	53.0	125
EP075: N-Nitrosomorpholine	59-89-2	0.5	mg/kg	<0.5	1.5 mg/kg	108	65.0	121
EP075: N-Nitrosodi-n-propylamine	621-64-7	0.5	mg/kg	<0.5	1.5 mg/kg	108	59.0	123
EP075: N-Nitrosopiperidine	100-75-4	0.5	mg/kg	<0.5	1.5 mg/kg	107	57.0	115
EP075: N-Nitrosodibutylamine	924-16-3	0.5	mg/kg	<0.5	1.5 mg/kg	97.3	57.0	119
EP075: N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	0.5	mg/kg	<0.6	3 mg/kg	92.5	42.0	112
EP075: Methapyrilene	91-80-5	0.5	mg/kg	<0.5	1.5 mg/kg	82.5	16.3	123
EP075E: Nitroaromatics and Ketones (QCLot: 4563554)								
EP075: 2-Picoline	109-06-8	0.5	mg/kg	<0.5	1.5 mg/kg	71.6	27.3	129
EP075: Acetophenone	98-86-2	0.5	mg/kg	<0.5	1.5 mg/kg	100	60.0	116
EP075: Nitrobenzene	98-95-3	0.5	mg/kg	<0.5	1.5 mg/kg	93.8	65.0	119
EP075: Isophorone	78-59-1	0.5	mg/kg	<0.5	1.5 mg/kg	96.4	62.0	116
EP075: 2.6-Dinitrotoluene	606-20-2	0.5	mg/kg	<0.5	1.5 mg/kg	101	58.0	118
EP075: 2.4-Dinitrotoluene	121-14-2	0.5	mg/kg	<0.5	1.5 mg/kg	82.5	59.0	115
EP075: 1-Naphthylamine	134-32-7	0.5	mg/kg	<0.5	1.5 mg/kg	39.9	18.0	112
EP075: 4-Nitroquinoline-N-oxide	56-57-5	0.5	mg/kg	<0.5	1.5 mg/kg	74.2	10.0	87.0
EP075: 5-Nitro-o-toluidine	99-55-8	0.5	mg/kg	<0.5	1.5 mg/kg	77.4	48.3	98.5
EP075: Azobenzene	103-33-3	1	mg/kg	<1	1.5 mg/kg	86.8	62.0	118
EP075: 1.3.5-Trinitrobenzene	99-35-4	0.5	mg/kg	<0.5	1.5 mg/kg	74.4	36.0	114
EP075: Phenacetin	62-44-2	0.5	mg/kg	<0.5	1.5 mg/kg	105	62.0	114

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP075E: Nitroaromatics and Ketones (QCLot: 4563554) - continued								
EP075: 4-Aminobiphenyl	92-67-1	0.5	mg/kg	<0.5	1.5 mg/kg	73.5	36.1	102
EP075: Pentachloronitrobenzene	82-68-8	0.5	mg/kg	<0.5	1.5 mg/kg	107	56.0	110
EP075: Pronamide	23950-58-5	0.5	mg/kg	<0.5	1.5 mg/kg	93.5	54.0	110
EP075: Dimethylaminoazobenzene	60-11-7	0.5	mg/kg	<0.5	1.5 mg/kg	90.7	48.0	108
EP075: Chlorobenzilate	510-15-6	0.5	mg/kg	<0.5	1.5 mg/kg	90.3	57.4	112
EP075E: Nitroaromatics and Ketones (QCLot: 4563561)								
EP075: 2-Picoline	109-06-8	0.5	mg/kg	<0.5	1.5 mg/kg	95.2	27.3	129
EP075: Acetophenone	98-86-2	0.5	mg/kg	<0.5	1.5 mg/kg	103	60.0	116
EP075: Nitrobenzene	98-95-3	0.5	mg/kg	<0.5	1.5 mg/kg	96.0	65.0	119
EP075: Isophorone	78-59-1	0.5	mg/kg	<0.5	1.5 mg/kg	97.3	62.0	116
EP075: 2.6-Dinitrotoluene	606-20-2	0.5	mg/kg	<0.5	1.5 mg/kg	93.1	58.0	118
EP075: 2.4-Dinitrotoluene	121-14-2	0.5	mg/kg	<0.5	1.5 mg/kg	87.0	59.0	115
EP075: 1-Naphthylamine	134-32-7	0.5	mg/kg	<0.5	1.5 mg/kg	44.7	18.0	112
EP075: 4-Nitroquinoline-N-oxide	56-57-5	0.5	mg/kg	<0.5	1.5 mg/kg	80.9	10.0	87.0
EP075: 5-Nitro-o-toluidine	99-55-8	0.5	mg/kg	<0.5	1.5 mg/kg	70.4	48.3	98.5
EP075: Azobenzene	103-33-3	1	mg/kg	<1	1.5 mg/kg	86.9	62.0	118
EP075: 1.3.5-Trinitrobenzene	99-35-4	0.5	mg/kg	<0.5	1.5 mg/kg	85.6	36.0	114
EP075: Phenacetin	62-44-2	0.5	mg/kg	<0.5	1.5 mg/kg	113	62.0	114
EP075: 4-Aminobiphenyl	92-67-1	0.5	mg/kg	<0.5	1.5 mg/kg	70.6	36.1	102
EP075: Pentachloronitrobenzene	82-68-8	0.5	mg/kg	<0.5	1.5 mg/kg	# 112	56.0	110
EP075: Pronamide	23950-58-5	0.5	mg/kg	<0.5	1.5 mg/kg	91.5	54.0	110
EP075: Dimethylaminoazobenzene	60-11-7	0.5	mg/kg	<0.5	1.5 mg/kg	93.6	48.0	108
EP075: Chlorobenzilate	510-15-6	0.5	mg/kg	<0.5	1.5 mg/kg	91.6	57.4	112
EP075F: Haloethers (QCLot: 4563554)								
EP075: Bis(2-chloroethyl) ether	111-44-4	0.5	mg/kg	<0.5	1.5 mg/kg	88.7	63.0	121
EP075: Bis(2-chloroethoxy) methane	111-91-1	0.5	mg/kg	<0.5	1.5 mg/kg	96.3	59.0	115
EP075: 4-Chlorophenyl phenyl ether	7005-72-3	0.5	mg/kg	<0.5	1.5 mg/kg	93.3	58.0	112
EP075: 4-Bromophenyl phenyl ether	101-55-3	0.5	mg/kg	<0.5	1.5 mg/kg	108	58.0	110
EP075F: Haloethers (QCLot: 4563561)								
EP075: Bis(2-chloroethyl) ether	111-44-4	0.5	mg/kg	<0.5	1.5 mg/kg	93.3	63.0	121
EP075: Bis(2-chloroethoxy) methane	111-91-1	0.5	mg/kg	<0.5	1.5 mg/kg	100	59.0	115
EP075: 4-Chlorophenyl phenyl ether	7005-72-3	0.5	mg/kg	<0.5	1.5 mg/kg	94.6	58.0	112
EP075: 4-Bromophenyl phenyl ether	101-55-3	0.5	mg/kg	<0.5	1.5 mg/kg	# 111	58.0	110
EP075G: Chlorinated Hydrocarbons (QCLot: 4563554)								
EP075: 1.3-Dichlorobenzene	541-73-1	0.5	mg/kg	<0.5	1.5 mg/kg	92.4	58.0	112
EP075: 1.4-Dichlorobenzene	106-46-7	0.5	mg/kg	<0.5	1.5 mg/kg	98.6	58.0	116
EP075: 1.2-Dichlorobenzene	95-50-1	0.5	mg/kg	<0.5	1.5 mg/kg	97.5	57.0	115
EP075: Hexachloroethane	67-72-1	0.5	mg/kg	<0.5	1.5 mg/kg	92.2	54.0	116

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP075G: Chlorinated Hydrocarbons (QCLot: 4563554) - continued								
EP075: 1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg	<0.5	1.5 mg/kg	77.3	62.9	108
EP075: Hexachloropropylene	1888-71-7	0.5	mg/kg	<0.5	1.5 mg/kg	96.8	39.1	110
EP075: Hexachlorobutadiene	87-68-3	0.5	mg/kg	<0.5	1.5 mg/kg	100	59.0	117
EP075: Hexachlorocyclopentadiene	77-47-4	2.5	mg/kg	<2.5	1.5 mg/kg	50.5	24.3	108
EP075: Pentachlorobenzene	608-93-5	0.5	mg/kg	<0.5	1.5 mg/kg	93.4	57.0	109
EP075: Hexachlorobenzene (HCB)	118-74-1	0.5	mg/kg	<0.5	1.5 mg/kg	109	59.0	111
EP075G: Chlorinated Hydrocarbons (QCLot: 4563561)								
EP075: 1.3-Dichlorobenzene	541-73-1	0.5	mg/kg	<0.5	1.5 mg/kg	94.7	58.0	112
EP075: 1.4-Dichlorobenzene	106-46-7	0.5	mg/kg	<0.5	1.5 mg/kg	99.8	58.0	116
EP075: 1.2-Dichlorobenzene	95-50-1	0.5	mg/kg	<0.5	1.5 mg/kg	99.3	57.0	115
EP075: Hexachloroethane	67-72-1	0.5	mg/kg	<0.5	1.5 mg/kg	97.7	54.0	116
EP075: 1.2.4-Trichlorobenzene	120-82-1	0.5	mg/kg	<0.5	1.5 mg/kg	95.0	62.9	108
EP075: Hexachloropropylene	1888-71-7	0.5	mg/kg	<0.5	1.5 mg/kg	87.1	39.1	110
EP075: Hexachlorobutadiene	87-68-3	0.5	mg/kg	<0.5	1.5 mg/kg	91.8	59.0	117
EP075: Hexachlorocyclopentadiene	77-47-4	2.5	mg/kg	<2.5	1.5 mg/kg	51.9	24.3	108
EP075: Pentachlorobenzene	608-93-5	0.5	mg/kg	<0.5	1.5 mg/kg	92.7	57.0	109
EP075: Hexachlorobenzene (HCB)	118-74-1	0.5	mg/kg	<0.5	1.5 mg/kg	111	59.0	111
EP075H: Anilines and Benzidines (QCLot: 4563554)								
EP075: Aniline	62-53-3	0.5	mg/kg	<0.5	1.5 mg/kg	76.7	13.2	108
EP075: 4-Chloroaniline	106-47-8	0.5	mg/kg	<0.5	1.5 mg/kg	46.8	20.5	99.0
EP075: 2-Nitroaniline	88-74-4	0.5	mg/kg	<0.5	1.5 mg/kg	105	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	90.4	60.0	110
EP075: 4-Nitroaniline	100-01-6	0.5	mg/kg	<0.5	1.5 mg/kg	71.6	42.0	112
EP075: Carbazole	86-74-8	0.5	mg/kg	<0.5	1.5 mg/kg	93.0	59.0	111
EP075: 3.3`-Dichlorobenzidine	91-94-1	0.5	mg/kg	<0.5	1.5 mg/kg	77.6	23.1	113
EP075H: Anilines and Benzidines (QCLot: 4563561)								
EP075: Aniline	62-53-3	0.5	mg/kg	<0.5	1.5 mg/kg	77.5	13.2	108
EP075: 4-Chloroaniline	106-47-8	0.5	mg/kg	<0.5	1.5 mg/kg	28.6	20.5	99.0
EP075: 2-Nitroaniline	88-74-4	0.5	mg/kg	<0.5	1.5 mg/kg	102	52.0	112
EP075: 3-Nitroaniline	99-09-2	0.5	mg/kg	<0.5	1.5 mg/kg	80.4	31.5	93.7
EP075: Dibenzofuran	132-64-9	0.5	mg/kg	<0.5	1.5 mg/kg	90.0	60.0	110
EP075: 4-Nitroaniline	100-01-6	0.5	mg/kg	<0.5	1.5 mg/kg	85.8	42.0	112
EP075: Carbazole	86-74-8	0.5	mg/kg	<0.5	1.5 mg/kg	93.0	59.0	111
EP075: 3.3`-Dichlorobenzidine	91-94-1	0.5	mg/kg	<0.5	1.5 mg/kg	74.9	23.1	113
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4563551)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	300 mg/kg	104	75.0	129
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	450 mg/kg	97.6	77.0	131

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4563551) - continued								
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	300 mg/kg	100	71.0	129
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4563558)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	300 mg/kg	85.4	75.0	129
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	450 mg/kg	88.9	77.0	131
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	300 mg/kg	88.8	71.0	129
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4563693)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	26 mg/kg	85.8	68.4	128
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4563697)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	26 mg/kg	86.9	68.4	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4563551)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	375 mg/kg	102	77.0	125
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	525 mg/kg	97.1	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: 4563558)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	375 mg/kg	89.6	77.0	125
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	525 mg/kg	87.5	74.0	138
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	225 mg/kg	90.2	63.0	131
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4563693)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	31 mg/kg	87.8	68.4	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4563697)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	31 mg/kg	87.3	68.4	128
EP080: BTEXN (QCLot: 4563693)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	84.1	62.0	116
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	85.7	67.0	121
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	83.7	65.0	117
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	2 mg/kg	82.9	66.0	118
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	85.8	68.0	120
EP080: Naphthalene	91-20-3	1	mg/kg	<1	1 mg/kg	85.9	63.0	119
EP080: BTEXN (QCLot: 4563697)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	93.6	62.0	116
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	89.8	67.0	121
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	85.2	65.0	117
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	2 mg/kg	87.1	66.0	118
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	88.8	68.0	120
EP080: Naphthalene	91-20-3	1	mg/kg	<1	1 mg/kg	88.2	63.0	119

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP202A: Phenoxyacetic Acid Herbicides by LCMS (QCLot: 4566769)								
EP202: 4-Chlorophenoxy acetic acid	122-88-3	0.02	mg/kg	<0.02	0.1 mg/kg	82.1	54.4	128
EP202: 2.4-DB	94-82-6	0.02	mg/kg	<0.02	0.1 mg/kg	88.5	45.5	130
EP202: Dicamba	1918-00-9	0.02	mg/kg	<0.02	0.1 mg/kg	77.0	51.7	135
EP202: Mecoprop	93-65-2	0.02	mg/kg	<0.02	0.1 mg/kg	95.3	60.0	130
EP202: MCPA	94-74-6	0.02	mg/kg	<0.02	0.1 mg/kg	93.4	56.8	131
EP202: 2.4-DP	120-36-5	0.02	mg/kg	<0.02	0.1 mg/kg	92.7	50.0	141
EP202: 2.4-D	94-75-7	0.02	mg/kg	<0.02	0.1 mg/kg	79.0	68.5	131
EP202: Triclopyr	55335-06-3	0.02	mg/kg	<0.02	0.1 mg/kg	61.6	50.8	141
EP202: 2.4.5-TP (Silvex)	93-72-1	0.02	mg/kg	<0.02	0.1 mg/kg	79.1	40.8	126
EP202: 2.4.5-T	93-76-5	0.02	mg/kg	<0.02	0.1 mg/kg	83.3	57.4	139
EP202: MCPB	94-81-5	0.02	mg/kg	<0.02	0.1 mg/kg	71.9	38.9	137
EP202: Picloram	1918-02-1	0.02	mg/kg	<0.02	0.1 mg/kg	55.0	48.7	129
EP202: Clopyralid	1702-17-6	0.02	mg/kg	<0.02	0.1 mg/kg	56.2	49.4	106
EP202: Fluroxypyr	69377-81-7	0.02	mg/kg	<0.02	0.1 mg/kg	60.3	53.2	128
EP202A: Phenoxyacetic Acid Herbicides by LCMS (QCLot: 4566831)								
EP202: 4-Chlorophenoxy acetic acid	122-88-3	0.02	mg/kg	<0.02	0.1 mg/kg	76.9	54.4	128
EP202: 2.4-DB	94-82-6	0.02	mg/kg	<0.02	0.1 mg/kg	75.0	45.5	130
EP202: Dicamba	1918-00-9	0.02	mg/kg	<0.02	0.1 mg/kg	72.4	51.7	135
EP202: Mecoprop	93-65-2	0.02	mg/kg	<0.02	0.1 mg/kg	77.2	60.0	130
EP202: MCPA	94-74-6	0.02	mg/kg	<0.02	0.1 mg/kg	78.2	56.8	131
EP202: 2.4-DP	120-36-5	0.02	mg/kg	<0.02	0.1 mg/kg	77.1	50.0	141
EP202: 2.4-D	94-75-7	0.02	mg/kg	<0.02	0.1 mg/kg	80.7	68.5	131
EP202: Triclopyr	55335-06-3	0.02	mg/kg	<0.02	0.1 mg/kg	84.9	50.8	141
EP202: 2.4.5-TP (Silvex)	93-72-1	0.02	mg/kg	<0.02	0.1 mg/kg	77.8	40.8	126
EP202: 2.4.5-T	93-76-5	0.02	mg/kg	<0.02	0.1 mg/kg	76.0	57.4	139
EP202: MCPB	94-81-5	0.02	mg/kg	<0.02	0.1 mg/kg	77.5	38.9	137
EP202: Picloram	1918-02-1	0.02	mg/kg	<0.02	0.1 mg/kg	81.0	48.7	129
EP202: Clopyralid	1702-17-6	0.02	mg/kg	<0.02	0.1 mg/kg	71.3	49.4	106
EP202: Fluroxypyr	69377-81-7	0.02	mg/kg	<0.02	0.1 mg/kg	88.4	53.2	128
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4566763)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	0.00125 mg/kg	91.6	72.0	128
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	0.00125 mg/kg	116	73.0	123
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	0.00125 mg/kg	122	67.0	130
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	0.00125 mg/kg	100	70.0	132
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	110	68.0	136
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	0.00125 mg/kg	95.2	59.0	134
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4566763)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	0.00625 mg/kg	99.0	71.0	135

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4566763) - continued								
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	106	70.0	132
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	0.00125 mg/kg	107	71.0	131
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	126	69.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	104	72.0	129
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	0.00125 mg/kg	112	69.0	133
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	0.00125 mg/kg	115	64.0	136
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	116	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	103	69.0	133
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4566763)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	0.00125 mg/kg	108	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	0.00312 mg/kg	124	71.6	129
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	0.00312 mg/kg	112	69.8	131
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	0.00312 mg/kg	108	68.7	130
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	0.00312 mg/kg	112	65.1	134
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	0.00125 mg/kg	113	63.0	144
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	0.00125 mg/kg	104	61.0	139
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4566763)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	0.00125 mg/kg	98.4	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	113	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	104	69.2	143

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EG020F: Dissolved Metals by ICP-MS (QCLot: 4566917)								
EG020A-F: Arsenic	7440-38-2	0.001	mg/L	<0.001	0.1 mg/L	99.1	85.0	114
EG020A-F: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	0.1 mg/L	98.0	84.0	110
EG020A-F: Chromium	7440-47-3	0.001	mg/L	<0.001	0.1 mg/L	97.7	85.0	111
EG020A-F: Copper	7440-50-8	0.001	mg/L	<0.001	0.1 mg/L	98.3	81.0	111
EG020A-F: Lead	7439-92-1	0.001	mg/L	<0.001	0.1 mg/L	93.3	83.0	111
EG020A-F: Nickel	7440-02-0	0.001	mg/L	<0.001	0.1 mg/L	100	82.0	112
EG020A-F: Zinc	7440-66-6	0.005	mg/L	<0.005	0.1 mg/L	98.1	81.0	117

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EG020T: Total Metals by ICP-MS (QCLot: 4566939)								
EG020A-T: Arsenic	7440-38-2	0.001	mg/L	<0.001	0.1 mg/L	98.1	82.0	114
EG020A-T: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	0.1 mg/L	99.5	84.0	112
EG020A-T: Chromium	7440-47-3	0.001	mg/L	<0.001	0.1 mg/L	99.7	86.0	116
EG020A-T: Copper	7440-50-8	0.001	mg/L	<0.001	0.1 mg/L	98.0	83.0	118
EG020A-T: Lead	7439-92-1	0.001	mg/L	<0.001	0.1 mg/L	99.3	85.0	115
EG020A-T: Nickel	7440-02-0	0.001	mg/L	<0.001	0.1 mg/L	97.0	84.0	116
EG020A-T: Zinc	7440-66-6	0.005	mg/L	<0.005	0.1 mg/L	95.8	79.0	117
EG035F: Dissolved Mercury by FIMS (QCLot: 4566918)								
EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	0.01 mg/L	97.8	83.0	105
EG035T: Total Recoverable Mercury by FIMS (QCLot: 4564508)								
EG035T: Mercury	7439-97-6	0.0001	mg/L	<0.0001	0.01 mg/L	97.0	77.0	111
EG035T: Total Recoverable Mercury by FIMS (QCLot: 4567003)								
EG035T: Mercury	7439-97-6	0.0001	mg/L	<0.0001	0.01 mg/L	99.1	77.0	111
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 4563504)								
EP066: Total Polychlorinated biphenyls	----	1	µg/L	<1	10 µg/L	105	68.9	113
EP068A: Organochlorine Pesticides (OC) (QCLot: 4563501)								
EP068: alpha-BHC	319-84-6	0.5	µg/L	<0.5	5 µg/L	94.4	64.9	107
EP068: Hexachlorobenzene (HCB)	118-74-1	0.5	µg/L	<0.5	5 µg/L	92.0	58.3	111
EP068: beta-BHC	319-85-7	0.5	µg/L	<0.5	5 µg/L	102	69.0	117
EP068: gamma-BHC	58-89-9	0.5	µg/L	<0.5	5 µg/L	96.0	70.0	112
EP068: delta-BHC	319-86-8	0.5	µg/L	<0.5	5 µg/L	102	68.9	110
EP068: Heptachlor	76-44-8	0.5	µg/L	<0.5	5 µg/L	99.1	65.2	108
EP068: Aldrin	309-00-2	0.5	µg/L	<0.5	5 µg/L	100	65.8	109
EP068: Heptachlor epoxide	1024-57-3	0.5	µg/L	<0.5	5 µg/L	104	67.1	107
EP068: trans-Chlordane	5103-74-2	0.5	µg/L	<0.5	5 µg/L	99.4	64.1	110
EP068: alpha-Endosulfan	959-98-8	0.5	µg/L	<0.5	5 µg/L	101	66.7	112
EP068: cis-Chlordane	5103-71-9	0.5	µg/L	<0.5	5 µg/L	100	63.2	111
EP068: Dieldrin	60-57-1	0.5	µg/L	<0.5	5 µg/L	101	65.2	113
EP068: 4.4`-DDE	72-55-9	0.5	µg/L	<0.5	5 µg/L	99.5	66.0	112
EP068: Endrin	72-20-8	0.5	µg/L	<0.5	5 µg/L	105	65.2	113
EP068: beta-Endosulfan	33213-65-9	0.5	µg/L	<0.5	5 µg/L	100	67.3	114
EP068: 4.4`-DDD	72-54-8	0.5	µg/L	<0.5	5 µg/L	98.0	72.0	122
EP068: Endrin aldehyde	7421-93-4	0.5	µg/L	<0.5	5 µg/L	89.2	66.9	109
EP068: Endosulfan sulfate	1031-07-8	0.5	µg/L	<0.5	5 µg/L	85.3	65.2	112
EP068: 4.4`-DDT	50-29-3	2	µg/L	<2.0	5 µg/L	90.7	65.2	112
EP068: Endrin ketone	53494-70-5	0.5	µg/L	<0.5	5 µg/L	82.7	63.8	110
EP068: Methoxychlor	72-43-5	2	µg/L	<2.0	5 µg/L	90.3	61.1	114
EP068A: Organochlorine Pesticides (OC) (QCLot: 4565872)								

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP068A: Organochlorine Pesticides (OC) (QCLot: 4565872) - continued								
EP068: alpha-BHC	319-84-6	0.5	µg/L	<0.5	5 µg/L	83.8	64.9	107
EP068: Hexachlorobenzene (HCB)	118-74-1	0.5	µg/L	<0.5	5 µg/L	82.9	58.3	111
EP068: beta-BHC	319-85-7	0.5	µg/L	<0.5	5 µg/L	88.6	69.0	117
EP068: gamma-BHC	58-89-9	0.5	µg/L	<0.5	5 µg/L	94.2	70.0	112
EP068: delta-BHC	319-86-8	0.5	µg/L	<0.5	5 µg/L	91.1	68.9	110
EP068: Heptachlor	76-44-8	0.5	µg/L	<0.5	5 µg/L	81.3	65.2	108
EP068: Aldrin	309-00-2	0.5	µg/L	<0.5	5 µg/L	81.2	65.8	109
EP068: Heptachlor epoxide	1024-57-3	0.5	µg/L	<0.5	5 µg/L	90.3	67.1	107
EP068: trans-Chlordane	5103-74-2	0.5	µg/L	<0.5	5 µg/L	90.5	64.1	110
EP068: alpha-Endosulfan	959-98-8	0.5	µg/L	<0.5	5 µg/L	94.0	66.7	112
EP068: cis-Chlordane	5103-71-9	0.5	µg/L	<0.5	5 µg/L	94.5	63.2	111
EP068: Dieldrin	60-57-1	0.5	µg/L	<0.5	5 µg/L	95.8	65.2	113
EP068: 4.4`-DDE	72-55-9	0.5	µg/L	<0.5	5 µg/L	92.2	66.0	112
EP068: Endrin	72-20-8	0.5	µg/L	<0.5	5 µg/L	85.4	65.2	113
EP068: beta-Endosulfan	33213-65-9	0.5	µg/L	<0.5	5 µg/L	105	67.3	114
EP068: 4.4`-DDD	72-54-8	0.5	µg/L	<0.5	5 µg/L	94.0	72.0	122
EP068: Endrin aldehyde	7421-93-4	0.5	µg/L	<0.5	5 µg/L	99.5	66.9	109
EP068: Endosulfan sulfate	1031-07-8	0.5	µg/L	<0.5	5 µg/L	80.9	65.2	112
EP068: 4.4`-DDT	50-29-3	2	µg/L	<2.0	5 µg/L	86.0	65.2	112
EP068: Endrin ketone	53494-70-5	0.5	µg/L	<0.5	5 µg/L	93.4	63.8	110
EP068: Methoxychlor	72-43-5	2	µg/L	<2.0	5 µg/L	79.8	61.1	114
EP068B: Organophosphorus Pesticides (OP) (QCLot: 4563501)								
EP068: Dichlorvos	62-73-7	0.5	µg/L	<0.5	5 µg/L	80.6	65.6	114
EP068: Demeton-S-methyl	919-86-8	0.5	µg/L	<0.5	5 µg/L	84.9	63.7	113
EP068: Monocrotophos	6923-22-4	2	µg/L	<2.0	5 µg/L	25.2	19.7	48.0
EP068: Dimethoate	60-51-5	0.5	µg/L	<0.5	5 µg/L	86.0	69.5	110
EP068: Diazinon	333-41-5	0.5	µg/L	<0.5	5 µg/L	96.1	71.1	110
EP068: Chlorpyrifos-methyl	5598-13-0	0.5	µg/L	<0.5	5 µg/L	96.4	77.0	119
EP068: Parathion-methyl	298-00-0	2	µg/L	<2.0	5 µg/L	93.6	70.0	124
EP068: Malathion	121-75-5	0.5	µg/L	<0.5	5 µg/L	96.8	68.4	116
EP068: Fenthion	55-38-9	0.5	µg/L	<0.5	5 µg/L	97.1	68.6	112
EP068: Chlorpyrifos	2921-88-2	0.5	µg/L	<0.5	5 µg/L	98.6	75.0	119
EP068: Parathion	56-38-2	2	µg/L	<2.0	5 µg/L	101	67.0	121
EP068: Pirimphos-ethyl	23505-41-1	0.5	µg/L	<0.5	5 µg/L	101	69.0	121
EP068: Chlorfenvinphos	470-90-6	0.5	µg/L	<0.5	5 µg/L	98.6	71.8	110
EP068: Bromophos-ethyl	4824-78-6	0.5	µg/L	<0.5	5 µg/L	94.3	67.5	112
EP068: Fenamiphos	22224-92-6	0.5	µg/L	<0.5	5 µg/L	106	64.1	116
EP068: Prothiofos	34643-46-4	0.5	µg/L	<0.5	5 µg/L	94.6	67.8	114
EP068: Ethion	563-12-2	0.5	µg/L	<0.5	5 µg/L	93.9	74.0	120

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP068B: Organophosphorus Pesticides (OP) (QCLot: 4563501) - continued								
EP068: Carbophenothion	786-19-6	0.5	µg/L	<0.5	5 µg/L	86.4	66.2	114
EP068: Azinphos Methyl	86-50-0	0.5	µg/L	<0.5	5 µg/L	88.9	51.6	128
EP068B: Organophosphorus Pesticides (OP) (QCLot: 4565872)								
EP068: Dichlorvos	62-73-7	0.5	µg/L	<0.5	5 µg/L	82.1	65.6	114
EP068: Demeton-S-methyl	919-86-8	0.5	µg/L	<0.5	5 µg/L	88.4	63.7	113
EP068: Monocrotophos	6923-22-4	2	µg/L	<2.0	5 µg/L	25.4	19.7	48.0
EP068: Dimethoate	60-51-5	0.5	µg/L	<0.5	5 µg/L	80.6	69.5	110
EP068: Diazinon	333-41-5	0.5	µg/L	<0.5	5 µg/L	86.0	71.1	110
EP068: Chlorpyrifos-methyl	5598-13-0	0.5	µg/L	<0.5	5 µg/L	89.5	77.0	119
EP068: Parathion-methyl	298-00-0	2	µg/L	<2.0	5 µg/L	84.6	70.0	124
EP068: Malathion	121-75-5	0.5	µg/L	<0.5	5 µg/L	82.2	68.4	116
EP068: Fenthion	55-38-9	0.5	µg/L	<0.5	5 µg/L	88.8	68.6	112
EP068: Chlorpyrifos	2921-88-2	0.5	µg/L	<0.5	5 µg/L	89.8	75.0	119
EP068: Parathion	56-38-2	2	µg/L	<2.0	5 µg/L	81.0	67.0	121
EP068: Pirimphos-ethyl	23505-41-1	0.5	µg/L	<0.5	5 µg/L	88.4	69.0	121
EP068: Chlorfenvinphos	470-90-6	0.5	µg/L	<0.5	5 µg/L	95.0	71.8	110
EP068: Bromophos-ethyl	4824-78-6	0.5	µg/L	<0.5	5 µg/L	92.6	67.5	112
EP068: Fenamiphos	22224-92-6	0.5	µg/L	<0.5	5 µg/L	89.1	64.1	116
EP068: Prothiofos	34643-46-4	0.5	µg/L	<0.5	5 µg/L	90.9	67.8	114
EP068: Ethion	563-12-2	0.5	µg/L	<0.5	5 µg/L	98.8	74.0	120
EP068: Carbophenothion	786-19-6	0.5	µg/L	<0.5	5 µg/L	92.8	66.2	114
EP068: Azinphos Methyl	86-50-0	0.5	µg/L	<0.5	5 µg/L	77.0	51.6	128
EP074A: Monocyclic Aromatic Hydrocarbons (QCLot: 4563568)								
EP074: Styrene	100-42-5	5	µg/L	<5	10 µg/L	101	73.0	119
EP074: Isopropylbenzene	98-82-8	5	µg/L	<5	10 µg/L	101	76.0	118
EP074: n-Propylbenzene	103-65-1	5	µg/L	<5	10 µg/L	101	69.0	119
EP074: 1.3.5-Trimethylbenzene	108-67-8	5	µg/L	<5	10 µg/L	102	74.0	116
EP074: sec-Butylbenzene	135-98-8	5	µg/L	<5	10 µg/L	102	73.0	119
EP074: 1.2.4-Trimethylbenzene	95-63-6	5	µg/L	<5	10 µg/L	102	74.0	116
EP074: tert-Butylbenzene	98-06-6	5	µg/L	<5	10 µg/L	99.7	72.0	116
EP074: p-Isopropyltoluene	99-87-6	5	µg/L	<5	10 µg/L	97.6	71.0	119
EP074: n-Butylbenzene	104-51-8	5	µg/L	<5	10 µg/L	98.7	65.0	123
EP074B: Oxygenated Compounds (QCLot: 4563568)								
EP074: Vinyl Acetate	108-05-4	50	µg/L	<50	100 µg/L	102	61.4	134
EP074: 2-Butanone (MEK)	78-93-3	50	µg/L	<50	100 µg/L	77.9	73.6	130
EP074: 4-Methyl-2-pentanone (MIBK)	108-10-1	50	µg/L	<50	100 µg/L	91.4	66.0	132
EP074: 2-Hexanone (MBK)	591-78-6	50	µg/L	<50	100 µg/L	87.6	65.0	137
EP074C: Sulfonated Compounds (QCLot: 4563568)								

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP074C: Sulfonated Compounds (QCLot: 4563568) - continued								
EP074: Carbon disulfide	75-15-0	5	µg/L	<5	10 µg/L	109	72.8	127
EP074D: Fumigants (QCLot: 4563568)								
EP074: 2.2-Dichloropropane	594-20-7	5	µg/L	<5	10 µg/L	101	68.0	122
EP074: 1.2-Dichloropropane	78-87-5	5	µg/L	<5	10 µg/L	102	76.0	118
EP074: cis-1.3-Dichloropropylene	10061-01-5	5	µg/L	<5	10 µg/L	100	62.0	120
EP074: trans-1.3-Dichloropropylene	10061-02-6	5	µg/L	<5	10 µg/L	101	60.0	114
EP074: 1.2-Dibromoethane (EDB)	106-93-4	5	µg/L	<5	10 µg/L	103	69.0	117
EP074E: Halogenated Aliphatic Compounds (QCLot: 4563568)								
EP074: Dichlorodifluoromethane	75-71-8	50	µg/L	<50	100 µg/L	94.5	60.6	138
EP074: Chloromethane	74-87-3	50	µg/L	<50	100 µg/L	98.8	67.4	130
EP074: Vinyl chloride	75-01-4	50	µg/L	<50	100 µg/L	99.7	69.4	129
EP074: Bromomethane	74-83-9	50	µg/L	<50	100 µg/L	98.5	56.0	140
EP074: Chloroethane	75-00-3	50	µg/L	<50	100 µg/L	99.8	61.0	139
EP074: Trichlorofluoromethane	75-69-4	50	µg/L	<50	100 µg/L	99.2	69.0	131
EP074: 1.1-Dichloroethene	75-35-4	5	µg/L	<5	10 µg/L	99.3	70.0	124
EP074: Iodomethane	74-88-4	5	µg/L	<5	10 µg/L	76.4	70.2	128
EP074: trans-1.2-Dichloroethene	156-60-5	5	µg/L	<5	10 µg/L	102	74.0	118
EP074: 1.1-Dichloroethane	75-34-3	5	µg/L	<5	10 µg/L	102	74.0	120
EP074: cis-1.2-Dichloroethene	156-59-2	5	µg/L	<5	10 µg/L	104	77.0	119
EP074: 1.1.1-Trichloroethane	71-55-6	5	µg/L	<5	10 µg/L	101	67.0	119
EP074: 1.1-Dichloropropylene	563-58-6	5	µg/L	<5	10 µg/L	100	73.0	119
EP074: Carbon Tetrachloride	56-23-5	5	µg/L	<5	10 µg/L	101	62.0	120
EP074: 1.2-Dichloroethane	107-06-2	5	µg/L	<5	10 µg/L	102	73.0	123
EP074: Trichloroethene	79-01-6	5	µg/L	<5	10 µg/L	99.4	76.0	118
EP074: Dibromomethane	74-95-3	5	µg/L	<5	10 µg/L	105	73.0	119
EP074: 1.1.2-Trichloroethane	79-00-5	5	µg/L	<5	10 µg/L	100	72.0	126
EP074: 1.3-Dichloropropane	142-28-9	5	µg/L	<5	10 µg/L	104	71.0	129
EP074: Tetrachloroethene	127-18-4	5	µg/L	<5	10 µg/L	99.9	72.0	124
EP074: 1.1.1.2-Tetrachloroethane	630-20-6	5	µg/L	<5	10 µg/L	101	66.0	114
EP074: trans-1.4-Dichloro-2-butene	110-57-6	5	µg/L	<5	10 µg/L	96.4	60.0	120
EP074: cis-1.4-Dichloro-2-butene	1476-11-5	5	µg/L	<5	10 µg/L	94.2	70.6	128
EP074: 1.1.2.2-Tetrachloroethane	79-34-5	5	µg/L	<5	10 µg/L	106	70.0	124
EP074: 1.2.3-Trichloropropane	96-18-4	5	µg/L	<5	10 µg/L	110	74.0	126
EP074: Pentachloroethane	76-01-7	5	µg/L	<5	10 µg/L	103	71.8	126
EP074: 1.2-Dibromo-3-chloropropane	96-12-8	5	µg/L	<5	10 µg/L	92.7	66.4	136
EP074F: Halogenated Aromatic Compounds (QCLot: 4563568)								
EP074: Chlorobenzene	108-90-7	5	µg/L	<5	10 µg/L	102	79.0	117
EP074: Bromobenzene	108-86-1	5	µg/L	<5	10 µg/L	102	76.0	116

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP074F: Halogenated Aromatic Compounds (QCLot: 4563568) - continued								
EP074: 2-Chlorotoluene	95-49-8	5	µg/L	<5	10 µg/L	103	73.0	119
EP074: 4-Chlorotoluene	106-43-4	5	µg/L	<5	10 µg/L	99.9	73.0	119
EP074: 1.2.3-Trichlorobenzene	87-61-6	5	µg/L	<5	10 µg/L	102	67.0	123
EP074G: Trihalomethanes (QCLot: 4563568)								
EP074: Chloroform	67-66-3	5	µg/L	<5	10 µg/L	102	72.0	120
EP074: Bromodichloromethane	75-27-4	5	µg/L	<5	10 µg/L	101	64.0	118
EP074: Dibromochloromethane	124-48-1	5	µg/L	<5	10 µg/L	103	65.0	115
EP074: Bromoform	75-25-2	5	µg/L	<5	10 µg/L	99.5	73.5	126
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4563502)								
EP075(SIM): Naphthalene	91-20-3	1	µg/L	<1.0	5 µg/L	75.2	50.0	94.0
EP075(SIM): Acenaphthylene	208-96-8	1	µg/L	<1.0	5 µg/L	85.2	63.6	114
EP075(SIM): Acenaphthene	83-32-9	1	µg/L	<1.0	5 µg/L	91.4	62.2	113
EP075(SIM): Fluorene	86-73-7	1	µg/L	<1.0	5 µg/L	90.5	63.9	115
EP075(SIM): Phenanthrene	85-01-8	1	µg/L	<1.0	5 µg/L	94.7	62.6	116
EP075(SIM): Anthracene	120-12-7	1	µg/L	<1.0	5 µg/L	98.4	64.3	116
EP075(SIM): Fluoranthene	206-44-0	1	µg/L	<1.0	5 µg/L	95.3	63.6	118
EP075(SIM): Pyrene	129-00-0	1	µg/L	<1.0	5 µg/L	98.0	63.1	118
EP075(SIM): Benz(a)anthracene	56-55-3	1	µg/L	<1.0	5 µg/L	93.8	64.1	117
EP075(SIM): Chrysene	218-01-9	1	µg/L	<1.0	5 µg/L	92.1	62.5	116
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L	<1.0	5 µg/L	93.9	61.7	119
EP075(SIM): Benzo(k)fluoranthene	207-08-9	1	µg/L	<1.0	5 µg/L	90.8	63.0	115
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	5 µg/L	80.2	63.3	117
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L	<1.0	5 µg/L	88.7	59.9	118
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	1	µg/L	<1.0	5 µg/L	77.2	61.2	117
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	1	µg/L	<1.0	5 µg/L	92.3	59.1	118
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4565870)								
EP075(SIM): Naphthalene	91-20-3	1	µg/L	<1.0	5 µg/L	73.2	50.0	94.0
EP075(SIM): Acenaphthylene	208-96-8	1	µg/L	<1.0	5 µg/L	85.3	63.6	114
EP075(SIM): Acenaphthene	83-32-9	1	µg/L	<1.0	5 µg/L	83.2	62.2	113
EP075(SIM): Fluorene	86-73-7	1	µg/L	<1.0	5 µg/L	91.4	63.9	115
EP075(SIM): Phenanthrene	85-01-8	1	µg/L	<1.0	5 µg/L	92.6	62.6	116
EP075(SIM): Anthracene	120-12-7	1	µg/L	<1.0	5 µg/L	90.5	64.3	116
EP075(SIM): Fluoranthene	206-44-0	1	µg/L	<1.0	5 µg/L	97.8	63.6	118
EP075(SIM): Pyrene	129-00-0	1	µg/L	<1.0	5 µg/L	94.2	63.1	118
EP075(SIM): Benz(a)anthracene	56-55-3	1	µg/L	<1.0	5 µg/L	90.3	64.1	117
EP075(SIM): Chrysene	218-01-9	1	µg/L	<1.0	5 µg/L	77.2	62.5	116

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4565870) - continued								
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L	<1.0	5 µg/L	80.2	61.7	119
EP075(SIM): Benzo(k)fluoranthene	207-08-9	1	µg/L	<1.0	5 µg/L	90.6	63.0	115
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	5 µg/L	89.7	63.3	117
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L	<1.0	5 µg/L	90.2	59.9	118
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	1	µg/L	<1.0	5 µg/L	90.9	61.2	117
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	1	µg/L	<1.0	5 µg/L	96.5	59.1	118
EP075A: Phenolic Compounds (QCLot: 4563503)								
EP075: Phenol	108-95-2	2	µg/L	<2	10 µg/L	34.6	25.5	64.1
EP075: 2-Chlorophenol	95-57-8	2	µg/L	<2	10 µg/L	67.7	52.0	88.0
EP075: 2-Methylphenol	95-48-7	2	µg/L	<2	10 µg/L	63.2	50.0	94.0
EP075: 3- & 4-Methylphenol	1319-77-3	2	µg/L	<2	10 µg/L	57.0	45.0	96.2
EP075: 2-Nitrophenol	88-75-5	2	µg/L	<2	10 µg/L	72.0	48.0	98.0
EP075: 2.4-Dimethylphenol	105-67-9	2	µg/L	<2	10 µg/L	64.9	50.0	94.0
EP075: 2.4-Dichlorophenol	120-83-2	2	µg/L	<2	10 µg/L	78.0	61.9	109
EP075: 2.6-Dichlorophenol	87-65-0	2	µg/L	<2	10 µg/L	82.3	61.5	108
EP075: 4-Chloro-3-methylphenol	59-50-7	2	µg/L	<2	10 µg/L	96.9	61.4	107
EP075: 2.4.6-Trichlorophenol	88-06-2	2	µg/L	<2	10 µg/L	87.6	57.6	112
EP075: 2.4.5-Trichlorophenol	95-95-4	2	µg/L	<2	10 µg/L	89.6	58.0	110
EP075: Pentachlorophenol	87-86-5	4	µg/L	<4	20 µg/L	# 105	12.8	95.0
EP075B: Polynuclear Aromatic Hydrocarbons (QCLot: 4563503)								
EP075: 2-Methylnaphthalene	91-57-6	2	µg/L	<2	10 µg/L	80.1	59.0	108
EP075: 2-Chloronaphthalene	91-58-7	2	µg/L	<2	10 µg/L	66.6	60.6	106
EP075: N-2-Fluorenyl Acetamide	53-96-3	2	µg/L	<2	10 µg/L	99.9	59.7	110
EP075: 7.12-Dimethylbenz(a)anthracene	57-97-6	2	µg/L	<2	10 µg/L	91.5	50.0	108
EP075: 3-Methylcholanthrene	56-49-5	2	µg/L	<2	10 µg/L	99.7	60.1	110
EP075C: Phthalate Esters (QCLot: 4563503)								
EP075: Dimethyl phthalate	131-11-3	2	µg/L	<2	10 µg/L	89.8	64.3	112
EP075: Diethyl phthalate	84-66-2	2	µg/L	<2	10 µg/L	89.0	67.3	111
EP075: Di-n-butyl phthalate	84-74-2	2	µg/L	<2	10 µg/L	95.0	68.4	122
EP075: Butyl benzyl phthalate	85-68-7	2	µg/L	<2	10 µg/L	96.2	61.2	114
EP075: bis(2-ethylhexyl) phthalate	117-81-7	----	µg/L	----	10 µg/L	98.0	60.0	132
EP075: Di-n-octylphthalate	117-84-0	2	µg/L	<2	10 µg/L	95.2	62.1	115
EP075D: Nitrosamines (QCLot: 4563503)								
EP075: N-Nitrosomethylethylamine	10595-95-6	2	µg/L	<2	10 µg/L	48.4	46.0	110
EP075: N-Nitrosodiethylamine	55-18-5	2	µg/L	<2	10 µg/L	73.0	60.6	113
EP075: N-Nitrosopyrrolidine	930-55-2	4	µg/L	<4	10 µg/L	56.3	45.0	91.0
EP075: N-Nitrosomorpholine	59-89-2	2	µg/L	<2	10 µg/L	51.8	42.0	100

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP075D: Nitrosamines (QCLot: 4563503) - continued								
EP075: N-Nitrosodi-n-propylamine	621-64-7	2	µg/L	<2	10 µg/L	70.6	63.5	108
EP075: N-Nitrosopiperidine	100-75-4	2	µg/L	<2	10 µg/L	62.7	61.7	107
EP075: N-Nitrosodibutylamine	924-16-3	2	µg/L	<2	10 µg/L	75.9	62.5	108
EP075: N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	4	µg/L	<4	20 µg/L	89.4	64.6	112
EP075: Methapyrilene	91-80-5	2	µg/L	<2	10 µg/L	81.2	23.3	125
EP075E: Nitroaromatics and Ketones (QCLot: 4563503)								
EP075: 2-Picoline	109-06-8	2	µg/L	<2	10 µg/L	# 35.8	41.0	109
EP075: Acetophenone	98-86-2	2	µg/L	<2	10 µg/L	71.5	68.3	112
EP075: Nitrobenzene	98-95-3	2	µg/L	<2	10 µg/L	71.6	68.3	112
EP075: Isophorone	78-59-1	2	µg/L	<2	10 µg/L	73.1	67.6	111
EP075: 2.6-Dinitrotoluene	606-20-2	4	µg/L	<4	10 µg/L	81.2	64.4	113
EP075: 2.4-Dinitrotoluene	121-14-2	4	µg/L	<4	10 µg/L	89.9	59.5	109
EP075: 1-Naphthylamine	134-32-7	2	µg/L	<2	10 µg/L	80.0	46.8	102
EP075: 4-Nitroquinoline-N-oxide	56-57-5	2	µg/L	<2	10 µg/L	# 117	40.0	96.0
EP075: 5-Nitro-o-toluidine	99-55-8	2	µg/L	<2	10 µg/L	91.4	58.3	106
EP075: Azobenzene	103-33-3	2	µg/L	<2	10 µg/L	81.1	66.0	112
EP075: 1.3.5-Trinitrobenzene	99-35-4	2	µg/L	<2	10 µg/L	# 117	46.0	108
EP075: Phenacetin	62-44-2	2	µg/L	<2	10 µg/L	100.0	57.8	101
EP075: 4-Aminobiphenyl	92-67-1	2	µg/L	<2	10 µg/L	103	60.1	112
EP075: Pentachloronitrobenzene	82-68-8	2	µg/L	<2	10 µg/L	109	59.0	109
EP075: Pronamide	23950-58-5	2	µg/L	<2	10 µg/L	92.8	62.7	109
EP075: Dimethylaminoazobenzene	60-11-7	2	µg/L	<2	10 µg/L	86.0	59.4	108
EP075: Chlorobenzilate	510-15-6	2	µg/L	<2	10 µg/L	98.6	57.7	110
EP075F: Haloethers (QCLot: 4563503)								
EP075: Bis(2-chloroethyl) ether	111-44-4	2	µg/L	<2	10 µg/L	# 64.5	69.1	112
EP075: Bis(2-chloroethoxy) methane	111-91-1	2	µg/L	<2	10 µg/L	75.7	66.2	111
EP075: 4-Chlorophenyl phenyl ether	7005-72-3	2	µg/L	<2	10 µg/L	86.5	64.7	109
EP075: 4-Bromophenyl phenyl ether	101-55-3	2	µg/L	<2	10 µg/L	108	61.6	108
EP075G: Chlorinated Hydrocarbons (QCLot: 4563503)								
EP075: 1.4-Dichlorobenzene	106-46-7	2	µg/L	<2	10 µg/L	65.0	41.0	97.0
EP075: 1.3-Dichlorobenzene	541-73-1	2	µg/L	<2	10 µg/L	66.3	40.0	96.0
EP075: 1.2-Dichlorobenzene	95-50-1	2	µg/L	<2	10 µg/L	71.7	41.0	95.0
EP075: Hexachloroethane	67-72-1	2	µg/L	<2	10 µg/L	67.8	46.0	88.0
EP075: 1.2.4-Trichlorobenzene	120-82-1	2	µg/L	<2	10 µg/L	70.0	46.0	96.0
EP075: Hexachloropropylene	1888-71-7	2	µg/L	<2	10 µg/L	80.1	34.0	96.0
EP075: Hexachlorobutadiene	87-68-3	2	µg/L	<2	10 µg/L	78.8	37.4	100
EP075: Hexachlorocyclopentadiene	77-47-4	10	µg/L	<10	10 µg/L	98.0	23.5	107

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP075G: Chlorinated Hydrocarbons (QCLot: 4563503) - continued								
EP075: Pentachlorobenzene	608-93-5	2	µg/L	<2	10 µg/L	83.4	64.5	107
EP075: Hexachlorobenzene (HCB)	118-74-1	4	µg/L	<4	10 µg/L	104	65.7	110
EP075H: Anilines and Benzidines (QCLot: 4563503)								
EP075: Aniline	62-53-3	2	µg/L	<2	10 µg/L	61.4	50.0	104
EP075: 4-Chloroaniline	106-47-8	2	µg/L	<2	10 µg/L	77.3	42.0	106
EP075: 2-Nitroaniline	88-74-4	4	µg/L	<4	10 µg/L	86.2	60.9	110
EP075: 3-Nitroaniline	99-09-2	4	µg/L	<4	10 µg/L	92.7	51.5	96.9
EP075: Dibenzofuran	132-64-9	2	µg/L	<2	10 µg/L	78.8	65.3	108
EP075: 4-Nitroaniline	100-01-6	2	µg/L	<2	10 µg/L	88.0	48.9	99.5
EP075: Carbazole	86-74-8	2	µg/L	<2	10 µg/L	95.0	64.3	107
EP075: 3.3`-Dichlorobenzidine	91-94-1	2	µg/L	<2	10 µg/L	96.4	60.3	119
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4563500)								
EP071: C10 - C14 Fraction	----	50	µg/L	<50	400 µg/L	68.5	53.7	97.0
EP071: C15 - C28 Fraction	----	100	µg/L	<100	600 µg/L	88.0	63.3	107
EP071: C29 - C36 Fraction	----	50	µg/L	<50	400 µg/L	66.7	58.3	120
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4563569)								
EP080: C6 - C9 Fraction	----	20	µg/L	<20	260 µg/L	79.7	75.0	127
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4565871)								
EP071: C10 - C14 Fraction	----	50	µg/L	<50	400 µg/L	65.8	53.7	97.0
EP071: C15 - C28 Fraction	----	100	µg/L	<100	600 µg/L	90.3	63.3	107
EP071: C29 - C36 Fraction	----	50	µg/L	<50	400 µg/L	91.0	58.3	120
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4569308)								
EP080: C6 - C9 Fraction	----	20	µg/L	<20	260 µg/L	102	75.0	127
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4563500)								
EP071: >C10 - C16 Fraction	----	100	µg/L	<100	500 µg/L	73.1	53.9	95.5
EP071: >C16 - C34 Fraction	----	100	µg/L	<100	700 µg/L	86.5	57.8	110
EP071: >C34 - C40 Fraction	----	100	µg/L	<100	300 µg/L	93.5	50.5	115
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4563569)								
EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	310 µg/L	79.5	75.0	127
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4565871)								
EP071: >C10 - C16 Fraction	----	100	µg/L	<100	500 µg/L	73.1	53.9	95.5
EP071: >C16 - C34 Fraction	----	100	µg/L	<100	700 µg/L	95.2	57.8	110
EP071: >C34 - C40 Fraction	----	100	µg/L	<100	300 µg/L	81.1	50.5	115
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4569308)								
EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	310 µg/L	105	75.0	127
EP080: BTEXN (QCLot: 4563569)								
EP080: Benzene	71-43-2	1	µg/L	<1	10 µg/L	90.7	70.0	122

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP080: BTEXN (QCLot: 4563569) - continued								
EP080: Toluene	108-88-3	2	µg/L	<2	10 µg/L	94.3	69.0	123
EP080: Ethylbenzene	100-41-4	2	µg/L	<2	10 µg/L	93.6	70.0	120
EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	10 µg/L	89.6	69.0	121
EP080: ortho-Xylene	95-47-6	2	µg/L	<2	10 µg/L	94.4	72.0	122
EP080: Naphthalene	91-20-3	5	µg/L	<5	10 µg/L	105	70.0	120
EP080: BTEXN (QCLot: 4569308)								
EP080: Benzene	71-43-2	1	µg/L	<1	10 µg/L	101	70.0	122
EP080: Toluene	108-88-3	2	µg/L	<2	10 µg/L	102	69.0	123
EP080: Ethylbenzene	100-41-4	2	µg/L	<2	10 µg/L	99.4	70.0	120
EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	10 µg/L	102	69.0	121
EP080: ortho-Xylene	95-47-6	2	µg/L	<2	10 µg/L	102	72.0	122
EP080: Naphthalene	91-20-3	5	µg/L	<5	10 µg/L	110	70.0	120
EP202A: Phenoxyacetic Acid Herbicides by LCMS (QCLot: 4564375)								
EP202-SL: 4-Chlorophenoxy acetic acid	122-88-3	10	µg/L	<10	100 µg/L	104	82.0	136
EP202-SL: 2.4-DB	94-82-6	10	µg/L	<10	100 µg/L	99.8	65.0	147
EP202-SL: Dicamba	1918-00-9	10	µg/L	<10	100 µg/L	106	83.0	137
EP202-SL: Mecoprop	93-65-2	10	µg/L	<10	100 µg/L	103	75.0	143
EP202-SL: MCPA	94-74-6	10	µg/L	<10	100 µg/L	103	76.0	140
EP202-SL: 2.4-DP	120-36-5	10	µg/L	<10	100 µg/L	101	76.0	144
EP202-SL: 2.4-D	94-75-7	10	µg/L	<10	100 µg/L	101	77.0	139
EP202-SL: Triclopyr	55335-06-3	10	µg/L	<10	100 µg/L	109	77.0	141
EP202-SL: Silvex (2.4.5-TP/Fenoprop)	93-72-1	10	µg/L	<10	100 µg/L	100	75.0	143
EP202-SL: 2.4.5-T	93-76-5	10	µg/L	<10	100 µg/L	102	78.0	140
EP202-SL: MCPB	94-81-5	10	µg/L	<10	100 µg/L	102	69.2	139
EP202-SL: Picloram	1918-02-1	10	µg/L	<10	100 µg/L	105	70.0	144
EP202-SL: Clopyralid	1702-17-6	10	µg/L	<10	100 µg/L	105	70.0	145
EP202-SL: Fluroxypyr	69377-81-7	10	µg/L	<10	100 µg/L	102	77.0	145
EP202A: Phenoxyacetic Acid Herbicides by LCMS (QCLot: 4569866)								
EP202-SL: 4-Chlorophenoxy acetic acid	122-88-3	10	µg/L	<10	100 µg/L	109	82.0	136
EP202-SL: 2.4-DB	94-82-6	10	µg/L	<10	100 µg/L	106	65.0	147
EP202-SL: Dicamba	1918-00-9	10	µg/L	<10	100 µg/L	116	83.0	137
EP202-SL: Mecoprop	93-65-2	10	µg/L	<10	100 µg/L	104	75.0	143
EP202-SL: MCPA	94-74-6	10	µg/L	<10	100 µg/L	105	76.0	140
EP202-SL: 2.4-DP	120-36-5	10	µg/L	<10	100 µg/L	104	76.0	144
EP202-SL: 2.4-D	94-75-7	10	µg/L	<10	100 µg/L	115	77.0	139
EP202-SL: Triclopyr	55335-06-3	10	µg/L	<10	100 µg/L	107	77.0	141

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP202A: Phenoxyacetic Acid Herbicides by LCMS (QCLot: 4569866) - continued								
EP202-SL: Silvex (2.4.5-TP/Fenoprop)	93-72-1	10	µg/L	<10	100 µg/L	110	75.0	143
EP202-SL: 2.4.5-T	93-76-5	10	µg/L	<10	100 µg/L	107	78.0	140
EP202-SL: MCPB	94-81-5	10	µg/L	<10	100 µg/L	110	69.2	139
EP202-SL: Picloram	1918-02-1	10	µg/L	<10	100 µg/L	108	70.0	144
EP202-SL: Clopyralid	1702-17-6	10	µg/L	<10	100 µg/L	108	70.0	145
EP202-SL: Fluroxypyr	69377-81-7	10	µg/L	<10	100 µg/L	117	77.0	145
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4567726)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.25 µg/L	91.6	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.25 µg/L	104	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.25 µg/L	122	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.25 µg/L	125	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.25 µg/L	124	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.25 µg/L	114	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4567726)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	116	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	122	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	124	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	120	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	118	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	119	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	122	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	112	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	118	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	107	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	122	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4567726)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	103	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	113	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	118	62.6	147
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	119	66.0	145
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	111	57.6	145
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	125	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	120	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4567726)								

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4567726) - continued								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.25 µg/L	118	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.25 µg/L	125	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.25 µg/L	122	67.0	138
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.25 µg/L	99.4	71.4	144

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	SpikeRecovery(%): MS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 4570846)							
ES2230964-001	HA05_0.1_0.2_220824	EG005T: Arsenic	7440-38-2	50 mg/kg	98.7	70.0	130
		EG005T: Cadmium	7440-43-9	50 mg/kg	104	70.0	130
		EG005T: Chromium	7440-47-3	50 mg/kg	97.6	68.0	132
		EG005T: Copper	7440-50-8	250 mg/kg	99.0	70.0	130
		EG005T: Lead	7439-92-1	250 mg/kg	103	70.0	130
		EG005T: Nickel	7440-02-0	50 mg/kg	99.5	70.0	130
		EG005T: Zinc	7440-66-6	250 mg/kg	101	66.0	133
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 4570848)							
ES2230964-054	SED02_220826	EG005T: Arsenic	7440-38-2	50 mg/kg	96.9	70.0	130
		EG005T: Cadmium	7440-43-9	50 mg/kg	103	70.0	130
		EG005T: Chromium	7440-47-3	50 mg/kg	103	68.0	132
		EG005T: Copper	7440-50-8	250 mg/kg	99.7	70.0	130
		EG005T: Lead	7439-92-1	250 mg/kg	103	70.0	130
		EG005T: Nickel	7440-02-0	50 mg/kg	102	70.0	130
		EG005T: Zinc	7440-66-6	250 mg/kg	104	66.0	133
EG035T: Total Recoverable Mercury by FIMS (QCLot: 4570847)							
ES2230964-001	HA05_0.1_0.2_220824	EG035T: Mercury	7439-97-6	5 mg/kg	93.9	70.0	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 4570849)							
ES2230964-054	SED02_220826	EG035T: Mercury	7439-97-6	5 mg/kg	93.4	70.0	130
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 4563555)							
ES2230964-001	HA05_0.1_0.2_220824	EP066: Total Polychlorinated biphenyls	----	1 mg/kg	105	70.0	130
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 4563562)							
ES2230964-053	SED01_220826	EP066: Total Polychlorinated biphenyls	----	1 mg/kg	107	70.0	130
EP068A: Organochlorine Pesticides (OC) (QCLot: 4563553)							

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP068A: Organochlorine Pesticides (OC) (QCLot: 4563553) - continued							
ES2230964-001	HA05_0.1_0.2_220824	EP068: gamma-BHC	58-89-9	0.5 mg/kg	108	70.0	130
		EP068: Heptachlor	76-44-8	0.5 mg/kg	111	70.0	130
		EP068: Aldrin	309-00-2	0.5 mg/kg	106	70.0	130
		EP068: Dieldrin	60-57-1	0.5 mg/kg	114	70.0	130
		EP068: Endrin	72-20-8	2 mg/kg	108	70.0	130
		EP068: 4.4`-DDT	50-29-3	2 mg/kg	112	70.0	130
EP068A: Organochlorine Pesticides (OC) (QCLot: 4563560)							
ES2230964-053	SED01_220826	EP068: gamma-BHC	58-89-9	0.5 mg/kg	98.2	70.0	130
		EP068: Heptachlor	76-44-8	0.5 mg/kg	79.8	70.0	130
		EP068: Aldrin	309-00-2	0.5 mg/kg	77.8	70.0	130
		EP068: Dieldrin	60-57-1	0.5 mg/kg	90.8	70.0	130
		EP068: Endrin	72-20-8	2 mg/kg	114	70.0	130
		EP068: 4.4`-DDT	50-29-3	2 mg/kg	113	70.0	130
EP068B: Organophosphorus Pesticides (OP) (QCLot: 4563553)							
ES2230964-001	HA05_0.1_0.2_220824	EP068: Diazinon	333-41-5	0.5 mg/kg	94.6	70.0	130
		EP068: Chlorpyrifos-methyl	5598-13-0	0.5 mg/kg	102	70.0	130
		EP068: Pirimphos-ethyl	23505-41-1	0.5 mg/kg	101	70.0	130
		EP068: Bromophos-ethyl	4824-78-6	0.5 mg/kg	107	70.0	130
		EP068: Prothiofos	34643-46-4	0.5 mg/kg	106	70.0	130
EP068B: Organophosphorus Pesticides (OP) (QCLot: 4563560)							
ES2230964-053	SED01_220826	EP068: Diazinon	333-41-5	0.5 mg/kg	92.1	70.0	130
		EP068: Chlorpyrifos-methyl	5598-13-0	0.5 mg/kg	85.7	70.0	130
		EP068: Pirimphos-ethyl	23505-41-1	0.5 mg/kg	77.6	70.0	130
		EP068: Bromophos-ethyl	4824-78-6	0.5 mg/kg	82.0	70.0	130
		EP068: Prothiofos	34643-46-4	0.5 mg/kg	83.2	70.0	130
EP074E: Halogenated Aliphatic Compounds (QCLot: 4563692)							
ES2230964-001	HA05_0.1_0.2_220824	EP074: 1.1-Dichloroethene	75-35-4	2.5 mg/kg	87.6	70.0	130
		EP074: Trichloroethene	79-01-6	2.5 mg/kg	87.8	70.0	130
EP074E: Halogenated Aliphatic Compounds (QCLot: 4563698)							
ES2230964-054	SED02_220826	EP074: 1.1-Dichloroethene	75-35-4	2.5 mg/kg	78.3	70.0	130
		EP074: Trichloroethene	79-01-6	2.5 mg/kg	81.1	70.0	130
EP074F: Halogenated Aromatic Compounds (QCLot: 4563692)							
ES2230964-001	HA05_0.1_0.2_220824	EP074: Chlorobenzene	108-90-7	2.5 mg/kg	91.4	70.0	130
EP074F: Halogenated Aromatic Compounds (QCLot: 4563698)							
ES2230964-054	SED02_220826	EP074: Chlorobenzene	108-90-7	2.5 mg/kg	71.1	70.0	130
EP075(SIM)A: Phenolic Compounds (QCLot: 4563552)							

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)A: Phenolic Compounds (QCLot: 4563552) - continued							
ES2230964-001	HA05_0.1_0.2_220824	EP075(SIM): Phenol	108-95-2	10 mg/kg	99.6	70.0	130
		EP075(SIM): 2-Chlorophenol	95-57-8	10 mg/kg	101	70.0	130
		EP075(SIM): 2-Nitrophenol	88-75-5	10 mg/kg	111	60.0	130
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	10 mg/kg	96.2	70.0	130
		EP075(SIM): Pentachlorophenol	87-86-5	10 mg/kg	56.2	20.0	130
EP075(SIM)A: Phenolic Compounds (QCLot: 4563559)							
ES2230964-053	SED01_220826	EP075(SIM): Phenol	108-95-2	10 mg/kg	106	70.0	130
		EP075(SIM): 2-Chlorophenol	95-57-8	10 mg/kg	106	70.0	130
		EP075(SIM): 2-Nitrophenol	88-75-5	10 mg/kg	101	60.0	130
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	10 mg/kg	93.1	70.0	130
		EP075(SIM): Pentachlorophenol	87-86-5	10 mg/kg	83.9	20.0	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4563552)							
ES2230964-001	HA05_0.1_0.2_220824	EP075(SIM): Acenaphthene	83-32-9	10 mg/kg	109	70.0	130
		EP075(SIM): Pyrene	129-00-0	10 mg/kg	95.0	70.0	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4563559)							
ES2230964-053	SED01_220826	EP075(SIM): Acenaphthene	83-32-9	10 mg/kg	108	70.0	130
		EP075(SIM): Pyrene	129-00-0	10 mg/kg	110	70.0	130
EP075A: Phenolic Compounds (QCLot: 4563554)							
ES2230964-001	HA05_0.1_0.2_220824	EP075: Phenol	108-95-2	10 mg/kg	86.8	60.0	130
		EP075: 2-Chlorophenol	95-57-8	10 mg/kg	84.9	60.0	130
		EP075: 2-Nitrophenol	88-75-5	10 mg/kg	101	50.0	130
		EP075: 4-Chloro-3-methylphenol	59-50-7	10 mg/kg	91.0	50.0	130
		EP075: Pentachlorophenol	87-86-5	10 mg/kg	48.1	10.0	130
EP075A: Phenolic Compounds (QCLot: 4563561)							
ES2230964-053	SED01_220826	EP075: Phenol	108-95-2	10 mg/kg	92.2	60.0	130
		EP075: 2-Chlorophenol	95-57-8	10 mg/kg	91.4	60.0	130
		EP075: 2-Nitrophenol	88-75-5	10 mg/kg	103	50.0	130
		EP075: 4-Chloro-3-methylphenol	59-50-7	10 mg/kg	102	50.0	130
		EP075: Pentachlorophenol	87-86-5	10 mg/kg	107	10.0	130
EP075D: Nitrosamines (QCLot: 4563554)							
ES2230964-001	HA05_0.1_0.2_220824	EP075: N-Nitrosodi-n-propylamine	621-64-7	10 mg/kg	111	50.0	130
EP075D: Nitrosamines (QCLot: 4563561)							
ES2230964-053	SED01_220826	EP075: N-Nitrosodi-n-propylamine	621-64-7	10 mg/kg	102	50.0	130
EP075E: Nitroaromatics and Ketones (QCLot: 4563554)							
ES2230964-001	HA05_0.1_0.2_220824	EP075: 2.4-Dinitrotoluene	121-14-2	10 mg/kg	84.2	40.0	130
EP075E: Nitroaromatics and Ketones (QCLot: 4563561)							

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP075E: Nitroaromatics and Ketones (QCLot: 4563561) - continued							
ES2230964-053	SED01_220826	EP075: 2.4-Dinitrotoluene	121-14-2	10 mg/kg	85.1	40.0	130
EP075G: Chlorinated Hydrocarbons (QCLot: 4563554)							
ES2230964-001	HA05_0.1_0.2_220824	EP075: 1.4-Dichlorobenzene	106-46-7	10 mg/kg	95.0	60.0	130
		EP075: 1.2.4-Trichlorobenzene	120-82-1	10 mg/kg	101	50.0	130
EP075G: Chlorinated Hydrocarbons (QCLot: 4563561)							
ES2230964-053	SED01_220826	EP075: 1.4-Dichlorobenzene	106-46-7	10 mg/kg	90.0	60.0	130
		EP075: 1.2.4-Trichlorobenzene	120-82-1	10 mg/kg	94.5	50.0	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4563551)							
ES2230964-001	HA05_0.1_0.2_220824	EP071: C10 - C14 Fraction	----	480 mg/kg	109	73.0	137
		EP071: C15 - C28 Fraction	----	3100 mg/kg	107	53.0	131
		EP071: C29 - C36 Fraction	----	2060 mg/kg	110	52.0	132
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4563558)							
ES2230964-053	SED01_220826	EP071: C10 - C14 Fraction	----	480 mg/kg	74.0	73.0	137
		EP071: C15 - C28 Fraction	----	3100 mg/kg	72.9	53.0	131
		EP071: C29 - C36 Fraction	----	2060 mg/kg	80.4	52.0	132
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4563693)							
ES2230964-001	HA05_0.1_0.2_220824	EP080: C6 - C9 Fraction	----	32.5 mg/kg	92.1	70.0	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4563697)							
ES2230964-054	SED02_220826	EP080: C6 - C9 Fraction	----	32.5 mg/kg	70.8	70.0	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4563551)							
ES2230964-001	HA05_0.1_0.2_220824	EP071: >C10 - C16 Fraction	----	860 mg/kg	103	73.0	137
		EP071: >C16 - C34 Fraction	----	4320 mg/kg	112	53.0	131
		EP071: >C34 - C40 Fraction	----	890 mg/kg	106	52.0	132
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4563558)							
ES2230964-053	SED01_220826	EP071: >C10 - C16 Fraction	----	860 mg/kg	74.1	73.0	137
		EP071: >C16 - C34 Fraction	----	4320 mg/kg	72.8	53.0	131
		EP071: >C34 - C40 Fraction	----	890 mg/kg	84.9	52.0	132
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4563693)							
ES2230964-001	HA05_0.1_0.2_220824	EP080: C6 - C10 Fraction	C6_C10	37.5 mg/kg	96.7	70.0	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4563697)							
ES2230964-054	SED02_220826	EP080: C6 - C10 Fraction	C6_C10	37.5 mg/kg	77.6	70.0	130
EP080: BTEXN (QCLot: 4563693)							
ES2230964-001	HA05_0.1_0.2_220824	EP080: Benzene	71-43-2	2.5 mg/kg	80.0	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	82.3	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: 4563693) - continued							
ES2230964-001	HA05_0.1_0.2_220824	EP080: meta- & para-Xylene	108-38-3 106-42-3	2.5 mg/kg	83.7	70.0	130
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	81.3	70.0	130
		EP080: Naphthalene	91-20-3	2.5 mg/kg	90.5	70.0	130
EP080: BTEXN (QCLot: 4563697)							
ES2230964-054	SED02_220826	EP080: Benzene	71-43-2	2.5 mg/kg	78.4	70.0	130
		EP080: Toluene	108-88-3	2.5 mg/kg	78.2	70.0	130
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	77.0	70.0	130
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2.5 mg/kg	78.1	70.0	130
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	79.8	70.0	130
		EP080: Naphthalene	91-20-3	2.5 mg/kg	76.7	70.0	130
EP202A: Phenoxyacetic Acid Herbicides by LCMS (QCLot: 4566769)							
ES2230964-001	HA05_0.1_0.2_220824	EP202: Mecoprop	93-65-2	0.1 mg/kg	94.0	60.0	140
		EP202: MCPA	94-74-6	0.1 mg/kg	86.2	57.0	143
		EP202: 2.4-D	94-75-7	0.1 mg/kg	74.5	68.0	139
		EP202: Triclopyr	55335-06-3	0.1 mg/kg	71.4	51.0	145
		EP202: 2.4.5-T	93-76-5	0.1 mg/kg	60.4	57.0	142
		EP202: Picloram	1918-02-1	0.1 mg/kg	72.5	49.0	138
		EP202: Clopyralid	1702-17-6	0.1 mg/kg	70.8	49.0	149
EP202A: Phenoxyacetic Acid Herbicides by LCMS (QCLot: 4566831)							
ES2230964-053	SED01_220826	EP202: Mecoprop	93-65-2	0.1 mg/kg	67.5	60.0	140
		EP202: MCPA	94-74-6	0.1 mg/kg	65.8	57.0	143
		EP202: 2.4-D	94-75-7	0.1 mg/kg	74.2	68.0	139
		EP202: Triclopyr	55335-06-3	0.1 mg/kg	74.4	51.0	145
		EP202: 2.4.5-T	93-76-5	0.1 mg/kg	65.8	57.0	142
		EP202: Picloram	1918-02-1	0.1 mg/kg	# 34.0	49.0	138
		EP202: Clopyralid	1702-17-6	0.1 mg/kg	# 37.7	49.0	149
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4566763)							
ES2230964-001	HA05_0.1_0.2_220824	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.00125 mg/kg	94.4	72.0	128
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.00125 mg/kg	111	73.0	123
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.00125 mg/kg	# Not Determined	67.0	130
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.00125 mg/kg	113	70.0	132
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.00125 mg/kg	# Not Determined	68.0	136
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.00125 mg/kg	115	59.0	134
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4566763)							

Sub-Matrix: **SOIL**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	Matrix Spike (MS) Report: SpikeRecovery(%) MS	Acceptable Limits (%) Low	Acceptable Limits (%) High
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4566763) - continued							
ES2230964-001	HA05_0.1_0.2_220824	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.00625 mg/kg	105	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	125	70.0	132
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.00125 mg/kg	111	71.0	131
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.00125 mg/kg	131	69.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.00125 mg/kg	# Not Determined	72.0	129
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.00125 mg/kg	105	69.0	133
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.00125 mg/kg	# Not Determined	64.0	136
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.00125 mg/kg	129	69.0	135
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.00125 mg/kg	# Not Determined	66.0	139
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.00312 mg/kg	117	69.0	133
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4566763)							
ES2230964-001	HA05_0.1_0.2_220824	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.00125 mg/kg	119	67.0	137
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.00312 mg/kg	118	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	116	68.7	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.00312 mg/kg	114	65.1	134
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.00125 mg/kg	112	63.0	144
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.00125 mg/kg	109	61.0	139
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4566763)							
ES2230964-001	HA05_0.1_0.2_220824	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.00125 mg/kg	118	62.0	145
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.00125 mg/kg	107	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.00125 mg/kg	117	65.0	137
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.00125 mg/kg	129	69.2	143

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	Matrix Spike (MS) Report: SpikeRecovery(%) MS	Acceptable Limits (%) Low	Acceptable Limits (%) High
EG020F: Dissolved Metals by ICP-MS (QCLot: 4566917)							
ES2231629-001	Anonymous	EG020A-F: Arsenic	7440-38-2	1 mg/L	96.4	70.0	130
		EG020A-F: Cadmium	7440-43-9	0.25 mg/L	98.4	70.0	130

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG020F: Dissolved Metals by ICP-MS (QCLot: 4566917) - continued							
ES2231629-001	Anonymous	EG020A-F: Chromium	7440-47-3	1 mg/L	99.0	70.0	130
		EG020A-F: Copper	7440-50-8	1 mg/L	98.3	70.0	130
		EG020A-F: Lead	7439-92-1	1 mg/L	117	70.0	130
		EG020A-F: Nickel	7440-02-0	1 mg/L	97.6	70.0	130
		EG020A-F: Zinc	7440-66-6	1 mg/L	99.0	70.0	130
EG020T: Total Metals by ICP-MS (QCLot: 4566939)							
ES2228748-009	Anonymous	EG020A-T: Arsenic	7440-38-2	10 mg/L	87.7	70.0	130
		EG020A-T: Cadmium	7440-43-9	2.5 mg/L	96.4	70.0	130
		EG020A-T: Chromium	7440-47-3	10 mg/L	94.2	70.0	130
		EG020A-T: Copper	7440-50-8	10 mg/L	93.2	70.0	130
		EG020A-T: Lead	7439-92-1	10 mg/L	91.4	70.0	130
		EG020A-T: Nickel	7440-02-0	10 mg/L	92.7	70.0	130
		EG020A-T: Zinc	7440-66-6	10 mg/L	91.9	70.0	130
EG035F: Dissolved Mercury by FIMS (QCLot: 4566918)							
ES2230964-073	QC104	EG035F: Mercury	7439-97-6	0.01 mg/L	92.0	70.0	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 4564508)							
ES2230964-052	SW02_220826	EG035T: Mercury	7439-97-6	0.01 mg/L	98.0	70.0	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 4567003)							
ES2228748-012	Anonymous	EG035T: Mercury	7439-97-6	0.01 mg/L	99.8	70.0	130
EP074E: Halogenated Aliphatic Compounds (QCLot: 4563568)							
ES2230964-051	SW01_220826	EP074: 1.1-Dichloroethene	75-35-4	25 µg/L	101	70.0	130
		EP074: Trichloroethene	79-01-6	25 µg/L	117	70.0	130
EP074F: Halogenated Aromatic Compounds (QCLot: 4563568)							
ES2230964-051	SW01_220826	EP074: Chlorobenzene	108-90-7	25 µg/L	119	70.0	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4563569)							
ES2230964-051	SW01_220826	EP080: C6 - C9 Fraction	----	325 µg/L	107	70.0	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4569308)							
ES2231751-001	Anonymous	EP080: C6 - C9 Fraction	----	325 µg/L	101	70.0	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4563569)							
ES2230964-051	SW01_220826	EP080: C6 - C10 Fraction	C6_C10	375 µg/L	108	70.0	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4569308)							
ES2231751-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	375 µg/L	103	70.0	130
EP080: BTEXN (QCLot: 4563569)							
ES2230964-051	SW01_220826	EP080: Benzene	71-43-2	25 µg/L	91.2	70.0	130
		EP080: Toluene	108-88-3	25 µg/L	95.8	70.0	130

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP080: BTEXN (QCLot: 4563569) - continued							
ES2230964-051	SW01_220826	EP080: Ethylbenzene	100-41-4	25 µg/L	101	70.0	130
		EP080: meta- & para-Xylene	108-38-3 106-42-3	25 µg/L	96.5	70.0	130
		EP080: ortho-Xylene	95-47-6	25 µg/L	104	70.0	130
		EP080: Naphthalene	91-20-3	25 µg/L	103	70.0	130
EP080: BTEXN (QCLot: 4569308)							
ES2231751-001	Anonymous	EP080: Benzene	71-43-2	25 µg/L	90.0	70.0	130
		EP080: Toluene	108-88-3	25 µg/L	93.6	70.0	130
		EP080: Ethylbenzene	100-41-4	25 µg/L	100	70.0	130
		EP080: meta- & para-Xylene	108-38-3 106-42-3	25 µg/L	101	70.0	130
		EP080: ortho-Xylene	95-47-6	25 µg/L	103	70.0	130
		EP080: Naphthalene	91-20-3	25 µg/L	93.8	70.0	130
EP202A: Phenoxyacetic Acid Herbicides by LCMS (QCLot: 4564375)							
EM2216786-001	Anonymous	EP202-SL: Mecoprop	93-65-2	100 µg/L	93.3	75.0	143
		EP202-SL: MCPA	94-74-6	100 µg/L	93.7	76.0	140
		EP202-SL: 2.4-D	94-75-7	100 µg/L	93.0	77.0	139
		EP202-SL: Triclopyr	55335-06-3	100 µg/L	104	77.0	141
		EP202-SL: 2.4.5-T	93-76-5	100 µg/L	92.2	78.0	140
		EP202-SL: Picloram	1918-02-1	100 µg/L	# 50.2	70.0	144
		EP202-SL: Clopyralid	1702-17-6	100 µg/L	# 34.7	70.0	145
EP202A: Phenoxyacetic Acid Herbicides by LCMS (QCLot: 4569866)							
EM2216817-021	Anonymous	EP202-SL: Mecoprop	93-65-2	100 µg/L	105	75.0	143
		EP202-SL: MCPA	94-74-6	100 µg/L	104	76.0	140
		EP202-SL: 2.4-D	94-75-7	100 µg/L	107	77.0	139
		EP202-SL: Triclopyr	55335-06-3	100 µg/L	108	77.0	141
		EP202-SL: 2.4.5-T	93-76-5	100 µg/L	103	78.0	140
		EP202-SL: Picloram	1918-02-1	100 µg/L	95.6	70.0	144
		EP202-SL: Clopyralid	1702-17-6	100 µg/L	90.3	70.0	145
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4567726)							
ES2230964-052	SW02_220826	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.25 µg/L	88.0	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.25 µg/L	95.6	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.25 µg/L	114	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.25 µg/L	117	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.25 µg/L	117	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.25 µg/L	103	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4567726)							
ES2230964-052	SW02_220826	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	117	73.0	129

Sub-Matrix: **WATER**

				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: 4567726) - continued							
ES2230964-052	SW02_220826	EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	127	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	120	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	127	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	116	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	122	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	112	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	106	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	113	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	109	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	112	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4567726)							
ES2230964-052	SW02_220826	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	112	67.0	137
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	116	68.0	141
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	118	62.6	147
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	110	66.0	145
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	119	57.6	145
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	122	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	127	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4567726)							
ES2230964-052	SW02_220826	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.25 µg/L	101	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.25 µg/L	124	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.25 µg/L	125	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.25 µg/L	98.2	71.4	144

CHAIN OF CUSTODY

ALS Laboratory: please tick →

☐ADELAIDE 21 Burma Road Pooraka SA 5095 Ph: 08 8359 0890 E: adelaide@alsglobal.com

☐BRISBANE 2 Byth Street Stafford QLD 4053 Ph: 07 3243 7222 E: samples.brisbane@alsglobal.com

☐GLADSTONE 46 Callemondah Drive Clinton QLD 4680 Ph: 07 7471 5600 E: gladstone@alsglobal.com

☐MACKAY 78 Harbour Road Mackay QLD 4740 Ph: 07 4944 0177 E: mackay@alsglobal.com

☐MELBOURNE 2-4 Westall Road Springvale VIC 3171 Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com

☐MUDGEE 1/29 Sydney Road Mudgee NSW 2850 Ph: 02 6372 6735 E: mudgee.mail@alsglobal.com

☐NEWCASTLE 5/585 Maitland Road Mayfield West NSW 2304 Ph: 02 4014 2500 E: samples.newcastle@alsglobal.com

☐NOWRA 4/13 Geary Place North Nowra NSW 2541 Ph: 02 4423 2063 E: nowra@alsglobal.com

☐PERTH 10 Hod Way Malaga WA 6090 Ph: 08 9209 7655 E: samples.perth@alsglobal.com

☐SYDNEY 277-289 Woodpark Road Smithfield NSW 2164 Ph: 02 8784 8555 E: samples.sydney@alsglobal.com

☐TOWNSVILLE 14-15 Desma Court Bohle QLD 4818 Ph: 07 4796 0600 E: townesville.environmental@alsglobal.com

☐WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: wollongong@alsglobal.com

CLIENT: AECOM Australia Pty Ltd	**TURNAROUND REQUIREMENTS :** (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☑ Standard TAT (List due date):	**FOR LABORATORY USE ONLY (Circle)**
OFFICE: Newcastle		☐ Non Standard or urgent TAT (List due date):	Custody Seal Intact? Yes / No / N/A
PROJECT: Muswellbrook **PROJECT NO.:** 60619756, 211-30	**ALS QUOTE NO.:** EN/004/21	**COC SEQUENCE NUMBER (Circle)**	Free ice / frozen ice bricks present upon receipt? Yes / No / N/A
ORDER NUMBER: **PURCHASE ORDER NO.:**	**COUNTRY OF ORIGIN:** AUST	COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: 2.1 °C
PROJECT MANAGER: Tama Armani **CONTACT PH:** 0488 757 116		OF: 1 2 3 4 5 6 7	Other comment:
SAMPLER: P. Dean **SAMPLER MOBILE:** 0458 114 239	**RELINQUISHED BY:** P. Dean	**RECEIVED BY:** TOB	**RELINQUISHED BY:**
COC Emailed to ALS? (YES / NO) **EDD FORMAT (or default):**	DATE/TIME: 23/11/22 1620	DATE/TIME: 23/11/22 4:21pm	DATE/TIME:
Email Reports to (will default to PM if none other listed): Tama.Armani@aecom.com peter.dean@aecom.com			**RECEIVED BY:**
Email Invoice to (will default to PM if no other addresses are listed): AP_Customerservice.anz@aecom.com			DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE ONLY	SAMPLE DETAILS (MATRIX: Solid(S) Water(W))			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price). Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL BOTTLES	TRH, C6-C40, BTEXN, PAHs, VOC, SVOC	8 metals (filtered)	PCB	OP/OC Pesticides, Herbicides	PFAS (EP231x)	NT - SA (nutrients)	TRH C6 - C10	BTEXN	Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
	MW01_221123	23/11/22	W		7	X	X	X	X	X				
	MW02_221123				7	X	X	X	X	X				
	MW03_221123				7	X	X	X	X	X				
	BR245_221123				7	X	X	X	X	X	X			
	BR225_221123				9	X	X	X	X	X	X			
	QC100_221123				9	X	X	X	X	X	X			
	QC300_221123				6	X	X	X	X	X	~~X~~			
	QC500_221123				1							X	X	
	QC600_221123				1								X	
				TOTAL										

Environmental Division
Newcastle - Water
Work Order Reference
WN2214776

Telephone : +61 2 4014 2500

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amb
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved P
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag; LI = Lugols Iodine Preserved Bottles; STT = Sterile Sod

eserved Plastic; F = Formaldehyde Preserved Glass;

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : **WN2214776**

Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: ALS Water - Newcastle
Contact	: TAMA ARMANI	Contact	: Hayley Withers
Address	: 17 WARABROOK BLVD NEWCASTLE Newcastle 2304	Address	: 5/585 Maitland Road Newcastle West NSW Australia 2304
E-mail	: tama.armani@aecom.com	E-mail	: Hayley.withers@alsglobal.com
Telephone	: ----	Telephone	: +612 4014 2500
Facsimile	: ----	Facsimile	: +61 2 4967 7382
Project	: 60619756, 211-30 Muswellbrook	Page	: 1 of 3
Order number	: 60619756, 211-30	Quote number	: ES2021AECOMAU0044 (EN/004/21)
C-O-C number	: ----	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: ----		
Sampler	: PETER DEAN		

Dates

Date Samples Received	: 23-Nov-2022 16:21	Issue Date	: 25-Nov-2022
Client Requested Due Date	: 30-Nov-2022	Scheduled Reporting Date	: **30-Nov-2022**

Delivery Details

Mode of Delivery	: Client Drop Off	Security Seal	: Not Available
No. of coolers/boxes	: ----	Temperature	: 2.1 - Ice present
Receipt Detail	:	No. of samples received / analysed	: 9 / 9

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Proactive Holding Time Report
  - Requested Deliverables
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.
- **Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The laboratory will process these samples unless instructions are received from you indicating you do not wish to proceed. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.**
- Sample Disposal - Aqueous Chemistry (3 weeks), Aqueous Microbiological (1 week), Solid (2 months ± 1 week) from receipt of samples.

Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exists.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **WATER**

Laboratory sample ID	Sampling date / time	Sample ID	WATER - EP074 (water) Volatile Organic Compounds	WATER - EP075 Semivolatile Organic Compounds	WATER - EP202SL Phenoxyacetic Acid	WATER - EP231X PFAS - Full Suite (28 analytes)	WATER - NT-08A Total Nitrogen + NO2 + NO3 + NH3 + Total P +	WATER - W-02T 8 metals (Total)	WATER - W-08 TRH/BTEXN/PAH/OC/PCB/8 Metals
WN2214776-001	23-Nov-2022 00:00	MW01_221123	✓	✓	✓	✓			✓
WN2214776-002	23-Nov-2022 00:00	MW02 -221123	✓	✓	✓	✓			✓
WN2214776-003	23-Nov-2022 00:00	MW03_221123	✓	✓	✓	✓			✓
WN2214776-004	23-Nov-2022 00:00	BR245_221123	✓	✓	✓	✓	✓		✓
WN2214776-005	23-Nov-2022 00:00	BR225_221123	✓	✓	✓	✓	✓		✓
WN2214776-006	23-Nov-2022 00:00	QC100_221123	✓	✓	✓	✓	✓		✓
WN2214776-007	23-Nov-2022 00:00	QC300_221123	✓	✓	✓	✓		✓	✓

Matrix: **WATER**

Laboratory sample ID	Sampling date / time	Sample ID	WATER - EP080 BTEXN	WATER - W-18 TRH(C6 - C9)/BTEXN
WN2214776-008	23-Nov-2022 00:00	QC500_221123		✓
WN2214776-009	23-Nov-2022 00:00	QC600_221123	✓	

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.

Requested Deliverables

ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV)	Email	AP_CustomerService.ANZ@aecom.com

PETER DEAN

- *AU Certificate of Analysis - NATA (COA)	Email	peter.dean@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	peter.dean@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	peter.dean@aecom.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	peter.dean@aecom.com
- Chain of Custody (CoC) (COC)	Email	peter.dean@aecom.com
- EDI Format - ENMRG (ENMRG)	Email	peter.dean@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	peter.dean@aecom.com

TAMA ARMANI

- *AU Certificate of Analysis - NATA (COA)	Email	tama.armani@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	tama.armani@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	tama.armani@aecom.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	tama.armani@aecom.com
- Chain of Custody (CoC) (COC)	Email	tama.armani@aecom.com
- EDI Format - ENMRG (ENMRG)	Email	tama.armani@aecom.com
- EDI Format - EQUIS_V5_AECOM_SAMPLE (EQUIS_V5_AECOM_SAMPLE)	Email	tama.armani@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	tama.armani@aecom.com

ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **WN2214776**	Page	: 1 of 31
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: ALS Water - Newcastle
Contact	: TAMA ARMANI	Contact	: Hayley Withers
Address	: 17 WARABROOK BLVD NEWCASTLE Newcastle 2304	Address	: 5/585 Maitland Road Newcastle West NSW Australia 2304
Telephone	: ----	Telephone	: +612 4014 2500
Project	: 60619756, 211-30 Muswellbrook	Date Samples Received	: 23-Nov-2022 16:21
Order number	: 60619756, 211-30	Date Analysis Commenced	: 25-Nov-2022
C-O-C number	: ----	Issue Date	: 30-Nov-2022 18:10
Sampler	: PETER DEAN		
Site	: ----		
Quote number	: EN/004/21		
No. of samples received	: 9		
No. of samples analysed	: 9		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

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

Signatories

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

Signatories	*Position*	*Accreditation Category*
Ankit Joshi	Senior Chemist - Inorganics	Sydney Inorganics, Smithfield, NSW
Edwandy Fadjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Franco Lentini	LCMS Coordinator	Sydney Organics, Smithfield, NSW
Wisam Marassa	Inorganics Coordinator	Sydney Inorganics, Smithfield, NSW

General Comments

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

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

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

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

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

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

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

- EP075 (SIM): Where reported, Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero.
- EP075: Where reported, Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero.
- EP231X - Per- and Polyfluoroalkyl Substances (PFAS): Samples received in 20ml or 125ml bottles have been tested in accordance with the QSM5.3 compliant, NATA accredited method. 60mL or 250mL bottles have been tested to the legacy QSM 5.1 aligned, NATA accredited method.
- EP068: Where reported, Total Chlordane (sum) is the sum of the reported concentrations of cis-Chlordane and trans-Chlordane at or above the LOR.
- EP080: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EP074: Where reported, Total Trihalomethanes is the sum of the reported concentrations of all Trihalomethanes at or above the LOR.
- EP074: Where reported, Total Trimethylbenzenes is the sum of the reported concentrations of 1.2.3-Trimethylbenzene, 1.2.4-Trimethylbenzene and 1.3.5-Trimethylbenzene at or above the LOR.
- EP075(SIM): Where reported, Total Cresol is the sum of the reported concentrations of 2-Methylphenol and 3- & 4-Methylphenol at or above the LOR.
- EP074/EP080 : Surrogate and MS recovery bias low due to sample matrix interferences, confirmed by re-analysis.
- EP080: Sample TRIP SPIKE contains volatile compounds spiked into the sample containers prior to dispatch from the laboratory. BTEXN compounds spiked at 20 ug/L.
- EP075: Where reported, 'Sum of PAH' is the sum of the USEPA 16 priority PAHs
- EP231: Stable isotope enriched internal standards are added to samples prior to extraction. Target compounds have a direct analogous internal standard with the exception of PFPeS, PFHpA, PFDS, PFTrDA and 10:2 FTS. These compounds use an internal standard that is chemically related and has a retention time close to that of the target compound. The DQO for internal standard response is 50-150% of that established at initial calibration. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS (Australian HEPA) and also conform to QSM 5.3 (US DoD) requirements.

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	MW01_221123	MW02 -221123	MW03_221123	BR245_221123	BR225_221123
				Sampling date / time	23-Nov-2022 00:00	23-Nov-2022 00:00	23-Nov-2022 00:00	23-Nov-2022 00:00	23-Nov-2022 00:00
Compound	CAS Number	LOR	Unit		WN2214776-001	WN2214776-002	WN2214776-003	WN2214776-004	WN2214776-005
					Result	Result	Result	Result	Result
EG020F: Dissolved Metals by ICP-MS									
Arsenic	7440-38-2	0.001	mg/L		<0.001	<0.001	<0.001	**0.004**	<0.001
Cadmium	7440-43-9	0.0001	mg/L		<0.0001	<0.0001	<0.0001	<0.0001	**0.0004**
Chromium	7440-47-3	0.001	mg/L		<0.001	<0.001	<0.001	**0.002**	<0.001
Copper	7440-50-8	0.001	mg/L		<0.001	<0.001	**0.004**	<0.001	**0.002**
Nickel	7440-02-0	0.001	mg/L		**0.003**	**0.004**	**0.004**	**0.036**	**0.050**
Lead	7439-92-1	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Zinc	7440-66-6	0.005	mg/L		<0.005	<0.005	<0.005	<0.005	**0.112**
EG035F: Dissolved Mercury by FIMS									
Mercury	7439-97-6	0.0001	mg/L		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
EK055G: Ammonia as N by Discrete Analyser									
Ammonia as N	7664-41-7	0.01	mg/L		----	----	----	**0.12**	<0.01
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N	14797-65-0	0.01	mg/L		----	----	----	**0.02**	<0.01
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N	14797-55-8	0.01	mg/L		----	----	----	**0.15**	**0.75**
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N	----	0.01	mg/L		----	----	----	**0.17**	**0.75**
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	0.1	mg/L		----	----	----	**0.2**	<0.1
EK062G: Total Nitrogen as N (TKN + NOx) by Discrete Analyser									
^ Total Nitrogen as N	----	0.1	mg/L		----	----	----	**0.4**	**0.8**
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	0.01	mg/L		----	----	----	**0.03**	**0.10**
EK071G: Reactive Phosphorus as P by discrete analyser									
Reactive Phosphorus as P	14265-44-2	0.01	mg/L		----	----	----	<0.01	**0.09**
EP066: Polychlorinated Biphenyls (PCB)									
^ Total Polychlorinated biphenyls	----	1	µg/L		<1	<1	<1	<1	<1
EP068A: Organochlorine Pesticides (OC)									
alpha-BHC	319-84-6	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Hexachlorobenzene (HCB)	118-74-1	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
beta-BHC	319-85-7	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
gamma-BHC	58-89-9	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
delta-BHC	319-86-8	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	MW01_221123	MW02 -221123	MW03_221123	BR245_221123	BR225_221123
				Sampling date / time	23-Nov-2022 00:00	23-Nov-2022 00:00	23-Nov-2022 00:00	23-Nov-2022 00:00	23-Nov-2022 00:00
Compound	CAS Number	LOR	Unit		WN2214776-001	WN2214776-002	WN2214776-003	WN2214776-004	WN2214776-005
					Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued									
Heptachlor	76-44-8	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Aldrin	309-00-2	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Heptachlor epoxide	1024-57-3	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
trans-Chlordane	5103-74-2	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
alpha-Endosulfan	959-98-8	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
cis-Chlordane	5103-71-9	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Dieldrin	60-57-1	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
4.4`-DDE	72-55-9	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Endrin	72-20-8	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
beta-Endosulfan	33213-65-9	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
4.4`-DDD	72-54-8	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Endrin aldehyde	7421-93-4	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Endosulfan sulfate	1031-07-8	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
4.4`-DDT	50-29-3	2.0	µg/L		<2.0	<2.0	<2.0	<2.0	<2.0
Endrin ketone	53494-70-5	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Methoxychlor	72-43-5	2.0	µg/L		<2.0	<2.0	<2.0	<2.0	<2.0
^ Total Chlordane (sum)	----	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
EP074A: Monocyclic Aromatic Hydrocarbons									
Benzene	71-43-2	1	µg/L		<1	<1	<1	<1	<1
Toluene	108-88-3	2	µg/L		<2	<2	<2	<2	<2
Ethylbenzene	100-41-4	2	µg/L		<2	<2	<2	<2	<2
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L		<2	<2	<2	<2	<2
Styrene	100-42-5	5	µg/L		<5	<5	<5	<5	<5
ortho-Xylene	95-47-6	2	µg/L		<2	<2	<2	<2	<2
Isopropylbenzene	98-82-8	5	µg/L		<5	<5	<5	<5	<5
n-Propylbenzene	103-65-1	5	µg/L		<5	<5	<5	<5	<5
1.3.5-Trimethylbenzene	108-67-8	5	µg/L		<5	<5	<5	<5	<5
sec-Butylbenzene	135-98-8	5	µg/L		<5	<5	<5	<5	<5
1.2.4-Trimethylbenzene	95-63-6	5	µg/L		<5	<5	<5	<5	<5
tert-Butylbenzene	98-06-6	5	µg/L		<5	<5	<5	<5	<5
p-Isopropyltoluene	99-87-6	5	µg/L		<5	<5	<5	<5	<5
n-Butylbenzene	104-51-8	5	µg/L		<5	<5	<5	<5	<5

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	MW01_221123	MW02 -221123	MW03_221123	BR245_221123	BR225_221123
			Sampling date / time	23-Nov-2022 00:00	23-Nov-2022 00:00	23-Nov-2022 00:00	23-Nov-2022 00:00	23-Nov-2022 00:00
Compound	CAS Number	LOR	Unit	WN2214776-001	WN2214776-002	WN2214776-003	WN2214776-004	WN2214776-005
				Result	Result	Result	Result	Result
EP074B: Oxygenated Compounds								
Vinyl Acetate	108-05-4	50	µg/L	<50	<50	<50	<50	<50
2-Butanone (MEK)	78-93-3	50	µg/L	<50	<50	<50	<50	<50
4-Methyl-2-pentanone (MIBK)	108-10-1	50	µg/L	<50	<50	<50	<50	<50
2-Hexanone (MBK)	591-78-6	50	µg/L	<50	<50	<50	<50	<50
EP074C: Sulfonated Compounds								
Carbon disulfide	75-15-0	5	µg/L	<5	<5	<5	<5	<5
EP074D: Fumigants								
2.2-Dichloropropane	594-20-7	5	µg/L	<5	<5	<5	<5	<5
1.2-Dichloropropane	78-87-5	5	µg/L	<5	<5	<5	<5	<5
cis-1.3-Dichloropropylene	10061-01-5	5	µg/L	<5	<5	<5	<5	<5
trans-1.3-Dichloropropylene	10061-02-6	5	µg/L	<5	<5	<5	<5	<5
1.2-Dibromoethane (EDB)	106-93-4	5	µg/L	<5	<5	<5	<5	<5
EP074E: Halogenated Aliphatic Compounds								
Dichlorodifluoromethane	75-71-8	50	µg/L	<50	<50	<50	<50	<50
Chloromethane	74-87-3	50	µg/L	<50	<50	<50	<50	<50
Vinyl chloride	75-01-4	50	µg/L	<50	<50	<50	<50	<50
Bromomethane	74-83-9	50	µg/L	<50	<50	<50	<50	<50
Chloroethane	75-00-3	50	µg/L	<50	<50	<50	<50	<50
Trichlorofluoromethane	75-69-4	50	µg/L	<50	<50	<50	<50	<50
1.1-Dichloroethene	75-35-4	5	µg/L	<5	<5	<5	<5	<5
Iodomethane	74-88-4	5	µg/L	<5	<5	<5	<5	<5
trans-1.2-Dichloroethene	156-60-5	5	µg/L	<5	<5	<5	<5	<5
1.1-Dichloroethane	75-34-3	5	µg/L	<5	<5	<5	<5	<5
cis-1.2-Dichloroethene	156-59-2	5	µg/L	<5	<5	<5	<5	<5
1.1.1-Trichloroethane	71-55-6	5	µg/L	<5	<5	<5	<5	<5
1.1-Dichloropropylene	563-58-6	5	µg/L	<5	<5	<5	<5	<5
Carbon Tetrachloride	56-23-5	5	µg/L	<5	<5	<5	<5	<5
1.2-Dichloroethane	107-06-2	5	µg/L	<5	<5	<5	<5	<5
Trichloroethene	79-01-6	5	µg/L	<5	<5	<5	<5	<5
Dibromomethane	74-95-3	5	µg/L	<5	<5	<5	<5	<5
1.1.2-Trichloroethane	79-00-5	5	µg/L	<5	<5	<5	<5	<5
1.3-Dichloropropane	142-28-9	5	µg/L	<5	<5	<5	<5	<5
Tetrachloroethene	127-18-4	5	µg/L	<5	<5	<5	<5	<5
1.1.1.2-Tetrachloroethane	630-20-6	5	µg/L	<5	<5	<5	<5	<5

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	MW01_221123	MW02 -221123	MW03_221123	BR245_221123	BR225_221123
			Sampling date / time	23-Nov-2022 00:00	23-Nov-2022 00:00	23-Nov-2022 00:00	23-Nov-2022 00:00	23-Nov-2022 00:00
Compound	CAS Number	LOR	Unit	WN2214776-001	WN2214776-002	WN2214776-003	WN2214776-004	WN2214776-005
				Result	Result	Result	Result	Result
EP074E: Halogenated Aliphatic Compounds - Continued								
trans-1.4-Dichloro-2-butene	110-57-6	5	µg/L	<5	<5	<5	<5	<5
cis-1.4-Dichloro-2-butene	1476-11-5	5	µg/L	<5	<5	<5	<5	<5
1.1.2.2-Tetrachloroethane	79-34-5	5	µg/L	<5	<5	<5	<5	<5
1.2.3-Trichloropropane	96-18-4	5	µg/L	<5	<5	<5	<5	<5
Pentachloroethane	76-01-7	5	µg/L	<5	<5	<5	<5	<5
1.2-Dibromo-3-chloropropane	96-12-8	5	µg/L	<5	<5	<5	<5	<5
Hexachlorobutadiene	87-68-3	5	µg/L	<5	<5	<5	<5	<5
EP074F: Halogenated Aromatic Compounds								
Chlorobenzene	108-90-7	5	µg/L	<5	<5	<5	<5	<5
Bromobenzene	108-86-1	5	µg/L	<5	<5	<5	<5	<5
2-Chlorotoluene	95-49-8	5	µg/L	<5	<5	<5	<5	<5
4-Chlorotoluene	106-43-4	5	µg/L	<5	<5	<5	<5	<5
1.3-Dichlorobenzene	541-73-1	5	µg/L	<5	<5	<5	<5	<5
1.4-Dichlorobenzene	106-46-7	5	µg/L	<5	<5	<5	<5	<5
1.2-Dichlorobenzene	95-50-1	5	µg/L	<5	<5	<5	<5	<5
1.2.4-Trichlorobenzene	120-82-1	5	µg/L	<5	<5	<5	<5	<5
1.2.3-Trichlorobenzene	87-61-6	5	µg/L	<5	<5	<5	<5	<5
EP074G: Trihalomethanes								
Chloroform	67-66-3	5	µg/L	<5	<5	<5	<5	<5
Bromodichloromethane	75-27-4	5	µg/L	<5	<5	<5	<5	<5
Dibromochloromethane	124-48-1	5	µg/L	<5	<5	<5	<5	<5
Bromoform	75-25-2	5	µg/L	<5	<5	<5	<5	<5
EP074H: Naphthalene								
Naphthalene	91-20-3	5	µg/L	<5	<5	<5	<5	<5
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Acenaphthylene	208-96-8	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Acenaphthene	83-32-9	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Fluorene	86-73-7	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Phenanthrene	85-01-8	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Anthracene	120-12-7	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Fluoranthene	206-44-0	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Pyrene	129-00-0	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Benz(a)anthracene	56-55-3	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	MW01_221123	MW02 -221123	MW03_221123	BR245_221123	BR225_221123
				Sampling date / time	23-Nov-2022 00:00	23-Nov-2022 00:00	23-Nov-2022 00:00	23-Nov-2022 00:00	23-Nov-2022 00:00
Compound	CAS Number	LOR	Unit		WN2214776-001	WN2214776-002	WN2214776-003	WN2214776-004	WN2214776-005
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Chrysene	218-01-9	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(k)fluoranthene	207-08-9	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(a)pyrene	50-32-8	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
EP075A: Phenolic Compounds									
Phenol	108-95-2	2	µg/L		<2	<2	<2	<2	<2
2-Chlorophenol	95-57-8	2	µg/L		<2	<2	<2	<2	<2
2-Methylphenol	95-48-7	2	µg/L		<2	<2	<2	<2	<2
3- & 4-Methylphenol	1319-77-3	4	µg/L		<4	<4	<4	<4	<4
2-Nitrophenol	88-75-5	2	µg/L		<2	<2	<2	<2	<2
2.4-Dimethylphenol	105-67-9	2	µg/L		<2	<2	<2	<2	<2
2.4-Dichlorophenol	120-83-2	2	µg/L		<2	<2	<2	<2	<2
2.6-Dichlorophenol	87-65-0	2	µg/L		<2	<2	<2	<2	<2
4-Chloro-3-methylphenol	59-50-7	2	µg/L		<2	<2	<2	<2	<2
2.4.6-Trichlorophenol	88-06-2	2	µg/L		<2	<2	<2	<2	<2
2.4.5-Trichlorophenol	95-95-4	2	µg/L		<2	<2	<2	<2	<2
Pentachlorophenol	87-86-5	4	µg/L		<4	<4	<4	<4	<4
EP075B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	2	µg/L		<2	<2	<2	<2	<2
2-Methylnaphthalene	91-57-6	2	µg/L		<2	<2	<2	<2	<2
2-Chloronaphthalene	91-58-7	2	µg/L		<2	<2	<2	<2	<2
Acenaphthylene	208-96-8	2	µg/L		<2	<2	<2	<2	<2
Acenaphthene	83-32-9	2	µg/L		<2	<2	<2	<2	<2
Fluorene	86-73-7	2	µg/L		<2	<2	<2	<2	<2
Phenanthrene	85-01-8	2	µg/L		<2	<2	<2	<2	<2
Anthracene	120-12-7	2	µg/L		<2	<2	<2	<2	<2
Fluoranthene	206-44-0	2	µg/L		<2	<2	<2	<2	<2
Pyrene	129-00-0	2	µg/L		<2	<2	<2	<2	<2
N-2-Fluorenyl Acetamide	53-96-3	2	µg/L		<2	<2	<2	<2	<2

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	MW01_221123	MW02 -221123	MW03_221123	BR245_221123	BR225_221123
				Sampling date / time	23-Nov-2022 00:00	23-Nov-2022 00:00	23-Nov-2022 00:00	23-Nov-2022 00:00	23-Nov-2022 00:00
Compound	CAS Number	LOR	Unit		WN2214776-001	WN2214776-002	WN2214776-003	WN2214776-004	WN2214776-005
					Result	Result	Result	Result	Result
EP075B: Polynuclear Aromatic Hydrocarbons - Continued									
Benz(a)anthracene	56-55-3	2	µg/L		<2	<2	<2	<2	<2
Chrysene	218-01-9	2	µg/L		<2	<2	<2	<2	<2
Benzo(b+j) & Benzo(k)fluoranthene	205-99-2 207-08-9	4	µg/L		<4	<4	<4	<4	<4
7.12-Dimethylbenz(a)anthracene	57-97-6	2	µg/L		<2	<2	<2	<2	<2
Benzo(a)pyrene	50-32-8	2	µg/L		<2	<2	<2	<2	<2
3-Methylcholanthrene	56-49-5	2	µg/L		<2	<2	<2	<2	<2
Indeno(1.2.3.cd)pyrene	193-39-5	2	µg/L		<2	<2	<2	<2	<2
Dibenz(a.h)anthracene	53-70-3	2	µg/L		<2	<2	<2	<2	<2
Benzo(g.h.i)perylene	191-24-2	2	µg/L		<2	<2	<2	<2	<2
^ Sum of PAHs	----	2	µg/L		<2	<2	<2	<2	<2
^ Benzo(a)pyrene TEQ (zero)	----	2	µg/L		<2	<2	<2	<2	<2
EP075C: Phthalate Esters									
Dimethyl phthalate	131-11-3	2	µg/L		<2	<2	<2	<2	<2
Diethyl phthalate	84-66-2	2	µg/L		<2	<2	<2	<2	<2
Di-n-butyl phthalate	84-74-2	2	µg/L		<2	<2	<2	<2	<2
Butyl benzyl phthalate	85-68-7	2	µg/L		<2	<2	<2	<2	<2
bis(2-ethylhexyl) phthalate	117-81-7	10	µg/L		<10	<10	<10	<10	<10
Di-n-octylphthalate	117-84-0	2	µg/L		<2	<2	<2	<2	<2
EP075D: Nitrosamines									
N-Nitrosomethylethylamine	10595-95-6	2	µg/L		<2	<2	<2	<2	<2
N-Nitrosodiethylamine	55-18-5	2	µg/L		<2	<2	<2	<2	<2
N-Nitrosopyrrolidine	930-55-2	4	µg/L		<4	<4	<4	<4	<4
N-Nitrosomorpholine	59-89-2	2	µg/L		<2	<2	<2	<2	<2
N-Nitrosodi-n-propylamine	621-64-7	2	µg/L		<2	<2	<2	<2	<2
N-Nitrosopiperidine	100-75-4	2	µg/L		<2	<2	<2	<2	<2
N-Nitrosodibutylamine	924-16-3	2	µg/L		<2	<2	<2	<2	<2
N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	4	µg/L		<4	<4	<4	<4	<4
Methapyrilene	91-80-5	2	µg/L		<2	<2	<2	<2	<2
EP075E: Nitroaromatics and Ketones									
2-Picoline	109-06-8	2	µg/L		<2	<2	<2	<2	<2
Acetophenone	98-86-2	2	µg/L		<2	<2	<2	<2	<2
Nitrobenzene	98-95-3	2	µg/L		<2	<2	<2	<2	<2
Isophorone	78-59-1	2	µg/L		<2	<2	<2	<2	<2

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	MW01_221123	MW02 -221123	MW03_221123	BR245_221123	BR225_221123
			Sampling date / time	23-Nov-2022 00:00	23-Nov-2022 00:00	23-Nov-2022 00:00	23-Nov-2022 00:00	23-Nov-2022 00:00
Compound	CAS Number	LOR	Unit	WN2214776-001	WN2214776-002	WN2214776-003	WN2214776-004	WN2214776-005
				Result	Result	Result	Result	Result
EP075E: Nitroaromatics and Ketones - Continued								
2.6-Dinitrotoluene	606-20-2	4	µg/L	<4	<4	<4	<4	<4
2.4-Dinitrotoluene	121-14-2	4	µg/L	<4	<4	<4	<4	<4
1-Naphthylamine	134-32-7	2	µg/L	<2	<2	<2	<2	<2
4-Nitroquinoline-N-oxide	56-57-5	2	µg/L	<2	<2	<2	<2	<2
5-Nitro-o-toluidine	99-55-8	2	µg/L	<2	<2	<2	<2	<2
Azobenzene	103-33-3	2	µg/L	<2	<2	<2	<2	<2
1.3.5-Trinitrobenzene	99-35-4	2	µg/L	<2	<2	<2	<2	<2
Phenacetin	62-44-2	2	µg/L	<2	<2	<2	<2	<2
4-Aminobiphenyl	92-67-1	2	µg/L	<2	<2	<2	<2	<2
Pentachloronitrobenzene	82-68-8	2	µg/L	<2	<2	<2	<2	<2
Pronamide	23950-58-5	2	µg/L	<2	<2	<2	<2	<2
Dimethylaminoazobenzene	60-11-7	2	µg/L	<2	<2	<2	<2	<2
Chlorobenzilate	510-15-6	2	µg/L	<2	<2	<2	<2	<2
EP075F: Haloethers								
Bis(2-chloroethyl) ether	111-44-4	2	µg/L	<2	<2	<2	<2	<2
Bis(2-chloroethoxy) methane	111-91-1	2	µg/L	<2	<2	<2	<2	<2
4-Chlorophenyl phenyl ether	7005-72-3	2	µg/L	<2	<2	<2	<2	<2
4-Bromophenyl phenyl ether	101-55-3	2	µg/L	<2	<2	<2	<2	<2
EP075G: Chlorinated Hydrocarbons								
1.3-Dichlorobenzene	541-73-1	2	µg/L	<2	<2	<2	<2	<2
1.4-Dichlorobenzene	106-46-7	2	µg/L	<2	<2	<2	<2	<2
1.2-Dichlorobenzene	95-50-1	2	µg/L	<2	<2	<2	<2	<2
Hexachloroethane	67-72-1	2	µg/L	<2	<2	<2	<2	<2
1.2.4-Trichlorobenzene	120-82-1	2	µg/L	<2	<2	<2	<2	<2
Hexachloropropylene	1888-71-7	2	µg/L	<2	<2	<2	<2	<2
Hexachlorobutadiene	87-68-3	2	µg/L	<2	<2	<2	<2	<2
Hexachlorocyclopentadiene	77-47-4	10	µg/L	<10	<10	<10	<10	<10
Pentachlorobenzene	608-93-5	2	µg/L	<2	<2	<2	<2	<2
Hexachlorobenzene (HCB)	118-74-1	4	µg/L	<4	<4	<4	<4	<4
EP075H: Anilines and Benzidines								
Aniline	62-53-3	2	µg/L	<2	<2	<2	<2	<2
4-Chloroaniline	106-47-8	2	µg/L	<2	<2	<2	<2	<2
2-Nitroaniline	88-74-4	4	µg/L	<4	<4	<4	<4	<4
3-Nitroaniline	99-09-2	4	µg/L	<4	<4	<4	<4	<4

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	MW01_221123	MW02 -221123	MW03_221123	BR245_221123	BR225_221123
				Sampling date / time	23-Nov-2022 00:00	23-Nov-2022 00:00	23-Nov-2022 00:00	23-Nov-2022 00:00	23-Nov-2022 00:00
Compound	CAS Number	LOR	Unit		WN2214776-001	WN2214776-002	WN2214776-003	WN2214776-004	WN2214776-005
					Result	Result	Result	Result	Result
EP075H: Anilines and Benzidines - Continued									
Dibenzofuran	132-64-9	2	µg/L		<2	<2	<2	<2	<2
4-Nitroaniline	100-01-6	2	µg/L		<2	<2	<2	<2	<2
Carbazole	86-74-8	2	µg/L		<2	<2	<2	<2	<2
3.3`-Dichlorobenzidine	91-94-1	2	µg/L		<2	<2	<2	<2	<2
EP075I: Organochlorine Pesticides									
alpha-BHC	319-84-6	2	µg/L		<2	<2	<2	<2	<2
beta-BHC	319-85-7	2	µg/L		<2	<2	<2	<2	<2
gamma-BHC	58-89-9	2	µg/L		<2	<2	<2	<2	<2
delta-BHC	319-86-8	2	µg/L		<2	<2	<2	<2	<2
Heptachlor	76-44-8	2	µg/L		<2	<2	<2	<2	<2
Aldrin	309-00-2	2	µg/L		<2	<2	<2	<2	<2
Heptachlor epoxide	1024-57-3	2	µg/L		<2	<2	<2	<2	<2
alpha-Endosulfan	959-98-8	2	µg/L		<2	<2	<2	<2	<2
4.4`-DDE	72-55-9	2	µg/L		<2	<2	<2	<2	<2
Dieldrin	60-57-1	2	µg/L		<2	<2	<2	<2	<2
Endrin	72-20-8	2	µg/L		<2	<2	<2	<2	<2
beta-Endosulfan	33213-65-9	2	µg/L		<2	<2	<2	<2	<2
4.4`-DDD	72-54-8	2	µg/L		<2	<2	<2	<2	<2
Endosulfan sulfate	1031-07-8	2	µg/L		<2	<2	<2	<2	<2
4.4`-DDT	50-29-3	4	µg/L		<4	<4	<4	<4	<4
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	4	µg/L		<4	<4	<4	<4	<4
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	4	µg/L		<4	<4	<4	<4	<4
EP075J: Organophosphorus Pesticides									
Dichlorvos	62-73-7	2	µg/L		<2	<2	<2	<2	<2
Dimethoate	60-51-5	2	µg/L		<2	<2	<2	<2	<2
Diazinon	333-41-5	2	µg/L		<2	<2	<2	<2	<2
Chlorpyrifos-methyl	5598-13-0	2	µg/L		<2	<2	<2	<2	<2
Malathion	121-75-5	2	µg/L		<2	<2	<2	<2	<2
Fenthion	55-38-9	2	µg/L		<2	<2	<2	<2	<2
Chlorpyrifos	2921-88-2	2	µg/L		<2	<2	<2	<2	<2
Pirimphos-ethyl	23505-41-1	2	µg/L		<2	<2	<2	<2	<2
Chlorfenvinphos	470-90-6	2	µg/L		<2	<2	<2	<2	<2
Prothiofos	34643-46-4	2	µg/L		<2	<2	<2	<2	<2
Ethion	563-12-2	2	µg/L		<2	<2	<2	<2	<2

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	MW01_221123	MW02 -221123	MW03_221123	BR245_221123	BR225_221123
				Sampling date / time	23-Nov-2022 00:00	23-Nov-2022 00:00	23-Nov-2022 00:00	23-Nov-2022 00:00	23-Nov-2022 00:00
Compound	CAS Number	LOR	Unit		WN2214776-001	WN2214776-002	WN2214776-003	WN2214776-004	WN2214776-005
					Result	Result	Result	Result	Result
EP075J: Organophosphorus Pesticides - Continued									
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	20	µg/L		<20	<20	<20	<20	<20
C10 - C14 Fraction	----	50	µg/L		<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	µg/L		<100	<100	<100	<100	<100
C29 - C36 Fraction	----	50	µg/L		<50	<50	<50	<50	<50
^ C10 - C36 Fraction (sum)	----	50	µg/L		<50	<50	<50	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	20	µg/L		<20	<20	<20	<20	<20
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	20	µg/L		<20	<20	<20	<20	<20
>C10 - C16 Fraction	----	100	µg/L		<100	<100	<100	<100	<100
>C16 - C34 Fraction	----	100	µg/L		<100	<100	<100	<100	<100
>C34 - C40 Fraction	----	100	µg/L		<100	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	100	µg/L		<100	<100	<100	<100	<100
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	100	µg/L		<100	<100	<100	<100	<100
EP080: BTEXN									
Benzene	71-43-2	1	µg/L		<1	<1	<1	<1	<1
Toluene	108-88-3	2	µg/L		<2	<2	<2	<2	<2
Ethylbenzene	100-41-4	2	µg/L		<2	<2	<2	<2	<2
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L		<2	<2	<2	<2	<2
ortho-Xylene	95-47-6	2	µg/L		<2	<2	<2	<2	<2
^ Total Xylenes	----	2	µg/L		<2	<2	<2	<2	<2
^ Sum of BTEX	----	1	µg/L		<1	<1	<1	<1	<1
Naphthalene	91-20-3	5	µg/L		<5	<5	<5	<5	<5
EP202A: Phenoxyacetic Acid Herbicides by LCMS									
4-Chlorophenoxy acetic acid	122-88-3	10	µg/L		<10	<10	<10	<10	<10
2.4-DB	94-82-6	10	µg/L		<10	<10	<10	<10	<10
Dicamba	1918-00-9	10	µg/L		<10	<10	<10	<10	<10
Mecoprop	93-65-2	10	µg/L		<10	<10	<10	<10	<10
MCPA	94-74-6	10	µg/L		<10	<10	<10	<10	<10
2.4-DP	120-36-5	10	µg/L		<10	<10	<10	<10	<10
2.4-D	94-75-7	10	µg/L		<10	<10	<10	<10	<10
Triclopyr	55335-06-3	10	µg/L		<10	<10	<10	<10	<10

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	MW01_221123	MW02 -221123	MW03_221123	BR245_221123	BR225_221123
				Sampling date / time	23-Nov-2022 00:00	23-Nov-2022 00:00	23-Nov-2022 00:00	23-Nov-2022 00:00	23-Nov-2022 00:00
Compound	CAS Number	LOR	Unit		WN2214776-001	WN2214776-002	WN2214776-003	WN2214776-004	WN2214776-005
					Result	Result	Result	Result	Result
EP202A: Phenoxyacetic Acid Herbicides by LCMS - Continued									
Silvex (2.4.5-TP/Fenoprop)	93-72-1	10	µg/L		<10	<10	<10	<10	<10
2.4.5-T	93-76-5	10	µg/L		<10	<10	<10	<10	<10
MCPB	94-81-5	10	µg/L		<10	<10	<10	<10	<10
Picloram	1918-02-1	10	µg/L		<10	<10	<10	<10	<10
Clopyralid	1702-17-6	10	µg/L		<10	<10	<10	<10	<10
Fluroxypyr	69377-81-7	10	µg/L		<10	<10	<10	<10	<10
2.6-D	575-90-6	10	µg/L		<10	<10	<10	<10	<10
2.4.6-T	575-89-3	10	µg/L		<10	<10	<10	<10	<10
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		**0.02**	<0.02	<0.02	<0.02	<0.02
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		**0.25**	**0.02**	**0.20**	**0.04**	<0.01
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		<0.01	<0.01	**0.44**	<0.01	<0.01
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		**0.03**	<0.02	**0.02**	<0.02	<0.02
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	<0.01	**0.01**	<0.01	<0.01
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	**0.20**	<0.02	<0.02
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	MW01_221123	MW02 -221123	MW03_221123	BR245_221123	BR225_221123
				Sampling date / time	23-Nov-2022 00:00	23-Nov-2022 00:00	23-Nov-2022 00:00	23-Nov-2022 00:00	23-Nov-2022 00:00
Compound	CAS Number	LOR	Unit		WN2214776-001	WN2214776-002	WN2214776-003	WN2214776-004	WN2214776-005
					Result	Result	Result	Result	Result
EP231B: Perfluoroalkyl Carboxylic Acids - Continued									
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		**0.30**	**0.02**	**0.87**	**0.04**	<0.01
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		**0.25**	**0.02**	**0.64**	**0.04**	<0.01
Sum of PFAS (WA DER List)	----	0.01	µg/L		**0.28**	**0.02**	**0.67**	**0.04**	<0.01
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	1	%		**117**	**117**	**117**	**108**	**111**

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	MW01_221123	MW02 -221123	MW03_221123	BR245_221123	BR225_221123
				Sampling date / time	23-Nov-2022 00:00	23-Nov-2022 00:00	23-Nov-2022 00:00	23-Nov-2022 00:00	23-Nov-2022 00:00
Compound	CAS Number	LOR	Unit		WN2214776-001	WN2214776-002	WN2214776-003	WN2214776-004	WN2214776-005
					Result	Result	Result	Result	Result
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.5	%		96.6	86.2	96.4	80.9	90.8
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.5	%		79.8	71.3	97.4	71.2	75.0
EP074S: VOC Surrogates									
1.2-Dichloroethane-D4	17060-07-0	5	%		101	120	96.4	120	99.0
Toluene-D8	2037-26-5	5	%		93.3	108	82.6	106	84.5
4-Bromofluorobenzene	460-00-4	5	%		86.6	99.4	81.0	96.7	82.0
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	1.0	%		25.9	23.9	28.4	23.7	23.0
2-Chlorophenol-D4	93951-73-6	1.0	%		51.8	47.7	56.2	45.6	46.3
2.4.6-Tribromophenol	118-79-6	1.0	%		56.9	52.1	73.4	49.8	55.6
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	1.0	%		58.3	58.3	69.0	51.6	54.8
Anthracene-d10	1719-06-8	1.0	%		69.0	62.3	80.3	59.3	64.0
4-Terphenyl-d14	1718-51-0	1.0	%		69.7	60.7	80.3	59.6	65.7
EP075S: Acid Extractable Surrogates									
2-Fluorophenol	367-12-4	2	%		63.6	56.8	34.7	53.1	58.6
Phenol-d6	13127-88-3	2	%		52.3	48.3	28.5	46.6	46.9
2-Chlorophenol-D4	93951-73-6	2	%		99.1	87.8	52.7	84.3	88.9
2.4.6-Tribromophenol	118-79-6	2	%		80.2	69.0	51.5	64.5	73.6
EP075T: Base/Neutral Extractable Surrogates									
Nitrobenzene-D5	4165-60-0	2	%		117	106	62.2	93.4	106
1.2-Dichlorobenzene-D4	2199-69-1	2	%		93.4	81.8	48.1	71.1	78.5
2-Fluorobiphenyl	321-60-8	2	%		92.4	89.5	55.4	79.9	82.9
Anthracene-d10	1719-06-8	2	%		117	111	70.9	100	108
4-Terphenyl-d14	1718-51-0	2	%		124	111	74.8	103	116
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	2	%		106	126	96.2	126	99.5
Toluene-D8	2037-26-5	2	%		84.1	97.2	89.0	95.1	90.6
4-Bromofluorobenzene	460-00-4	2	%		74.9	85.5	89.0	83.9	89.5
EP202S: Phenoxyacetic Acid Herbicide Surrogate									
2.4-Dichlorophenyl Acetic Acid	19719-28-9	10	%		114	118	110	114	117
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%		96.2	96.2	94.6	87.4	94.0

Analytical Results

Sub-Matrix: **WATER** (Matrix: **WATER**)				Sample ID	MW01_221123	MW02 -221123	MW03_221123	BR245_221123	BR225_221123
				Sampling date / time	23-Nov-2022 00:00	23-Nov-2022 00:00	23-Nov-2022 00:00	23-Nov-2022 00:00	23-Nov-2022 00:00
Compound	*CAS Number*	*LOR*	*Unit*		**WN2214776-001**	**WN2214776-002**	**WN2214776-003**	**WN2214776-004**	**WN2214776-005**
					Result	Result	Result	Result	Result
EP231S: PFAS Surrogate - Continued									
13C8-PFOA	----	0.02	%		**98.1**	**93.5**	**94.9**	**98.7**	**99.1**

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	QC100_221123	QC300_221123	QC500_221123	QC600_221123	----
				Sampling date / time	23-Nov-2022 00:00	23-Nov-2022 00:00	23-Nov-2022 00:00	23-Nov-2022 00:00	----
Compound	CAS Number	LOR	Unit		WN2214776-006	WN2214776-007	WN2214776-008	WN2214776-009	--------
					Result	Result	Result	Result	----
EG020F: Dissolved Metals by ICP-MS									
Arsenic	7440-38-2	0.001	mg/L		<0.001	----	----	----	----
Cadmium	7440-43-9	0.0001	mg/L		**0.0003**	----	----	----	----
Chromium	7440-47-3	0.001	mg/L		<0.001	----	----	----	----
Copper	7440-50-8	0.001	mg/L		**0.002**	----	----	----	----
Nickel	7440-02-0	0.001	mg/L		**0.051**	----	----	----	----
Lead	7439-92-1	0.001	mg/L		<0.001	----	----	----	----
Zinc	7440-66-6	0.005	mg/L		**0.112**	----	----	----	----
EG020T: Total Metals by ICP-MS									
Arsenic	7440-38-2	0.001	mg/L		----	<0.001	----	----	----
Cadmium	7440-43-9	0.0001	mg/L		----	<0.0001	----	----	----
Chromium	7440-47-3	0.001	mg/L		----	<0.001	----	----	----
Copper	7440-50-8	0.001	mg/L		----	<0.001	----	----	----
Nickel	7440-02-0	0.001	mg/L		----	<0.001	----	----	----
Lead	7439-92-1	0.001	mg/L		----	<0.001	----	----	----
Zinc	7440-66-6	0.005	mg/L		----	<0.005	----	----	----
EG035F: Dissolved Mercury by FIMS									
Mercury	7439-97-6	0.0001	mg/L		<0.0001	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.0001	mg/L		----	<0.0001	----	----	----
EK055G: Ammonia as N by Discrete Analyser									
Ammonia as N	7664-41-7	0.01	mg/L		<0.01	----	----	----	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N	14797-65-0	0.01	mg/L		<0.01	----	----	----	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N	14797-55-8	0.01	mg/L		**0.72**	----	----	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N	----	0.01	mg/L		**0.72**	----	----	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	0.1	mg/L		<0.1	----	----	----	----
EK062G: Total Nitrogen as N (TKN + NOx) by Discrete Analyser									
^ Total Nitrogen as N	----	0.1	mg/L		**0.7**	----	----	----	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	0.01	mg/L		**0.10**	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	QC100_221123	QC300_221123	QC500_221123	QC600_221123	----
			Sampling date / time	23-Nov-2022 00:00	23-Nov-2022 00:00	23-Nov-2022 00:00	23-Nov-2022 00:00	----
Compound	CAS Number	LOR	Unit	WN2214776-006	WN2214776-007	WN2214776-008	WN2214776-009	--------
				Result	Result	Result	Result	----
EK071G: Reactive Phosphorus as P by discrete analyser								
Reactive Phosphorus as P	14265-44-2	0.01	mg/L	**0.09**	----	----	----	----
EP066: Polychlorinated Biphenyls (PCB)								
^ Total Polychlorinated biphenyls	----	1	µg/L	<1	<1	----	----	----
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.5	µg/L	<0.5	<0.5	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.5	µg/L	<0.5	<0.5	----	----	----
beta-BHC	319-85-7	0.5	µg/L	<0.5	<0.5	----	----	----
gamma-BHC	58-89-9	0.5	µg/L	<0.5	<0.5	----	----	----
delta-BHC	319-86-8	0.5	µg/L	<0.5	<0.5	----	----	----
Heptachlor	76-44-8	0.5	µg/L	<0.5	<0.5	----	----	----
Aldrin	309-00-2	0.5	µg/L	<0.5	<0.5	----	----	----
Heptachlor epoxide	1024-57-3	0.5	µg/L	<0.5	<0.5	----	----	----
trans-Chlordane	5103-74-2	0.5	µg/L	<0.5	<0.5	----	----	----
alpha-Endosulfan	959-98-8	0.5	µg/L	<0.5	<0.5	----	----	----
cis-Chlordane	5103-71-9	0.5	µg/L	<0.5	<0.5	----	----	----
Dieldrin	60-57-1	0.5	µg/L	<0.5	<0.5	----	----	----
4.4`-DDE	72-55-9	0.5	µg/L	<0.5	<0.5	----	----	----
Endrin	72-20-8	0.5	µg/L	<0.5	<0.5	----	----	----
beta-Endosulfan	33213-65-9	0.5	µg/L	<0.5	<0.5	----	----	----
4.4`-DDD	72-54-8	0.5	µg/L	<0.5	<0.5	----	----	----
Endrin aldehyde	7421-93-4	0.5	µg/L	<0.5	<0.5	----	----	----
Endosulfan sulfate	1031-07-8	0.5	µg/L	<0.5	<0.5	----	----	----
4.4`-DDT	50-29-3	2.0	µg/L	<2.0	<2.0	----	----	----
Endrin ketone	53494-70-5	0.5	µg/L	<0.5	<0.5	----	----	----
Methoxychlor	72-43-5	2.0	µg/L	<2.0	<2.0	----	----	----
^ Total Chlordane (sum)	----	0.5	µg/L	<0.5	<0.5	----	----	----
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.5	µg/L	<0.5	<0.5	----	----	----
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.5	µg/L	<0.5	<0.5	----	----	----
EP074A: Monocyclic Aromatic Hydrocarbons								
Benzene	71-43-2	1	µg/L	<1	<1	----	----	----
Toluene	108-88-3	2	µg/L	<2	<2	----	----	----
Ethylbenzene	100-41-4	2	µg/L	<2	<2	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	QC100_221123	QC300_221123	QC500_221123	QC600_221123	----
			Sampling date / time	23-Nov-2022 00:00	23-Nov-2022 00:00	23-Nov-2022 00:00	23-Nov-2022 00:00	----
Compound	CAS Number	LOR	Unit	WN2214776-006	WN2214776-007	WN2214776-008	WN2214776-009	--------
				Result	Result	Result	Result	----
EP074A: Monocyclic Aromatic Hydrocarbons - Continued								
Styrene	100-42-5	5	µg/L	<5	<5	----	----	----
ortho-Xylene	95-47-6	2	µg/L	<2	<2	----	----	----
Isopropylbenzene	98-82-8	5	µg/L	<5	<5	----	----	----
n-Propylbenzene	103-65-1	5	µg/L	<5	<5	----	----	----
1.3.5-Trimethylbenzene	108-67-8	5	µg/L	<5	<5	----	----	----
sec-Butylbenzene	135-98-8	5	µg/L	<5	<5	----	----	----
1.2.4-Trimethylbenzene	95-63-6	5	µg/L	<5	<5	----	----	----
tert-Butylbenzene	98-06-6	5	µg/L	<5	<5	----	----	----
p-Isopropyltoluene	99-87-6	5	µg/L	<5	<5	----	----	----
n-Butylbenzene	104-51-8	5	µg/L	<5	<5	----	----	----
EP074B: Oxygenated Compounds								
Vinyl Acetate	108-05-4	50	µg/L	<50	<50	----	----	----
2-Butanone (MEK)	78-93-3	50	µg/L	<50	<50	----	----	----
4-Methyl-2-pentanone (MIBK)	108-10-1	50	µg/L	<50	<50	----	----	----
2-Hexanone (MBK)	591-78-6	50	µg/L	<50	<50	----	----	----
EP074C: Sulfonated Compounds								
Carbon disulfide	75-15-0	5	µg/L	<5	<5	----	----	----
EP074D: Fumigants								
2.2-Dichloropropane	594-20-7	5	µg/L	<5	<5	----	----	----
1.2-Dichloropropane	78-87-5	5	µg/L	<5	<5	----	----	----
cis-1.3-Dichloropropylene	10061-01-5	5	µg/L	<5	<5	----	----	----
trans-1.3-Dichloropropylene	10061-02-6	5	µg/L	<5	<5	----	----	----
1.2-Dibromoethane (EDB)	106-93-4	5	µg/L	<5	<5	----	----	----
EP074E: Halogenated Aliphatic Compounds								
Dichlorodifluoromethane	75-71-8	50	µg/L	<50	<50	----	----	----
Chloromethane	74-87-3	50	µg/L	<50	<50	----	----	----
Vinyl chloride	75-01-4	50	µg/L	<50	<50	----	----	----
Bromomethane	74-83-9	50	µg/L	<50	<50	----	----	----
Chloroethane	75-00-3	50	µg/L	<50	<50	----	----	----
Trichlorofluoromethane	75-69-4	50	µg/L	<50	<50	----	----	----
1.1-Dichloroethene	75-35-4	5	µg/L	<5	<5	----	----	----
Iodomethane	74-88-4	5	µg/L	<5	<5	----	----	----
trans-1.2-Dichloroethene	156-60-5	5	µg/L	<5	<5	----	----	----
1.1-Dichloroethane	75-34-3	5	µg/L	<5	<5	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	QC100_221123	QC300_221123	QC500_221123	QC600_221123	----
				Sampling date / time	23-Nov-2022 00:00	23-Nov-2022 00:00	23-Nov-2022 00:00	23-Nov-2022 00:00	----
Compound	CAS Number	LOR	Unit		WN2214776-006	WN2214776-007	WN2214776-008	WN2214776-009	--------
					Result	Result	Result	Result	----
EP074E: Halogenated Aliphatic Compounds - Continued									
cis-1.2-Dichloroethene	156-59-2	5	µg/L		<5	<5	----	----	----
1.1.1-Trichloroethane	71-55-6	5	µg/L		<5	<5	----	----	----
1.1-Dichloropropylene	563-58-6	5	µg/L		<5	<5	----	----	----
Carbon Tetrachloride	56-23-5	5	µg/L		<5	<5	----	----	----
1.2-Dichloroethane	107-06-2	5	µg/L		<5	<5	----	----	----
Trichloroethene	79-01-6	5	µg/L		<5	<5	----	----	----
Dibromomethane	74-95-3	5	µg/L		<5	<5	----	----	----
1.1.2-Trichloroethane	79-00-5	5	µg/L		<5	<5	----	----	----
1.3-Dichloropropane	142-28-9	5	µg/L		<5	<5	----	----	----
Tetrachloroethene	127-18-4	5	µg/L		<5	<5	----	----	----
1.1.1.2-Tetrachloroethane	630-20-6	5	µg/L		<5	<5	----	----	----
trans-1.4-Dichloro-2-butene	110-57-6	5	µg/L		<5	<5	----	----	----
cis-1.4-Dichloro-2-butene	1476-11-5	5	µg/L		<5	<5	----	----	----
1.1.2.2-Tetrachloroethane	79-34-5	5	µg/L		<5	<5	----	----	----
1.2.3-Trichloropropane	96-18-4	5	µg/L		<5	<5	----	----	----
Pentachloroethane	76-01-7	5	µg/L		<5	<5	----	----	----
1.2-Dibromo-3-chloropropane	96-12-8	5	µg/L		<5	<5	----	----	----
Hexachlorobutadiene	87-68-3	5	µg/L		<5	<5	----	----	----
EP074F: Halogenated Aromatic Compounds									
Chlorobenzene	108-90-7	5	µg/L		<5	<5	----	----	----
Bromobenzene	108-86-1	5	µg/L		<5	<5	----	----	----
2-Chlorotoluene	95-49-8	5	µg/L		<5	<5	----	----	----
4-Chlorotoluene	106-43-4	5	µg/L		<5	<5	----	----	----
1.3-Dichlorobenzene	541-73-1	5	µg/L		<5	<5	----	----	----
1.4-Dichlorobenzene	106-46-7	5	µg/L		<5	<5	----	----	----
1.2-Dichlorobenzene	95-50-1	5	µg/L		<5	<5	----	----	----
1.2.4-Trichlorobenzene	120-82-1	5	µg/L		<5	<5	----	----	----
1.2.3-Trichlorobenzene	87-61-6	5	µg/L		<5	<5	----	----	----
EP074G: Trihalomethanes									
Chloroform	67-66-3	5	µg/L		<5	<5	----	----	----
Bromodichloromethane	75-27-4	5	µg/L		<5	<5	----	----	----
Dibromochloromethane	124-48-1	5	µg/L		<5	<5	----	----	----
Bromoform	75-25-2	5	µg/L		<5	<5	----	----	----
EP074H: Naphthalene									

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	QC100_221123	QC300_221123	QC500_221123	QC600_221123	----
			Sampling date / time	23-Nov-2022 00:00	23-Nov-2022 00:00	23-Nov-2022 00:00	23-Nov-2022 00:00	----
Compound	CAS Number	LOR	Unit	WN2214776-006	WN2214776-007	WN2214776-008	WN2214776-009	--------
				Result	Result	Result	Result	----
EP074H: Naphthalene - Continued								
Naphthalene	91-20-3	5	µg/L	<5	<5	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	1.0	µg/L	<1.0	<1.0	----	----	----
Acenaphthylene	208-96-8	1.0	µg/L	<1.0	<1.0	----	----	----
Acenaphthene	83-32-9	1.0	µg/L	<1.0	<1.0	----	----	----
Fluorene	86-73-7	1.0	µg/L	<1.0	<1.0	----	----	----
Phenanthrene	85-01-8	1.0	µg/L	<1.0	<1.0	----	----	----
Anthracene	120-12-7	1.0	µg/L	<1.0	<1.0	----	----	----
Fluoranthene	206-44-0	1.0	µg/L	<1.0	<1.0	----	----	----
Pyrene	129-00-0	1.0	µg/L	<1.0	<1.0	----	----	----
Benz(a)anthracene	56-55-3	1.0	µg/L	<1.0	<1.0	----	----	----
Chrysene	218-01-9	1.0	µg/L	<1.0	<1.0	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L	<1.0	<1.0	----	----	----
Benzo(k)fluoranthene	207-08-9	1.0	µg/L	<1.0	<1.0	----	----	----
Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	<0.5	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L	<1.0	<1.0	----	----	----
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L	<1.0	<1.0	----	----	----
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L	<1.0	<1.0	----	----	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	µg/L	<0.5	<0.5	----	----	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	µg/L	<0.5	<0.5	----	----	----
EP075A: Phenolic Compounds								
Phenol	108-95-2	2	µg/L	<2	<2	----	----	----
2-Chlorophenol	95-57-8	2	µg/L	<2	<2	----	----	----
2-Methylphenol	95-48-7	2	µg/L	<2	<2	----	----	----
3- & 4-Methylphenol	1319-77-3	4	µg/L	<4	<4	----	----	----
2-Nitrophenol	88-75-5	2	µg/L	<2	<2	----	----	----
2.4-Dimethylphenol	105-67-9	2	µg/L	<2	<2	----	----	----
2.4-Dichlorophenol	120-83-2	2	µg/L	<2	<2	----	----	----
2.6-Dichlorophenol	87-65-0	2	µg/L	<2	<2	----	----	----
4-Chloro-3-methylphenol	59-50-7	2	µg/L	<2	<2	----	----	----
2.4.6-Trichlorophenol	88-06-2	2	µg/L	<2	<2	----	----	----
2.4.5-Trichlorophenol	95-95-4	2	µg/L	<2	<2	----	----	----
Pentachlorophenol	87-86-5	4	µg/L	<4	<4	----	----	----
EP075B: Polynuclear Aromatic Hydrocarbons								

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	QC100_221123	QC300_221123	QC500_221123	QC600_221123	----
				Sampling date / time	23-Nov-2022 00:00	23-Nov-2022 00:00	23-Nov-2022 00:00	23-Nov-2022 00:00	----
Compound	CAS Number	LOR	Unit		WN2214776-006	WN2214776-007	WN2214776-008	WN2214776-009	--------
					Result	Result	Result	Result	----
EP075B: Polynuclear Aromatic Hydrocarbons - Continued									
Naphthalene	91-20-3	2	µg/L		<2	<2	----	----	----
2-Methylnaphthalene	91-57-6	2	µg/L		<2	<2	----	----	----
2-Chloronaphthalene	91-58-7	2	µg/L		<2	<2	----	----	----
Acenaphthylene	208-96-8	2	µg/L		<2	<2	----	----	----
Acenaphthene	83-32-9	2	µg/L		<2	<2	----	----	----
Fluorene	86-73-7	2	µg/L		<2	<2	----	----	----
Phenanthrene	85-01-8	2	µg/L		<2	<2	----	----	----
Anthracene	120-12-7	2	µg/L		<2	<2	----	----	----
Fluoranthene	206-44-0	2	µg/L		<2	<2	----	----	----
Pyrene	129-00-0	2	µg/L		<2	<2	----	----	----
N-2-Fluorenyl Acetamide	53-96-3	2	µg/L		<2	<2	----	----	----
Benz(a)anthracene	56-55-3	2	µg/L		<2	<2	----	----	----
Chrysene	218-01-9	2	µg/L		<2	<2	----	----	----
Benzo(b+j) & Benzo(k)fluoranthene	205-99-2 207-08-9	4	µg/L		<4	<4	----	----	----
7.12-Dimethylbenz(a)anthracene	57-97-6	2	µg/L		<2	<2	----	----	----
Benzo(a)pyrene	50-32-8	2	µg/L		<2	<2	----	----	----
3-Methylcholanthrene	56-49-5	2	µg/L		<2	<2	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	2	µg/L		<2	<2	----	----	----
Dibenz(a.h)anthracene	53-70-3	2	µg/L		<2	<2	----	----	----
Benzo(g.h.i)perylene	191-24-2	2	µg/L		<2	<2	----	----	----
^ Sum of PAHs	----	2	µg/L		<2	<2	----	----	----
^ Benzo(a)pyrene TEQ (zero)	----	2	µg/L		<2	<2	----	----	----
EP075C: Phthalate Esters									
Dimethyl phthalate	131-11-3	2	µg/L		<2	<2	----	----	----
Diethyl phthalate	84-66-2	2	µg/L		<2	<2	----	----	----
Di-n-butyl phthalate	84-74-2	2	µg/L		<2	<2	----	----	----
Butyl benzyl phthalate	85-68-7	2	µg/L		<2	<2	----	----	----
bis(2-ethylhexyl) phthalate	117-81-7	10	µg/L		<10	<10	----	----	----
Di-n-octylphthalate	117-84-0	2	µg/L		<2	<2	----	----	----
EP075D: Nitrosamines									
N-Nitrosomethylethylamine	10595-95-6	2	µg/L		<2	<2	----	----	----
N-Nitrosodiethylamine	55-18-5	2	µg/L		<2	<2	----	----	----
N-Nitrosopyrrolidine	930-55-2	4	µg/L		<4	<4	----	----	----
N-Nitrosomorpholine	59-89-2	2	µg/L		<2	<2	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	QC100_221123	QC300_221123	QC500_221123	QC600_221123	----
				Sampling date / time	23-Nov-2022 00:00	23-Nov-2022 00:00	23-Nov-2022 00:00	23-Nov-2022 00:00	----
Compound	CAS Number	LOR	Unit		WN2214776-006	WN2214776-007	WN2214776-008	WN2214776-009	--------
					Result	Result	Result	Result	----
EP075D: Nitrosamines - Continued									
N-Nitrosodi-n-propylamine	621-64-7	2	µg/L		<2	<2	----	----	----
N-Nitrosopiperidine	100-75-4	2	µg/L		<2	<2	----	----	----
N-Nitrosodibutylamine	924-16-3	2	µg/L		<2	<2	----	----	----
N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	4	µg/L		<4	<4	----	----	----
Methapyrilene	91-80-5	2	µg/L		<2	<2	----	----	----
EP075E: Nitroaromatics and Ketones									
2-Picoline	109-06-8	2	µg/L		<2	<2	----	----	----
Acetophenone	98-86-2	2	µg/L		<2	<2	----	----	----
Nitrobenzene	98-95-3	2	µg/L		<2	<2	----	----	----
Isophorone	78-59-1	2	µg/L		<2	<2	----	----	----
2.6-Dinitrotoluene	606-20-2	4	µg/L		<4	<4	----	----	----
2.4-Dinitrotoluene	121-14-2	4	µg/L		<4	<4	----	----	----
1-Naphthylamine	134-32-7	2	µg/L		<2	<2	----	----	----
4-Nitroquinoline-N-oxide	56-57-5	2	µg/L		<2	<2	----	----	----
5-Nitro-o-toluidine	99-55-8	2	µg/L		<2	<2	----	----	----
Azobenzene	103-33-3	2	µg/L		<2	<2	----	----	----
1.3.5-Trinitrobenzene	99-35-4	2	µg/L		<2	<2	----	----	----
Phenacetin	62-44-2	2	µg/L		<2	<2	----	----	----
4-Aminobiphenyl	92-67-1	2	µg/L		<2	<2	----	----	----
Pentachloronitrobenzene	82-68-8	2	µg/L		<2	<2	----	----	----
Pronamide	23950-58-5	2	µg/L		<2	<2	----	----	----
Dimethylaminoazobenzene	60-11-7	2	µg/L		<2	<2	----	----	----
Chlorobenzilate	510-15-6	2	µg/L		<2	<2	----	----	----
EP075F: Haloethers									
Bis(2-chloroethyl) ether	111-44-4	2	µg/L		<2	<2	----	----	----
Bis(2-chloroethoxy) methane	111-91-1	2	µg/L		<2	<2	----	----	----
4-Chlorophenyl phenyl ether	7005-72-3	2	µg/L		<2	<2	----	----	----
4-Bromophenyl phenyl ether	101-55-3	2	µg/L		<2	<2	----	----	----
EP075G: Chlorinated Hydrocarbons									
1.3-Dichlorobenzene	541-73-1	2	µg/L		<2	<2	----	----	----
1.4-Dichlorobenzene	106-46-7	2	µg/L		<2	<2	----	----	----
1.2-Dichlorobenzene	95-50-1	2	µg/L		<2	<2	----	----	----
Hexachloroethane	67-72-1	2	µg/L		<2	<2	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	QC100_221123	QC300_221123	QC500_221123	QC600_221123	----
				Sampling date / time	23-Nov-2022 00:00	23-Nov-2022 00:00	23-Nov-2022 00:00	23-Nov-2022 00:00	----
Compound	CAS Number	LOR	Unit		WN2214776-006	WN2214776-007	WN2214776-008	WN2214776-009	--------
					Result	Result	Result	Result	----
EP075G: Chlorinated Hydrocarbons - Continued									
1.2.4-Trichlorobenzene	120-82-1	2	µg/L		<2	<2	----	----	----
Hexachloropropylene	1888-71-7	2	µg/L		<2	<2	----	----	----
Hexachlorobutadiene	87-68-3	2	µg/L		<2	<2	----	----	----
Hexachlorocyclopentadiene	77-47-4	10	µg/L		<10	<10	----	----	----
Pentachlorobenzene	608-93-5	2	µg/L		<2	<2	----	----	----
Hexachlorobenzene (HCB)	118-74-1	4	µg/L		<4	<4	----	----	----
EP075H: Anilines and Benzidines									
Aniline	62-53-3	2	µg/L		<2	<2	----	----	----
4-Chloroaniline	106-47-8	2	µg/L		<2	<2	----	----	----
2-Nitroaniline	88-74-4	4	µg/L		<4	<4	----	----	----
3-Nitroaniline	99-09-2	4	µg/L		<4	<4	----	----	----
Dibenzofuran	132-64-9	2	µg/L		<2	<2	----	----	----
4-Nitroaniline	100-01-6	2	µg/L		<2	<2	----	----	----
Carbazole	86-74-8	2	µg/L		<2	<2	----	----	----
3.3`-Dichlorobenzidine	91-94-1	2	µg/L		<2	<2	----	----	----
EP075I: Organochlorine Pesticides									
alpha-BHC	319-84-6	2	µg/L		<2	<2	----	----	----
beta-BHC	319-85-7	2	µg/L		<2	<2	----	----	----
gamma-BHC	58-89-9	2	µg/L		<2	<2	----	----	----
delta-BHC	319-86-8	2	µg/L		<2	<2	----	----	----
Heptachlor	76-44-8	2	µg/L		<2	<2	----	----	----
Aldrin	309-00-2	2	µg/L		<2	<2	----	----	----
Heptachlor epoxide	1024-57-3	2	µg/L		<2	<2	----	----	----
alpha-Endosulfan	959-98-8	2	µg/L		<2	<2	----	----	----
4.4`-DDE	72-55-9	2	µg/L		<2	<2	----	----	----
Dieldrin	60-57-1	2	µg/L		<2	<2	----	----	----
Endrin	72-20-8	2	µg/L		<2	<2	----	----	----
beta-Endosulfan	33213-65-9	2	µg/L		<2	<2	----	----	----
4.4`-DDD	72-54-8	2	µg/L		<2	<2	----	----	----
Endosulfan sulfate	1031-07-8	2	µg/L		<2	<2	----	----	----
4.4`-DDT	50-29-3	4	µg/L		<4	<4	----	----	----
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	4	µg/L		<4	<4	----	----	----
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	4	µg/L		<4	<4	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	QC100_221123	QC300_221123	QC500_221123	QC600_221123	----
			Sampling date / time	23-Nov-2022 00:00	23-Nov-2022 00:00	23-Nov-2022 00:00	23-Nov-2022 00:00	----
Compound	CAS Number	LOR	Unit	WN2214776-006	WN2214776-007	WN2214776-008	WN2214776-009	--------
				Result	Result	Result	Result	----
EP075J: Organophosphorus Pesticides								
Dichlorvos	62-73-7	2	µg/L	<2	<2	----	----	----
Dimethoate	60-51-5	2	µg/L	<2	<2	----	----	----
Diazinon	333-41-5	2	µg/L	<2	<2	----	----	----
Chlorpyrifos-methyl	5598-13-0	2	µg/L	<2	<2	----	----	----
Malathion	121-75-5	2	µg/L	<2	<2	----	----	----
Fenthion	55-38-9	2	µg/L	<2	<2	----	----	----
Chlorpyrifos	2921-88-2	2	µg/L	<2	<2	----	----	----
Pirimphos-ethyl	23505-41-1	2	µg/L	<2	<2	----	----	----
Chlorfenvinphos	470-90-6	2	µg/L	<2	<2	----	----	----
Prothiofos	34643-46-4	2	µg/L	<2	<2	----	----	----
Ethion	563-12-2	2	µg/L	<2	<2	----	----	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	20	µg/L	<20	<20	<20	----	----
C10 - C14 Fraction	----	50	µg/L	<50	<50	----	----	----
C15 - C28 Fraction	----	100	µg/L	<100	<100	----	----	----
C29 - C36 Fraction	----	50	µg/L	<50	<50	----	----	----
^ C10 - C36 Fraction (sum)	----	50	µg/L	<50	<50	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	<20	----	----
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	20	µg/L	<20	<20	<20	----	----
>C10 - C16 Fraction	----	100	µg/L	<100	<100	----	----	----
>C16 - C34 Fraction	----	100	µg/L	<100	<100	----	----	----
>C34 - C40 Fraction	----	100	µg/L	<100	<100	----	----	----
^ >C10 - C40 Fraction (sum)	----	100	µg/L	<100	<100	----	----	----
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	100	µg/L	<100	<100	----	----	----
EP080: BTEXN								
Benzene	71-43-2	1	µg/L	<1	<1	<1	**19**	----
Toluene	108-88-3	2	µg/L	<2	<2	<2	**16**	----
Ethylbenzene	100-41-4	2	µg/L	<2	<2	<2	**14**	----
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	<2	**14**	----
ortho-Xylene	95-47-6	2	µg/L	<2	<2	<2	**15**	----
^ Total Xylenes	----	2	µg/L	<2	<2	<2	**29**	----
^ Sum of BTEX	----	1	µg/L	<1	<1	<1	**78**	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	QC100_221123	QC300_221123	QC500_221123	QC600_221123	----
			Sampling date / time	23-Nov-2022 00:00	23-Nov-2022 00:00	23-Nov-2022 00:00	23-Nov-2022 00:00	----
Compound	CAS Number	LOR	Unit	WN2214776-006	WN2214776-007	WN2214776-008	WN2214776-009	--------
				Result	Result	Result	Result	----
EP080: BTEXN - Continued								
Naphthalene	91-20-3	5	µg/L	<5	<5	<5	**18**	----
EP202A: Phenoxyacetic Acid Herbicides by LCMS								
4-Chlorophenoxy acetic acid	122-88-3	10	µg/L	<10	<10	----	----	----
2.4-DB	94-82-6	10	µg/L	<10	<10	----	----	----
Dicamba	1918-00-9	10	µg/L	<10	<10	----	----	----
Mecoprop	93-65-2	10	µg/L	<10	<10	----	----	----
MCPA	94-74-6	10	µg/L	<10	<10	----	----	----
2.4-DP	120-36-5	10	µg/L	<10	<10	----	----	----
2.4-D	94-75-7	10	µg/L	<10	<10	----	----	----
Triclopyr	55335-06-3	10	µg/L	<10	<10	----	----	----
Silvex (2.4.5-TP/Fenoprop)	93-72-1	10	µg/L	<10	<10	----	----	----
2.4.5-T	93-76-5	10	µg/L	<10	<10	----	----	----
MCPB	94-81-5	10	µg/L	<10	<10	----	----	----
Picloram	1918-02-1	10	µg/L	<10	<10	----	----	----
Clopyralid	1702-17-6	10	µg/L	<10	<10	----	----	----
Fluroxypyr	69377-81-7	10	µg/L	<10	<10	----	----	----
2.6-D	575-90-6	10	µg/L	<10	<10	----	----	----
2.4.6-T	575-89-3	10	µg/L	<10	<10	----	----	----
EP231A: Perfluoroalkyl Sulfonic Acids								
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	----	----	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	----	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	<0.01	----	----	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	----	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	<0.01	----	----	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	----	----	----
EP231B: Perfluoroalkyl Carboxylic Acids								
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	----	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	----	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	QC100_221123	QC300_221123	QC500_221123	QC600_221123	----
				Sampling date / time	23-Nov-2022 00:00	23-Nov-2022 00:00	23-Nov-2022 00:00	23-Nov-2022 00:00	----
Compound	CAS Number	LOR	Unit		WN2214776-006	WN2214776-007	WN2214776-008	WN2214776-009	--------
					Result	Result	Result	Result	----
EP231B: Perfluoroalkyl Carboxylic Acids - Continued									
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	<0.01	----	----	----
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.02	----	----	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.05	----	----	----
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.02	----	----	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05	----	----	----
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	----	----	----
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	<0.05	----	----	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	<0.05	----	----	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	<0.02	----	----	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	<0.02	----	----	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	<0.05	----	----	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	<0.05	----	----	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	<0.05	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	QC100_221123	QC300_221123	QC500_221123	QC600_221123	----
				Sampling date / time	23-Nov-2022 00:00	23-Nov-2022 00:00	23-Nov-2022 00:00	23-Nov-2022 00:00	----
Compound	CAS Number	LOR	Unit		WN2214776-006	WN2214776-007	WN2214776-008	WN2214776-009	--------
					Result	Result	Result	Result	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids - Continued									
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	<0.05	----	----	----
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		<0.01	<0.01	----	----	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		<0.01	<0.01	----	----	----
Sum of PFAS (WA DER List)	----	0.01	µg/L		<0.01	<0.01	----	----	----
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	1	%		110	115	----	----	----
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.5	%		90.2	86.3	----	----	----
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.5	%		72.7	68.3	----	----	----
EP074S: VOC Surrogates									
1.2-Dichloroethane-D4	17060-07-0	5	%		101	102	----	----	----
Toluene-D8	2037-26-5	5	%		85.2	89.3	----	----	----
4-Bromofluorobenzene	460-00-4	5	%		81.9	84.1	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	1.0	%		21.3	22.6	----	----	----
2-Chlorophenol-D4	93951-73-6	1.0	%		42.8	46.4	----	----	----
2.4.6-Tribromophenol	118-79-6	1.0	%		52.1	54.3	----	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	1.0	%		49.4	52.1	----	----	----
Anthracene-d10	1719-06-8	1.0	%		60.2	61.7	----	----	----
4-Terphenyl-d14	1718-51-0	1.0	%		63.0	60.8	----	----	----
EP075S: Acid Extractable Surrogates									
2-Fluorophenol	367-12-4	2	%		51.3	58.5	----	----	----
Phenol-d6	13127-88-3	2	%		43.1	47.5	----	----	----
2-Chlorophenol-D4	93951-73-6	2	%		81.8	90.0	----	----	----
2.4.6-Tribromophenol	118-79-6	2	%		72.7	74.0	----	----	----
EP075T: Base/Neutral Extractable Surrogates									
Nitrobenzene-D5	4165-60-0	2	%		89.9	102	----	----	----
1.2-Dichlorobenzene-D4	2199-69-1	2	%		65.8	78.5	----	----	----
2-Fluorobiphenyl	321-60-8	2	%		77.2	83.2	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	QC100_221123	QC300_221123	QC500_221123	QC600_221123	----
			Sampling date / time	23-Nov-2022 00:00	23-Nov-2022 00:00	23-Nov-2022 00:00	23-Nov-2022 00:00	----
Compound	CAS Number	LOR	Unit	WN2214776-006	WN2214776-007	WN2214776-008	WN2214776-009	--------
				Result	Result	Result	Result	----
EP075T: Base/Neutral Extractable Surrogates - Continued								
Anthracene-d10	1719-06-8	2	%	104	107	----	----	----
4-Terphenyl-d14	1718-51-0	2	%	113	109	----	----	----
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	2	%	96.0	108	109	110	----
Toluene-D8	2037-26-5	2	%	86.5	80.5	81.1	82.3	----
4-Bromofluorobenzene	460-00-4	2	%	85.3	74.8	75.8	74.9	----
EP202S: Phenoxyacetic Acid Herbicide Surrogate								
2.4-Dichlorophenyl Acetic Acid	19719-28-9	10	%	115	106	----	----	----
EP231S: PFAS Surrogate								
13C4-PFOS	----	0.02	%	96.0	93.8	----	----	----
13C8-PFOA	----	0.02	%	97.4	100	----	----	----

Surrogate Control Limits

Sub-Matrix: **WATER**

Compound	CAS Number	Recovery Limits (%) Low	High
EP066S: PCB Surrogate			
Decachlorobiphenyl	2051-24-3	45	134
EP068S: Organochlorine Pesticide Surrogate			
Dibromo-DDE	21655-73-2	67	111
EP068T: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	67	111
EP074S: VOC Surrogates			
1.2-Dichloroethane-D4	17060-07-0	78	133
Toluene-D8	2037-26-5	79	129
4-Bromofluorobenzene	460-00-4	81	124
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	10	44
2-Chlorophenol-D4	93951-73-6	14	94
2.4.6-Tribromophenol	118-79-6	17	125
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	20	104
Anthracene-d10	1719-06-8	27	113
4-Terphenyl-d14	1718-51-0	32	112
EP075S: Acid Extractable Surrogates			
2-Fluorophenol	367-12-4	10	117
Phenol-d6	13127-88-3	10	69
2-Chlorophenol-D4	93951-73-6	21	130
2.4.6-Tribromophenol	118-79-6	10	151
EP075T: Base/Neutral Extractable Surrogates			
Nitrobenzene-D5	4165-60-0	29	142
1.2-Dichlorobenzene-D4	2199-69-1	24	121
2-Fluorobiphenyl	321-60-8	27	135
Anthracene-d10	1719-06-8	27	113
4-Terphenyl-d14	1718-51-0	21	123
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	71	137
Toluene-D8	2037-26-5	79	131
4-Bromofluorobenzene	460-00-4	70	128
EP202S: Phenoxyacetic Acid Herbicide Surrogate			
2.4-Dichlorophenyl Acetic Acid	19719-28-9	64	140
EP231S: PFAS Surrogate			
13C4-PFOS	----	60	120
13C8-PFOA	----	60	120

Inter-Laboratory Testing

Analysis conducted by ALS Sydney, NATA accreditation no. 825, site no. 10911 (Chemistry) 14913 (Biology).

(WATER) EP066: Polychlorinated Biphenyls (PCB)
(WATER) EP066S: PCB Surrogate
(WATER) EG035F: Dissolved Mercury by FIMS
(WATER) EG020F: Dissolved Metals by ICP-MS
(WATER) EP080/071: Total Petroleum Hydrocarbons
(WATER) EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions
(WATER) EP080: BTEXN
(WATER) EP075I: Organochlorine Pesticides
(WATER) EP075J: Organophosphorus Pesticides
(WATER) EP075B: Polynuclear Aromatic Hydrocarbons
(WATER) EP075C: Phthalate Esters
(WATER) EP075D: Nitrosamines
(WATER) EP075E: Nitroaromatics and Ketones
(WATER) EP075F: Haloethers
(WATER) EP075G: Chlorinated Hydrocarbons
(WATER) EP075H: Anilines and Benzidines
(WATER) EP075S: Acid Extractable Surrogates
(WATER) EP075T: Base/Neutral Extractable Surrogates
(WATER) EP075A: Phenolic Compounds
(WATER) EP080S: TPH(V)/BTEX Surrogates
(WATER) EP068A: Organochlorine Pesticides (OC)
(WATER) EP068S: Organochlorine Pesticide Surrogate
(WATER) EP068T: Organophosphorus Pesticide Surrogate
(WATER) EP075(SIM)B: Polynuclear Aromatic Hydrocarbons
(WATER) EP075(SIM)T: PAH Surrogates
(WATER) EP075(SIM)S: Phenolic Compound Surrogates
(WATER) EP074A: Monocyclic Aromatic Hydrocarbons
(WATER) EP074B: Oxygenated Compounds
(WATER) EP074C: Sulfonated Compounds
(WATER) EP074D: Fumigants
(WATER) EP074E: Halogenated Aliphatic Compounds
(WATER) EP074F: Halogenated Aromatic Compounds
(WATER) EP074G: Trihalomethanes
(WATER) EP074H: Naphthalene
(WATER) EP074S: VOC Surrogates
(WATER) EK062G: Total Nitrogen as N (TKN + NOx) by Discrete Analyser
(WATER) EK057G: Nitrite as N by Discrete Analyser
(WATER) EK055G: Ammonia as N by Discrete Analyser

(WATER) EK058G: Nitrate as N by Discrete Analyser
(WATER) EK071G: Reactive Phosphorus as P by discrete analyser
(WATER) EK067G: Total Phosphorus as P by Discrete Analyser
(WATER) EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser
(WATER) EK061G: Total Kjeldahl Nitrogen By Discrete Analyser
(WATER) EP231A: Perfluoroalkyl Sulfonic Acids
(WATER) EP231B: Perfluoroalkyl Carboxylic Acids
(WATER) EP231C: Perfluoroalkyl Sulfonamides
(WATER) EP231D: (n:2) Fluorotelomer Sulfonic Acids
(WATER) EP231P: PFAS Sums
(WATER) EP231S: PFAS Surrogate
(WATER) EP202A: Phenoxyacetic Acid Herbicides by LCMS
(WATER) EP202S: Phenoxyacetic Acid Herbicide Surrogate
(WATER) EG020T: Total Metals by ICP-MS
(WATER) EG035T: Total Recoverable Mercury by FIMS

ALS Environmental

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **WN2214776**	Page	: 1 of 15
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: ALS Water - Newcastle
Contact	: TAMA ARMANI	Telephone	: +612 4014 2500
Project	: 60619756, 211-30 Muswellbrook	Date Samples Received	: 23-Nov-2022
Site	: ----	Issue Date	: 30-Nov-2022
Sampler	: PETER DEAN	No. of samples received	: 9
Order number	: 60619756, 211-30	No. of samples analysed	: 9

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.**
- **Surrogate recovery outliers exist for all regular sample matrices - please see following pages for full details.**

Outliers : Analysis Holding Time Compliance

- **Analysis Holding Time Outliers exist - please see following pages for full details.**

Outliers : Frequency of Quality Control Samples

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

Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **WATER**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Laboratory Control Spike (LCS) Recoveries							
EP075D: Nitrosamines	QC-4725541-002	----	**N-Nitrosodiethylamine**	55-18-5	58.1 %	60.6-113%	**Recovery less than lower control limit**
EP075E: Nitroaromatics and Ketones	QC-4725541-002	----	**2-Picoline**	109-06-8	37.9 %	41.0-109%	**Recovery less than lower control limit**
EP075F: Haloethers	QC-4725541-002	----	**Bis(2-chloroethyl) ether**	111-44-4	59.1 %	69.1-112%	**Recovery less than lower control limit**
Matrix Spike (MS) Recoveries							
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Ar	ES2242436--004	Anonymous	**Nitrite + Nitrate as N**	----	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser	ES2242436--005	Anonymous	**Total Kjeldahl Nitrogen as N**	----	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP074A: Monocyclic Aromatic Hydrocarbons	ES2242296--001	Anonymous	**Toluene**	108-88-3	14.2 %	70.0-130%	**Recovery less than lower data quality objective**
EP074E: Halogenated Aliphatic Compounds	ES2242296--001	Anonymous	**1.1-Dichloroethene**	75-35-4	40.7 %	70.0-130%	**Recovery less than lower data quality objective**

Regular Sample Surrogates

Sub-Matrix: **WATER**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Samples Submitted							
EP075T: Base/Neutral Extractable Surrogates	WN2214776-001	MW01_221123	**Anthracene-d10**	1719-06-8	117 %	26.6-113 %	**Recovery greater than upper data quality objective**
EP075T: Base/Neutral Extractable Surrogates	WN2214776-001	MW01_221123	**4-Terphenyl-d14**	1718-51-0	124 %	21.4-123 %	**Recovery greater than upper data quality objective**

Outliers : Analysis Holding Time Compliance

Matrix: **WATER**

Method / Container / Client Sample ID(s)	Extraction / Preparation			Analysis		
	Date extracted	Due for extraction	Days overdue	Date analysed	Due for analysis	Days overdue
EK055G: Ammonia as N by Discrete Analyser						
Clear Plastic Bottle - Natural						
BR245_221123	----	----	----	25-Nov-2022	24-Nov-2022	**1**
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser						
Clear Plastic Bottle - Natural						
BR245_221123	25-Nov-2022	24-Nov-2022	**1**	----	----	----

Outliers : Frequency of Quality Control Samples

Matrix: **WATER**

Quality Control Sample Type	Count		Rate (%)		Quality Control Specification
Method	QC	Regular	Actual	Expected	

Matrix: **WATER**

Quality Control Sample Type	Count		Rate (%)		Quality Control Specification
Method	QC	Regular	Actual	Expected	
Laboratory Duplicates (DUP)					
PAH/Phenols (GC/MS - SIM)	0	7	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	0	7	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	0	7	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
Semivolatile Organic Compounds	0	7	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	0	7	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)					
PAH/Phenols (GC/MS - SIM)	0	7	0.00	5.00	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	0	7	0.00	5.00	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	0	7	0.00	5.00	NEPM 2013 B3 & ALS QC Standard
Semivolatile Organic Compounds	0	7	0.00	5.00	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	0	7	0.00	5.00	NEPM 2013 B3 & ALS QC Standard

Analysis Holding Time Compliance

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

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

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

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

Matrix: **WATER**

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

Method / *Container / Client Sample ID(s)*	*Sample Date*	*Extraction / Preparation*			*Analysis*		
		Date extracted	*Due for extraction*	*Evaluation*	*Date analysed*	*Due for analysis*	*Evaluation*
EG020F: Dissolved Metals by ICP-MS							
Clear Plastic Bottle - Nitric Acid; Filtered (EG020A-F)							
MW01_221123, MW02 -221123, MW03_221123, BR245_221123, BR225_221123, QC100_221123	**23-Nov-2022**	**----**	----	----	**25-Nov-2022**	22-May-2023	✓
EG020T: Total Metals by ICP-MS							
Clear Plastic Bottle - Nitric Acid; Unfiltered (EG020A-T)							
QC300_221123	**23-Nov-2022**	**25-Nov-2022**	22-May-2023	✓	**25-Nov-2022**	22-May-2023	✓
EG035F: Dissolved Mercury by FIMS							
Clear Plastic Bottle - Nitric Acid; Filtered (EG035F)							
MW01_221123, MW02 -221123, MW03_221123, BR245_221123, BR225_221123, QC100_221123	**23-Nov-2022**	**----**	----	----	**25-Nov-2022**	21-Dec-2022	✓
EG035T: Total Recoverable Mercury by FIMS							
Clear Plastic Bottle - Nitric Acid; Unfiltered (EG035T)							
QC300_221123	**23-Nov-2022**	**----**	----	----	**28-Nov-2022**	21-Dec-2022	✓

Matrix: **WATER**

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

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EK055G: Ammonia as N by Discrete Analyser							
Clear Plastic Bottle - Natural (EK055G)							
BR245_221123	**23-Nov-2022**	**----**	----	----	**25-Nov-2022**	24-Nov-2022	×
Clear Plastic Bottle - Sulfuric Acid (EK055G)							
BR225_221123, QC100_221123	**23-Nov-2022**	**----**	----	----	**25-Nov-2022**	21-Dec-2022	✓
EK057G: Nitrite as N by Discrete Analyser							
Clear Plastic Bottle - Natural (EK057G)							
BR245_221123, BR225_221123, QC100_221123	**23-Nov-2022**	**----**	----	----	**25-Nov-2022**	25-Nov-2022	✓
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser							
Clear Plastic Bottle - Natural (EK059G)							
BR245_221123	**23-Nov-2022**	**----**	----	----	**25-Nov-2022**	25-Nov-2022	✓
Clear Plastic Bottle - Sulfuric Acid (EK059G)							
BR225_221123, QC100_221123	**23-Nov-2022**	**----**	----	----	**25-Nov-2022**	21-Dec-2022	✓
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser							
Clear Plastic Bottle - Natural (EK061G)							
BR245_221123	**23-Nov-2022**	**25-Nov-2022**	24-Nov-2022	×	**25-Nov-2022**	23-Dec-2022	✓
Clear Plastic Bottle - Sulfuric Acid (EK061G)							
BR225_221123, QC100_221123	**23-Nov-2022**	**25-Nov-2022**	21-Dec-2022	✓	**25-Nov-2022**	21-Dec-2022	✓
EK067G: Total Phosphorus as P by Discrete Analyser							
Clear Plastic Bottle - Natural (EK067G)							
BR245_221123	**23-Nov-2022**	**25-Nov-2022**	25-Nov-2022	✓	**25-Nov-2022**	23-Dec-2022	✓
Clear Plastic Bottle - Sulfuric Acid (EK067G)							
BR225_221123, QC100_221123	**23-Nov-2022**	**25-Nov-2022**	21-Dec-2022	✓	**25-Nov-2022**	21-Dec-2022	✓
EK071G: Reactive Phosphorus as P by discrete analyser							
Clear Plastic Bottle - Natural (EK071G)							
BR245_221123, BR225_221123, QC100_221123	**23-Nov-2022**	**----**	----	----	**25-Nov-2022**	25-Nov-2022	✓
EP066: Polychlorinated Biphenyls (PCB)							
Amber Glass Bottle - Unpreserved (EP066)							
MW01_221123, MW02 -221123, MW03_221123, BR245_221123, BR225_221123, QC100_221123, QC300_221123	**23-Nov-2022**	**25-Nov-2022**	30-Nov-2022	✓	**29-Nov-2022**	04-Jan-2023	✓
EP068A: Organochlorine Pesticides (OC)							
Amber Glass Bottle - Unpreserved (EP068)							
MW01_221123, MW02 -221123, MW03_221123, BR245_221123, BR225_221123, QC100_221123, QC300_221123	**23-Nov-2022**	**25-Nov-2022**	30-Nov-2022	✓	**29-Nov-2022**	04-Jan-2023	✓

Matrix: **WATER**

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

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP074A: Monocyclic Aromatic Hydrocarbons							
Amber VOC Vial - Sulfuric Acid (EP074)							
MW01_221123, MW02 -221123, MW03_221123, BR245_221123, BR225_221123, QC100_221123, QC300_221123	**23-Nov-2022**	**29-Nov-2022**	07-Dec-2022	✓	**29-Nov-2022**	07-Dec-2022	✓
EP074B: Oxygenated Compounds							
Amber VOC Vial - Sulfuric Acid (EP074)							
MW01_221123, MW02 -221123, MW03_221123, BR245_221123, BR225_221123, QC100_221123, QC300_221123	**23-Nov-2022**	**29-Nov-2022**	07-Dec-2022	✓	**29-Nov-2022**	07-Dec-2022	✓
EP074C: Sulfonated Compounds							
Amber VOC Vial - Sulfuric Acid (EP074)							
MW01_221123, MW02 -221123, MW03_221123, BR245_221123, BR225_221123, QC100_221123, QC300_221123	**23-Nov-2022**	**29-Nov-2022**	07-Dec-2022	✓	**29-Nov-2022**	07-Dec-2022	✓
EP074D: Fumigants							
Amber VOC Vial - Sulfuric Acid (EP074)							
MW01_221123, MW02 -221123, MW03_221123, BR245_221123, BR225_221123, QC100_221123, QC300_221123	**23-Nov-2022**	**29-Nov-2022**	07-Dec-2022	✓	**29-Nov-2022**	07-Dec-2022	✓
EP074E: Halogenated Aliphatic Compounds							
Amber VOC Vial - Sulfuric Acid (EP074)							
MW01_221123, MW02 -221123, MW03_221123, BR245_221123, BR225_221123, QC100_221123, QC300_221123	**23-Nov-2022**	**29-Nov-2022**	07-Dec-2022	✓	**29-Nov-2022**	07-Dec-2022	✓
EP074F: Halogenated Aromatic Compounds							
Amber VOC Vial - Sulfuric Acid (EP074)							
MW01_221123, MW02 -221123, MW03_221123, BR245_221123, BR225_221123, QC100_221123, QC300_221123	**23-Nov-2022**	**29-Nov-2022**	07-Dec-2022	✓	**29-Nov-2022**	07-Dec-2022	✓
EP074G: Trihalomethanes							
Amber VOC Vial - Sulfuric Acid (EP074)							
MW01_221123, MW02 -221123, MW03_221123, BR245_221123, BR225_221123, QC100_221123, QC300_221123	**23-Nov-2022**	**29-Nov-2022**	07-Dec-2022	✓	**29-Nov-2022**	07-Dec-2022	✓

Matrix: **WATER**

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

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP074H: Naphthalene							
Amber VOC Vial - Sulfuric Acid (EP074)							
MW01_221123, MW02 -221123, MW03_221123, BR245_221123, BR225_221123, QC100_221123, QC300_221123	**23-Nov-2022**	**29-Nov-2022**	07-Dec-2022	✓	**29-Nov-2022**	07-Dec-2022	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP075(SIM))							
MW01_221123, MW02 -221123, MW03_221123, BR245_221123, BR225_221123, QC100_221123, QC300_221123	**23-Nov-2022**	**25-Nov-2022**	30-Nov-2022	✓	**29-Nov-2022**	04-Jan-2023	✓
EP075A: Phenolic Compounds							
Amber Glass Bottle - Unpreserved (EP075)							
MW01_221123, MW02 -221123, MW03_221123, BR245_221123, BR225_221123, QC100_221123, QC300_221123	**23-Nov-2022**	**25-Nov-2022**	30-Nov-2022	✓	**29-Nov-2022**	04-Jan-2023	✓
EP075B: Polynuclear Aromatic Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP075)							
MW01_221123, MW02 -221123, MW03_221123, BR245_221123, BR225_221123, QC100_221123, QC300_221123	**23-Nov-2022**	**25-Nov-2022**	30-Nov-2022	✓	**29-Nov-2022**	04-Jan-2023	✓
EP075C: Phthalate Esters							
Amber Glass Bottle - Unpreserved (EP075)							
MW01_221123, MW02 -221123, MW03_221123, BR245_221123, BR225_221123, QC100_221123, QC300_221123	**23-Nov-2022**	**25-Nov-2022**	30-Nov-2022	✓	**29-Nov-2022**	04-Jan-2023	✓
EP075D: Nitrosamines							
Amber Glass Bottle - Unpreserved (EP075)							
MW01_221123, MW02 -221123, MW03_221123, BR245_221123, BR225_221123, QC100_221123, QC300_221123	**23-Nov-2022**	**25-Nov-2022**	30-Nov-2022	✓	**29-Nov-2022**	04-Jan-2023	✓
EP075E: Nitroaromatics and Ketones							
Amber Glass Bottle - Unpreserved (EP075)							
MW01_221123, MW02 -221123, MW03_221123, BR245_221123, BR225_221123, QC100_221123, QC300_221123	**23-Nov-2022**	**25-Nov-2022**	30-Nov-2022	✓	**29-Nov-2022**	04-Jan-2023	✓

Matrix: **WATER**

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

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP075F: Haloethers							
Amber Glass Bottle - Unpreserved (EP075)							
MW01_221123, MW02 -221123, MW03_221123, BR245_221123, BR225_221123, QC100_221123, QC300_221123	**23-Nov-2022**	**25-Nov-2022**	30-Nov-2022	✓	**29-Nov-2022**	04-Jan-2023	✓
EP075G: Chlorinated Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP075)							
MW01_221123, MW02 -221123, MW03_221123, BR245_221123, BR225_221123, QC100_221123, QC300_221123	**23-Nov-2022**	**25-Nov-2022**	30-Nov-2022	✓	**29-Nov-2022**	04-Jan-2023	✓
EP075H: Anilines and Benzidines							
Amber Glass Bottle - Unpreserved (EP075)							
MW01_221123, MW02 -221123, MW03_221123, BR245_221123, BR225_221123, QC100_221123, QC300_221123	**23-Nov-2022**	**25-Nov-2022**	30-Nov-2022	✓	**29-Nov-2022**	04-Jan-2023	✓
EP075I: Organochlorine Pesticides							
Amber Glass Bottle - Unpreserved (EP075)							
MW01_221123, MW02 -221123, MW03_221123, BR245_221123, BR225_221123, QC100_221123, QC300_221123	**23-Nov-2022**	**25-Nov-2022**	30-Nov-2022	✓	**29-Nov-2022**	04-Jan-2023	✓
EP075J: Organophosphorus Pesticides							
Amber Glass Bottle - Unpreserved (EP075)							
MW01_221123, MW02 -221123, MW03_221123, BR245_221123, BR225_221123, QC100_221123, QC300_221123	**23-Nov-2022**	**25-Nov-2022**	30-Nov-2022	✓	**29-Nov-2022**	04-Jan-2023	✓
EP080/071: Total Petroleum Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP071)							
MW01_221123, MW02 -221123, MW03_221123, BR245_221123, BR225_221123, QC100_221123, QC300_221123	**23-Nov-2022**	**25-Nov-2022**	30-Nov-2022	✓	**29-Nov-2022**	04-Jan-2023	✓
Amber VOC Vial - Sulfuric Acid (EP080)							
MW01_221123, MW02 -221123, MW03_221123, BR245_221123, BR225_221123, QC100_221123, QC300_221123, QC500_221123	**23-Nov-2022**	**29-Nov-2022**	07-Dec-2022	✓	**29-Nov-2022**	07-Dec-2022	✓

Matrix: **WATER**

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

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions							
Amber Glass Bottle - Unpreserved (EP071)							
MW01_221123, MW02 -221123, MW03_221123, BR245_221123, BR225_221123, QC100_221123, QC300_221123	**23-Nov-2022**	**25-Nov-2022**	30-Nov-2022	✓	**29-Nov-2022**	04-Jan-2023	✓
Amber VOC Vial - Sulfuric Acid (EP080)							
MW01_221123, MW02 -221123, MW03_221123, BR245_221123, BR225_221123, QC100_221123, QC300_221123, QC500_221123	**23-Nov-2022**	**29-Nov-2022**	07-Dec-2022	✓	**29-Nov-2022**	07-Dec-2022	✓
EP080: BTEXN							
Amber VOC Vial - Sulfuric Acid (EP080)							
MW01_221123, MW02 -221123, MW03_221123, BR245_221123, BR225_221123, QC100_221123, QC300_221123, QC500_221123, QC600_221123	**23-Nov-2022**	**29-Nov-2022**	07-Dec-2022	✓	**29-Nov-2022**	07-Dec-2022	✓
EP202A: Phenoxyacetic Acid Herbicides by LCMS							
Amber Glass Bottle - Unpreserved (EP202-SL)							
MW01_221123, MW02 -221123, MW03_221123, BR245_221123, BR225_221123, QC100_221123, QC300_221123	**23-Nov-2022**	**----**	----	----	**25-Nov-2022**	30-Nov-2022	✓
EP231A: Perfluoroalkyl Sulfonic Acids							
HDPE (no PTFE) (EP231X)							
MW01_221123, MW02 -221123, MW03_221123, BR245_221123, BR225_221123, QC100_221123, QC300_221123	**23-Nov-2022**	**25-Nov-2022**	22-May-2023	✓	**28-Nov-2022**	22-May-2023	✓
EP231B: Perfluoroalkyl Carboxylic Acids							
HDPE (no PTFE) (EP231X)							
MW01_221123, MW02 -221123, MW03_221123, BR245_221123, BR225_221123, QC100_221123, QC300_221123	**23-Nov-2022**	**25-Nov-2022**	22-May-2023	✓	**28-Nov-2022**	22-May-2023	✓
EP231C: Perfluoroalkyl Sulfonamides							
HDPE (no PTFE) (EP231X)							
MW01_221123, MW02 -221123, MW03_221123, BR245_221123, BR225_221123, QC100_221123, QC300_221123	**23-Nov-2022**	**25-Nov-2022**	22-May-2023	✓	**28-Nov-2022**	22-May-2023	✓

Matrix: **WATER**

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

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP231D: (n:2) Fluorotelomer Sulfonic Acids							
HDPE (no PTFE) (EP231X)							
MW01_221123, MW02 -221123, MW03_221123, BR245_221123, BR225_221123, QC100_221123, QC300_221123	**23-Nov-2022**	**25-Nov-2022**	22-May-2023	✓	**28-Nov-2022**	22-May-2023	✓
EP231P: PFAS Sums							
HDPE (no PTFE) (EP231X)							
MW01_221123, MW02 -221123, MW03_221123, BR245_221123, BR225_221123, QC100_221123, QC300_221123	**23-Nov-2022**	**25-Nov-2022**	22-May-2023	✓	**28-Nov-2022**	22-May-2023	✓

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: **WATER**

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

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Ammonia as N by Discrete analyser	EK055G	2	17	**11.76**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Mercury by FIMS	EG035F	1	6	**16.67**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Metals by ICP-MS - Suite A	EG020A-F	2	19	**10.53**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Nitrite and Nitrate as N (NOx) by Discrete Analyser	EK059G	2	19	**10.53**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Nitrite as N by Discrete Analyser	EK057G	2	12	**16.67**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	0	7	**0.00**	**10.00**	×	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	12	**16.67**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	0	7	**0.00**	**10.00**	×	NEPM 2013 B3 & ALS QC Standard
Phenoxyacetic Acid Herbicides (LCMS - Standard DL)	EP202-SL	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	0	7	**0.00**	**10.00**	×	NEPM 2013 B3 & ALS QC Standard
Reactive Phosphorus as P-By Discrete Analyser	EK071G	2	11	**18.18**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Semivolatile Organic Compounds	EP075	0	7	**0.00**	**10.00**	×	NEPM 2013 B3 & ALS QC Standard
Total Kjeldahl Nitrogen as N By Discrete Analyser	EK061G	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	2	**50.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-MS - Suite A	EG020A-T	2	13	**15.38**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Phosphorus as P By Discrete Analyser	EK067G	2	19	**10.53**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	0	7	**0.00**	**10.00**	×	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	9	**11.11**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Volatile Organic Compounds	EP074	2	17	**11.76**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Ammonia as N by Discrete analyser	EK055G	1	17	**5.88**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Mercury by FIMS	EG035F	1	6	**16.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Metals by ICP-MS - Suite A	EG020A-F	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Nitrite and Nitrate as N (NOx) by Discrete Analyser	EK059G	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Nitrite as N by Discrete Analyser	EK057G	1	12	**8.33**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	7	**14.29**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	12	**8.33**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	7	**14.29**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Phenoxyacetic Acid Herbicides (LCMS - Standard DL)	EP202-SL	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	7	**14.29**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Reactive Phosphorus as P-By Discrete Analyser	EK071G	1	11	**9.09**	**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 Kjeldahl Nitrogen as N By Discrete Analyser	EK061G	3	20	**15.00**	**15.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-MS - Suite A	EG020A-T	1	13	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Phosphorus as P By Discrete Analyser	EK067G	3	19	**15.79**	**15.00**	✓	NEPM 2013 B3 & ALS QC Standard

Matrix: **WATER**

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

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Control Samples (LCS) - Continued							
TRH - Semivolatile Fraction	EP071	1	7	**14.29**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	9	**11.11**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Volatile Organic Compounds	EP074	1	17	**5.88**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Ammonia as N by Discrete analyser	EK055G	1	17	**5.88**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Mercury by FIMS	EG035F	1	6	**16.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Metals by ICP-MS - Suite A	EG020A-F	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Nitrite and Nitrate as N (NOx) by Discrete Analyser	EK059G	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Nitrite as N by Discrete Analyser	EK057G	1	12	**8.33**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	7	**14.29**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	12	**8.33**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	7	**14.29**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Phenoxyacetic Acid Herbicides (LCMS - Standard DL)	EP202-SL	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	7	**14.29**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Reactive Phosphorus as P-By Discrete Analyser	EK071G	1	11	**9.09**	**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 Kjeldahl Nitrogen as N By Discrete Analyser	EK061G	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-MS - Suite A	EG020A-T	1	13	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Phosphorus as P By Discrete Analyser	EK067G	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	7	**14.29**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	9	**11.11**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Volatile Organic Compounds	EP074	1	17	**5.88**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Ammonia as N by Discrete analyser	EK055G	1	17	**5.88**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Mercury by FIMS	EG035F	1	6	**16.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Metals by ICP-MS - Suite A	EG020A-F	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Nitrite and Nitrate as N (NOx) by Discrete Analyser	EK059G	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Nitrite as N by Discrete Analyser	EK057G	1	12	**8.33**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	0	7	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	12	**8.33**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	0	7	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard
Phenoxyacetic Acid Herbicides (LCMS - Standard DL)	EP202-SL	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	0	7	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard
Reactive Phosphorus as P-By Discrete Analyser	EK071G	1	11	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Semivolatile Organic Compounds	EP075	0	7	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard
Total Kjeldahl Nitrogen as N By Discrete Analyser	EK061G	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-MS - Suite A	EG020A-T	1	13	**7.69**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Phosphorus as P By Discrete Analyser	EK067G	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Matrix: **WATER**

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

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Matrix Spikes (MS) - Continued							
TRH - Semivolatile Fraction	EP071	0	7	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	9	**11.11**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Volatile Organic Compounds	EP074	1	17	**5.88**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

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

Analytical Methods	Method	Matrix	Method Descriptions
Dissolved Metals by ICP-MS - Suite A	EG020A-F	WATER	In house: Referenced to APHA 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020. Samples are 0.45µm filtered prior to analysis. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector.
Total Metals by ICP-MS - Suite A	EG020A-T	WATER	In house: Referenced to APHA 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector.
Dissolved Mercury by FIMS	EG035F	WATER	In house: Referenced to APHA 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) Samples are 0.45µm filtered prior to analysis. FIM-AAS is an automated flameless atomic absorption technique. A bromate/bromide reagent is used to oxidise any organic mercury compounds in the filtered sample. The ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM Schedule B(3).
Total Mercury by FIMS	EG035T	WATER	In house: Referenced to APHA 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. A bromate/bromide reagent is used to oxidise any organic mercury compounds in the unfiltered sample. The ionic mercury is reduced online to atomic mercury vapour by SnCl2 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).
Ammonia as N by Discrete analyser	EK055G	WATER	In house: Referenced to APHA 4500-NH3 G Ammonia is determined by direct colorimetry by Discrete Analyser. This method is compliant with NEPM Schedule B(3)
Nitrite as N by Discrete Analyser	EK057G	WATER	In house: Referenced to APHA 4500-NO2- B. Nitrite is determined by direct colourimetry by Discrete Analyser. This method is compliant with NEPM Schedule B(3)
Nitrate as N by Discrete Analyser	EK058G	WATER	In house: Referenced to APHA 4500-NO3- F. Nitrate is reduced to nitrite by way of a chemical reduction followed by quantification by Discrete Analyser. Nitrite is determined seperately by direct colourimetry and result for Nitrate calculated as the difference between the two results. This method is compliant with NEPM Schedule B(3)
Nitrite and Nitrate as N (NOx) by Discrete Analyser	EK059G	WATER	In house: Referenced to APHA 4500-NO3- F. Combined oxidised Nitrogen (NO2+NO3) is determined by Chemical Reduction and direct colourimetry by Discrete Analyser. This method is compliant with NEPM Schedule B(3)
Total Kjeldahl Nitrogen as N By Discrete Analyser	EK061G	WATER	In house: Referenced to APHA 4500-Norg D (In house). An aliquot of sample is digested using a high temperature Kjeldahl digestion to convert nitrogenous compounds to ammonia. Ammonia is determined colorimetrically by discrete analyser. This method is compliant with NEPM Schedule B(3)
Total Nitrogen as N (TKN + Nox) By Discrete Analyser	EK062G	WATER	In house: Referenced to APHA 4500-Norg / 4500-NO3-. This method is compliant with NEPM Schedule B(3)

Analytical Methods	Method	Matrix	Method Descriptions
Total Phosphorus as P By Discrete Analyser	EK067G	WATER	In house: Referenced to APHA 4500-P H, Jirka et al, Zhang et al. This procedure involves sulphuric acid digestion of a sample aliquot to break phosphorus down to orthophosphate. The orthophosphate reacts with ammonium molybdate and antimony potassium tartrate to form a complex which is then reduced and its concentration measured at 880nm using discrete analyser. This method is compliant with NEPM Schedule B(3)
Reactive Phosphorus as P-By Discrete Analyser	EK071G	WATER	In house: Referenced to APHA 4500-P F Ammonium molybdate and potassium antimonyl tartrate reacts in acid medium with othophosphate to form a heteropoly acid -phosphomolybdic acid - which is reduced to intensely coloured molybdenum blue by ascorbic acid. Quantification is by Discrete Analyser. This method is compliant with NEPM Schedule B(3)
Polychlorinated Biphenyls (PCB)	EP066	WATER	In house: Referenced to USEPA SW 846 - 8270 Sample extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)
Pesticides by GCMS	EP068	WATER	In house: Referenced to USEPA SW 846 - 8270 Sample extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)
TRH - Semivolatile Fraction	EP071	WATER	In house: Referenced to USEPA SW 846 - 8015 The sample extract is analysed by Capillary GC/FID and quantification is by comparison against an established 5 point calibration curve of n-Alkane standards. This method is compliant with the QC requirements of NEPM Schedule B(3)
Volatile Organic Compounds	EP074	WATER	In house: Referenced to USEPA SW 846 - 8260 Water samples are directly purged prior to analysis by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)
Semivolatile Organic Compounds	EP075	WATER	In house: Referenced to USEPA SW 846 - 8270 Sample extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	WATER	In house: Referenced to USEPA SW 846 - 8270 Sample extracts are analysed by Capillary GC/MS in SIM Mode and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)
TRH Volatiles/BTEX	EP080	WATER	In house: Referenced to USEPA SW 846 - 8260 Water samples are directly purged prior to analysis by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. Alternatively, a sample is equilibrated in a headspace vial and a portion of the headspace determined by GCMS analysis. This method is compliant with the QC requirements of NEPM Schedule B(3)
Phenoxyacetic Acid Herbicides (LCMS - Standard DL)	EP202-SL	WATER	In house: LCMS (Electrospray in negative mode). After adding surrogate and acetic acid, water samples are injected on a C18 column for LC/MS determination.
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	WATER	In-house: Analysis of fresh and saline waters by Solid Phase Extraction (SPE) followed by LC-Electrospray-MS-MS, Negative Mode using MRM and internal standard quantitation. Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is 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

Preparation Methods	Method	Matrix	Method Descriptions
TKN/TP Digestion	EK061/EK067	WATER	In house: Referenced to APHA 4500 Norg - D; APHA 4500 P - H. This method is compliant with NEPM Schedule B(3)
Digestion for Total Recoverable Metals	EN25	WATER	In house: Referenced to USEPA SW846-3005. Method 3005 is a Nitric/Hydrochloric acid digestion procedure used to prepare surface and ground water samples for analysis by ICPAES or ICPMS. This method is compliant with NEPM Schedule B(3)
Separatory Funnel Extraction of Liquids	ORG14	WATER	In house: Referenced to USEPA SW 846 - 3510 100 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM Schedule B(3) . ALS default excludes sediment which may be resident in the container.
Volatiles Water Preparation	ORG16-W	WATER	A 5 mL aliquot or 5 mL of a diluted sample is added to a 40 mL VOC vial for purging.
Solid Phase Extraction (SPE) for PFAS in water	ORG72	WATER	In-house: Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures conform to US DoD QSM 5.3, table B-15 requirements.

ALS Environmental

QUALITY CONTROL REPORT

Work Order	: **WN2214776**	Page	: 1 of 23
Client	: **AECOM AUSTRALIA PTY LTD**	Laboratory	: ALS Water - Newcastle
Contact	: TAMA ARMANI	Contact	: Hayley Withers
Address	: 17 WARABROOK BLVD NEWCASTLE Newcastle 2304	Address	: 5/585 Maitland Road Newcastle West NSW Australia 2304
Telephone	: ----	Telephone	: +612 4014 2500
Project	: 60619756, 211-30 Muswellbrook	Date Samples Received	: 23-Nov-2022
Order number	: 60619756, 211-30	Date Analysis Commenced	: 25-Nov-2022
C-O-C number	: ----	Issue Date	: 30-Nov-2022
Sampler	: PETER DEAN		
Site	: ----		
Quote number	: EN/004/21		
No. of samples received	: 9		
No. of samples analysed	: 9		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

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

This Quality Control Report contains the following information:

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

Signatories

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

Signatories	*Position*	*Accreditation Category*
Ankit Joshi	Senior Chemist - Inorganics	Sydney Inorganics, Smithfield, NSW
Edwandy Fadjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Franco Lentini	LCMS Coordinator	Sydney Organics, Smithfield, NSW
Wisam Marassa	Inorganics Coordinator	Sydney Inorganics, Smithfield, NSW

General Comments

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

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

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

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: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EG020F: Dissolved Metals by ICP-MS (QC Lot: 4725869)									
WN2214755-007	Anonymous	EG020A-F: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
		EG020A-F: Arsenic	7440-38-2	0.001	mg/L	0.079	0.077	2.7	0% - 20%
		EG020A-F: Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Copper	7440-50-8	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Nickel	7440-02-0	0.001	mg/L	0.004	0.002	99.1	No Limit
		EG020A-F: Zinc	7440-66-6	0.005	mg/L	0.022	0.009	81.9	No Limit
EW2205447-003	Anonymous	EG020A-F: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
		EG020A-F: Arsenic	7440-38-2	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Copper	7440-50-8	0.001	mg/L	0.002	0.002	0.0	No Limit
		EG020A-F: Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Nickel	7440-02-0	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Zinc	7440-66-6	0.005	mg/L	0.016	0.016	0.0	No Limit
EG020T: Total Metals by ICP-MS (QC Lot: 4727343)									
ME2202025-001	Anonymous	EG020A-T: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
		EG020A-T: Arsenic	7440-38-2	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Copper	7440-50-8	0.001	mg/L	0.001	0.001	0.0	No Limit
		EG020A-T: Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Nickel	7440-02-0	0.001	mg/L	0.037	0.036	0.0	0% - 20%
		EG020A-T: Zinc	7440-66-6	0.005	mg/L	0.010	0.010	0.0	No Limit
ME2202025-011	Anonymous	EG020A-T: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
		EG020A-T: Arsenic	7440-38-2	0.001	mg/L	0.002	0.002	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EG020T: Total Metals by ICP-MS (QC Lot: 4727343) - continued									
ME2202025-011	Anonymous	EG020A-T: Chromium	7440-47-3	0.001	mg/L	0.002	0.002	0.0	No Limit
		EG020A-T: Copper	7440-50-8	0.001	mg/L	0.002	0.002	0.0	No Limit
		EG020A-T: Lead	7439-92-1	0.001	mg/L	0.002	0.002	0.0	No Limit
		EG020A-T: Nickel	7440-02-0	0.001	mg/L	0.004	0.004	0.0	No Limit
		EG020A-T: Zinc	7440-66-6	0.005	mg/L	0.007	0.007	0.0	No Limit
EG035F: Dissolved Mercury by FIMS (QC Lot: 4725872)									
WN2214776-002	MW02 -221123	EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 4727354)									
WN2214341-006	Anonymous	EG035T: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
EK055G: Ammonia as N by Discrete Analyser (QC Lot: 4726504)									
ES2242386-001	Anonymous	EK055G: Ammonia as N	7664-41-7	0.01	mg/L	0.05	0.06	0.0	No Limit
ES2242455-002	Anonymous	EK055G: Ammonia as N	7664-41-7	0.01	mg/L	0.32	0.32	0.0	0% - 20%
EK057G: Nitrite as N by Discrete Analyser (QC Lot: 4726063)									
EW2205446-001	Anonymous	EK057G: Nitrite as N	14797-65-0	0.01	mg/L	<0.01	<0.01	0.0	No Limit
WN2214784-001	Anonymous	EK057G: Nitrite as N	14797-65-0	0.01	mg/L	<0.01	<0.01	0.0	No Limit
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QC Lot: 4726505)									
ES2242436-004	Anonymous	EK059G: Nitrite + Nitrate as N	----	0.01	mg/L	2.03	1.97	2.6	0% - 20%
ES2242455-002	Anonymous	EK059G: Nitrite + Nitrate as N	----	0.01	mg/L	<0.01	0.03	97.4	No Limit
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QC Lot: 4726508)									
ES2242436-005	Anonymous	EK061G: Total Kjeldahl Nitrogen as N	----	0.1	mg/L	163	163	0.2	0% - 50%
ES2242454-006	Anonymous	EK061G: Total Kjeldahl Nitrogen as N	----	0.1	mg/L	0.3	0.2	0.0	No Limit
EK067G: Total Phosphorus as P by Discrete Analyser (QC Lot: 4726509)									
ES2242436-005	Anonymous	EK067G: Total Phosphorus as P	----	0.01	mg/L	0.26	0.23	12.3	No Limit
ES2242454-006	Anonymous	EK067G: Total Phosphorus as P	----	0.01	mg/L	0.02	<0.01	67.5	No Limit
EK071G: Reactive Phosphorus as P by discrete analyser (QC Lot: 4726064)									
WN2214784-002	Anonymous	EK071G: Reactive Phosphorus as P	14265-44-2	0.01	mg/L	<0.01	<0.01	0.0	No Limit
EW2205446-001	Anonymous	EK071G: Reactive Phosphorus as P	14265-44-2	0.01	mg/L	<0.01	<0.01	0.0	No Limit
EP074A: Monocyclic Aromatic Hydrocarbons (QC Lot: 4730834)									
ES2242296-001	Anonymous	EP074: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP074: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP074: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP074: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP074: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP074: Styrene	100-42-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: Isopropylbenzene	98-82-8	5	µg/L	<5	<5	0.0	No Limit
		EP074: n-Propylbenzene	103-65-1	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.3.5-Trimethylbenzene	108-67-8	5	µg/L	<5	<5	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP074A: Monocyclic Aromatic Hydrocarbons (QC Lot: 4730834) - continued									
ES2242296-001	Anonymous	EP074: sec-Butylbenzene	135-98-8	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2.4-Trimethylbenzene	95-63-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: tert-Butylbenzene	98-06-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: p-Isopropyltoluene	99-87-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: n-Butylbenzene	104-51-8	5	µg/L	<5	<5	0.0	No Limit
WN2214776-001	MW01_221123	EP074: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP074: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP074: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP074: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP074: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP074: Styrene	100-42-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: Isopropylbenzene	98-82-8	5	µg/L	<5	<5	0.0	No Limit
		EP074: n-Propylbenzene	103-65-1	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.3.5-Trimethylbenzene	108-67-8	5	µg/L	<5	<5	0.0	No Limit
		EP074: sec-Butylbenzene	135-98-8	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2.4-Trimethylbenzene	95-63-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: tert-Butylbenzene	98-06-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: p-Isopropyltoluene	99-87-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: n-Butylbenzene	104-51-8	5	µg/L	<5	<5	0.0	No Limit
EP074B: Oxygenated Compounds (QC Lot: 4730834)									
ES2242296-001	Anonymous	EP074: Vinyl Acetate	108-05-4	50	µg/L	<50	<50	0.0	No Limit
		EP074: 2-Butanone (MEK)	78-93-3	50	µg/L	<50	<50	0.0	No Limit
		EP074: 4-Methyl-2-pentanone (MIBK)	108-10-1	50	µg/L	<50	<50	0.0	No Limit
		EP074: 2-Hexanone (MBK)	591-78-6	50	µg/L	<50	<50	0.0	No Limit
WN2214776-001	MW01_221123	EP074: Vinyl Acetate	108-05-4	50	µg/L	<50	<50	0.0	No Limit
		EP074: 2-Butanone (MEK)	78-93-3	50	µg/L	<50	<50	0.0	No Limit
		EP074: 4-Methyl-2-pentanone (MIBK)	108-10-1	50	µg/L	<50	<50	0.0	No Limit
		EP074: 2-Hexanone (MBK)	591-78-6	50	µg/L	<50	<50	0.0	No Limit
EP074C: Sulfonated Compounds (QC Lot: 4730834)									
ES2242296-001	Anonymous	EP074: Carbon disulfide	75-15-0	5	µg/L	<5	<5	0.0	No Limit
WN2214776-001	MW01_221123	EP074: Carbon disulfide	75-15-0	5	µg/L	<5	<5	0.0	No Limit
EP074D: Fumigants (QC Lot: 4730834)									
ES2242296-001	Anonymous	EP074: 2.2-Dichloropropane	594-20-7	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2-Dichloropropane	78-87-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: cis-1.3-Dichloropropylene	10061-01-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: trans-1.3-Dichloropropylene	10061-02-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2-Dibromoethane (EDB)	106-93-4	5	µg/L	<5	<5	0.0	No Limit
WN2214776-001	MW01_221123	EP074: 2.2-Dichloropropane	594-20-7	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2-Dichloropropane	78-87-5	5	µg/L	<5	<5	0.0	No Limit

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP074D: Fumigants (QC Lot: 4730834) - continued									
WN2214776-001	MW01_221123	EP074: cis-1.3-Dichloropropylene	10061-01-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: trans-1.3-Dichloropropylene	10061-02-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2-Dibromoethane (EDB)	106-93-4	5	µg/L	<5	<5	0.0	No Limit
EP074E: Halogenated Aliphatic Compounds (QC Lot: 4730834)									
ES2242296-001	Anonymous	EP074: 1.1-Dichloroethene	75-35-4	5	µg/L	<5	<5	0.0	No Limit
		EP074: Iodomethane	74-88-4	5	µg/L	<5	<5	0.0	No Limit
		EP074: trans-1.2-Dichloroethene	156-60-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.1-Dichloroethane	75-34-3	5	µg/L	<5	<5	0.0	No Limit
		EP074: cis-1.2-Dichloroethene	156-59-2	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.1.1-Trichloroethane	71-55-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.1-Dichloropropylene	563-58-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: Carbon Tetrachloride	56-23-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2-Dichloroethane	107-06-2	5	µg/L	<5	<5	0.0	No Limit
		EP074: Trichloroethene	79-01-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: Dibromomethane	74-95-3	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.1.2-Trichloroethane	79-00-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.3-Dichloropropane	142-28-9	5	µg/L	<5	<5	0.0	No Limit
		EP074: Tetrachloroethene	127-18-4	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.1.1.2-Tetrachloroethane	630-20-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: trans-1.4-Dichloro-2-butene	110-57-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: cis-1.4-Dichloro-2-butene	1476-11-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.1.2.2-Tetrachloroethane	79-34-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2.3-Trichloropropane	96-18-4	5	µg/L	<5	<5	0.0	No Limit
		EP074: Pentachloroethane	76-01-7	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2-Dibromo-3-chloropropane	96-12-8	5	µg/L	<5	<5	0.0	No Limit
		EP074: Hexachlorobutadiene	87-68-3	5	µg/L	<5	<5	0.0	No Limit
		EP074: Dichlorodifluoromethane	75-71-8	50	µg/L	<50	<50	0.0	No Limit
		EP074: Chloromethane	74-87-3	50	µg/L	<50	<50	0.0	No Limit
		EP074: Vinyl chloride	75-01-4	50	µg/L	<50	<50	0.0	No Limit
		EP074: Bromomethane	74-83-9	50	µg/L	<50	<50	0.0	No Limit
		EP074: Chloroethane	75-00-3	50	µg/L	<50	<50	0.0	No Limit
		EP074: Trichlorofluoromethane	75-69-4	50	µg/L	<50	<50	0.0	No Limit
WN2214776-001	MW01_221123	EP074: 1.1-Dichloroethene	75-35-4	5	µg/L	<5	<5	0.0	No Limit
		EP074: Iodomethane	74-88-4	5	µg/L	<5	<5	0.0	No Limit
		EP074: trans-1.2-Dichloroethene	156-60-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.1-Dichloroethane	75-34-3	5	µg/L	<5	<5	0.0	No Limit
		EP074: cis-1.2-Dichloroethene	156-59-2	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.1.1-Trichloroethane	71-55-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.1-Dichloropropylene	563-58-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: Carbon Tetrachloride	56-23-5	5	µg/L	<5	<5	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP074E: Halogenated Aliphatic Compounds (QC Lot: 4730834) - continued									
WN2214776-001	MW01_221123	EP074: 1.2-Dichloroethane	107-06-2	5	µg/L	<5	<5	0.0	No Limit
		EP074: Trichloroethene	79-01-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: Dibromomethane	74-95-3	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.1.2-Trichloroethane	79-00-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.3-Dichloropropane	142-28-9	5	µg/L	<5	<5	0.0	No Limit
		EP074: Tetrachloroethene	127-18-4	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.1.1.2-Tetrachloroethane	630-20-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: trans-1.4-Dichloro-2-butene	110-57-6	5	µg/L	<5	<5	0.0	No Limit
		EP074: cis-1.4-Dichloro-2-butene	1476-11-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.1.2.2-Tetrachloroethane	79-34-5	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2.3-Trichloropropane	96-18-4	5	µg/L	<5	<5	0.0	No Limit
		EP074: Pentachloroethane	76-01-7	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2-Dibromo-3-chloropropane	96-12-8	5	µg/L	<5	<5	0.0	No Limit
		EP074: Hexachlorobutadiene	87-68-3	5	µg/L	<5	<5	0.0	No Limit
		EP074: Dichlorodifluoromethane	75-71-8	50	µg/L	<50	<50	0.0	No Limit
		EP074: Chloromethane	74-87-3	50	µg/L	<50	<50	0.0	No Limit
		EP074: Vinyl chloride	75-01-4	50	µg/L	<50	<50	0.0	No Limit
		EP074: Bromomethane	74-83-9	50	µg/L	<50	<50	0.0	No Limit
		EP074: Chloroethane	75-00-3	50	µg/L	<50	<50	0.0	No Limit
		EP074: Trichlorofluoromethane	75-69-4	50	µg/L	<50	<50	0.0	No Limit
EP074F: Halogenated Aromatic Compounds (QC Lot: 4730834)									
ES2242296-001	Anonymous	EP074: Chlorobenzene	108-90-7	5	µg/L	<5	<5	0.0	No Limit
		EP074: Bromobenzene	108-86-1	5	µg/L	<5	<5	0.0	No Limit
		EP074: 2-Chlorotoluene	95-49-8	5	µg/L	<5	<5	0.0	No Limit
		EP074: 4-Chlorotoluene	106-43-4	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.3-Dichlorobenzene	541-73-1	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.4-Dichlorobenzene	106-46-7	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2-Dichlorobenzene	95-50-1	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2.4-Trichlorobenzene	120-82-1	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2.3-Trichlorobenzene	87-61-6	5	µg/L	<5	<5	0.0	No Limit
WN2214776-001	MW01_221123	EP074: Chlorobenzene	108-90-7	5	µg/L	<5	<5	0.0	No Limit
		EP074: Bromobenzene	108-86-1	5	µg/L	<5	<5	0.0	No Limit
		EP074: 2-Chlorotoluene	95-49-8	5	µg/L	<5	<5	0.0	No Limit
		EP074: 4-Chlorotoluene	106-43-4	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.3-Dichlorobenzene	541-73-1	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.4-Dichlorobenzene	106-46-7	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2-Dichlorobenzene	95-50-1	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2.4-Trichlorobenzene	120-82-1	5	µg/L	<5	<5	0.0	No Limit
		EP074: 1.2.3-Trichlorobenzene	87-61-6	5	µg/L	<5	<5	0.0	No Limit
EP074G: Trihalomethanes (QC Lot: 4730834)									

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP074G: Trihalomethanes (QC Lot: 4730834) - continued									
ES2242296-001	Anonymous	EP074: Chloroform	67-66-3	5	µg/L	<5	<5	0.0	No Limit
		EP074: Bromodichloromethane	75-27-4	5	µg/L	<5	<5	0.0	No Limit
		EP074: Dibromochloromethane	124-48-1	5	µg/L	<5	<5	0.0	No Limit
		EP074: Bromoform	75-25-2	5	µg/L	6	5	0.0	No Limit
WN2214776-001	MW01_221123	EP074: Chloroform	67-66-3	5	µg/L	<5	<5	0.0	No Limit
		EP074: Bromodichloromethane	75-27-4	5	µg/L	<5	<5	0.0	No Limit
		EP074: Dibromochloromethane	124-48-1	5	µg/L	<5	<5	0.0	No Limit
		EP074: Bromoform	75-25-2	5	µg/L	<5	<5	0.0	No Limit
EP074H: Naphthalene (QC Lot: 4730834)									
ES2242296-001	Anonymous	EP074: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit
WN2214776-001	MW01_221123	EP074: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4730835)									
WN2214776-001	MW01_221123	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4730835)									
WN2214776-001	MW01_221123	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.0	No Limit
EP080: BTEXN (QC Lot: 4730835)									
WN2214776-001	MW01_221123	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit
EP202A: Phenoxyacetic Acid Herbicides by LCMS (QC Lot: 4725793)									
ES2242390-002	Anonymous	EP202-SL: 4-Chlorophenoxy acetic acid	122-88-3	10	µg/L	<10	<10	0.0	No Limit
		EP202-SL: 2.4-DB	94-82-6	10	µg/L	<10	<10	0.0	No Limit
		EP202-SL: Dicamba	1918-00-9	10	µg/L	<10	<10	0.0	No Limit
		EP202-SL: Mecoprop	93-65-2	10	µg/L	<10	<10	0.0	No Limit
		EP202-SL: MCPA	94-74-6	10	µg/L	<10	<10	0.0	No Limit
		EP202-SL: 2.4-DP	120-36-5	10	µg/L	<10	<10	0.0	No Limit
		EP202-SL: 2.4-D	94-75-7	10	µg/L	<10	<10	0.0	No Limit
		EP202-SL: Triclopyr	55335-06-3	10	µg/L	<10	<10	0.0	No Limit
		EP202-SL: Silvex (2.4.5-TP/Fenoprop)	93-72-1	10	µg/L	<10	<10	0.0	No Limit
		EP202-SL: 2.4.5-T	93-76-5	10	µg/L	<10	<10	0.0	No Limit
		EP202-SL: MCPB	94-81-5	10	µg/L	<10	<10	0.0	No Limit
		EP202-SL: Picloram	1918-02-1	10	µg/L	<10	<10	0.0	No Limit
		EP202-SL: Clopyralid	1702-17-6	10	µg/L	<10	<10	0.0	No Limit
		EP202-SL: Fluroxypyr	69377-81-7	10	µg/L	<10	<10	0.0	No Limit
ET2206145-005	Anonymous	EP202-SL: 4-Chlorophenoxy acetic acid	122-88-3	10	µg/L	<10	<10	0.0	No Limit

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP202A: Phenoxyacetic Acid Herbicides by LCMS (QC Lot: 4725793) - continued									
ET2206145-005	Anonymous	EP202-SL: 2.4-DB	94-82-6	10	µg/L	<10	<10	0.0	No Limit
		EP202-SL: Dicamba	1918-00-9	10	µg/L	<10	<10	0.0	No Limit
		EP202-SL: Mecoprop	93-65-2	10	µg/L	<10	<10	0.0	No Limit
		EP202-SL: MCPA	94-74-6	10	µg/L	<10	<10	0.0	No Limit
		EP202-SL: 2.4-DP	120-36-5	10	µg/L	<10	<10	0.0	No Limit
		EP202-SL: 2.4-D	94-75-7	10	µg/L	<10	<10	0.0	No Limit
		EP202-SL: Triclopyr	55335-06-3	10	µg/L	<10	<10	0.0	No Limit
		EP202-SL: Silvex (2.4.5-TP/Fenoprop)	93-72-1	10	µg/L	<10	<10	0.0	No Limit
		EP202-SL: 2.4.5-T	93-76-5	10	µg/L	<10	<10	0.0	No Limit
		EP202-SL: MCPB	94-81-5	10	µg/L	<10	<10	0.0	No Limit
		EP202-SL: Picloram	1918-02-1	10	µg/L	<10	<10	0.0	No Limit
		EP202-SL: Clopyralid	1702-17-6	10	µg/L	<10	<10	0.0	No Limit
		EP202-SL: Fluroxypyr	69377-81-7	10	µg/L	<10	<10	0.0	No Limit
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 4727366)									
WN2214776-001	MW01_221123	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.25	0.27	4.8	0% - 20%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.02	0.02	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
WN2214776-006	QC100_221123	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 4727366)									
WN2214776-001	MW01_221123	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.03	0.03	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit
WN2214776-006	QC100_221123	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 4727366) - continued									
WN2214776-006	QC100_221123	EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 4727366)									
WN2214776-001	MW01_221123	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
WN2214776-006	QC100_221123	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 4727366)									
WN2214776-001	MW01_221123	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 4727366) - continued									
WN2214776-001	MW01_221123	EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
WN2214776-006	QC100_221123	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231P: PFAS Sums (QC Lot: 4727366)									
WN2214776-001	MW01_221123	EP231X: Sum of PFAS	----	0.01	µg/L	0.30	0.32	6.5	0% - 20%
WN2214776-006	QC100_221123	EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	<0.01	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: **WATER**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG020F: Dissolved Metals by ICP-MS (QCLot: 4725869)								
EG020A-F: Arsenic	7440-38-2	0.001	mg/L	<0.001	0.1 mg/L	96.6	85.0	114
EG020A-F: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	0.1 mg/L	92.3	84.0	110
EG020A-F: Chromium	7440-47-3	0.001	mg/L	<0.001	0.1 mg/L	93.4	85.0	111
EG020A-F: Copper	7440-50-8	0.001	mg/L	<0.001	0.1 mg/L	94.3	81.0	111
EG020A-F: Lead	7439-92-1	0.001	mg/L	<0.001	0.1 mg/L	92.9	83.0	111
EG020A-F: Nickel	7440-02-0	0.001	mg/L	<0.001	0.1 mg/L	90.7	82.0	112
EG020A-F: Zinc	7440-66-6	0.005	mg/L	<0.005	0.1 mg/L	86.8	81.0	117
EG020T: Total Metals by ICP-MS (QCLot: 4727343)								
EG020A-T: Arsenic	7440-38-2	0.001	mg/L	<0.001	0.1 mg/L	89.5	82.0	114
EG020A-T: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	0.1 mg/L	86.3	84.0	112
EG020A-T: Chromium	7440-47-3	0.001	mg/L	<0.001	0.1 mg/L	87.4	86.0	116
EG020A-T: Copper	7440-50-8	0.001	mg/L	<0.001	0.1 mg/L	86.7	83.0	118
EG020A-T: Lead	7439-92-1	0.001	mg/L	<0.001	0.1 mg/L	87.6	85.0	115
EG020A-T: Nickel	7440-02-0	0.001	mg/L	<0.001	0.1 mg/L	86.8	84.0	116
EG020A-T: Zinc	7440-66-6	0.005	mg/L	<0.005	0.1 mg/L	86.9	79.0	117
EG035F: Dissolved Mercury by FIMS (QCLot: 4725872)								
EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	0.01 mg/L	95.4	83.0	105
EG035T: Total Recoverable Mercury by FIMS (QCLot: 4727354)								
EG035T: Mercury	7439-97-6	0.0001	mg/L	<0.0001	0.01 mg/L	91.1	77.0	111
EK055G: Ammonia as N by Discrete Analyser (QCLot: 4726504)								
EK055G: Ammonia as N	7664-41-7	0.01	mg/L	<0.01	1 mg/L	94.5	90.0	114
EK057G: Nitrite as N by Discrete Analyser (QCLot: 4726063)								
EK057G: Nitrite as N	14797-65-0	0.01	mg/L	<0.01	0.5 mg/L	106	82.0	114
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 4726505)								
EK059G: Nitrite + Nitrate as N	----	0.01	mg/L	<0.01	0.5 mg/L	104	91.0	113
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 4726508)								
EK061G: Total Kjeldahl Nitrogen as N	----	0.1	mg/L	<0.1	10 mg/L	90.3	69.0	101
				<0.1	1 mg/L	83.6	70.0	118
				<0.1	5 mg/L	89.1	70.0	130
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 4726509)								
EK067G: Total Phosphorus as P	----	0.01	mg/L	<0.01	4.42 mg/L	103	71.3	126
				<0.01	0.442 mg/L	105	71.3	126
				<0.01	1 mg/L	109	71.3	126

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EK071G: Reactive Phosphorus as P by discrete analyser (QCLot: 4726064)								
EK071G: Reactive Phosphorus as P	14265-44-2	0.01	mg/L	<0.01	0.5 mg/L	105	85.0	117
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 4725540)								
EP066: Total Polychlorinated biphenyls	----	1	µg/L	<1	10 µg/L	86.8	68.9	113
EP068A: Organochlorine Pesticides (OC) (QCLot: 4725538)								
EP068: alpha-BHC	319-84-6	0.5	µg/L	<0.5	5 µg/L	90.6	64.9	107
EP068: Hexachlorobenzene (HCB)	118-74-1	0.5	µg/L	<0.5	5 µg/L	86.4	58.3	111
EP068: beta-BHC	319-85-7	0.5	µg/L	<0.5	5 µg/L	96.8	69.0	117
EP068: gamma-BHC	58-89-9	0.5	µg/L	<0.5	5 µg/L	95.0	70.0	112
EP068: delta-BHC	319-86-8	0.5	µg/L	<0.5	5 µg/L	95.4	68.9	110
EP068: Heptachlor	76-44-8	0.5	µg/L	<0.5	5 µg/L	86.6	65.2	108
EP068: Aldrin	309-00-2	0.5	µg/L	<0.5	5 µg/L	95.5	65.8	109
EP068: Heptachlor epoxide	1024-57-3	0.5	µg/L	<0.5	5 µg/L	99.6	67.1	107
EP068: trans-Chlordane	5103-74-2	0.5	µg/L	<0.5	5 µg/L	96.5	64.1	110
EP068: alpha-Endosulfan	959-98-8	0.5	µg/L	<0.5	5 µg/L	89.3	66.7	112
EP068: cis-Chlordane	5103-71-9	0.5	µg/L	<0.5	5 µg/L	96.9	63.2	111
EP068: Dieldrin	60-57-1	0.5	µg/L	<0.5	5 µg/L	96.9	65.2	113
EP068: 4.4`-DDE	72-55-9	0.5	µg/L	<0.5	5 µg/L	97.5	66.0	112
EP068: Endrin	72-20-8	0.5	µg/L	<0.5	5 µg/L	93.8	65.2	113
EP068: beta-Endosulfan	33213-65-9	0.5	µg/L	<0.5	5 µg/L	97.1	67.3	114
EP068: 4.4`-DDD	72-54-8	0.5	µg/L	<0.5	5 µg/L	93.7	72.0	122
EP068: Endrin aldehyde	7421-93-4	0.5	µg/L	<0.5	5 µg/L	83.2	66.9	109
EP068: Endosulfan sulfate	1031-07-8	0.5	µg/L	<0.5	5 µg/L	78.4	65.2	112
EP068: 4.4`-DDT	50-29-3	2	µg/L	<2.0	5 µg/L	92.4	65.2	112
EP068: Endrin ketone	53494-70-5	0.5	µg/L	<0.5	5 µg/L	76.9	63.8	110
EP068: Methoxychlor	72-43-5	2	µg/L	<2.0	5 µg/L	79.1	61.1	114
EP074A: Monocyclic Aromatic Hydrocarbons (QCLot: 4730834)								
EP074: Benzene	71-43-2	1	µg/L	<1	10 µg/L	95.4	77.0	119
EP074: Toluene	108-88-3	2	µg/L	<2	10 µg/L	101	69.0	129
EP074: Ethylbenzene	100-41-4	2	µg/L	<2	10 µg/L	97.2	76.0	118
EP074: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	20 µg/L	94.2	77.0	119
EP074: Styrene	100-42-5	5	µg/L	<5	10 µg/L	94.8	73.0	119
EP074: ortho-Xylene	95-47-6	2	µg/L	<2	10 µg/L	99.0	79.0	117
EP074: Isopropylbenzene	98-82-8	5	µg/L	<5	10 µg/L	97.7	76.0	118
EP074: n-Propylbenzene	103-65-1	5	µg/L	<5	10 µg/L	87.3	69.0	119
EP074: 1.3.5-Trimethylbenzene	108-67-8	5	µg/L	<5	10 µg/L	86.8	74.0	116
EP074: sec-Butylbenzene	135-98-8	5	µg/L	<5	10 µg/L	91.5	73.0	119
EP074: 1.2.4-Trimethylbenzene	95-63-6	5	µg/L	<5	10 µg/L	87.3	74.0	116

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP074A: Monocyclic Aromatic Hydrocarbons (QCLot: 4730834) - continued								
EP074: tert-Butylbenzene	98-06-6	5	µg/L	<5	10 µg/L	91.3	72.0	116
EP074: p-Isopropyltoluene	99-87-6	5	µg/L	<5	10 µg/L	87.6	71.0	119
EP074: n-Butylbenzene	104-51-8	5	µg/L	<5	10 µg/L	84.7	65.0	123
EP074B: Oxygenated Compounds (QCLot: 4730834)								
EP074: Vinyl Acetate	108-05-4	50	µg/L	<50	100 µg/L	89.5	61.4	134
EP074: 2-Butanone (MEK)	78-93-3	50	µg/L	<50	100 µg/L	82.5	73.6	130
EP074: 4-Methyl-2-pentanone (MIBK)	108-10-1	50	µg/L	<50	100 µg/L	83.7	66.0	132
EP074: 2-Hexanone (MBK)	591-78-6	50	µg/L	<50	100 µg/L	75.2	65.0	137
EP074C: Sulfonated Compounds (QCLot: 4730834)								
EP074: Carbon disulfide	75-15-0	5	µg/L	<5	10 µg/L	86.0	72.8	127
EP074D: Fumigants (QCLot: 4730834)								
EP074: 2.2-Dichloropropane	594-20-7	5	µg/L	<5	10 µg/L	90.6	68.0	122
EP074: 1.2-Dichloropropane	78-87-5	5	µg/L	<5	10 µg/L	94.0	76.0	118
EP074: cis-1.3-Dichloropropylene	10061-01-5	5	µg/L	<5	10 µg/L	84.4	62.0	120
EP074: trans-1.3-Dichloropropylene	10061-02-6	5	µg/L	<5	10 µg/L	82.4	60.0	114
EP074: 1.2-Dibromoethane (EDB)	106-93-4	5	µg/L	<5	10 µg/L	94.8	69.0	117
EP074E: Halogenated Aliphatic Compounds (QCLot: 4730834)								
EP074: Dichlorodifluoromethane	75-71-8	50	µg/L	<50	100 µg/L	78.4	60.6	138
EP074: Chloromethane	74-87-3	50	µg/L	<50	100 µg/L	93.0	67.4	130
EP074: Vinyl chloride	75-01-4	50	µg/L	<50	100 µg/L	86.8	69.4	129
EP074: Bromomethane	74-83-9	50	µg/L	<50	100 µg/L	95.5	56.0	140
EP074: Chloroethane	75-00-3	50	µg/L	<50	100 µg/L	94.5	61.0	139
EP074: Trichlorofluoromethane	75-69-4	50	µg/L	<50	100 µg/L	95.9	69.0	131
EP074: 1.1-Dichloroethene	75-35-4	5	µg/L	<5	10 µg/L	98.5	70.0	124
EP074: Iodomethane	74-88-4	5	µg/L	<5	10 µg/L	71.8	70.2	128
EP074: trans-1.2-Dichloroethene	156-60-5	5	µg/L	<5	10 µg/L	94.8	74.0	118
EP074: 1.1-Dichloroethane	75-34-3	5	µg/L	<5	10 µg/L	99.5	74.0	120
EP074: cis-1.2-Dichloroethene	156-59-2	5	µg/L	<5	10 µg/L	97.4	77.0	119
EP074: 1.1.1-Trichloroethane	71-55-6	5	µg/L	<5	10 µg/L	94.0	67.0	119
EP074: 1.1-Dichloropropylene	563-58-6	5	µg/L	<5	10 µg/L	92.4	73.0	119
EP074: Carbon Tetrachloride	56-23-5	5	µg/L	<5	10 µg/L	90.1	62.0	120
EP074: 1.2-Dichloroethane	107-06-2	5	µg/L	<5	10 µg/L	98.7	73.0	123
EP074: Trichloroethene	79-01-6	5	µg/L	<5	10 µg/L	95.1	76.0	118
EP074: Dibromomethane	74-95-3	5	µg/L	<5	10 µg/L	94.4	73.0	119
EP074: 1.1.2-Trichloroethane	79-00-5	5	µg/L	<5	10 µg/L	93.8	72.0	126
EP074: 1.3-Dichloropropane	142-28-9	5	µg/L	<5	10 µg/L	99.6	71.0	129
EP074: Tetrachloroethene	127-18-4	5	µg/L	<5	10 µg/L	93.6	72.0	124
EP074: 1.1.1.2-Tetrachloroethane	630-20-6	5	µg/L	<5	10 µg/L	89.5	66.0	114

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP074E: Halogenated Aliphatic Compounds (QCLot: 4730834) - continued								
EP074: trans-1.4-Dichloro-2-butene	110-57-6	5	µg/L	<5	10 µg/L	77.9	60.0	120
EP074: cis-1.4-Dichloro-2-butene	1476-11-5	5	µg/L	<5	10 µg/L	82.1	70.6	128
EP074: 1.1.2.2-Tetrachloroethane	79-34-5	5	µg/L	<5	10 µg/L	94.9	70.0	124
EP074: 1.2.3-Trichloropropane	96-18-4	5	µg/L	<5	10 µg/L	98.1	74.0	126
EP074: Pentachloroethane	76-01-7	5	µg/L	<5	10 µg/L	82.3	71.8	126
EP074: 1.2-Dibromo-3-chloropropane	96-12-8	5	µg/L	<5	10 µg/L	82.2	66.4	136
EP074: Hexachlorobutadiene	87-68-3	5	µg/L	<5	10 µg/L	93.5	58.0	130
EP074F: Halogenated Aromatic Compounds (QCLot: 4730834)								
EP074: Chlorobenzene	108-90-7	5	µg/L	<5	10 µg/L	97.1	79.0	117
EP074: Bromobenzene	108-86-1	5	µg/L	<5	10 µg/L	88.5	76.0	116
EP074: 2-Chlorotoluene	95-49-8	5	µg/L	<5	10 µg/L	91.0	73.0	119
EP074: 4-Chlorotoluene	106-43-4	5	µg/L	<5	10 µg/L	89.9	73.0	119
EP074: 1.3-Dichlorobenzene	541-73-1	5	µg/L	<5	10 µg/L	88.4	75.0	117
EP074: 1.4-Dichlorobenzene	106-46-7	5	µg/L	<5	10 µg/L	88.7	74.0	118
EP074: 1.2-Dichlorobenzene	95-50-1	5	µg/L	<5	10 µg/L	92.9	75.0	117
EP074: 1.2.4-Trichlorobenzene	120-82-1	5	µg/L	<5	10 µg/L	86.5	61.0	125
EP074: 1.2.3-Trichlorobenzene	87-61-6	5	µg/L	<5	10 µg/L	92.6	67.0	123
EP074G: Trihalomethanes (QCLot: 4730834)								
EP074: Chloroform	67-66-3	5	µg/L	<5	10 µg/L	103	72.0	120
EP074: Bromodichloromethane	75-27-4	5	µg/L	<5	10 µg/L	86.7	64.0	118
EP074: Dibromochloromethane	124-48-1	5	µg/L	<5	10 µg/L	87.3	65.0	115
EP074: Bromoform	75-25-2	5	µg/L	<5	10 µg/L	83.4	73.5	126
EP074H: Naphthalene (QCLot: 4730834)								
EP074: Naphthalene	91-20-3	5	µg/L	<5	10 µg/L	98.9	72.0	122
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4725539)								
EP075(SIM): Naphthalene	91-20-3	1	µg/L	<1.0	5 µg/L	68.4	50.0	94.0
EP075(SIM): Acenaphthylene	208-96-8	1	µg/L	<1.0	5 µg/L	71.2	63.6	114
EP075(SIM): Acenaphthene	83-32-9	1	µg/L	<1.0	5 µg/L	71.1	62.2	113
EP075(SIM): Fluorene	86-73-7	1	µg/L	<1.0	5 µg/L	74.9	63.9	115
EP075(SIM): Phenanthrene	85-01-8	1	µg/L	<1.0	5 µg/L	75.0	62.6	116
EP075(SIM): Anthracene	120-12-7	1	µg/L	<1.0	5 µg/L	69.9	64.3	116
EP075(SIM): Fluoranthene	206-44-0	1	µg/L	<1.0	5 µg/L	77.0	63.6	118
EP075(SIM): Pyrene	129-00-0	1	µg/L	<1.0	5 µg/L	75.1	63.1	118
EP075(SIM): Benz(a)anthracene	56-55-3	1	µg/L	<1.0	5 µg/L	69.2	64.1	117
EP075(SIM): Chrysene	218-01-9	1	µg/L	<1.0	5 µg/L	76.5	62.5	116
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L	<1.0	5 µg/L	69.5	61.7	119
EP075(SIM): Benzo(k)fluoranthene	207-08-9	1	µg/L	<1.0	5 µg/L	77.8	63.0	115

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4725539) - continued								
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	5 µg/L	74.9	63.3	117
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L	<1.0	5 µg/L	75.8	59.9	118
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	1	µg/L	<1.0	5 µg/L	79.2	61.2	117
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	1	µg/L	<1.0	5 µg/L	73.6	59.1	118
EP075A: Phenolic Compounds (QCLot: 4725541)								
EP075: Phenol	108-95-2	2	µg/L	<2	10 µg/L	29.6	25.5	64.1
EP075: 2-Chlorophenol	95-57-8	2	µg/L	<2	10 µg/L	55.8	52.0	88.0
EP075: 2-Methylphenol	95-48-7	2	µg/L	<2	10 µg/L	52.7	50.0	94.0
EP075: 3- & 4-Methylphenol	1319-77-3	2	µg/L	<2	10 µg/L	51.1	45.0	96.2
EP075: 2-Nitrophenol	88-75-5	2	µg/L	<2	10 µg/L	63.2	48.0	98.0
EP075: 2.4-Dimethylphenol	105-67-9	2	µg/L	<2	10 µg/L	50.9	50.0	94.0
EP075: 2.4-Dichlorophenol	120-83-2	2	µg/L	<2	10 µg/L	65.1	61.9	109
EP075: 2.6-Dichlorophenol	87-65-0	2	µg/L	<2	10 µg/L	63.2	61.5	108
EP075: 4-Chloro-3-methylphenol	59-50-7	2	µg/L	<2	10 µg/L	68.7	61.4	107
EP075: 2.4.6-Trichlorophenol	88-06-2	2	µg/L	<2	10 µg/L	65.5	57.6	112
EP075: 2.4.5-Trichlorophenol	95-95-4	2	µg/L	<2	10 µg/L	69.6	58.0	110
EP075: Pentachlorophenol	87-86-5	4	µg/L	<4	20 µg/L	61.6	12.8	95.0
EP075B: Polynuclear Aromatic Hydrocarbons (QCLot: 4725541)								
EP075: Naphthalene	91-20-3	2	µg/L	<2	10 µg/L	63.6	51.0	95.0
EP075: 2-Methylnaphthalene	91-57-6	2	µg/L	<2	10 µg/L	61.7	59.0	108
EP075: 2-Chloronaphthalene	91-58-7	2	µg/L	<2	10 µg/L	69.6	60.6	106
EP075: Acenaphthylene	208-96-8	2	µg/L	<2	10 µg/L	68.4	64.0	108
EP075: Acenaphthene	83-32-9	2	µg/L	<2	10 µg/L	72.5	65.0	108
EP075: Fluorene	86-73-7	2	µg/L	<2	10 µg/L	75.0	65.2	107
EP075: Phenanthrene	85-01-8	2	µg/L	<2	10 µg/L	76.7	66.7	108
EP075: Anthracene	120-12-7	2	µg/L	<2	10 µg/L	75.5	65.8	108
EP075: Fluoranthene	206-44-0	2	µg/L	<2	10 µg/L	79.5	64.9	109
EP075: Pyrene	129-00-0	2	µg/L	<2	10 µg/L	76.7	60.1	111
EP075: N-2-Fluorenyl Acetamide	53-96-3	2	µg/L	<2	10 µg/L	76.9	59.7	110
EP075: Benz(a)anthracene	56-55-3	2	µg/L	<2	10 µg/L	76.0	62.2	112
EP075: Chrysene	218-01-9	2	µg/L	<2	10 µg/L	81.8	59.3	114
EP075: Benzo(b+j) & Benzo(k)fluoranthene	205-99-2 207-08-9	4	µg/L	<4	20 µg/L	74.6	60.1	111
EP075: 7.12-Dimethylbenz(a)anthracene	57-97-6	2	µg/L	<2	10 µg/L	81.6	50.0	108
EP075: Benzo(a)pyrene	50-32-8	2	µg/L	<2	10 µg/L	73.0	59.2	112
EP075: 3-Methylcholanthrene	56-49-5	2	µg/L	<2	10 µg/L	75.8	60.1	110
EP075: Indeno(1.2.3.cd)pyrene	193-39-5	2	µg/L	<2	10 µg/L	72.1	59.6	110
EP075: Dibenz(a.h)anthracene	53-70-3	2	µg/L	<2	10 µg/L	71.7	57.2	109
EP075: Benzo(g.h.i)perylene	191-24-2	2	µg/L	<2	10 µg/L	69.3	60.6	110

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP075B: Polynuclear Aromatic Hydrocarbons (QCLot: 4725541) - continued								
EP075: Benzo(a)pyrene TEQ (zero)	----	2	µg/L	<2	----	----	----	----
EP075C: Phthalate Esters (QCLot: 4725541)								
EP075: Dimethyl phthalate	131-11-3	2	µg/L	<2	10 µg/L	74.2	64.3	112
EP075: Diethyl phthalate	84-66-2	2	µg/L	<2	10 µg/L	77.8	67.3	111
EP075: Di-n-butyl phthalate	84-74-2	2	µg/L	<2	10 µg/L	80.0	68.4	122
EP075: Butyl benzyl phthalate	85-68-7	2	µg/L	<2	10 µg/L	80.0	61.2	114
EP075: bis(2-ethylhexyl) phthalate	117-81-7	----	µg/L	----	10 µg/L	81.8	60.0	132
EP075: Di-n-octylphthalate	117-84-0	2	µg/L	<2	10 µg/L	76.0	62.1	115
EP075D: Nitrosamines (QCLot: 4725541)								
EP075: N-Nitrosomethylethylamine	10595-95-6	2	µg/L	<2	10 µg/L	48.7	46.0	110
EP075: N-Nitrosodiethylamine	55-18-5	2	µg/L	<2	10 µg/L	# 58.1	60.6	113
EP075: N-Nitrosopyrrolidine	930-55-2	4	µg/L	<4	10 µg/L	54.2	45.0	91.0
EP075: N-Nitrosomorpholine	59-89-2	2	µg/L	<2	10 µg/L	51.0	42.0	100
EP075: N-Nitrosodi-n-propylamine	621-64-7	2	µg/L	<2	10 µg/L	70.8	63.5	108
EP075: N-Nitrosopiperidine	100-75-4	2	µg/L	<2	10 µg/L	67.6	61.7	107
EP075: N-Nitrosodibutylamine	924-16-3	2	µg/L	<2	10 µg/L	71.2	62.5	108
EP075: N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	4	µg/L	<4	20 µg/L	75.4	64.6	112
EP075: Methapyrilene	91-80-5	2	µg/L	<2	10 µg/L	23.3	23.3	125
EP075E: Nitroaromatics and Ketones (QCLot: 4725541)								
EP075: 2-Picoline	109-06-8	2	µg/L	<2	10 µg/L	# 37.9	41.0	109
EP075: Acetophenone	98-86-2	2	µg/L	<2	10 µg/L	69.3	68.3	112
EP075: Nitrobenzene	98-95-3	2	µg/L	<2	10 µg/L	73.3	68.3	112
EP075: Isophorone	78-59-1	2	µg/L	<2	10 µg/L	71.4	67.6	111
EP075: 2.6-Dinitrotoluene	606-20-2	4	µg/L	<4	10 µg/L	70.6	64.4	113
EP075: 2.4-Dinitrotoluene	121-14-2	4	µg/L	<4	10 µg/L	75.6	59.5	109
EP075: 1-Naphthylamine	134-32-7	2	µg/L	<2	10 µg/L	75.8	46.8	102
EP075: 4-Nitroquinoline-N-oxide	56-57-5	2	µg/L	<2	10 µg/L	76.6	40.0	96.0
EP075: 5-Nitro-o-toluidine	99-55-8	2	µg/L	<2	10 µg/L	77.0	58.3	106
EP075: Azobenzene	103-33-3	2	µg/L	<2	10 µg/L	76.0	66.0	112
EP075: 1.3.5-Trinitrobenzene	99-35-4	2	µg/L	<2	10 µg/L	73.1	46.0	108
EP075: Phenacetin	62-44-2	2	µg/L	<2	10 µg/L	70.3	57.8	101
EP075: 4-Aminobiphenyl	92-67-1	2	µg/L	<2	10 µg/L	82.0	60.1	112
EP075: Pentachloronitrobenzene	82-68-8	2	µg/L	<2	10 µg/L	74.5	59.0	109
EP075: Pronamide	23950-58-5	2	µg/L	<2	10 µg/L	79.4	62.7	109
EP075: Dimethylaminoazobenzene	60-11-7	2	µg/L	<2	10 µg/L	78.5	59.4	108
EP075: Chlorobenzilate	510-15-6	2	µg/L	<2	10 µg/L	76.2	57.7	110
EP075F: Haloethers (QCLot: 4725541)								

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP075F: Haloethers (QCLot: 4725541) - continued								
EP075: Bis(2-chloroethyl) ether	111-44-4	2	µg/L	<2	10 µg/L	# 59.1	69.1	112
EP075: Bis(2-chloroethoxy) methane	111-91-1	2	µg/L	<2	10 µg/L	68.8	66.2	111
EP075: 4-Chlorophenyl phenyl ether	7005-72-3	2	µg/L	<2	10 µg/L	72.7	64.7	109
EP075: 4-Bromophenyl phenyl ether	101-55-3	2	µg/L	<2	10 µg/L	73.2	61.6	108
EP075G: Chlorinated Hydrocarbons (QCLot: 4725541)								
EP075: 1.4-Dichlorobenzene	106-46-7	2	µg/L	<2	10 µg/L	52.4	41.0	97.0
EP075: 1.3-Dichlorobenzene	541-73-1	2	µg/L	<2	10 µg/L	54.0	40.0	96.0
EP075: 1.2-Dichlorobenzene	95-50-1	2	µg/L	<2	10 µg/L	54.6	41.0	95.0
EP075: Hexachloroethane	67-72-1	2	µg/L	<2	10 µg/L	52.0	46.0	88.0
EP075: 1.2.4-Trichlorobenzene	120-82-1	2	µg/L	<2	10 µg/L	57.4	46.0	96.0
EP075: Hexachloropropylene	1888-71-7	2	µg/L	<2	10 µg/L	50.7	34.0	96.0
EP075: Hexachlorobutadiene	87-68-3	2	µg/L	<2	10 µg/L	53.4	37.4	100
EP075: Hexachlorocyclopentadiene	77-47-4	10	µg/L	<10	10 µg/L	53.7	23.5	107
EP075: Pentachlorobenzene	608-93-5	2	µg/L	<2	10 µg/L	67.5	64.5	107
EP075: Hexachlorobenzene (HCB)	118-74-1	4	µg/L	<4	10 µg/L	71.8	65.7	110
EP075H: Anilines and Benzidines (QCLot: 4725541)								
EP075: Aniline	62-53-3	2	µg/L	<2	10 µg/L	58.6	50.0	104
EP075: 4-Chloroaniline	106-47-8	2	µg/L	<2	10 µg/L	63.6	42.0	106
EP075: 2-Nitroaniline	88-74-4	4	µg/L	<4	10 µg/L	68.6	60.9	110
EP075: 3-Nitroaniline	99-09-2	4	µg/L	<4	10 µg/L	71.3	51.5	96.9
EP075: Dibenzofuran	132-64-9	2	µg/L	<2	10 µg/L	72.2	65.3	108
EP075: 4-Nitroaniline	100-01-6	2	µg/L	<2	10 µg/L	71.1	48.9	99.5
EP075: Carbazole	86-74-8	2	µg/L	<2	10 µg/L	78.7	64.3	107
EP075: 3.3`-Dichlorobenzidine	91-94-1	2	µg/L	<2	10 µg/L	76.7	60.3	119
EP075I: Organochlorine Pesticides (QCLot: 4725541)								
EP075: alpha-BHC	319-84-6	2	µg/L	<2	10 µg/L	76.1	64.3	110
EP075: beta-BHC	319-85-7	2	µg/L	<2	10 µg/L	77.2	53.0	107
EP075: gamma-BHC	58-89-9	2	µg/L	<2	10 µg/L	75.8	51.0	111
EP075: delta-BHC	319-86-8	2	µg/L	<2	10 µg/L	73.5	57.0	111
EP075: Heptachlor	76-44-8	2	µg/L	<2	10 µg/L	72.7	57.9	108
EP075: Aldrin	309-00-2	2	µg/L	<2	10 µg/L	79.0	56.0	112
EP075: Heptachlor epoxide	1024-57-3	2	µg/L	<2	10 µg/L	74.4	50.0	118
EP075: alpha-Endosulfan	959-98-8	2	µg/L	<2	10 µg/L	79.2	59.0	111
EP075: 4.4`-DDE	72-55-9	2	µg/L	<2	10 µg/L	79.7	53.0	115
EP075: Dieldrin	60-57-1	2	µg/L	<2	10 µg/L	77.3	59.0	115
EP075: Endrin	72-20-8	2	µg/L	<2	10 µg/L	82.2	58.0	114
EP075: beta-Endosulfan	33213-65-9	2	µg/L	<2	10 µg/L	78.9	54.0	116
EP075: 4.4`-DDD	72-54-8	2	µg/L	<2	10 µg/L	77.5	55.0	115

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP075I: Organochlorine Pesticides (QCLot: 4725541) - continued								
EP075: Endosulfan sulfate	1031-07-8	2	µg/L	<2	10 µg/L	82.9	52.8	114
EP075: 4.4`-DDT	50-29-3	4	µg/L	<4	10 µg/L	75.7	56.0	114
EP075: Sum of Aldrin + Dieldrin	309-00-2/60-57-1	4	µg/L	<4	----	----	----	----
EP075: Sum of DDD + DDE + DDT	72-54-8/72-5 5-9/50-2	4	µg/L	<4	----	----	----	----
EP075J: Organophosphorus Pesticides (QCLot: 4725541)								
EP075: Dichlorvos	62-73-7	2	µg/L	<2	10 µg/L	72.3	51.0	113
EP075: Dimethoate	60-51-5	2	µg/L	<2	10 µg/L	69.6	43.0	109
EP075: Diazinon	333-41-5	2	µg/L	<2	10 µg/L	79.6	49.0	113
EP075: Chlorpyrifos-methyl	5598-13-0	2	µg/L	<2	10 µg/L	79.0	54.1	116
EP075: Malathion	121-75-5	2	µg/L	<2	10 µg/L	83.5	54.0	124
EP075: Fenthion	55-38-9	2	µg/L	<2	10 µg/L	78.4	57.0	115
EP075: Chlorpyrifos	2921-88-2	2	µg/L	<2	10 µg/L	78.7	53.0	109
EP075: Pirimphos-ethyl	23505-41-1	2	µg/L	<2	10 µg/L	75.3	55.0	111
EP075: Chlorfenvinphos	470-90-6	2	µg/L	<2	10 µg/L	80.9	50.0	116
EP075: Prothiofos	34643-46-4	2	µg/L	<2	10 µg/L	79.6	54.0	118
EP075: Ethion	563-12-2	2	µg/L	<2	10 µg/L	82.7	51.0	117
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4725537)								
EP071: C10 - C14 Fraction	----	50	µg/L	<50	400 µg/L	62.6	53.7	97.0
EP071: C15 - C28 Fraction	----	100	µg/L	<100	600 µg/L	74.5	63.3	107
EP071: C29 - C36 Fraction	----	50	µg/L	<50	400 µg/L	82.7	58.3	120
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4730835)								
EP080: C6 - C9 Fraction	----	20	µg/L	<20	260 µg/L	79.0	75.0	127
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4725537)								
EP071: >C10 - C16 Fraction	----	100	µg/L	<100	500 µg/L	66.4	53.9	95.5
EP071: >C16 - C34 Fraction	----	100	µg/L	<100	700 µg/L	89.5	57.8	110
EP071: >C34 - C40 Fraction	----	100	µg/L	<100	300 µg/L	96.9	50.5	115
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4730835)								
EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	310 µg/L	82.7	75.0	127
EP080: BTEXN (QCLot: 4730835)								
EP080: Benzene	71-43-2	1	µg/L	<1	10 µg/L	105	70.0	122
EP080: Toluene	108-88-3	2	µg/L	<2	10 µg/L	92.2	69.0	123
EP080: Ethylbenzene	100-41-4	2	µg/L	<2	10 µg/L	87.6	70.0	120
EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	10 µg/L	86.2	69.0	121
EP080: ortho-Xylene	95-47-6	2	µg/L	<2	10 µg/L	89.0	72.0	122
EP080: Naphthalene	91-20-3	5	µg/L	<5	10 µg/L	98.0	70.0	120

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP202A: Phenoxyacetic Acid Herbicides by LCMS (QCLot: 4725793)								
EP202-SL: 4-Chlorophenoxy acetic acid	122-88-3	10	µg/L	<10	100 µg/L	119	82.0	136
EP202-SL: 2.4-DB	94-82-6	10	µg/L	<10	100 µg/L	118	65.0	147
EP202-SL: Dicamba	1918-00-9	10	µg/L	<10	100 µg/L	113	83.0	137
EP202-SL: Mecoprop	93-65-2	10	µg/L	<10	100 µg/L	119	75.0	143
EP202-SL: MCPA	94-74-6	10	µg/L	<10	100 µg/L	120	76.0	140
EP202-SL: 2.4-DP	120-36-5	10	µg/L	<10	100 µg/L	123	76.0	144
EP202-SL: 2.4-D	94-75-7	10	µg/L	<10	100 µg/L	123	77.0	139
EP202-SL: Triclopyr	55335-06-3	10	µg/L	<10	100 µg/L	118	77.0	141
EP202-SL: Silvex (2.4.5-TP/Fenoprop)	93-72-1	10	µg/L	<10	100 µg/L	120	75.0	143
EP202-SL: 2.4.5-T	93-76-5	10	µg/L	<10	100 µg/L	118	78.0	140
EP202-SL: MCPB	94-81-5	10	µg/L	<10	100 µg/L	117	69.2	139
EP202-SL: Picloram	1918-02-1	10	µg/L	<10	100 µg/L	117	70.0	144
EP202-SL: Clopyralid	1702-17-6	10	µg/L	<10	100 µg/L	119	70.0	145
EP202-SL: Fluroxypyr	69377-81-7	10	µg/L	<10	100 µg/L	120	77.0	145
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4727366)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.25 µg/L	81.4	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.25 µg/L	84.2	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.25 µg/L	77.2	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.25 µg/L	80.8	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.25 µg/L	81.8	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.25 µg/L	77.4	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4727366)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	78.2	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	79.6	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	81.8	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	77.0	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	81.8	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	79.4	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	80.2	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	84.2	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	113	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	108	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	83.5	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4727366)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	77.6	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	79.4	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	81.8	62.6	147

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4727366) - continued								
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	83.0	66.0	145
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	88.8	57.6	145
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	82.8	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	86.4	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4727366)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.25 µg/L	78.6	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.25 µg/L	81.6	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.25 µg/L	77.2	67.0	138
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.25 µg/L	76.6	71.4	144

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: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EG020F: Dissolved Metals by ICP-MS (QCLot: 4725869)							
EW2205446-003	Anonymous	EG020A-F: Arsenic	7440-38-2	1 mg/L	90.6	70.0	130
		EG020A-F: Cadmium	7440-43-9	0.25 mg/L	90.3	70.0	130
		EG020A-F: Chromium	7440-47-3	1 mg/L	89.7	70.0	130
		EG020A-F: Copper	7440-50-8	1 mg/L	90.2	70.0	130
		EG020A-F: Lead	7439-92-1	1 mg/L	87.8	70.0	130
		EG020A-F: Nickel	7440-02-0	1 mg/L	87.9	70.0	130
		EG020A-F: Zinc	7440-66-6	1 mg/L	89.5	70.0	130
EG020T: Total Metals by ICP-MS (QCLot: 4727343)							
ME2202025-002	Anonymous	EG020A-T: Arsenic	7440-38-2	1 mg/L	92.7	70.0	130
		EG020A-T: Cadmium	7440-43-9	0.25 mg/L	89.9	70.0	130
		EG020A-T: Chromium	7440-47-3	1 mg/L	88.2	70.0	130
		EG020A-T: Copper	7440-50-8	1 mg/L	89.7	70.0	130
		EG020A-T: Lead	7439-92-1	1 mg/L	84.1	70.0	130
		EG020A-T: Nickel	7440-02-0	1 mg/L	89.0	70.0	130
		EG020A-T: Zinc	7440-66-6	1 mg/L	90.3	70.0	130
EG035F: Dissolved Mercury by FIMS (QCLot: 4725872)							

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG035F: Dissolved Mercury by FIMS (QCLot: 4725872) - continued							
WN2214776-001	MW01_221123	EG035F: Mercury	7439-97-6	0.01 mg/L	91.3	70.0	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 4727354)							
WN2214776-007	QC300_221123	EG035T: Mercury	7439-97-6	0.01 mg/L	90.7	70.0	130
EK055G: Ammonia as N by Discrete Analyser (QCLot: 4726504)							
ES2242386-001	Anonymous	EK055G: Ammonia as N	7664-41-7	1 mg/L	112	70.0	130
EK057G: Nitrite as N by Discrete Analyser (QCLot: 4726063)							
EW2205446-001	Anonymous	EK057G: Nitrite as N	14797-65-0	0.5 mg/L	111	70.0	130
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 4726505)							
ES2242436-004	Anonymous	EK059G: Nitrite + Nitrate as N	----	0.5 mg/L	# Not Determined	70.0	130
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 4726508)							
ES2242436-005	Anonymous	EK061G: Total Kjeldahl Nitrogen as N	----	5 mg/L	# Not Determined	70.0	130
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 4726509)							
ES2242436-005	Anonymous	EK067G: Total Phosphorus as P	----	5 mg/L	105	70.0	130
EK071G: Reactive Phosphorus as P by discrete analyser (QCLot: 4726064)							
EW2205446-001	Anonymous	EK071G: Reactive Phosphorus as P	14265-44-2	0.5 mg/L	102	70.0	130
EP074A: Monocyclic Aromatic Hydrocarbons (QCLot: 4730834)							
ES2242296-001	Anonymous	EP074: Benzene	71-43-2	25 µg/L	70.0	70.0	130
		EP074: Toluene	108-88-3	25 µg/L	# 14.2	70.0	130
EP074E: Halogenated Aliphatic Compounds (QCLot: 4730834)							
ES2242296-001	Anonymous	EP074: 1.1-Dichloroethene	75-35-4	25 µg/L	# 40.7	70.0	130
		EP074: Trichloroethene	79-01-6	25 µg/L	76.2	70.0	130
EP074F: Halogenated Aromatic Compounds (QCLot: 4730834)							
ES2242296-001	Anonymous	EP074: Chlorobenzene	108-90-7	25 µg/L	77.8	70.0	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4730835)							
WN2214776-001	MW01_221123	EP080: C6 - C9 Fraction	----	325 µg/L	80.0	70.0	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4730835)							
WN2214776-001	MW01_221123	EP080: C6 - C10 Fraction	C6_C10	375 µg/L	88.8	70.0	130
EP080: BTEXN (QCLot: 4730835)							
WN2214776-001	MW01_221123	EP080: Benzene	71-43-2	25 µg/L	108	70.0	130
		EP080: Toluene	108-88-3	25 µg/L	92.9	70.0	130
		EP080: Ethylbenzene	100-41-4	25 µg/L	90.2	70.0	130

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*Concentration*	*MS*	*Low*	*High*
EP080: BTEXN (QCLot: 4730835) - continued							
WN2214776-001	MW01_221123	EP080: meta- & para-Xylene	108-38-3 106-42-3	25 µg/L	86.7	70.0	130
		EP080: ortho-Xylene	95-47-6	25 µg/L	90.5	70.0	130
		EP080: Naphthalene	91-20-3	25 µg/L	95.6	70.0	130
EP202A: Phenoxyacetic Acid Herbicides by LCMS (QCLot: 4725793)							
ES2242390-002	Anonymous	EP202-SL: Mecoprop	93-65-2	100 µg/L	116	75.0	143
		EP202-SL: MCPA	94-74-6	100 µg/L	119	76.0	140
		EP202-SL: 2.4-D	94-75-7	100 µg/L	120	77.0	139
		EP202-SL: Triclopyr	55335-06-3	100 µg/L	116	77.0	141
		EP202-SL: 2.4.5-T	93-76-5	100 µg/L	120	78.0	140
		EP202-SL: Picloram	1918-02-1	100 µg/L	92.9	70.0	144
		EP202-SL: Clopyralid	1702-17-6	100 µg/L	86.0	70.0	145
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4727366)							
WN2214776-002	MW02 -221123	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.25 µg/L	80.0	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.25 µg/L	88.0	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.25 µg/L	78.2	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.25 µg/L	87.0	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.25 µg/L	78.6	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.25 µg/L	86.6	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4727366)							
WN2214776-002	MW02 -221123	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	83.8	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	91.4	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	85.4	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	85.0	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	88.0	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	79.2	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	85.8	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	90.4	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	93.6	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	91.8	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	88.6	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4727366)							
WN2214776-002	MW02 -221123	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	89.2	67.0	137
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	99.0	68.0	141
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	92.5	62.6	147
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	90.5	66.0	145

Sub-Matrix: **WATER**

				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: 4727366) - continued							
WN2214776-002	MW02 -221123	EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	91.5	57.6	145
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	88.8	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	91.6	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4727366)							
WN2214776-002	MW02 -221123	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.25 µg/L	86.6	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.25 µg/L	76.0	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.25 µg/L	92.4	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.25 µg/L	84.6	71.4	144

Appendix E

Fieldsheets and Calibration Certificates

WAMSCIENTIFIC
Your water and air monitoring equipment specialists

Certificate of Service and Calibration
Interface Meter
Heron H.Oil

Company Name	WAM Scientific
Office Address	26 Bungarra Crescent, Chipping Norton NSW 2170
Phone Number	+61 405 241 484
Contact Name	William Pak
Instrument	Heron H.Oil Interface Meter (60m)
Serial Number	01-8640
Client Name	Peter Dean (AECOM Australia)
Project Number	60619756, 211-30

Instrument Check			
Item	Test	Test Passed	Comments
9V Battery	Klein Tools MM300 Multimeter	✓	Battery voltage reading above 7.9V
Battery Box	Check	✓	No damage
Face and Back Plates	Check	✓	No damage
Thumb Screws	Check	✓	Rubber ends intact
Tape Hangar/Protector	Check	✓	No damage
On/Off Button	Operation	✓	Button is functional
Buzzer	Operation	✓	Intermittent tone in H_2O, solid tone in product
LED Signal Light	Operation	✓	LED light functional – green and red
Probe	Operation/Check	✓	Decontaminated, cleaned and tested
Tape	Condition/Check	✓	Decontaminated and cleaned, no damage
Connection	Check	✓	Probe and link connected correctly and tightly
PCB	Operation	✓	Unit is fully functional
Electronics Panel	Orientation	✓	Correctly aligned

Instrument Readings		
Product	Buzzer	LED Light
H_2O	Intermittent	Blinking – Red
Petroleum	Solid	Steady – Red

Declaration
WAM Scientific certifies that the above instrument was successfully tested according to manufacturer's standards and all necessary checks were conducted to ensure the instrument was fully operational prior to dispatch. The interface meter was decontaminated, cleaned and tested with a mixture of tap water and petrol, shielded from ambient light.

Checked By	William Pak
Calibration Date	14/11/2022
Calibration Due	14/05/2023

WAMSCIENTIFIC
Your water and air monitoring equipment specialists

WAM Scientific:
26 Bungarra Crescent
CHIPPING NORTON NSW 2170
T: +61 405 241 484 | +61 424 198 667
E: rentals@wamscientific.com.au
E: accounts@wamscientific.com.au

WAMSCIENTIFIC
Your water and air monitoring equipment specialists

Certificate of Service and Calibration
Interface Meter
Heron H.Oil

Company Name	WAM Scientific
Office Address	26 Bungarra Crescent, Chipping Norton NSW 2170
Phone Number	+61 405 241 484
Contact Name	William Pak
Instrument	Heron H.Oil Interface Meter (30m)
Serial Number	01-8640
Client Name	Peter Dean (AECOM Australia)
Project Number	60619756, 211.30

Instrument Check			
Item	Test	Test Passed	Comments
9V Battery	Klein Tools MM300 Multimeter	✓	Battery voltage reading above 7.9V
Battery Box	Check	✓	No damage
Face and Back Plates	Check	✓	No damage
Thumb Screws	Check	✓	Rubber ends intact
Tape Hangar/Protector	Check	✓	No damage
On/Off Button	Operation	✓	Button is functional
Buzzer	Operation	✓	Intermittent tone in H_2O, solid tone in product
LED Signal Light	Operation	✓	LED light functional – green and red
Probe	Operation/Check	✓	Decontaminated, cleaned and tested
Tape	Condition/Check	✓	Decontaminated and cleaned, no damage
Connection	Check	✓	Probe and link connected correctly and tightly
PCB	Operation	✓	Unit is fully functional
Electronics Panel	Orientation	✓	Correctly aligned

Instrument Readings		
Product	Buzzer	LED Light
H_2O	Intermittent	Blinking – Red
Petroleum	Solid	Steady – Red

Declaration
WAM Scientific certifies that the above instrument was successfully tested according to manufacturer's standards and all necessary checks were conducted to ensure the instrument was fully operational prior to dispatch. The interface meter was decontaminated, cleaned and tested with a mixture of tap water and petrol, shielded from ambient light.

Checked By	William Pak
Calibration Date	18/11/2022
Calibration Due	18/05/2023

WAMSCIENTIFIC
Your water and air monitoring equipment specialists

WAM Scientific:
26 Bungarra Crescent
CHIPPING NORTON NSW 2170
T: +61 405 241 484 | +61 424 198 667
E: rentals@wamscientific.com.au
E: accounts@wamscientific.com.au

WAMSCIENTIFIC
Your water and air monitoring equipment specialists

Certificate of Service and Calibration
Water Quality Meter
YSI Professional Plus

Company Name	WAM Scientific
Office Address	26 Bungarra Crescent, Chipping Norton NSW 2170
Phone Number	+61 405 241 484
Contact Name	William Pak
Instrument	YSI Professional Plus Water Quality Meter w/ 1m Quatro Cable
Serial Number	21A103000
Client Name	Peter Dean (AECOM Australia)
Project Number	60619756, 211-30
Comments	-

Instrument Check

Item	Test	Test Passed	Comments
2 x Alkaline C-size Batteries	Klein Tools MM300 Multimeter	✓	Both batteries reading above 2.9V
Battery Saver Function	Operation	✓	Automatically turns off after 60 minutes if idle
Unit Display	Operation	✓	Screen visible, no damage
Keypad	Operation	✓	Responsive, no damage
Connection Port and Cable	Condition/Check	✓	Clean, no damage
Monitor Housing	Condition/Check	✓	No damage
Firmware	Version	✓	4.0.0
pH Probe	Condition/Calibration	✓	Calibrated and conforms to manufacturer's specs
pH millivolts for pH 7.00	Calibration	✓	pH 7.00 calibration range between 0 mV ± 50 mV
pH millivolts for pH 4.00	Calibration	✓	pH 4 mV range +165 to +180 from 7 buffer mV value
pH slope	Calibration	✓	Range between 55 to 60 mV/pH (ideal value 59 mV)
Response time < 90 seconds	Calibration	✓	Responds to correct value within 90 seconds
ORP Probe	Condition/Calibration	✓	Calibrated and conforms to manufacturer's specs
ORP Reading	Calibration	✓	Within ± 80 mV of reference Zobell Reading
Response time < 90 seconds	Calibration	✓	Responds to correct value within 90 seconds
Conductivity/Temp Probe	Condition/Calibration	✓	Calibrated and conforms to manufacturer's specs
Conductivity Cell	Calibration	✓	Conductivity cell constant 5.0 ± 1.0 in GLP file
Clean Sensor Readings	Calibration	✓	Clean sensor reads less than 3 uS/cm in dry air
Dissolved Oxygen Probe	Condition/Calibration	✓	Calibrated and conforms to manufacturer's specs
DO Cap	Condition/Calibration	✓	1.25 mil PE membrane (yellow membrane)
DO Sensor in Use	Condition	✓	Polarographic DO sensor
DO Sensor Value	Calibration	✓	(min 4.31 uA - max 8.00 uA) Avg 6.15 uA

Instrument Readings

Parameter	Standard Used	Reference No.	Calibration Value	Observed	Actual	Units
Temperature	Centre 370 Thermometer	Room Temp.	22.1	22.0	22.1	°C
pH	pH 4.00	386466	4.01	3.92	4.01	pH
pH	pH 7.00	387329	7.00	6.98	7.00	pH
Conductivity	2760 µs/cm at 25°C	388521	2760	2775	2760	µs/cm
ORP (Ref. check only)	Zobell A & B	380835/382785	235.8	237.6	235.8	mV
Zero Dissolved O_2	$NaSO_3$ in Distilled H_2O	389912	0.0	-0.2	0.0	%
100% Dissolved O_2	100% Air Saturated H_2O	Fresh Air	100.0	104.5	100.0	%

Declaration

WAM Scientific certifies that the above instrument was successfully tested according to manufacturer's standards and all necessary checks were conducted to ensure the instrument was fully operational prior to dispatch. The calibration data supplied was obtained in accordance with manufacturer's specifications using solutions of known values.

Calibrated By	William Pak
Calibration Date	14/11/2022
Calibration Due	14/05/2023

WAMSCIENTIFIC
Your water and air monitoring equipment specialists

WAM Scientific:
26 Bungarra Crescent
CHIPPING NORTON NSW 2170
T: +61 405 241 484 | +61 424 198 667
E: rentals@wamscientific.com.au
E: accounts@wamscientific.com.au

WAMSCIENTIFIC
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Certificate of Service and Calibration
Water Quality Meter
YSI Professional Plus

Company Name	WAM Scientific
Office Address	26 Bungarra Crescent, Chipping Norton NSW 2170
Phone Number	+61 405 241 484
Contact Name	William Pak
Instrument	YSI Professional Plus Water Quality Meter w/ 1m Quatro Cable
Serial Number	21A103000
Client Name	Peter Dean (AECOM Australia Pty Ltd)
Project Number	60619756, 211-30
Comments	-

Instrument Check

Item	Test	Test Passed	Comments
2 x Alkaline C-size Batteries	Klein Tools MM300 Multimeter	✓	Both batteries reading above 2.9V
Battery Saver Function	Operation	✓	Automatically turns off after 60 minutes if idle
Unit Display	Operation	✓	Screen visible, no damage
Keypad	Operation	✓	Responsive, no damage
Connection Port and Cable	Condition/Check	✓	Clean, no damage
Monitor Housing	Condition/Check	✓	No damage
Firmware	Version	✓	4.0.0
pH Probe	Condition/Calibration	✓	Calibrated and conforms to manufacturer's specs
pH millivolts for pH 7.00	Calibration	✓	pH 7.00 calibration range between 0 mV ± 50 mV
pH millivolts for pH 4.00	Calibration	✓	pH 4 mV range +165 to +180 from 7 buffer mV value
pH slope	Calibration	✓	Range between 55 to 60 mV/pH (ideal value 59 mV)
Response time < 90 seconds	Calibration	✓	Responds to correct value within 90 seconds
ORP Probe	Condition/Calibration	✓	Calibrated and conforms to manufacturer's specs
ORP Reading	Calibration	✓	Within ± 80 mV of reference Zobell Reading
Response time < 90 seconds	Calibration	✓	Responds to correct value within 90 seconds
Conductivity/Temp Probe	Condition/Calibration	✓	Calibrated and conforms to manufacturer's specs
Conductivity Cell	Calibration	✓	Conductivity cell constant 5.0 ± 1.0 in GLP file
Clean Sensor Readings	Calibration	✓	Clean sensor reads less than 3 uS/cm in dry air
Dissolved Oxygen Probe	Condition/Calibration	✓	Calibrated and conforms to manufacturer's specs
DO Cap	Condition/Calibration	✓	1.25 mil PE membrane (yellow membrane)
DO Sensor in Use	Condition	✓	Polarographic DO sensor
DO Sensor Value	Calibration	✓	(min 4.31 uA - max 8.00 uA) Avg 6.15 uA

Instrument Readings

Parameter	Standard Used	Reference No.	Calibration Value	Observed	Actual	Units
Temperature	Centre 370 Thermometer	Room Temp.	16.6	16.7	16.6	°C
pH	pH 4.00	386466	4.01	3.97	4.01	pH
pH	pH 7.00	387329	7.00	7.01	7.00	pH
Conductivity	2760 µs/cm at 25°C	388521	2760	2746	2760	µs/cm
ORP (Ref. check only)	Zobell A & B	380835/382785	242.8	245.3	242.8	mV
Zero Dissolved O_2	$NaSO_3$ in Distilled H_2O	389912	0.0	-0.6	0.0	%
100% Dissolved O_2	100% Air Saturated H_2O	Fresh Air	100.0	99.5	100.0	%

Declaration

WAM Scientific certifies that the above instrument was successfully tested according to manufacturer's standards and all necessary checks were conducted to ensure the instrument was fully operational prior to dispatch. The calibration data supplied was obtained in accordance with manufacturer's specifications using solutions of known values.

Calibrated By	William Pak
Calibration Date	18/11/2022
Calibration Due	18/05/2023

WAM Scientific:
26 Bungarra Crescent
CHIPPING NORTON NSW 2170
T: +61 405 241 484 | +61 424 198 667
E: rentals@wamscientific.com.au
E: accounts@wamscientific.com.au

WAMSCIENTIFIC
Your water and air monitoring equipment specialists

Certificate of Service and Calibration

Gas Detector

MiniRAE 3000

Company Name	WAM Scientific
Office Address	26 Bungarra Crescent, Chipping Norton NSW 2170
Phone Number	+61 405 241 484
Contact Name	William Pak
Instrument	MiniRAE 3000 (PGM 7320)
Serial Number	592-912870
Client Name	Peter Dean (AECOM Australia Pty Ltd)
Project Number	60619756 / 211-30

Instrument Check			
Item	Test	Test Passed	Comments
Li-Ion Rechargeable Battery	Battery Charge and Drain	✓	Unit runs for > 8 hours on a full charge
Charger and Power Supply	Operation/Check	✓	No damage
Unit Display	Operation	✓	Screen visible, no damage
Keypad	Operation	✓	Responsive, no damage
Pump	Flow Check	✓	Flow rate > 0.5 L/min
Monitor Housing	Condition/Check	✓	No damage
Rubber Boot	Check	✓	Clean, no damage
Flexi Probe	Condition/Check	✓	No leaks, no damage
Water Trap Filter	Visual Check	✓	Clean
Alarms	Audible, Visual, Vibration Check	✓	All modes of alarms are functional
Data Logger	Operation	✓	Unit records data, default set at 60 seconds
Lamp and Sensor	Clean and Calibration	✓	Lamp and PID sensor cleaned and calibrated
PCB	Operation	✓	Unit is fully functional
Firmware	Version	✓	v2.20A

Instrument Readings					
Parameter	Calibration Gas	Concentration	Reference No.	Zero Reading	Span Reading
PID (11.7eV)	Isobutylene	100 ppm	WO233801-61	0 ppm	103.4 ppm

Declaration

WAM Scientific certifies that the above instrument was successfully tested according to manufacturer's standards and all necessary checks were conducted to ensure the instrument was fully operational prior to dispatch. The calibration data supplied was obtained in accordance with manufacturer's specifications using gases of known concentrations.

Calibrated By	William Pak
Calibration Date	25/07/2022
Calibration Due	25/01/2023

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WAM Scientific:
26 Bungarra Crescent
CHIPPING NORTON NSW 2170
T: +61 405 241 484 | +61 424 198 667
E: rentals@wamscientific.com.au
E: accounts@wamscientific.com.au

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Certificate of Service and Calibration

Gas Detector

MiniRAE 3000

Company Name	WAM Scientific
Office Address	26 Bungarra Crescent, Chipping Norton NSW 2170
Phone Number	+61 405 241 484
Contact Name	William Pak
Instrument	MiniRAE 3000 (PGM 7320)
Serial Number	592-930519
Client Name	Peter Dean (AECOM Australia)
Project Number	60619756, 211-30

Instrument Check			
Item	Test	Test Passed	Comments
Li-Ion Rechargeable Battery	Battery Charge and Drain	✓	Unit runs for > 8 hours on a full charge
Charger and Power Supply	Operation/Check	✓	No damage
Unit Display	Operation	✓	Screen visible, no damage
Keypad	Operation	✓	Responsive, no damage
Pump	Flow Check	✓	Flow rate > 0.5 L/min
Monitor Housing	Condition/Check	✓	No damage
Rubber Boot	Check	✓	Clean, no damage
Flexi Probe	Condition/Check	✓	No leaks, no damage
Water Trap Filter	Visual Check	✓	Clean
Alarms	Audible, Visual, Vibration Check	✓	All modes of alarms are functional
Data Logger	Operation	✓	Unit records data, default set at 60 seconds
Lamp and Sensor	Clean and Calibration	✓	Lamp and PID sensor cleaned and calibrated
PCB	Operation	✓	Unit is fully functional
Firmware	Version	✓	v2.20A

Instrument Readings					
Parameter	Calibration Gas	Concentration	Reference No.	Zero Reading	Span Reading
PID (10.6eV)	Isobutylene	100 ppm	WO233801-61	0 ppm	100.3 ppm

Declaration
WAM Scientific certifies that the above instrument was successfully tested according to manufacturer's standards and all necessary checks were conducted to ensure the instrument was fully operational prior to dispatch. The calibration data supplied was obtained in accordance with manufacturer's specifications using gases of known concentrations.

Calibrated By	William Pak
Calibration Date	14/11/2022
Calibration Due	14/05/2023

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Your water and air monitoring equipment specialists

WAM Scientific:
26 Bungarra Crescent
CHIPPING NORTON NSW 2170
T: +61 405 241 484 | +61 424 198 667
E: rentals@wamscientific.com.au
E: accounts@wamscientific.com.au

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Certificate of Service and Calibration

Gas Detector

MiniRAE 3000

Company Name	WAM Scientific
Office Address	26 Bungarra Crescent, Chipping Norton NSW 2170
Phone Number	+61 405 241 484
Contact Name	William Pak
Instrument	MiniRAE 3000 (PGM 7320)
Serial Number	592-932769
Client Name	Peter Dean (AECOM Australia Pty Ltd)
Project Number	60619756, 211-30

Instrument Check			
Item	Test	Test Passed	Comments
Li-Ion Rechargeable Battery	Battery Charge and Drain	✓	Unit runs for > 8 hours on a full charge
Charger and Power Supply	Operation/Check	✓	No damage
Unit Display	Operation	✓	Screen visible, no damage
Keypad	Operation	✓	Responsive, no damage
Pump	Flow Check	✓	Flow rate > 0.5 L/min
Monitor Housing	Condition/Check	✓	No damage
Rubber Boot	Check	✓	Clean, no damage
Flexi Probe	Condition/Check	✓	No leaks, no damage
Water Trap Filter	Visual Check	✓	Clean
Alarms	Audible, Visual, Vibration Check	✓	All modes of alarms are functional
Data Logger	Operation	✓	Unit records data, default set at 60 seconds
Lamp and Sensor	Clean and Calibration	✓	Lamp and PID sensor cleaned and calibrated
PCB	Operation	✓	Unit is fully functional
Firmware	Version	✓	v2.20A

Instrument Readings					
Parameter	Calibration Gas	Concentration	Reference No.	Zero Reading	Span Reading
PID (10.6eV)	Isobutylene	100 ppm	WO233801-61	0 ppm	100.4 ppm

Declaration
WAM Scientific certifies that the above instrument was successfully tested according to manufacturer's standards and all necessary checks were conducted to ensure the instrument was fully operational prior to dispatch. The calibration data supplied was obtained in accordance with manufacturer's specifications using gases of known concentrations.

Calibrated By	William Pak
Calibration Date	18/11/2022
Calibration Due	18/05/2023

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Your water and air monitoring equipment specialists

WAM Scientific:
26 Bungarra Crescent
CHIPPING NORTON NSW 2170
T: +61 405 241 484 | +61 424 198 667
E: rentals@wamscientific.com.au
E: accounts@wamscientific.com.au

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Certificate of Service and Calibration
Peristaltic Pump
Geotech Geopump 2

Company Name	WAM Scientific
Office Address	26 Bungarra Crescent, Chipping Norton NSW 2170
Phone Number	+61 405 241 484
Contact Name	William Pak
Instrument	Geotech Geopump Peristaltic Pump
Cable Length	4.5m
Serial Number	Pump: 6338
Serial Number	Head: -
Client Name	Peter Dean (AECOM Australia Pty Ltd)
Project Number	60619756, 211-30

Instrument Check			
Item	Test	Test Passed	Comments
2 x 12V Batteries	Klein Tools MM300 Multimeter	✓	Both batteries reading above 12V
Battery Terminals	Check	✓	No damage
Charger	Condition/Check	✓	Functioning
Cabling	Check	✓	No damage
Alligator Clips	Check	✓	Protected, no damage
Casing	Check	✓	Clean, no damage
Handle	Check	✓	No damage
Pump Head	Check	✓	EZ2 Head, no damage
Pump Condition	Decontamination	✓	Decontaminated
Pump Operation	Operation	✓	Peristaltic pump functional
Pump Tubing	Replacement	✓	New 0.5m ¼" OD LDPE silicon tubing
Pump Speed	Operation	✓	Speed knob functional

Inclusions
2 x Sealed lead acid 12V batteries included 1x Carry case for 12V batteries included 1x Intrinsically safe charger (clips) included

Declaration
WAM Scientific certifies that the above instrument was successfully tested according to manufacturer's standards and all necessary checks were conducted to ensure the instrument was fully operational prior to dispatch. The pump has been decontaminated and cleaned upon return from the previous hire and is in good working order.

Checked By	William Pak
Calibration Date	18/11/2022
Calibration Due	18/05/2023

WAM Scientific:
26 Bungarra Crescent
CHIPPING NORTON NSW 2170
T: +61 405 241 484 | +61 424 198 667
E: rentals@wamscientific.com.au
E: accounts@wamscientific.com.au

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ANZ

FQM - Daily Activity Report

Q4AN(EV)-002-FM1

Project Name:	Muswellbrook Bypass Env Assessment	**Project Number:**	60619756
Project Location:	New England Highway Muswellbrook	**Client:**	Transport for NSW
Date of Fieldwork:	23/11/22	**PM Name:**	Justin Shields
Time Arrive:	0830	**Time Depart:**	~~1530~~ 1310

Administration

Personnel On-Site:	P. Dean.
Contractors (Inducted, Downtime):	—

Tasks Undertaken

Describe tasks and time of activities undertaken, observations, communications with PM, clients and subcontractors etc.

☐Cross out unused portions of the site notes ☐ Indicate QAQC samples collected & note on tracking sheet

☐ Record number waste drums transported on & off-site ☐ Indicate observations of on-Site environmental receptors

Indicate Weather Conditions:

0700 – Depart NTL for site.
0830 – Arrive site (Ausgrid). Prep gear
0900 – Commence sampling @ Area 3 MW01.
0935 – ~~Sample~~ MW02 commence
1005 – Commence sampling @ MW03
1035 – Commence sampling @ BR 245 (Brickworks Area 4)
1100 – to MCC – collect key to Coal Rd from MCC.
1120 – Lunch
1140 – to Coal Rd.
1215 – Commence Sampling @ BR 225
1240 – Move back to MCC – return key. Julie Taylor notes AECOM need to text her when onsite in addition to the email notification. PD noted + agreed to in future.
1310 – to NTL
1540 – NTL – Sample prep @ office
1620 – lab drop off.
1630 – office : paperwork.

HSE Actions

Describe any HSE actions or oberservations or additional information that is not recorded in the HSEP

Approval and Distribution

P. Dean — Fieldwork Staff Signature

23/11/22 — Date

Distribution: Project Central File

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FQM - Sample QAQC Tracking Sheet

Q4AN(EV)-011-FM1

Project Name:	ellbrook Bypass Env Asses	**Project Number:**	60619756
Project Location:	England Highway Muswellb	**Client:**	Transport for NSW
PM Name:	Justin Shields	**Fieldwork Staff:**	Peter Dean

QAQC Information

QAQC ID	Primary Sample ID	Sample Type	Batch Number
QC100_221123	BR225_221123	Intra-lab duplicate	
QC200_221123	BR225_221123	Inter-lab duplicate	
QC300_221123	—	Rinsate	
QC500_221123	—	Trip blank	
QC600_221123	—	Trip spike.	

QA\QC Project Requirements

QAQC	Required		Frequency		Method Used
Field Duplicates	☑ Yes	☐ No	☐ 1 in 10	☑ 1 in 20	
Field Triplicates	☑ Yes	☐ No	☐ 1 in 10	☑ 1 in 20	
Rinsate Blanks	☑ Yes	☐ No	☑ 1 per matrix/equipment/day		
Field Blanks	☐ Yes	☑ No	☐ 1 per day		
Trip Blanks	☑ Yes	☐ No	☑ 1 per ice chest		
Trip Spikes	☑ Yes	☐ No	☑ 1 per ice chest		

Approval and Distribution

P. Dean — **Fieldwork Staff Signature**

23/11/22 — Date

Project Manager Signature

Date

Distribution: Project Central File

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FQM - Groundwater Sampling and Purging Record

AECOM

Q4AN(EV)-405-FM1

						Bore ID:	MW01
Project Name:	Muswellbrook Bypass Env Asse	Project Number:	60619756	PM Name:	Justin Shields	Sample Date:	23/11/22
Client:	Transport for NSW	Project Location:	New England Highway Muswellbrd	Fieldwork Staff:	Peter Dean	Well Development or Well Sampling Event? (circle)	

General Bore Information		Parameter Info.	Decontamination	Sampling Method	Hydrasleeve Info.	
Date of GW Level: 23/11/22	Bore Radius (mm): 125	Chem Kit Serial No.: 21A103 000	☑ Decontaminated	☐ Low Flow Pump rate: 0.4L/min	Hydrasleeve Size:	Monitoring sequence followed (number in order):
Depth to GW (m-pvc): 4.886	Screen Interval (m):	Chem Kit Model: YSI ProPlus	☑ Dedicated	Intake depth: ~~7m~~ 6m	Hydrasleeve Type:	
Bore Depth (m-pvc): 10.485	Casing Radius (mm): 25	Corrected Redox: Y / N	☑ Disposable	☐ Bailer ☐ Hydrasleeve	Sampling Depth (m-pvc):	Gauging
Depth to Product (m-pvc): —	Cover Type (gatic/stick up):	(The correction to apply is probe dependent)	☐ Other (specify)	☑ Peristaltic Pump ☐ Waterra	Hydrasleeve Install time:	Hydrasleeve in
Product Thickness (m): —	Bore Locked (YES/NO):	Parameter method: ☐ Downhole		☐ Other (specify)	Sampling Start Time:	Hydrasleeve out
	Key Type (if applicable): —	☑ Retrieved				Parameters
Calculated bore volume (L): 10.9	Includes/ excludes bore annulus (circle)	# purge volumes removed:		Total purged volume (L):		

Water Quality Parameters

Time	Cumulative Vol. Removed (L)	SWL (m-pvc)	Pump Rate	DO (ppm or mg/L)	E.C. (mS/cm or µS/cm)	pH	Redox (mV)	Temp °C	Odour, Colour, Turbidity
0902	0.5	5.142	0.4	5.02	22.0	4.25	251.5	20.6	No odour, clear colour, clear turbidity, no sheen
0905	1.0	5.246	0.3	1.04	4363	7.17	162.8	18.6	
0910	1.5	5.310	0.2	2.76	4404	7.19	160.9	18.4	
0915	2.0	5.343	0.2	1.76	3972	7.23	146.4	18.3	
0920	2.5	5.347	0.15	2.04	3899	7.24	144.6	18.4	
0925	3.0	5.351	"	2.08	3813	7.25	143.9	18.4	
0930	3.5	5.353	"	2.16	3791	7.26	143.7	18.4	As at start.
									Sampled @ 0930.
Acceptable Parameter Range:				± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	± 10% turbidity (if using a turbidity meter)

Analytes Sampled for:		Bottles Collected						QA/QC Information	Field Commets
Field Filtered:	Unfiltered:		x 40 mL Vial (HCl)		x 60 mL Ferrous	1	x 60 mL metals (HNO_3)		Bore volume calculation, bore condition, fate of tubing, redox correction etc.
Metals	TRH OP/OC BTEX VOC/SVOC PAH PCB	2	x 40 mL Vial (H_2SO_4)	1	x 100 mL Amber	2	x ~~250~~ mL Plastic		
		1	x 125 ml PFAS						

Approval and Distribution

P. D.
Fieldwork Staff Signature — 23/11/22 Date — Checker Name and Signature — Date

Project Manager Signature — Date — Distribution: Project Central File

ANZ

FQM - Groundwater Sampling and Purging Record

AECOM

Q4AN(EV)-405-FM1

						Bore ID:	MW02
Project Name:	Muswellbrook Bypass Env Asse	Project Number:	60619756	PM Name:	Justin Shields	Sample Date:	23/11/22
Client:	Transport for NSW	Project Location:	New England Highway Muswellbro	Fieldwork Staff:	Peter Dean	Well Development or Well Sampling Event? (circle)	

General Bore Information		Parameter Info.	Decontamination	Sampling Method	Hydrasleeve info.	
Date of GW Level: 23/11/22	Bore Radius (mm): 125	Chem Kit Serial No.: 21A 163 000	☐ Decontaminated	☐ Low Flow Pump rate: 0.2	Hydrasleeve Size:	Monitoring sequence followed (number in order):
Depth to GW (m-pvc): 4.274	Screen Interval (m):	Chem Kit Model: YSI Pro Plus	☐ Dedicated	Intake depth: 6m	Hydrasleeve Type:	
Bore Depth (m-pvc): 8.834	Casing Radius (mm): 25	Corrected Redox: Y / (N)	☐ Disposable	☐ Bailer ☐ Hydrasleeve	Sampling Depth (m-pvc):	Gauging
Depth to Product (m-pvc): —	Cover Type (gatic/stick up):	(The correction to apply is probe dependent)	☐ Other (specify)	☐ Peristaltic Pump ☐ Waterra	Hydrasleeve Install time:	Hydrasleeve in
Product Thickness (m): —	Bore Locked (YES/NO):	Parameter method: ☐ Downhole		☐ Other (specify)	Sampling Start Time:	Hydrasleeve out
	Key Type (if applicable): —	☐ Retrieved				Parameters
Calculated bore volume (L): 8.93	Includes/ excludes bore annulus (circle)	# purge volumes removed:		Total purged volume (L):		

Water Quality Parameters

Time	Cumulative Vol. Removed (L)	SWL (m-pvc)	Pump Rate	DO (ppm or mg/L)	E.C. (mS/cm or µS/cm)	pH	Redox (mV)	Temp °C	Odour, Colour, Turbidity
0935	0.5	4.390	0.3	2.00	10 149	7.20	157.7	18.8	no odour, clear colour, clear turbidity, no sheen.
0938	1.0	4.585	0.2	1.79	10 085	7.31	152.2	18.3	
0942	1.5	4.602	0.15	1.80	10 093	7.33	150.7	18.4	
0946	2.0	4.614	0.2	1.65	10 083	7.34	148.6	18.3	
0950	2.5	4.676	~0.2	1.67	10 082	7.35	147.0	18.3	
0955	3.0	4.698	0.2	1.58	10 080	7.35	147.0	18.3	
0958	3.5		0.2	1.61	10077	7.35	146.6	18.3	As at start. Sampled @ 1000
Acceptable Parameter Range:				± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	± 10% turbidity (if using a turbidity meter)

Analytes Sampled for:		Bottles Collected						QA/QC Information	Field Commets
Field Filtered:	Unfiltered:		x 40 mL Vial (HCl)		x 60 mL Ferrous	1	x 60 mL metals (HNO_3)		Bore volume calculation, bore condition, fate of tubing, redox correction etc.
Metals	TRH BTEX PAH PFAS PCB other VOC/SVOC	2	x 40 mL Vial (H_2SO_4)	1	x 100 mL Amber	2	x ~~250~~ 500 mL Plastic	✓	
		1	x 125ml PFAS						

Approval and Distribution

P. [signature] — Fieldwork Staff Signature — 23/11/22 — Date — Checker Name and Signature — Date

Project Manager Signature — Date — Distribution: Project Central File

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FQM - Groundwater Sampling and Purging Record

Q4AN(EV)-405-FM1

						Bore ID:	MW03
Project Name:	Muswellbrook Bypass Env Asse	Project Number:	60619756	PM Name:	Justin Shields	Sample Date:	23/11/22
Client:	Transport for NSW	Project Location:	New England Highway Muswellbro	Fieldwork Staff:	Peter Dean	Well Development or Well Sampling Event? (circle)	

General Bore Information		Parameter Info.	Decontamination	Sampling Method	Hydrasleeve Info.	
Date of GW Level: 23/11/22	Bore Radius (mm): 125	Chem Kit Serial No.: 21A103 000	☑ Decontaminated	☑ Low Flow Pump rate: 0.3	Hydrasleeve Size:	Monitoring sequence followed (number in order):
Depth to GW (m-pvc): 3.014	Screen Interval (m):	Chem Kit Model: YSI ProPlus	☐ Dedicated	Intake depth: 5.5m	Hydrasleeve Type:	
Bore Depth (m-pvc): 6.345	Casing Radius (mm): 25	Corrected Redox: Y / (N)	☑ Disposable	☐ Bailer ☐ Hydrasleeve	Sampling Depth (m-pvc):	Gauging
Depth to Product (m-pvc): –	Cover Type (gatic/stick up):	(The correction to apply is probe dependent)	☐ Other (specify)	☑ Peristaltic Pump ☐ Waterra	Hydrasleeve install time:	Hydrasleeve in
Product Thickness (m): –	Bore Locked (YES/NO):	Parameter method: ☐ Downhole		☐ Other (specify)	Sampling Start Time:	Hydrasleeve out
	Key Type (if applicable): –	☑ Retrieved				Parameters
Calculated bore volume (L): 6.5	Includes/ excludes bore annulus (circle)	# purge volumes removed:		Total purged volume (L):		

Water Quality Parameters

Time	Cumulative Vol. Removed (L)	SWL (m-pvc)	Pump Rate	DO (ppm or mg/L)	E.C. (mS/cm or µS/cm)	pH	Redox (mV)	Temp °C	Odour, Colour, Turbidity
1005	0.5	3.029	0.3	1.02	524	6.01	168.8	17.9	no odour, no colour, clear turbidity, no sheen.
1007	1.0	3.033	|	0.55	382	5.84	185.1	17.8	
1009	1.5	3.045	|	0.47	345	5.79	180.1	17.9	
1012	2.0	3.052	|	0.44	186	5.70	97.3	17.8	
1014	2.5	3.059	|	0.40	151	5.79	98.2	17.9	
1016	3.0	3.123	|	0.39	149	5.80	99.3	17.9	
1019	3.5	3.127	|	0.38	146	5.79	98.4	17.9	As at start. Sampled @ 1020.
Acceptable Parameter Range:				± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	± 10% turbidity (if using a turbidity meter)

Analytes Sampled for:		Bottles Collected						QA/QC Information	Field Commets
Field Filtered:	Unfiltered:		x 40 mL Vial (HCl)		x 60 mL Ferrous	1	x 60 mL metals (HNO_3)		Bore volume calculation, bore condition, fate of tubing, redox correction etc.
metals	TPH vocs/svoc	2	x 40 mL Vial (H_2SO_4)	1	x 100 mL Amber	2	x 250 mL Plastic		
	BTEX vocs	1	x 125ml PFAS						
	PAH svoc								
	PCB PFAS								

Approval and Distribution

P. Dean	23/11/22		
Fieldwork Staff Signature	Date	Checker Name and Signature	Date
Project Manager Signature	Date	Distribution: Project Central File	

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FQM - Groundwater Sampling and Purging Record

AECOM

Q4AN(EV)-405-FM1

AREA 4 (BRICKWORKS)

Project Name:	Muswellbrook Bypass Env Asse	Project Number:	60619756	PM Name:	Justin Shields	Bore ID:	BR 245
Client:	Transport for NSW	Project Location:	New England Highway Muswellbrd	Fieldwork Staff:	Peter Dean	Sample Date:	23/11/22
						Well Development or Well Sampling Event? (circle)	

General Bore Information		Parameter Info.	Decontamination	Sampling Method	Hydrasleeve Info.	
Date of GW Level: 23/11/22	Bore Radius (mm): 125	Chem Kit Serial No.: 21A 103000	☑ Decontaminated	☑ Low Flow Pump rate: 0.3	Hydrasleeve Size:	Monitoring sequence followed (number in order):
Depth to GW (m-pvc): 5.785	Screen Interval (m):	Chem Kit Model: YSI Proplus	☐ Dedicated	Intake depth: 6m	Hydrasleeve Type:	
Bore Depth (m-pvc): 7.829	Casing Radius (mm): 125	Corrected Redox: Y / (N)	☐ Disposable	☐ Bailer ☐ Hydrasleeve	Sampling Depth (m-pvc):	Gauging
Depth to Product (m-pvc): —	Cover Type (gatic/stick up):	(The correction to apply is probe dependent)	☐ Other (specify)	☐ Peristaltic Pump ☐ Waterra	Hydrasleeve Install time:	Hydrasleeve in
Product Thickness (m): —	Bore Locked (YES/NO):	Parameter method: ☐ Downhole		☐ Other (specify)	Sampling Start Time:	Hydrasleeve out
	Key Type (if applicable): —	☑ Retrieved				Parameters

Calculated bore volume (L): 4.0	Includes/ excludes bore annulus (circle)	# purge volumes removed:	Total purged volume (L):

Water Quality Parameters

Time	Cumulative Vol. Removed (L)	SWL (m-pvc)	Pump Rate	DO (ppm or mg/L)	E.C. (mS/cm or µS/cm)	pH	Redox (mV)	Temp °C	Odour, Colour, Turbidity
1036	0.5	5.872	0.3	1.80	18164	6.83	142.2	19.0	No odour, clear colour, clear turbidity, no sheen.
1038	1.0	5.912		1.27	17985	6.91	129.6	18.8	
1040	1.5	5.931		1.26	17857	6.95	121.9	18.7	
1043	2.0	5.935		1.23	17835	6.96	119.0	18.7	
1045	2.5	5.943		1.31	17757	6.98	102.0	18.6	
1047	3.0	5.945		1.29	17755	6.99	96.1	18.7	
1049	3.5	5.946		1.26	17749	6.99	98.2	18.7	As at start. Sampled @ 1050
Acceptable Parameter Range:				± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	± 10% turbidity (if using a turbidity meter)

Analytes Sampled for:		Bottles Collected						QA/QC Information	Field Commets
Field Filtered:	Unfiltered:		x 40 mL Vial (HCl)		x 60 mL Ferrous	1	x 60 mL metals (HNO_3)	✓	Bore volume calculation, bore condition, fate of tubing, redox correction etc.
Metals	PAH VOC/BTEX TRH ABN BTEXN OP/OC Others	2	x 40 mL Vial (H_2SO_4)	1	x 100 mL Amber	2	x ~~250~~ 500 mL Plastic		
		1	x125ml PFAS						

Approval and Distribution

P. [signature] — Fieldwork Staff Signature — 23/11/22 — Date — Checker Name and Signature — Date

Project Manager Signature — Date — **Distribution:** Project Central File

ANZ

FQM - Groundwater Sampling and Purging Record

AECOM

AREA 6 WASTE

Q4AN(EV)-405-FM1

Project Name:	Muswellbrook Bypass Env Asse	Project Number:	60619756	PM Name:	Justin Shields	Bore ID:	BR 225
Client:	Transport for NSW	Project Location:	New England Highway Muswellbro	Fieldwork Staff:	Peter Dean	Sample Date:	23/11/22

Well Development or Well Sampling Event? (circle)

General Bore Information		Parameter Info.	Decontamination	Sampling Method	Hydrasleeve Info.	
Date of GW Level: 23/11/22	Bore Radius (mm): 125	Chem Kit Serial No.: 21A 103 000	☑ Decontaminated	☑ Low Flow Pump rate: 0.3	Hydrasleeve Size:	Monitoring sequence followed (number in order):
Depth to GW (m-pvc): 3.285	Screen Interval (m):	Chem Kit Model: YSI Pro plus	☐ Dedicated	Intake depth: 5m	Hydrasleeve Type:	
Bore Depth (m-pvc): 5.985	Casing Radius (mm): 25	Corrected Redox: Y / (N)	☑ Disposable	☐ Bailer ☐ Hydrasleeve	Sampling Depth (m-pvc):	Gauging
Depth to Product (m-pvc): —	Cover Type (gatic/stick up):	(The correction to apply is probe dependent)	☐ Other (specify)	☑ Peristaltic Pump ☐ Waterra	Hydrasleeve Install time:	Hydrasleeve in
Product Thickness (m): —	Bore Locked (YES/NO):	Parameter method: ☐ Downhole		☐ Other (specify)	Sampling Start Time:	Hydrasleeve out
	Key Type (if applicable): —	☑ Retrieved				Parameters

Calculated bore volume (L):	Includes/ excludes bore annulus (circle)	# purge volumes removed:	Total purged volume (L):

Water Quality Parameters

Time	Cumulative Vol. Removed (L)	SWL (m-pvc)	Pump Rate	DO (ppm or mg/L)	E.C. (mS/cm or µS/cm)	pH	Redox (mV)	Temp °C	Odour, Colour, Turbidity
1215	0.5	3.495	0.3	3.40	117.4	4.91	197.9	19.2	No odour, clear colour, clear turbidity, no sheen.
1217	1.0	3.512	0.25	3.29	108.6	4.70	218.0	19.3	
1220	1.5	3.519	0.25	3.25	104.5	4.57	253.0	19.2	
1222	2.0	3.518	0.25	3.32	105.5	4.52	244.5	19.2	
1224	2.5	3.522	0.25	3.20	106.0	4.48	251.0	19.3	
1225	3.0	3.524	0.25	3.19	104.4	4.44	257.1	19.2	
1226	3.5	3.525	0.25	3.33	104.3	4.44	260.1	19.3	AJ at start. Sampled @ 1230
Acceptable Parameter Range:				± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	± 10% turbidity (if using a turbidity meter)

Analytes Sampled for:		Bottles Collected						QA/QC Information	Field Commets
Field Filtered:	Unfiltered:		x 40 mL Vial (HCl)		x 60 mL Ferrous	1	x 60 mL metals (HNO_3)	QC100	Bore volume calculation, bore condition, fate of tubing, redox correction etc.
Metals	TPH OP/OC Herbicide	2	x 40 mL Vial (H_2SO_4)	2	x 100 mL Amber	2	x ~~250~~ 500 mL Plastic	QC200	QC100 — Intra-lab duplicate
	BTEX PCB	1	x125 ml PFAS	1	x60 ml purple				QC200 — Inter-lab duplicate
	PAH								
	Nutrients								

Approval and Distribution

Fieldwork Staff Signature	Date	Checker Name and Signature	Date
P. Dean	23/11/22		
Project Manager Signature	**Date**	**Distribution:** Project Central File	

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FQM - Daily Activity Report

Q4AN(EV)-002-FM1

Project Name:	Muswellbrook Bypass Env Assessment	**Project Number:**	60619756
Project Location:	New England Highway, Muswellbrook	**Client:**	Transport for NSW
Date of Fieldwork:	22/8/22	**PM Name:**	Justin Shields
Time Arrive:	1230	**Time Depart:**	1615

Administration

Personnel On-Site:	P. Dean
Contractors (Inducted, Downtime):	C. Connor + J Morgan - AUSMIC

Tasks Undertaken

Describe tasks and time of activities undertaken, observations, communications with PM, clients and subcontractors etc.

☐ Cross out unused portions of the site notes ☐ Indicate QAQC samples collected & note on tracking sheet ✓

☐ ~~Record number waste drums transported on & off-site~~ ☐ ~~Indicate observations of on-Site environmental receptors~~

Indicate Weather Conditions: fine, cool, calm.

0900 – drillers @ wrong. mobilising to site from Sydney.

– drillers onsite @ MCC for rig inspection prior to works.

~~1130~~ 1150 – drillers call RD – out of inspection. Lunch. meet @ Sandy Creek Road at 1245.

–

1245 – meet @ Sandy Creek Road.

– SHEMP induction, SWMS induction

1315 – commence @ HA07

1330 – commence @ HA13

1350 – Commence @ HA03

1445 – commence @ HA02

1525 – Commence @ HA01

1545 – Commence @ HA04

1600 – Pack up; ~~offsite~~

1615 – offsite

~~Yes~~ ~~offsite~~

–

HSE Actions

Describe any HSE actions or oberservations or additional information that is not recorded in the HSEP

Prestart – site walkover to ID hazards

– slip/trip/fall – grass, rabbit warrens

– contact with spinifex grass (Charge)

– weather (wind)

Approval and Distribution

P. Dean — Fieldwork Staff Signature

22/8/22 — Date

Distribution: Project Central File

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FQM - Daily Activity Report

Q4AN(EV)-002-FM1

Project Name:	Muswellbrook Bypass Env Assessment	**Project Number:**	60619756
Project Location:	New England Highway, Muswellbrook	**Client:**	Transport for NSW
Date of Fieldwork:	23/8/22	**PM Name:**	Justin Shields
Time Arrive:	0700	**Time Depart:**	1615

Administration

Personnel On-Site:	P. Dean
Contractors (Inducted, Downtime):	G. Connor, J. Morgan

Tasks Undertaken

Describe tasks and time of activities undertaken, observations, communications with PM, clients and subcontractors etc.

☐ Cross out unused portions of the site notes ☐ Indicate QAQC samples collected & note on tracking sheet ✓

☐ ~~Record number waste drums transported on & off-site~~ ☐ Indicate observations of on-Site environmental receptors

Indicate Weather Conditions: AM = fine, cool, calm. PM: Storm @ 1320 - 1430. Calm/fine from 1430 - 1615

0700 - onsite, prestart, set up.
0720 - commence HA06. JM unwell - vomiting. ✓ GC + PD finish off HA06.
0745 - finish HA06 - GC escort JM back to accommodation.
0830 - GC back onsite; re commence @ HA09. PD + GC only onsite. Sample, backfill
0855 - Commence HA12; sample, backfill
0935 - commence HA15
1010 - commence HA18
1050 - Commence HA21
1130 - lunch. PD offsite to buy water + Sunblock.
1230 - recommence @ HA24.
1320 - commence HA23. Stop @ 0.3m. As precaution
1330 - Pause works due to approaching thunderstorm. Lightning + heavy rain.
- GC offsite to take JM to hospital - JM not able to keep food or water down. GC return 1420
1430 - Storm passed - recommence @ 1430 @ HA23
1455 - Commence HA22
1535 - Commence HA19
1605 - Backfill HA19. pack up
1615 - offsite

HSE Actions

Describe any HSE actions or oberservations or additional information that is not recorded in the HSEP

- PM - temp stop work due to approaching thunderstorm (lightning risk)

Approval and Distribution

P. Dean	23/8/22
Fieldwork Staff Signature	**Date**

Distribution: Project Central File

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FQM - Daily Activity Report

Q4AN(EV)-002-FM1

Project Name:	Muswellbrook Bypass Env Assessment	**Project Number:**	60619756
Project Location:	New England Highway, Muswellbrook	**Client:**	Transport for NSW
Date of Fieldwork:	24/8/22	**PM Name:**	Justin Shields
Time Arrive:	0700	**Time Depart:**	1630

Administration

Personnel On-Site:	P. Dean
Contractors (Inducted, Downtime):	G Connor (Nuvatec) . JM - off sick - Gastro

Tasks Undertaken

Describe tasks and time of activities undertaken, observations, communications with PM, clients and subcontractors etc.

☐Cross out unused portions of the site notes ☐ Indicate QAQC samples collected & note on tracking sheet

☐ Record number waste drums transported on & off-site ☐ Indicate observations of on-Site environmental receptors

Indicate Weather Conditions:

0700 - onsite. Prestart meeting, set up

0720 - commence HA20

0800 - commence HA17

0830 - Commence HA14

0915 - commence HA11

0950 - commence HA08

1030 - commence HA10. 1105 - lunch

1150 - Commence HA16

1230 - commence HA05

1250 - Commence HA25

1315 - ~~mobilise~~ HA25 complete. Move to set up drill rig.

1405 - Commence drilling (solid stem) at HA17.

~~1535~~ 1540 - refusal on suspected bedrock @ 9.9m bgs. No water strike, however clay = v. soft, moist from 8.5m bgs. Leave borehole open overnight to see if it makes water. rig over hole to avoid trip hazard.

1600 - pack up rig (leave in place) + steer back to truck

1630 - off site

HSE Actions

Describe any HSE actions or oberservations or additional information that is not recorded in the HSEP

Approval and Distribution

P. Dean — Fieldwork Staff Signature

24/8/22 — Date

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ANZ

FQM - Daily Activity Report

AECOM

Q4AN(EV)-002-FM1

Project Name:	Muswellbrook Bypass Env Assessment	**Project Number:**	60619756
Project Location:	New England Highway, Muswellbrook	**Client:**	Transport for NSW
Date of Fieldwork:	25/8/22	**PM Name:**	Justin Shields
Time Arrive:	0650	**Time Depart:**	~~16~~ 1700

Administration

Personnel On-Site:	P. Dean
Contractors (Inducted, Downtime):	C Connor + J Morgan (CruMAC)

Tasks Undertaken

Describe tasks and time of activities undertaken, observations, communications with PM, clients and subcontractors etc.

☐Cross out unused portions of the site notes ☐ Indicate QAQC samples collected & note on tracking sheet

☐ Record number waste drums transported on & off-site ☐ Indicate observations of on-Site environmental receptors

Indicate Weather Conditions: Fine, cool, calm.

0650 - onsite, prestart meeting

0710 - move to HA17. collapsed to 7.3m overnight. water @ 5.8m b/s. Re drill to 9.9m. install well to 9.9m; screen back to 5m to cover SWL.

0920 - walk access path to HA11 and HA12 - appears suitable terrain for rig.

0930 - mob track rig to HA11. commence drilling.

- Develop HA17. / MW01

0940 - Rig @ HA11. PD check min. approach distances to powerlines. - ~~KF~~ & GC call NUMAC x2 to check + review SWMS - Electrical towers - >10m = no issues. 8-10m = spotter, <8m - no go. Rig = 12m from powerlines along ground. i.e. >12m at most height too.

1000 - recommence drilling HA11 / MW02

1055 - 7.75m @ HA11 - refusal of auger. Pull out; move to HA02 to drill; see if HA11 makes water in interim.

1100 - lunch

1130 - no water @ HA11 / MW01. Move to HA02 / MW03.

- 8m achieved. Borehole saturated @ 3.0m - sandy gravelly layer. Increasing clay content with depth; hard to tell if just perched and spilling into BH, or if free water present through entire profile.

- three water recovered from hole continuously between 3.0 - 8.0m

~~1340 - install well MW02 3-8m screen.~~

1340 - Remob to MW02 (HA11) - water @ base 0.2m. Install well 3-8m.

1500 - install @ MW03 (HA02) - collapse from 8-6.2m. Unable to prevent collapse due to very soft wet material

1545 - PD to MCC - pick key for tomorrow back onsite 1630

1700 - offsite

HSE Actions

Describe any HSE actions or oberservations or additional information that is not recorded in the HSEP

- Stop back assessment of powerline proximity.

Approval and Distribution

Fieldwork Staff Signature	Date: 25/8/22

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26/8/22 DAILY ACTIVITY REPORT

60619756 Muswellbrook Bypass Env Assessment

Time In: 0550 Time off:

0530 - leave accom.
0550 - Arrive MCC - sign in. Mobilise to waste facility
0620 - Arrive; unpack gear.
- Prestart
0715 - Mobilise rig to TPEV01 for drilling. Track rig 500-600m due to soft/uneven ground. ie No truck access.

0750 commence drilling @ TPEV01; Sec variation in place to allow drill from surface directly through backfilled TP footprint.

0820 - Rig grinding on stone (clutter?) @ ~6.0m. Stop, pull out; back to truck to get replacement bit (clay bit not cutting it). PD scout track to next TP./BH location.

0840 - Recommence. No recovery of cuttings, auger still struggling through (suspected) clutter (rocky mine spoil) ground. Driller says no recovery - cuttings either being pushed aside by auger into the formation, and collapsing back in when augers removed. eg. drilled to 8.5m; pull auger out to check recovery/ream; no recovery; put auger back down, and cutting again at 7.5m...

0910 - Speak to TA. BH + minimal cuttings + augers = bone dry; no moisture at all. Agree to abandon BH w/no well.
0920 - Pull out; move to next location.

0945 - Set up @ TPEV03.
1020 - @ 9.5m @ TPEV03. Minimal/no recovery from 0-6m, due to soft TP backfill. moist sandy clay brown from 6.5 to 8.3m. Construct well from 0-8.3m. Screen 3m from 0.5-5.5m. (collapsed)
1140 - TPEV03 Well + monument constructed; mob rig back to truck. ~600m

1150 - Reconcile timesheets, pack rig into truck

1225 - Offsite waste facility. to MCC.
1245 - Sign out MCC. Driller off to SYD
1300 - PD collect SW samples @ Assgrid
1340 - to MCC
1400 - MCC - collect SS01-10
1455 - to MCC - Sign out.
1700 - Arrive office.

AECOM

ANZ

FQM - Sample QAQC Tracking Sheet

Q4AN(EV)-011-FM1

Project Name:	ellbrook Bypass Env Asses	**Project Number:**	60619756
Project Location:	England Highway, Muswell	**Client:**	Transport for NSW
PM Name:	Justin Shields	**Fieldwork Staff:**	Peter Dean

QAQC Information

QAQC ID	Primary Sample ID	Sample Type	Batch Number
QC101_220823	HA12_0.1_0.2_220823	Intra-lab duplicate	
QC201_220823	HA12_0.1_0.2_220823	Inter-lab duplicate	
QC500_220823	-	Trip blank	
QC600_220823	-	Trip spike	
QC102_220823	HA14_0.1_0.2_220823	Intra-lab duplicate	
QC202_220823	HA14_0.1_0.2_220823	Inter-lab duplicate	
QC103_220824	HA05_0.0_0.1_220824	Intra-lab duplicate	
QC203_220824	HA05_0.0_0.1_220824	Inter-lab duplicate	
QC104_220826	SW01_220826	Intra lab duplicate	
QC204_220826	SW02_220826	Inter lab duplicate	
QC105_220826	SS01_220826	Intra lab duplicate	
QC205_220826	SS01_220826	Inter-lab duplicate	
QC300_220822	—	Rinsate	
QC301_220823	—	Rinsate	
QC302_220824	—	Rinsate	
QC303_220825	—	Rinsate	
QC304_220826	—	Rinsate	
QC501_220825	-	Trip blank	

QA\QC Project Requirements

QAQC	Required		Frequency		Method Used
Field Duplicates	☑ Yes	☐ No	☐ 1 in 10	☑ 1 in 20	
Field Triplicates	☑ Yes	☐ No	☐ 1 in 10	☑ 1 in 20	
Rinsate Blanks	☑ Yes	☐ No	☑ 1 per matrix/equipment/day		
Field Blanks	☐ Yes	☑ No	☐ 1 per day		
Trip Blanks	☑ Yes	☐ No	☑ 1 per ice chest		
Trip Spikes	☑ Yes	☐ No	☑ 1 per ice chest		

Approval and Distribution

P. D.
Fieldwork Staff Signature

26/8/22
Date

Project Manager Signature

Date

Distribution: Project Central File

ANZ

AECOM

FQM - Sediment Sampling Record

Q4AN(EV)-301-FM1

AREA 4 Former Brickworks

Project Name:	Muswellbrook Bypass Env Assessm	**Project Number:**	60619756	**PM Name:**	Justin Shields	**Sample Date:**	26/8/22
Client:	Transport for NSW	**Project Location**	New England Highway Muswellbrook	**Fieldwork Staff:**	Peter Dean	**Page**	1 of 1

General Information			
Sample Method:	GRAB	**Weather Conditions AM:**	FINE, CALM
Geo Ref. Sys.:	UTM	**Weather Conditions PM:**	"
Comments:			

Tide Information				
Tide	Time	Height	Time	Height
High Tide				
Low Tide				

Sampling Information

Sample Location	Time	Latitude	Longitude	Sample ID	Water Depth	Sample depth (m bgl)	Type, colour/mottling, plasticity/particle size, secondary/minor components	Biota	Shell Presence	Organic Content	Odour	Other Comments (e.g. foreign material, veneers, strata, biota)
SED01	1315	6430697	303210	SED01_220826	0.2	0.1	brown, clayey silt, trace roots, trace gravel. NS o/s	✓	X	✓	X	
SED02	1330	6430748	303268	SED02_220826	0.2	0.1	" faint organic odour	✓	X	✓	✓	

Approval and Distribution

P. Peck

Fieldwork Staff Signature

26/8/22

Date

Project Manager Signature

Date

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ANZ Surface water

FQM - ~~Groundwater Sampling and Purging~~ Record

AECOM

Q4AN(EV)-405-FM1

AREA 4 Former Brickworks

Project Name:	Muswellbrook Bypass Env Asse	**Project Number:**	60619756	**PM Name:**	Justin Shields	**Bore ID:**	
Client:	Transport for NSW	**Project Location:**	New England Highway Muswellbro	**Fieldwork Staff:**	Peter Dean	**Sample Date:**	26/8/22

Well Development or Well Sampling Event? (circle)

General Bore Information		Parameter Info.	Decontamination	Sampling Method	Hydrasleeve Info.	
Date of GW Level: 26/8/22	Bore Radius (mm):	Chem Kit Serial No.:	☐ Decontaminated	☐ Low Flow Pump rate:	Hydrasleeve Size:	Monitoring sequence followed (number in order):
Depth to GW (m-pvc):	Screen Interval (m):	Chem Kit Model:	☐ Dedicated	Intake depth:	Hydrasleeve Type:	
Bore Depth (m-pvc):	Casing Radius (mm):	**Corrected Redox:** Y / N	☐ Disposable	☐ Bailer ☐ Hydrasleeve	Sampling Depth (m-pvc):	Gauging
Depth to Product (m-pvc):	Cover Type (gatic/stick up):	(The correction to apply is probe dependent)	☐ Other (specify)	☐ Peristaltic Pump ☐ Waterra	Hydrasleeve Install time:	Hydrasleeve in
Product Thickness (m):	Bore Locked (YES/NO):	**Parameter method:** ☐ Downhole		☐ Other (specify)	Sampling Start Time:	Hydrasleeve out
	Key Type (if applicable):	☐ Retrieved				Parameters

Calculated bore volume (L):	Includes/ excludes bore annulus (circle)	# purge volumes removed:	Total purged volume (L):

Water Quality Parameters

Time	Cumulative Vol. Removed (L)	SWL (m-pvc)	Pump Rate	DO (ppm or mg/L)	E.C. (mS/cm or µS/cm)	pH	Redox (mV)	Temp °C	Odour, Colour, Turbidity
SW01	–	–	–	6.04	686	6.77	138	16.0	Light brown colour, still flow, no odour, clear, turbidity, no sheen.
SW02	–	–	–	4.09	701	6.85	103	16.2	Light brown, still flow, no odour, clear turbidity, no sheen.
Acceptable Parameter Range:				± 10%	± 3%	± 0.05	± 10 mV	± 0.2 °C	± 10% turbidity (if using a turbidity meter)

Analytes Sampled for:		Bottles Collected						QA/QC Information	Field Commets
Field Filtered:	**Unfiltered:**		x 40 mL Vial (HCl)		x 60 mL Ferrous	2	x 60 mL metals (HNO_3)		Bore volume calculation, bore condition, fate of tubing, redox correction etc.
Metals	TRH oc/op BTEX PFAS NH4 phys	2	x 40 mL Vial (H_2SO_4)	2	x 100 mL Amber	2	x 250 mL Plastic		
		1	x 60 ml H_2SO_4						

Approval and Distribution

P. D.	26/8/22		
Fieldwork Staff Signature	**Date**	**Checker Name and Signature**	**Date**
Project Manager Signature	**Date**	**Distribution:** Project Central File	

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FQM - Soil Sampling - Stockpile Sample Record

AREA 9 - Former Railway Line

Project Name:	Muswellbrook Bypass Env Assessment	Project Number:	60619756	PM Name:	Justin Shields	PID Model & Serial Number:	
Client:	Transport for NSW	Project Location	New England Highway Musw	Fieldwork S	Peter Dean		

Date	Stockpile ID	Sample ID	Origin (tank / wall / floor / etc.)	Depth (m below ground surface)	Method (excavator, spade, etc.)	PID (ppm)	Observations (soil characteristics, components, odour, staining, etc.)
26/8/22	SS01	SS01 - 220826	Floor	0.1	Spade	0.2	Fill; sandy gravel, black, dry, ~~fine~~ grained, SA-SR, trace grass rootlets, no obvious odour/ staining.
		SS02_220826				0.4	
		SS03_220826				0.1	
		SS04_220826				0.0	
		SS05_220826				0.1	
		SS06_220826				0.0	
		SS07_220826				0.0	
		SS08_220826				0.0	
		SS09_220826				0.0	
		SS10_220826				0.0	

Approval and Distribution

Fieldwork Staff Signature	Date	Project Manager Signature	Date
P. Dean	26/8/22		

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Appendix F

Data Validation

1.0 Introduction

This appendix describes the Data Quality Objectives (DQOs) and Data Quality Indicators (DQIs) developed for the Muswellbrook Bypass DSI and assesses the achievement of the DQOs in consideration of the DQIs.

The data set includes 49 primary samples (73 soil samples, 2 surface water, 5 groundwater and 2 sediment samples) collected and analysed from the Muswellbrook Bypass area (hereafter referred to as 'the Site') in NSW between 15 and 26 August 2022 for Area 6 and Area 9; 22 to 26 August 2022 for Area 3 and Area 4, and 23 November 2022 for all groundwater samples.

2.0 Data Quality Objectives

To ensure that data of adequate type and reliability were collected and assessed for the PFAS monitoring event, the seven-step DQO approach, endorsed in the NSW DEC *Guidelines for the NSW Site Auditor Scheme 3rd Edition* (NSW EPA, 2017), were adopted. The DQOs have set Quality Assurance and Quality Control (QA/QC) parameters for the field and laboratory programs to ensure data of appropriate reliability were used to assess the environmental condition of the sampled locations at the Property.

The seven-step DQO process is presented in **Section 3.1** of the report body.

3.0 Data Quality Indicators DQIs

Project DQIs have been established to set acceptance limits on field and laboratory data collected as part of this investigation. The DQIs comprise six parameters including sensitivity (S), precision (P), accuracy (A), representativeness (R), comparability (C) and completeness (C) (SPARCC). Acceptance criteria for the DQIs is summarised below in **Table 1**.

Table 1 Data Quality Indicators

Data Quality Indicator	Acceptance Criteria
Rinsate blanks	Less than the laboratory limit of reporting (LOR)
Intra and inter laboratory field duplicates (1) (2)	Relative Percent Difference (RPD) less than 30%
Laboratory duplicates (2) (3)	RPDs less than: • 20% for high level laboratory duplicates (i.e. >20 x LOR) • 50% for medium level laboratory duplicates (i.e. 10 to 20 x LOR)
Matrix spikes (3) (4)	Recoveries between 70-130% of the theoretical recovery
Method blanks	Less than the laboratory LOR
Trip blanks	Less than the laboratory LOR
Laboratory control samples (5)	Recoveries between 70-130%.
Surrogate spikes	See Note 6

Notes:

1. Potential exceptions to these criteria may occur where the results are close to the LOR. This typical RPD range is obtained from AS 4482.1-2005 Guide to the investigation and sampling of sites with potentially contaminated soil.
2. If the results are close to the LOR, then higher results will be accepted.
3. Assumes that samples are homogeneous and the background analyte level is less than 20% of the spike level (refer to USEPA Method 8000B). Note that there is no requirement for matrix spikes to pass as certain matrices may preclude recovery of spiked compounds. In this case data will be accepted if the laboratory control sample data meet the acceptance criteria.

4. 80% of the compounds tested must fall within the control limits. Control limits are dynamic and vary for individual tests as per USEPA Method 8000B.
5. Recoveries for surrogates are test dependent and are based on USEPA Method SW846. Control limits are dynamic and vary for individual tests but are within the criteria described in USEPA Method SW846.
6. Recoveries for surrogates are test dependent and are based on USEPA Method SW846. Control limits are dynamic and vary for tests but are within the criteria described in USEPA Method SW846.

The following sections assess the achievement of the DQOs in consideration of the DQIs.

4.0 Data Evaluation

4.1 Field

4.1.1 Field Staff

Samples were collected by suitably qualified and experienced AECOM environmental scientists/ engineers. Sampling was undertaken with reference to AECOM Standard Operating Procedures (SOPs) for each task of the field program which have been developed in accordance with key relevant published guidelines and standards.

4.1.2 Sampling Methodologies

The adopted sampling methodologies are described in **Section 4.0** of the report and outlined in the Sampling Analysis and Quality Plan (SAQP), AECOM 2022.

4.1.3 Sample Handling & Preservation

All samples were placed in a chilled, insulated cooler (*i.e.* esky) with crushed ice between sampling and analysis. Care was taken to remove any melt water collected within the esky regularly and to keep sample jars/bottles above any melt-water within the esky. Samples were preserved for the various contaminants of potential concern (CoPC) in accordance with the requirements of the ASC NEPM (2013).

Sample numbers, depths, preservation and analytical requirements were recorded on the Chain of Custody (COC) documentation, which accompanied the samples to the laboratory. Signed copies of the COCs are provided with the laboratory reports in **Appendix D**.

4.1.4 Calibration

Water Quality Meters (WQM), Interface Probes (IP) and Photo Ionisation Detector (PID) 106. 11.7 eV, were used during fieldworks. The equipment was calibrated by the Supplier (i.e. Active Environmental Solutions (AES) prior to delivery and then by AECOM during fieldworks, in accordance with manufacturer's instructions. All calibration results were satisfactory. Calibration records are provided in **Appendix F**.

4.1.5 Intra and Inter- Laboratory Duplicates

4.1.5.1 Frequency

Intra and inter-laboratory duplicate samples provide information regarding the accuracy of sampling, sample preparation, sample analysis and sample heterogeneity. The purpose of intra laboratory duplicates is to estimate the variability of a given characteristic or contaminant associated with a population. The purpose of inter-laboratory duplicates is to assess the accuracy of the primary laboratory data.

The intra- and inter-laboratory duplicate samples were obtained from an identical depth and immediately adjacent to the primary sample by placing approximately equal portions of the primary sample into sample containers. Intra- and inter-laboratory duplicate samples were labelled so as to conceal their relationship to the primary sample from the laboratory in accordance with SOPs. Intra- and inter-laboratory duplicate samples pairings were recorded in field notes.

Variation in intra- and inter-laboratory duplicate results is commonly observed due to sample heterogeneity and/or low reported concentrations near the limit of reporting (LOR), particularly for solid

matrix samples. The overall precision of intra- and inter-laboratory duplicate is assessed by their Relative Percent Difference (RPD) and whether it meets the DQI of 30%.

The RPD is given by:

$$RPD = \frac{|C1 - C2|}{(C1 + C2)/2} \times 100$$

Where C1 = primary sample result, and C2 = duplicate sample result.

Intra- and inter-laboratory duplicate sample results and RPDs are presented in **Table T5 – T7** (in **Appendix C**). The rate, number of intra- and inter-laboratory duplicate samples and number of RPD exceedances is summarised below in **Table 2**.

Table 2 Intra- and inter-laboratory duplicate summary

CoPC	Primary samples	Intra-laboratory duplicate samples (rate)	Inter-laboratory duplicate samples (rate)
Surface Water			
PFAS	2	1 (50 %)	1 (50 %)
Other CoPC	2	1 (50 %)	1 (50 %)
Soil and Sediment			
PFAS	58	**3 (5.2 %)**	**3 (5.2 %)**
Other CoPC	75	4 (5.3%)	4 (5.3%)
Groundwater			
PFAS	5	1 (20 %)	1 (20 %)
Other CoPC	5	1 (20 %)	1 (20 %)

Bold indicates rate of duplicate analyses less than 10%.

The rate of intra- and inter-laboratory duplicate analyses generally met the DQI 1 in 10 primary PFAS CoPC (i.e. 10%) and 1 in 20 primary non-PFAS samples (i.e. 5%) for all media analysed with the exception of those in bold in **Table 2**. AECOM notes the following:

- The inter-laboratory and intra-laboratory duplicates for PFAS in soil and sediments were below the DQI. This is not expected to impact on the data quality as RPDs were generally within the required RPD limits and additionally all other environmental media met and was above the requirements for intra-laboratory duplicates.

Duplicate and their corresponding primary samples with calculated RPDs are presented in **Table T8 – T14**, **Appendix C**.

The RPD exceedances were as follows:

Soil:

- **HA12_0.0-0.1_220822 / QC101_220223** and **QC201_220823**: Nickel (148% and 133%, respectively);
- **HA05_0.1_0.2_220824 / QC103_220824**: Copper (83%), Zinc (40%), PFOA (57%), PFOS (36%), PFHxS (45%), PFHpS (47%), PFHxA (62%), PFNA (39%), PFTrDA (114%), PFUnDA (67%).
- **SS01_220826 / QC105_220826**: Copper (78%), Lead (104%) and Zinc (97%).
- **HA05_0.1_0.2_220824 / QC203_220824:** Copper (55%), Nickel (28%), Zinc (81%), PFOS (129%), PFHxS (124%), PFBS (147%), PFDA (173%), PFHpS (144%), PFHpA (148%), PFHxA (149%), PFNA (158%), PFPeS (124%), PFPeA (153%), PFTrDA (152%), PFUnDA (165%).
- **SS01_220826 / QC205_220826:** Copper (61%), Lead (104%) and Zinc (109%).

Elevated RPDs for the PFAS compounds for parent and duplicate samples were considered to be attributed to the heterogenous fill material encountered on site. AECOM notes the results are generally the same order of magnitude.

Groundwater:

- **BR225_221123 / QC200_221123:** Copper (filtered) (40%).

As concentrations of copper for both the primary and secondary sample are less than 10 times the LOR and within the same order of magnitude this elevated RPD is not considered to impact on the data quality.

AECOM concludes that the precision of the data is sufficient for the purposes of the project

4.1.6 Rinsate Blanks

Rinsate samples were collected by pouring laboratory prepared deionised water non-dedicated equipment (hand auger) following the cleaning of equipment and collecting the 'rinse' into sample containers. A rinsate was collected per day of using non-dedicated equipment.

Analysis results for the rinsate samples are presented in **Table T11 and Table T14** in **Appendix C.** All concentrations of CoPC were below the laboratory LOR with the exception of copper which was marginally above the LOR on the 23 and 24 August 2022. As no copper exceedances were observed in soils this is not expected to impact on the quality of the data.

4.1.7 Trip Blanks and Trip Spikes

Trip blank and trip spike samples were prepared by the laboratory and stored and transported by the AECOM field team with the primary samples, to assess for the potential loss of volatiles and cross contamination during sample storage and transport.

Analysis results for the trip blank and trip spikes are in **Table T12 and Table T14, Appendix C.** The results of the trip blanks were less than LOR and all trip spikes were within required recovery limits with the exception of the following:

- QC600_221123 (water) – Ethylbenzene (70%), m&p-Xylene (70%), and o-Xylene (75%).

4.2 Laboratory QA/QC

4.2.1 Laboratories

Samples were submitted to the following laboratories:

- **ALS Environmental** in Smithfield, NSW (Primary laboratory for water, secondary laboratory for soil):

ALS' NATA accreditation number is 825 and its analytical procedures are based on established internationally-recognised procedures.

- **Eurofins** in Sydney, NSW (Secondary laboratory for water, primary laboratory for soil):

ALS' NATA accreditation number is 1261 and its analytical procedures are based on established internationally-recognised procedures.

4.2.2 Analytical Methods

The laboratory analytical methods are provided on the laboratory certificates in **Appendix D**. The laboratory LORs were below the adopted assessment criteria.

4.2.3 Laboratory (Method) Blanks

Laboratory or control blanks consist of reagents specific to each individual analytical method and are prepared and analysed by laboratories in the same manner as regular samples. The preparation and analysis of laboratory blanks enables the measurement of contamination within the laboratory (i.e. within glassware, reagents, instruments etc.).

Laboratory blanks are typically analysed at a frequency of 1 in 20, with a minimum of one analysed per batch. Review of the laboratory reports indicated that the frequency of laboratory blanks met the required frequency and that the results for all method blanks were below the laboratory LOR and met the DQI. Analysis results for the laboratory blanks are presented in laboratory certificates in **Appendix D.**

4.2.4 Laboratory Duplicates

Laboratory duplicate samples are prepared in the laboratory by splitting a field sample and analysing it as two independent samples. The analysis of laboratory duplicate samples provides an indication of analytical precision and may be influenced by sample heterogeneity. The laboratory duplicate RPDs are used to assess laboratory precision.

Acceptable limits for RPDs are shown in **Table 3** below.

Table 3 Acceptable limits for Laboratory Duplicate RPDs

Result	Acceptable Limit
< 10 times the LOR	No Limit
Between 10 and 20 times the LOR	0%-50%
> 20 times LOR	0%-20%

Laboratory duplicates are analysed at a frequency of 1 in 20, with a minimum of one analysed per batch, when the batch size exceeds five samples. A review of the laboratory reports indicated that the frequency of duplicate analyses met the required frequency with the exception of PAHs/Phenols, Pesticides, PCBs, SVOCs and TRH (semi volatile fraction) in water in ES2230964 and one laboratory duplicate exceedance in ES2229963 – Zinc (132%) on anonymous sample. As all other duplicates were within the required RPDs it is concluded that the data is sufficient for its purpose. Analysis results for the laboratory duplicates are presented in laboratory certificates in **Appendix D.**

4.2.5 Laboratory Control Samples

Laboratory control samples (LCS) are prepared within the laboratory by spiking an aliquot of an appropriate clean matrix reagent with known concentrations of specific analytes. The LCS is then analysed and the results are used to assess the laboratory performance on sample preparation and analysis procedure (i.e. method accuracy). Accuracy is assessed by calculation of percent recovery (PR), given by:

$$PR = \frac{c-a}{b} \times 100$$

Where: a=concentration of the unspiked sample aliquot

b=nominal (theoretical) concentration increase resulting from the spike

c=measured concentration of the spiked aliquot sample

LCS are typically analysed at a frequency of 1 in 20, with a minimum of one analysed per analytical batch. Review of the laboratory reports indicated that the frequency of LCS was acceptable and that LCS PRs met the DQI (see laboratory certificates in **Appendix D**) with the exception of:

- ES2229963 - Total Phosphorus as the recovery of 109% was greater than the upper control limit of 108%.
- ES2230964 – Pentachloronitrobenzene (soil) as the recovery of 112% was greater than the upper control limit of 110%.
- ES2230964 – 4-Bromophel phenyl ether (soil) as the recovery of 111% was greater than the upper control limit of 110%.
- ES2230964 – Pentachlorophenol (water) as the recovery of 105% was greater than the upper control limit of 95%.

- ES2230964 – 2-Picoline (water) as the recovery of 35.8% was below the lower control limit of 41.0%.
- ES2230964 – 4-Nitroquinoline-N-oxide (water) as the recovery of 117% was greater than the upper control limit of 96%.
- ES2230964 – 1,3,5-trinitrobenzene (water) as the recovery of 117% was greater than the upper control limit of 108%.
- ES2230964 – Bis(2-chloroethyl) ether (water) as the recovery of 64.5% below the control limit of 69.1%.

As these LCS are marginally above or below the upper control limits and returned concentrations of <LOR the data is considered to be acceptably accurate.

4.2.6 Matrix Spikes

A matrix is the component or substrate (e.g. water or soil) that contains the analyte (contaminant) of interest. A matrix spike is an aliquot of sample spiked with a known concentration of target analyte. A matrix spike documents the effect (bias) of matrix on method performance.

The sample is analysed and the amount of spike recovered is measured to assess the effects of the sample matrix on the accuracy and precision of the analytes. Accuracy is assessed by the calculation of the PR.

MS are typically analysed at a frequency of 1 in 20, with a minimum of one analysed per analytical batch. Review of the laboratory reports indicated that the frequency of matrix spikes met the required frequency (see laboratory certificates in **Appendix D**), with the exception of the following:

- ES2229963: PFBS, PFPeS, PFHxS. PFHpS, PFOS, PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFNA, FOSA and 8:2FtS could not be determined as the background levels were greater than or equal to 4x the spike level. As all these analytes were not completed on AECOM samples (anonymous samples), it is not considered reflective of the matrix of the AECOM samples and therefore it is not expected to impact on data quality.
- ES2230964: Picloran and Clopyralid (soil) as the recoveries of 34% and 37.7%, respectively, were below the required lower data quality limit. It is noted that this is only marginal and concentrations of these CoPC were below the LOR therefore, it is not expected to impact on the data quality.
- ES2230964: Picloran and Clopyralid (water) as the recoveries of 50.2% and 34.7%, respectively, were below the required lower data quality limit. As all these analytes were not completed on AECOM samples (anonymous samples), it is not considered reflective of the matrix of the AECOM samples and therefore it is not expected to impact on data quality.
- ES2230964: PFHxS, PFOS, PFNA, PFUnDA and PFTrDA could not be determined on spiked sample HA05_0.1_0.2_220824 as the background level was greater than or equal to 4x spike level. This is not expected to impact on the data quality as all other MS recoveries met the required limit.

The data is considered to be acceptably accurate.

4.2.7 Surrogates

Surrogates are compounds which are similar to the organic analytes of interest in chemical composition, extraction, and chromatographic behaviour, but which are not normally found in field samples. Surrogates are generally spiked into all sample aliquots prior to preparation and analysis by chromatographic methods. Surrogates are used to check that no gross errors have occurred at any stage of the procedure and which may cause significant analyte losses.

PRs are calculated for each surrogate, providing an indication of analytical accuracy. US EPA methodology (SW846) requires that surrogate testing be performed whenever analysing by Gas Chromatography or HPLC (i.e. for organics).

Review of the laboratory reports indicated that the PRs for surrogates met the DQI (see laboratory certificates in **Appendix F**) with the exception of:

- ES2230964: 2-Fluorobiphenyl in soils as the recovery of 123% was greater than the upper data quality objective.
- ES2230964: Dibromo-DDE in water as the recovery of 63.2% was below the lower data quality objective.

As these are only marginally above and below the required limits the data is considered to be acceptably accurate.

4.2.8 Sample Receipt Temperatures

Review of laboratory reports indicated that samples were received preserved and chilled within the recommended range (<6°C) (see laboratory certificates in **Appendix D**).

4.2.9 Sample Containers and Preservation

Review of the laboratory reports indicated that samples were received preserved in appropriate sample containers with the exception of PFAS in SW01, SW02, QC300 – QC303 which was extracted from amber glass bottle. PFAS bottles were submitted to the Newcastle ALS laboratory, however were noted to be misplaced in transit to the Sydney laboratory.

4.2.10 Holding Times

The ASC NEPM, APHA 20th Edition and AS2031.1-1986 provide recommended technical holding times (THT) for various analyses in samples which must be met in order to consider the results valid. The holding times may vary slightly depending on the document referenced.

Review of the laboratory documentation indicated that the THT have been met for all analyses (see laboratory certificates in **Appendix E**) with the exception of the following:

- ES2230767: MAHs, Oxygenated Compounds, Sulfonated compounds, Fumigants, Halogenated Aliphatic Compounds, Halogenated Aromatic compounds and Trihalomethanes in soils.
- ES2230964: MAHs, Oxygenated Compounds, Sulfonated compounds, Fumigants, Halogenated Aliphatic Compounds, Halogenated Aromatic compounds, Trihalomethanes and Herbicides in soils. PCBs, OCPs, OPPs, Oxygenated Compounds, Sulfonated compounds, Fumigants, Halogenated Aliphatic Compounds, Halogenated Aromatic compounds, Trihalomethanes, phenols, PAHs, Phthalate Esters, Nitrosamines, Nitroaromatics and Ketones, Haloethers, Chlorinated Hydrocarbons, Anilines and Benzidines, TPH/TRH and Herbicides in water.

Samples were submitted to the laboratory within the required holding time, however sample extraction and analysis was completed out of holding time, subsequent investigations to holding time breaches are being conducted by the laboratory.

5.0 Data Validation

The overall assessment of the quality of the data with respect to the DQIs is summarised in **Table 4**.

Table 4 Data Validation

DQI	Description	Compliance
S	**Sensitivity** is the field and laboratory methods sensitive enough to quantify the parameters of concern.	Sensitivity is the assessment of whether the field and/or laboratory methods are sensitive enough to observe or quantify the parameters of concern. The sampling was conducted by AECOM personnel in accordance with the documented SOP's. Samples were analysed by NATA accredited laboratories with approved methods.
P	**Precision** is a quantitative measure of the variability (or reproducibility) of data.	All work was conducted in accordance with AECOM's SOPs. Precision or variability of the data was assessed by determining RPDs between the original and duplicate samples analysed. Based on the results discussed, AECOM considers that the data is acceptably precise.

A	**Accuracy** is a quantitative measure of the closeness of reported data to the true value.	All work was conducted in accordance with AECOM's SOPs. Accuracy of the data was mainly assessed through review of the laboratory QA/QC results. Based on the results discussed, AECOM considers the data is acceptably accurate.
R	**Representativeness** is the confidence (expressed qualitatively) that data are representative of each media present on the site.	Representativeness expresses the degree to which sample data accurately and precisely represent a characteristic of parameter variations at sampling points or environmental conditions. Based on the sampling and analytical regime undertaken, the results obtained are considered to be representative of the conditions at the locations tested.
C	**Comparability** is the confidence (expressed qualitatively) that data may be considered to be equivalent for each sampling and analytical event.	Comparability expresses the confidence with which one data set can be compared with another. In order to assess comparability, field sampling procedures, laboratory sample preparation procedures, analytical procedures, and reporting units must be known and similar to established protocols, as was the case during this project. Qualitatively, data subjected to strict QA/QC procedures will be deemed more reliable and therefore more comparable, than other data. The sampling was conducted by AECOM personnel in accordance with documented SOPs. Each analyte was analysed by the same analytical laboratory using identical methods and laboratory LORs were consistent over each laboratory batch. Additionally, a check laboratory was used to assess variability. Based on the above, the data obtained is considered to be suitably comparable.
C	**Completeness** is a measure of the amount of usable data (expressed as %) from a data collection activity.	The completeness of data is defined as the percentage of analytical results that are considered valid. Valid chemical data are values that have been identified as acceptable or acceptable as qualified during the data validation process. The completeness is a comparison of the total number of samples accepted against the total number of samples, calculated as a percentage. The project goal for completeness is 95%. Completeness also includes checking that all entries in the data tables are correct, properly entered, and that any typographical errors are corrected, and the data are re-entered properly, as required. All samples collected and analysed complied with the DQOs and DQIs except where discussed and are considered to be reliable. As such the data obtained is considered to be sufficiently quantitative and complete for the purposes of this project (i.e. >95%).

Based on an assessment of field and laboratory QA/QC data, the reported analytical results are considered, by achievement of the DQIs, to be reliable and representative of concentrations of the contaminants of concern (CoPC) analysed at the locations sampled.