APPENDIX C

Construction Environmental Management Plan

3 Wellington Place, Majura Office Park, Canberra Airport

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AUTHORISATION FOR ISSUE

When signed, this Construction Environmental Management Plan Revision 1

is approved and authorised for issue by Canberra Airport and Construction Control

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Revision	Details	Date Issued	Developed By	Authorised By
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Distribution Register

Copy Number	Document Recipient		Issue Date	Revision Status
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1 The Project – 3 Wellington Place, Majura Office Park

1.1 Project Description and Site Location

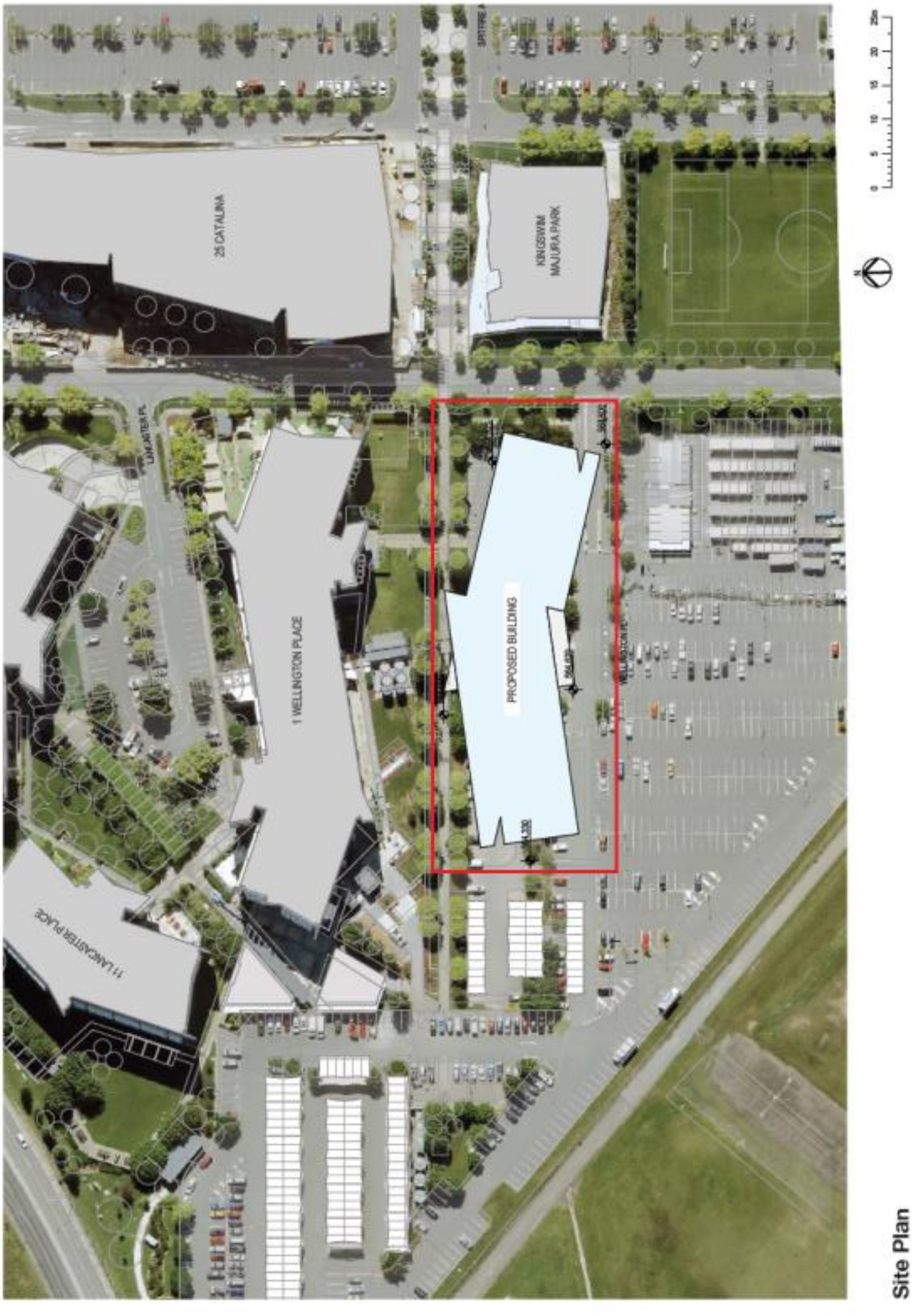
The project is for the construction of an multi storey office building without a basement level of up to 16,500m² NLA situated at 3 Wellington Place, Majura Park (the Site). The proposed development is consistent with the Canberra Airport 2020 Master Plan in particular the Majura Park Precinct development expectations. The proposed building will be all electric and designed to WELL and Green Star principles.

The proposed building has been designed and will be constructed to meet Australian Government building standards and performance levels, high levels of environmental design and sustainability. The proposed building design and siting addresses the requirements of ASA and CASA. The site has an area of approximately 8,500m². The approximate construction area within the Majura Park is shown on **Figure 1.**

This proposal is situated within Majura Park on Canberra Airport. Majura Park is a mixed-use precinct within the Airport Aerotropolis made up of retail and office tenants, together with supporting amenities and landscaped public spaces.

The site is currently occupied by an on-grade bitumen carpark with associated landscape and pedestrian areas. The existing road reserve of Wellington Place will be realigned south as part of the works to facilitate the construction of the building.

Figure 1: The Site – 3 Wellington Place and Proposed building footprint.



1.2 Site Fencing

The site will be made secure by the installation of a security fence.

1.2 Entry and Exit Points

Vehicular entry and exit points and personnel gates will subject to the future design considerations of consultants.

A Traffic Management Plan (TMP) will be implemented during construction and is shown in Attachment B in this CEMP.

The details of the TMP include a detour for vehicles travelling south on Catalina Drive and directs traffic along the existing carpark adjacent to the Airside fence and the detour ends before the exit to Majura Road. The existing boom gates south of Catalina Drive will be open to assist the TMP and construction works.

1.2 Site Compound and Worker Amenities

The site compound will be subject to future design and site establishment consideration by consultants and contractors.

At a minimum the following amenities will be included:

- 1 x Site Office, including toilets and kitchen;
- Lunchrooms;
- Toilet Block;
- First Aid Room; and
- Temporary potable water supply to the building site for worker amenity.

2 Introduction

2.1 Management Goals and Objectives

This Construction Environmental Management Plan (CEMP) is designed to assist in the delivery of the environmental management principles described in Canberra Airport's Environment Policy by identifying the potential environmental risks that are posed by Canberra Airport operations and describing the measures that will be taken to eliminate or mitigate those risks.

The implementation of this CEMP will also assist in meeting the actions outlined in the Airport Environment Strategy and Environmental Management System (EMS).

2.2 Purpose of the Construction Environmental Management Plan (CEMP)

The purpose of this CEMP is to describe:

- The minimum environmental management requirements to be implemented to meet Canberra Airport's management goals and commitments;
- The roles and responsibilities of Canberra Airport personnel in implementing this CEMP;
- Environmental monitoring and reporting requirements;
- Environmental incident response procedures; and
- Procedures for reporting and responding to CEMP non-conformances and incidents as well as corrective and preventative actions.

2.3 Scope

This CEMP outlines the minimum environmental management requirements that must be met during all operational and construction activities within the boundaries of Canberra Airport controlled land.

This CEMP provides guidance to identify and describe the management of environmental risks associated with a project that involves one or more of the following activities:

- Development on or near an Environmentally Significant Area;
- Works in known or potentially contaminated areas;
- Discharges to air (odor, dust, combustion emissions);
- Discharges to land, surface water (including stormwater) or groundwater;
- Development, construction or demolition;
- Importation of fill material onto the Airport;
- Clearing of land;
- Use or storage of hazardous materials; and
- Activities within 200m of a waterway.

This CEMP applies to all Canberra Airport Departments and applies to operations carried out by, and on behalf of Canberra Airport. It also provides guidance regarding Canberra Airport's expectations of environmental management for third parties.

The CEMP includes several general environmental management expectations relating to waste, air and noise management which apply to all activities undertaken across the airport (Section 7). In addition, Canberra Airport's emergency response and complaints handling procedures apply in all instances, and to all activities and areas of operation across Canberra Airport. These procedures are outlined in Section 5.

Environmental management measures relate m to the activities associated with construction and demolition work, repair and maintenance work, storage and handling and use of chemicals and fuel, and vegetation and estate management are outlined in Section 5.6.

2.4 Exclusions

Whilst not specifically subject to this CEMP, the following parties and activities should consider the requirements of this CEMP when developing environmental control measures:

- Canberra Airport contractor EMPs;
- Tenant Operational Environmental Management Plans (OEMPs) required under Canberra Airport lease agreements;
- 'Major Projects' that require project specific management plans; and
- Third party contractor EMPs.

The Following activities are not included in the CEMP scope:

- Major emergency response or preparedness activities.

2.5 Legal and Other Requirements

Canberra Airport has developed this CEMP to support the exposure Draft of the Major Development Plan for 3 Wellington Place approval process. Canberra Airport will therefore consult with DCCEEW to finalise this CEMP and the exposure Draft of the Major Development Plan.

Canberra Airport has developed this CEMP to ensure that all project works comply with relevant legislation, Australian Standards and Canberra Airport policies and procedures.

The *Airports (Environmental Protection) Regulations 1997* require that all operators (including contractors) at the Airport take all reasonable and practicable measures to prevent pollution or, if not reasonable or practicable, to minimise the generation of pollution.

The current Canberra Airport Environment Strategy, required under the *Airports Act 1996*, sets out the environmental management objectives of the Airport. It identifies areas which are environmentally significant, as well as measures to prevent, control or reduce environmental impact.

The Strategy was developed in the context of an Environmental' Management System (EMS) consistent with the International Standard ISO 14001. This CEMP is consistent with the Environment Strategy.

Together with the Airport's Standard Operating Procedures (SOP) 4 – Hazardous Materials Incident (Appendix 1) and Unexpected Finds Protocol (Appendix 2), this CEMP and relevant attachments provides information to the Contractor to guide their activities and to ensure that the performance of the works under contract are managed to prevent pollution and minimise any adverse impacts on the environment. This will be achieved by identifying and reducing the risks and promoting the environmental awareness of everyone involved in a project.

The following legal and other requirements have been considered:

- *Airports Act 1996*;
- *Airports (Environmental Protection) Regulations 1997*;
- *The Environment Protection and Biodiversity Conservation Act 1999*;
- Airport Environment Strategy (Appendix 1 of Canberra Airport current Master Plan); https://www.canberraairport.com.au/wp-content/uploads/2020/03/CAG-APPROVED-2020-Master-Plan-Environment-Strategy.pdf
- Canberra Airport Work, Health and Safety Guideline for PFAS (October 2020) – Appendix 4 of this CEMP;
- Canberra Airport Environmental Management System (EMS) in compliance with AS/NZS ISO14001:2016 Environmental Management Systems – Requirements with guidance for use;

  https://www.canberraairport.com.au/wp-content/uploads/2021/10/Environmental-Management-System_2021_Final.pdf
- National Environment Protection (Assessment of Site Contamination) Measure 1999 (ASC NEPM);
- PFAS National Environmental Management Plan (NEMP) 2.0 of 2020 (as amended from time-to-time), including its guideline values,;
- National Water Quality Management Strategy (NWQMS), including the Australian and New Zealand Guidelines for Fresh and Marine Water Quality (2000), revised 2018;
- National Strategic Plan for Asbestos Awareness and Management, November 2019.

This list is not exhaustive and may be amended as required.

2.6 Canberra Airport Master Plan and Airport Environment Strategy (AES)

This CEMP is consistent with the current approved Canberra Airport Master Plan and Airport Environment Strategy (AES) which is incorporated in the Master Plan.

https://www.canberraairport.com.au/2020-master-plan/

The AES, required under the *Airports Act 1996*, sets out the environmental management objectives of Canberra Airport. It identifies areas which are environmentally significant, as well as measures to prevent, control or reduce environmental impact.

The AES provides a framework for the environmental management of the Airport and was developed in the context of an Environmental Management System (EMS) consistent with the International Standard ISO 14001.

2.7 Roles and Responsibilities

2.7.1 Department Managers

Canberra Airport Department Managers have overall responsibility for:

- Ensuring compliance with applicable environmental legislative requirements;
- Ensuring personnel and contractors within their Departments are aware of, and understand the CEMP requirements relevant to their area/scope of work;
- Ensuring the necessary resources and processes are in place for implementation of required environmental management measures; and
- Providing feedback in the regular review of this CEMP.

2.7.2 Project Managers

Canberra Airport Project Managers are required to:

- Communicate with personnel and contractors regarding site specific environmental issues and compliance with the CEMP in consultation with the Planning and Government Relations Team;
- Ensure that sufficient information about environmental risk is provided to relevant personnel;
- Co-ordinate the implementation of environmental management measures during work;
- Undertake site inspections on a regular basis in company with a member of the Planning and Government Relations Team to monitor the implementation and effectiveness of environmental management measures;
- Ensure non-conformances are identified, recorded and reported; and
- Communicate incidents to the Planning and Government Relations Team.

2.7.3 All Personnel

All Canberra Airport personnel are required to:

- Undertake activities consistent with this CEMP;
- Communicate incidents to the Planning and Government Relations Team; and
- Ensure that they attend the provided environmental training relevant to their role and responsibilities.

2.7.4 Director of Planning and Government Relations

The Director of Planning and Government Relations is required to:

- Co-ordinate the development and regular review of this CEMP;
- Support the Planning and Government Relations Team to carry out site inspections on a regular basis to monitor the implementation and effectiveness of this CEMP; and
- Co-ordinate feedback from Department Managers in the review of this CEMP.

2.7.5 Planning and Government Relations Team

The Planning and Government Relations Team is required to:

- Assist Canberra Airport Department Managers and Project Managers in the induction and training of relevant personnel involved in implementing this CEMP;
- Review and endorse operation or activity specific CEMPs;
- Contribute to regular reviews of this CEMP;
- Carry out inspections on a regular basis to monitor the implementation and effectiveness of this CEMP; and
- Report and respond to incidents and facilitate the implementation of corrective actions.

2.8 Project Contacts

Table 1 is to be completed to include details (name, contact numbers and email address) of the relevant project contacts.

Table 1: CEMP Contact List

	Name, Mobile, Email
Canberra Airport Planning and Government Relations Team	**Andrew Connor** **Planning and Environment Manager** **M: 0428 171 487** **E: A.Connor@canberraairport.com.au** **Michael Lee** **Planning and Environment Officer** **M: 02 6175 3306** **E: m.lee@canberraairport.com.au** **Susan Mulligan** **Executive Assistant** **P: 02 6275 2294** **E: s.mulligan@canberraairport.com.au**
Canberra Airport Project Manager	**Craig Pearsall** **Senior Project Manager** **P: 02 6275 2203** E: **c.pearsall@canberraairport.com.au**
Contractor Project Manager	**Daniel Herc** **Project Manger** **P: 02 6257 4775** **E: D.Herc@ccontrol.com.au**
Site Supervisor	TBC
Principal Contractor (if relevant)	TBC
List of sub-contractors (if relevant)	TBC

Principal Contractor’s representative available 24/7 (if relevant)	TBC

2.9 Environmentally Significant and Sensitive Areas

This project does not affect environmentally significant or sensitive areas.

Canberra Airport has identified an environmentally significant area (**Figure 2**), which is set out in the Threatened Species Management Plan (TSMP - as a condition of the EPBC Act referral 2009/4748) and was subsequently approved by the Australian Government Department of Agriculture, Water and the Environment (DAWE). This referral was varied with DAWE approval in 2019 and most recently in May 2020. These variations and the TSMP are available on the Airport's website. This identified area complies with the *Airports Act 1996* and the *Airports (Environment Protection) Regulations 1997* and includes an area north of the Runway 17/35 undershoot road containing Natural Temperate Grassland (NTG) and listed threatened species, such as the Grassland Earless Dragon (GED) and Golden Sun Moth (GSM).

Canberra Airport has identified environmental sensitive areas on Airport. This includes a potential Indigenous heritage site in the south-east corner of the Glenora Precinct (Scherger Drive) of the Airport (as discussed in Section 7.10 of this CEMP).

The second area is the balance of the NTG and potential habitat for listed threatened species on Airport, however this development will not affect any habitats for listed threatened species. These grasslands and potential habitat are managed in accordance with the Threatened Species Management Plan (TSMP).

The third area relates to the European heritage areas of Fairbairn. These heritage values are managed in response to the Fairbairn Heritage Management Plan (FHMP).

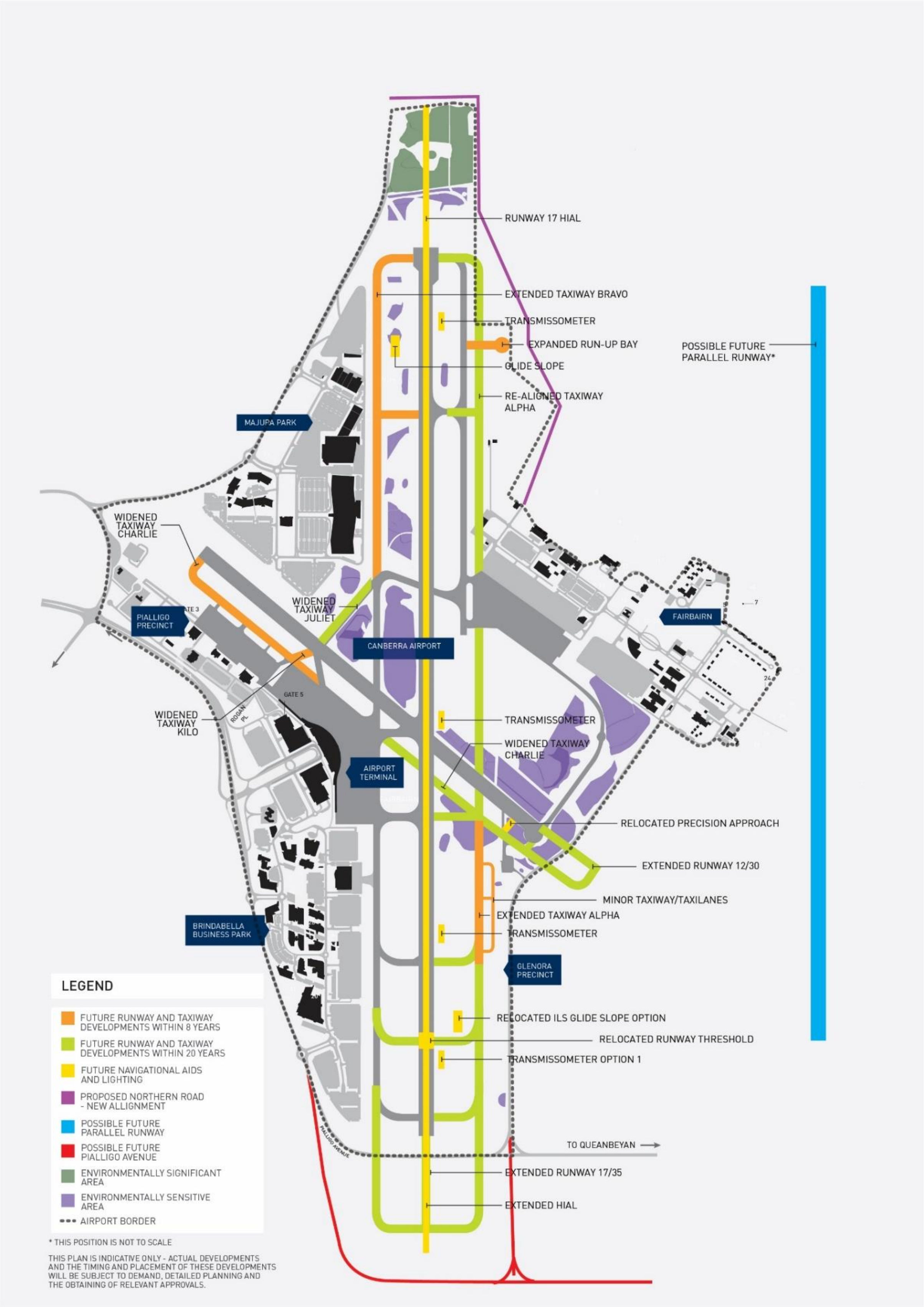
Both these environmentally significant and sensitive areas are included in the Canberra Airport 2020 Master Plan at Appendix 1 Airport Environment Strategy which was approved by the Minister in February 2020.

https://www.canberraairport.com.au/wp-content/uploads/2018/06/FHMP-Part-1.pdf
https://www.canberraairport.com.au/wp-content/uploads/2018/06/FHMP-Part-2.pdf

https://www.canberraairport.com.au/wp-content/uploads/2020/03/CAG-APPROVED-2020-Master-Plan-Environment-Strategy.pdf

Appendix 2: Unexpected Finds Protocol of this CEMP will be activated if required.

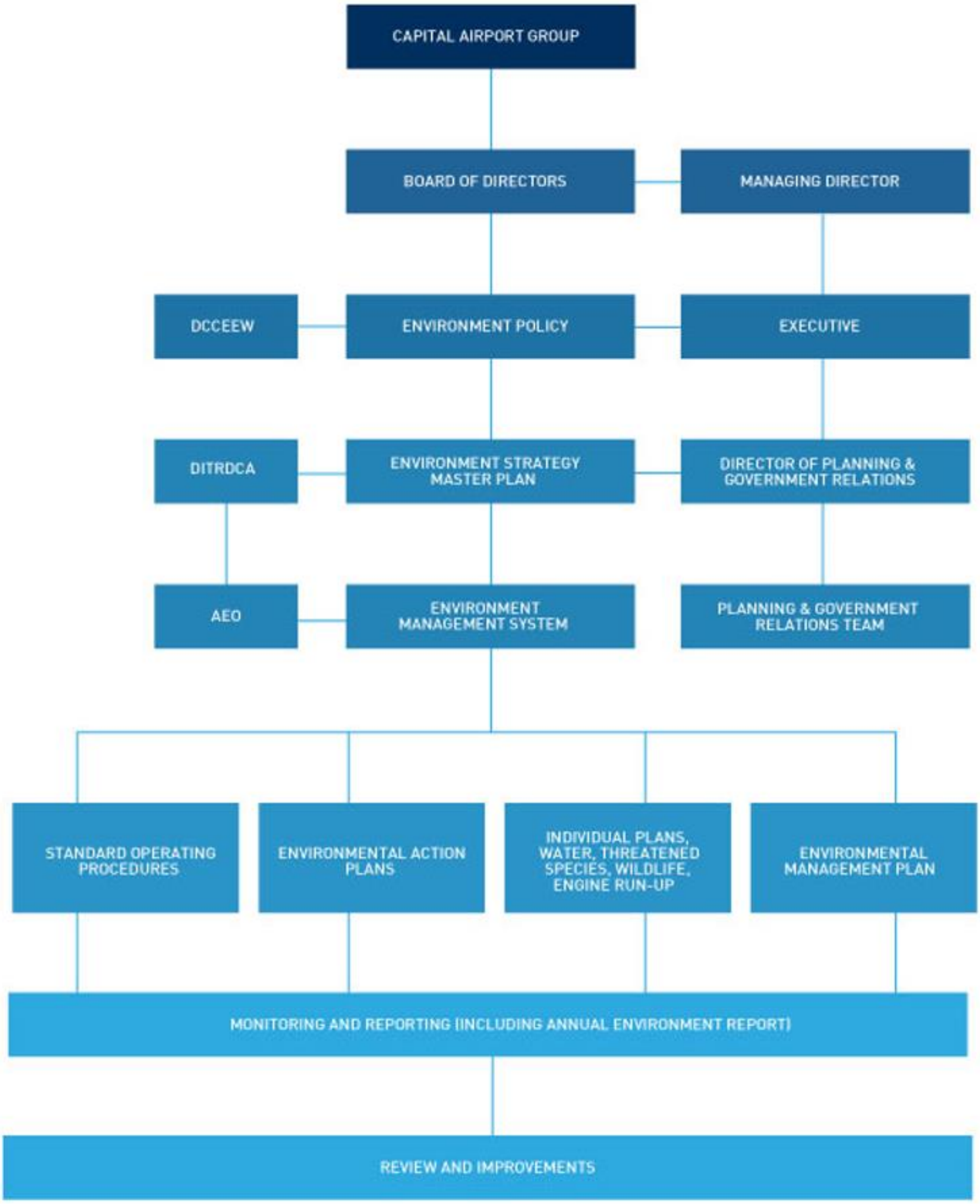
Figure 2: Environmentally Significant and Sensitive Areas



3 Environment Management Framework

The environment management framework at Canberra Airport is based on a system of continuous learning and improvement. Individual components of the environment management framework are updated as required to ensure consistency with *Regulations* and evolving best practice standards.

Figure 3: Environment Management Framework



3.1 Airport Environment Policy

The Canberra Airport Board has established and continues to endorse the following Airport Environment Policy:

- Leadership and promotion of the commitment to sustainable environmental management to all stakeholders including employees, tenants, adjacent landholders, and the community at large;
- Compliance with relevant environmental legislation;
- Continual improvement of environmental management, consequences, and activities;
- Identification, prevention, control, and minimisation of environmental performance impacts associated with Airport operations;
- Integration of environmental issues with Airport operating procedures;
- Measurement, monitoring, reporting, and improvement of environmental issues arising from Airport operations;
- Sustainable management of resources;
- Appropriate management of matters of natural, Indigenous, and heritage values;
- Contribution to research on NTG and associated endangered species;
- Broad consultation with the community, government agencies, and other major stakeholders; and
- If pollution is discovered in soil or water across the airport site, the Airport will aim to remediate the pollution to acceptable regulatory limits.

3.2 Environmental Management System (EMS)

The Canberra Airport EMS, which was established in accordance with Australian/New Zealand Standard AS/NZS ISO14001: 2016 *Environmental Management Systems - Requirements with guidance for use*, is the Airport's means to ensure all future development and operations are carried out according to industry best practice through a system of continual improvement.

https://www.canberraairport.com.au/wp-content/uploads/2021/10/Environmental-Management-System_2021_Final.pdf

It provides staff and external contractors with detailed guidance in relation to environmental systems and procedures at Canberra Airport. The EMS is more than a single document; it provides an overarching framework for managing environmental impacts at the Airport, environmental procedures, risk assessment, incident and hazard reporting, staff and contractor training, and the general day-to-day responsibilities of staff. The EMS is the basis for a culture of ecologically sustainable working practices amongst Canberra Airport staff, tenants and contractors.

Figure 4 shows the cycle of continuous improvement embodied in the EMS. This continuous cycle of planning, implementation, checking, and review allows the EMS to respond to the changing situation at Canberra Airport and ensures the policies and procedures outlined in the EMS remain as effective and efficient as possible.

Figure 4: Environment continuous improvement

Canberra Airport has a number of environmental management plans including the Fairbairn Heritage Management Plan, the Water Management Plan, the Threatened Species Management Plan and the Re-New Management Plan and each of these are discussed in Chapter 3 of the Environment Strategy. These plans are available on the Canberra Airport website via the following links:

https://www.canberraairport.com.au/wp-content/uploads/2021/07/Canberra-Airport-2021-Water-Management-Plan_FINAL.pdf

https://www.canberraairport.com.au/wp-content/uploads/2018/06/Threatened-species-web.pdf

https://www.canberraairport.com.au/wp-content/uploads/2018/06/Re-New-Management-Plan.pdf

https://www.canberraairport.com.au/wp-content/uploads/2020/03/CAG-APPROVED-2020-Master-Plan-Environment-Strategy.pdf

3.3 Environmental Objectives

The Airport's environmental objectives derive from the Airport Environment Policy and provide the basis for its environmental management. These are discussed in Chapter 2 of the Environment Strategy.

The objectives are to:

- Maintain a systematic approach to environmental management, consistent with evolving best practice and international standards, and promoting continuous improvement.

Manage environmental impacts associated with:

- Natural or heritage values;
- Biota or habitat (particularly for threatened listed species and ecological communities);
- Air quality, including emission of ozone depleting substances and greenhouse gases;
- Surface and groundwater quality;
- Soil quality;
- Sites of significance to Indigenous people;
- Natural resources;
- Noise;
- Manage solid, liquid, and gaseous wastes; and
- Encourage and address local community and Airport user contributions.

Review and continuously improve environmental management by:

- Adopting environmental best practice;
- Sustainable resource use including waste minimisation and emission reduction;
- Monitoring and responding to changing Australian legislation and practices;
- Conforming with relevant Australian and international standards;
- Conservation of natural, Indigenous, or heritage values; and
- Dissemination of strategy information to sub-lessees, Airport users, major stakeholders, and the local community.

Progress towards achieving the above objectives is constantly under review and reported annually to the Department of Infrastructure, Transport, Regional Development and Communications.

https://www.canberraairport.com.au/wp-content/uploads/2018/06/CAG_Airport_Environmental_Policy.pdf

4 Training, Awareness and Competency

4.1 Contractor

All personnel will be inducted into the Contractor’s Quality, Safety and Environmental Systems.

Where applicable, the Contractor is to ensure that all personnel and sub-contractors working on a project have completed:

- ACT General Construction Induction (White Card)
- Asbestos Awareness Training
- Silica Awareness Training

4.2 Canberra Airport Rapid Global Online Induction

All personnel working on a project shall complete the Canberra Airport Rapid Global online induction.

The Contractor will be responsible for all sub-contractors and other personnel working on a project being aware of the Canberra Airport Rapid Global policies and procedures, including this CEMP.

4.3 Site Induction

A Site Induction of personnel working on a project, facilitated by the Contractor, in consultation with the Canberra Airport Project Manager, will be required and the Contractor shall keep a record of all site inductions.

If a project involves the disturbance of soil, the Site Induction will include PFAS awareness through reference to **Appendix 4: Canberra Airport Work, Health and Safety Guideline for PFAS.**

Refer **Section 6** Per- and Poly-fluoroalkyl Substances, or ‘PFAS’.

5 Environmental Management Processes and Responsibilities

5.1 Project Works

The Contractor will be responsible for the project works and any associated infrastructure identified.

The Contractor, in accepting this responsibility, must:

- comply with this CEMP;
- obtain all licenses and approvals under relevant legislation (except for approvals under the *EPBC Act* or *the Regulations*) in consultation with Canberra Airport;
- have regard to local procedures and best practices, regardless of whether they directly apply at the Airport; and
- submit any relevant Management Plans, to Canberra Airport and the appropriate authorities **(refer Attachments A-I).**

5.1.1 Compliance Bonds

Contractual agreements with contractors and sub-contractors may contain specific compliance bond requirements and assert consequences for responsible parties in the event of non-compliance.

5.2 Approvals and Conditions

The Contractor will submit relevant Management Plans **(refer Attachments A-I**) to the Airport for review and endorsement. The Plans, consent conditions and the CEMP must be strictly adhered to during the project works.

5.3 Reporting Requirements

5.3.1 CEMP

A dedicated project file will be established by the Contractor for the purposes of retaining all documentation of relevance to the environmental management of a project.

During the project works the Contractor will:

- undertake ongoing inspections of the works to identify any non-compliances with the provisions of this CEMP;
- complete the environmental checklists (**Appendix 5**) at a frequency agreed with the Airport; and
- provide a written report to the Airport detailing the Contractor’s compliance with this CEMP.

The Contractor will immediately inform the Airport of a non-compliance and take responsibility for all remedial action necessary to resolve the non-compliance. The Airport may impose a restriction on the project works until such time it is satisfied that all appropriate remedial action has been implemented.

5.3.2 Environmental Incident Reporting

An Environmental Incident is described as that which has the potential to cause an adverse environmental impact.

All environmental incidents, near misses or hazards must be reported to the Planning and Government Relations Team.

Canberra Airport requires an Environment Incident to be immediately reported consistent with SOP 4 (Appendix 2), remedied and an Incident Report Form (Appendix 1) is to be completed and submitted as soon as practicable following an incident clean-up.

Any spill exceeding a volume of 5 litres, or spills that enter a waterway/stormwater drain, must be reported immediately to the Canberra Airport Planning and Government Relations Team.

5.4 Reporting requirements under the Environment Protection and Biodiversity Conservation Act

Canberra Airport has two EPBC Act Referrals:

- EPBC 2008/4170 – The proposal includes the construction of the Taxiway Bravo extension with high-speed taxiway exit and widening of Turning Node Alpha. Other associated works include stormwater changes and realigned airside road and fence. The approval has effect for listed threatened species and communities and Commonwealth land. This project is now complete.
- EPBC 2009/4748 – The proposal is to upgrade and construct aviation and airfield-based development and supporting airport infrastructure. The approval has effect for listed threatened species and communities and Commonwealth land.

  EPBC2009/4748 was varied and approved on the 29 May 2020 to vary condition 5, Annexure 1, Annexure 2 and a new definition was added to reflect the updated alignment of the Northern Road.

The Canberra Airport Project Manager, in consultation with the Planning and Government Relations Team, will determine whether the project works will impact any environmentally significant or sensitive areas on Canberra Airport.

5.5 Complaints procedure

The Contractor must immediately report to Canberra Airport any complaints received, actions taken in response and complete an Incident Report Form (Appendix 1).

5.6 Environmental Emergency Response Procedures

An environmental emergency is an unplanned event, such as an oil or chemical spill that occurs on site which has the potential to cause a significant adverse environmental impact.

Significant Impact: A ‘significant impact’ is an impact which is important, notable, or of consequence, having regard to its context or intensity. Whether or not an action is likely to have a significant impact depends upon the sensitivity, value, and quality of the environment which is impacted, and upon the intensity, duration, magnitude, and geographic extent of the impacts. You should consider all these factors when determining whether an action is likely to have a significant impact on the environment.

Source: Department of the Environment website - Actions on, or impacting upon, Commonwealth land, and actions by Commonwealth agencies Significant impact guidelines 1.2 Environment Protection and Biodiversity Conservation Act 1999.

The following outlines the general response to an environmental emergency:

1. Site Foreman – Institute a ‘stop-work’, ensure site safety, move people away from the immediate area.

2. Site Foreman – Take practicable steps to contain the hazard and prevent it from spreading. Ensure that the Contractor’s Works Site Manager is notified.

3. Works Site Manager – Notify Canberra Airport Project Manager and relevant authority. Liaise with relevant authority in clean-up and remediation of site.
4. Site Foreman – Alert traffic to any hazard using temporary lights, warning signs etc.

5. Canberra Airport Representative – Canberra Airport Project Manager to be notified and will activate Canberra Airport SOP 4 – Hazardous Materials Incident (Appendix 2) which includes notifying the Canberra Airport Environment Officer (AEO). Ensure Contractor undertakes clean-up in accordance with all statutory requirements.

6. Site Foreman to complete an Incident Report Form (Appendix 1).

5.6.1 Pollution of a Waterway

This section outlines measures to be implemented in the event of a spill of fuel, oil or chemical into a waterway, or the uncontrolled release of dirty water from a water quality-controlled structure or bunded area.

If possible, the discharge should be intercepted before it enters the waterway with an earth bund or sock from a spill kit. Absorbent material from a spill kit will be spread to soak up the spill. If discharge enters the waterway and mixes with water, it should be isolated with booms.

Any spills into a waterway will be isolated as quickly as possible. The potentially contaminated water will be pumped into a holding tank, tested and dealt with in accordance with the relevant State, Territory and Commonwealth legislation, as appropriate.

5.6.2 Cut Overhead or Underground Services

The area affected should be secured and isolated and the relevant utility authority notified immediately.

5.6.3 Uncontrolled Fire

In the event of a very small fire, follow the guidelines for use of fire extinguishers.

In the event of a larger fire, the ACT Fire Brigade should be contacted immediately (dial 000).

Precautionary measures will be taken to protect adjacent buildings from the fire - such as filling gutters with water, closing windows and doors etc.

People will be moved away from the area if vapour from burning toxic material is released.

5.6.4 Emergency Contact Details

Aviation Rescue and Fire Fighting Services (ARFFS)	02 6243 2199
ACT Fire Brigade, Police or Ambulance	000
Canberra Hospital	02 6244 2222
ACT Workcover	02 6205 0200

5.6.5 Emergency Utilities Contact Details

Icon Water (water and sewerage emergencies)	02 6248 3111 (option 1)
Evoenergy (electricity)	13 23 86
Evoenergy (gas)	13 19 09
Telstra	13 22 03

6 Per- and Poly-fluoroalkyl Substances, or 'PFAS'

6.1 PFAS Use Globally

In broad terms per- and poly-fluoroalkyl substances, or "PFAS", are a class of world-wide manufactured chemicals that have been used since the 1950s to make products that resist heat, stains, grease and water. PFAS have become a concern around the world because they are not broken down in the environment and so can persist for a long time. Their widespread use and persistence means that many types of PFAS are ubiquitous global contaminants.

The PFAS of most concern are perfluorooctane sulfonate (PFOS) and perfluorooctanoic Acid (PFOA). Many countries have phased-out, or are in the process of phasing-out, the use of PFOS and PFOA due to concerns about their persistence, bioaccumulation and toxicity when present in significant quantities. Perfluorohexane Sulfonate (PFHxS) is another chemical of the PFAS group and is present in some fire-fighting foams.

6.2 PFAS on Canberra Airport

Canberra Airport takes pride in delivering and operating a safe and secure airport. Accordingly, when Canberra Airport first became aware that PFAS may be of concern globally, and it was confirmed in 2015 that there were elevated levels of PFAS on Canberra Airport at the Airservices Australia (ASA) Fire Station and Fire Training Ground leased sites, Canberra Airport commissioned testing for PFAS in soil, stormwater and groundwater across the Airport site. Testing was also commissioned for the Molonglo River, upstream and downstream of the Airport and Woolshed Creek, downstream of the Airport. This testing has been ongoing since 2015.

Current evidence available to Canberra Airport confirms that the Fire Station and Fire Training Ground sites leased by ASA are the only two PFAS "hot spots" on the Airport.

ASA has informed Canberra Airport that Aqueous Film Forming Foam (AFFF) containing PFAS was used at their two facilities and generally in their aviation rescue and fire-fighting duties around the Airport between 1978 and 2010. Canberra Airport's research and site investigation reveals AFFF containing PFAS is the only significant use of PFAS on the Airport.

The only soil at the Airport found to exceed the PFAS NEMP 2.0 (as amended from time to time) Table 2 Industrial and Commercial Use human health guidance (20mg/kg) is at the ASA Fire Station and Fire Training Ground.

https://www.environment.gov.au/protection/publications/pfas-nemp-2

Canberra Airport has undertaken soil, stormwater and groundwater research and investigation for PFAS on sites across the Airport external to the ASA Fire Station and the Fire Training Ground. The soil test sites include the former aviation fuel farm (now car park five), George Tyson Drive, the Qantas Hangar, Brindabella Circuit and generally in Fairbairn, the Terminal precinct, Brindabella and Majura Parks and north of Taxiway Delta, airside.

The widespread investigations by Canberra Airport have also identified other areas at the Airport where traces of PFAS have been detected at nominal levels in soil and with low levels in stormwater and groundwater. There is also evidence that the stormwater is PFAS impacted passing stormwater outlets and surface runoff from both the Fire Station and the Fire Training Ground. It appears reasonable and practical for groundwater down-gradient of the two ASA sites to also be PFAS impacted, albeit at significantly lower levels when compared to the two ASA sites.

6.3 Potential Risk of Exposure to PFAS on Canberra Airport

Stormwater and groundwater on the Airport is not used for drinking or recreational/swimming purposes. Groundwater is used on the Airport to irrigate landscaped areas and also for the flushing of some toilets in buildings.

The potential exposure of Canberra Airport staff/contractors/tenants/the public to PFAS arising from works or activities on Canberra Airport is by:

- accidental ingestion of groundwater containing PFAS used for irrigation;
- accidental ingestion of stormwater in swales/stormwater drains containing PFAS near the ARFFS Fire Station and Fire Training Ground;
- accidental ingestion of soil containing PFAS on and nearby the ARFFS Fire Station or the Fire Training Ground;
- accidental cross-contamination of food following works around the ARFFS Fire Station or the Fire Training Ground involving PFAS contaminated water and/or soil.

The risk of PFAS exposure to staff/contractors/tenants/the public through these pathways is minimal. However, Canberra Airport has advised staff and contractors that caution should be exercised when:

- nearby and on the ARFFS Fire Station and the Fire Training Ground precincts; and
- working with stormwater and groundwater.

To establish if construction and/or maintenance activities may involve potential contact with stormwater and groundwater or contaminated soil, staff/contractors will be consulted, as is the current practice, by Canberra Airport as part of site induction and ongoing toolbox talks to mitigate risk of ingestion.

For the activities listed below, general measures to minimise the PFAS exposure risk will be implemented and, where necessary, included in risk assessments prior to commencement of any work.

Risk of PFAS exposure is required to be considered where:

- excavations extend to or below groundwater level;
- activities involve exposure to stormwater or bore/irrigation water;
- earthworks in soil known to have been potentially PFAS impacted.

The Canberra Airport Work Health and Safety Guideline for PFAS across the Airport site, revised October 2020, is provided at **Appendix 4**.

7 Potential Environmental Impacts

The following environmental impacts are addressed in the Airport Environment Strategy and are considered in terms of the project.

7.1 Project Site Assessment for PFAS

Agon have competed an environmental assessment at the site, in February 2023. The scope of works for the assessment have been summarised as follows:

- Completion of 20 boreholes (BH01-BH20) to a maximum depth of 2 metres. The depth of the samples was selecting targeted at the lift overrun location.
- Collection of 68 samples for a broad range of analytes, 41 of which were tested for PFAS and selectively targeting the fill profile.
- Comparison of the soil analysis data with the applicable land use criteria.
- Implementation of a QA/QC program. The QA/QC employed was determined to be suitable for the purpose of the assessment.
- Preparation of a Limited Detailed Site Investigation (LDSI) report.

A map of the construction footprint is shown in Figure 1 above and the sample locations of Agon are shown in the Figure 5. Key findings of this assessment, with regard to land use suitability and soil disposal, are summarised in the following sections.

7.1.0 Land Use Suitability

The following contamination of concern were identified in the Agon Environmental LDSI report:

- Historic importation of fill material from off-Airport in 2006 for the bulk earthworks of the Majura Carpark and eventual current carparking site and/or;
- Unknown PFAS impacts soils based as a result of historical activities.

Additionally, Agon noted that the surrounding land uses within 100m of the site have been evaluated with no potentially contaminating land uses occurring. The potentially contaminated activities of the service stations which are situated outside the realm of influence.

Agon Environment provide a summary of the results in 4.4 Conceptual Site Model of the report:

- A total of 68 samples have been analysed for a broad range of analytes including TRH, BTEXN, PAHs, PCBs, PAHs, Phenols, OCP and Metals. PFAS were also assessed in 41 samples preferentially targeting the fill profile (i.e. likely source of PFAS impacts) within the site area. Soil analysis data did not identify the presence of chemical contamination with the exception of trace concentrations of Sum (PFHxS + PFOS) at 4 of the 20 sample locations.
- All soil analysis results were either less than the laboratory limit of reporting or the adopted assessment criteria.

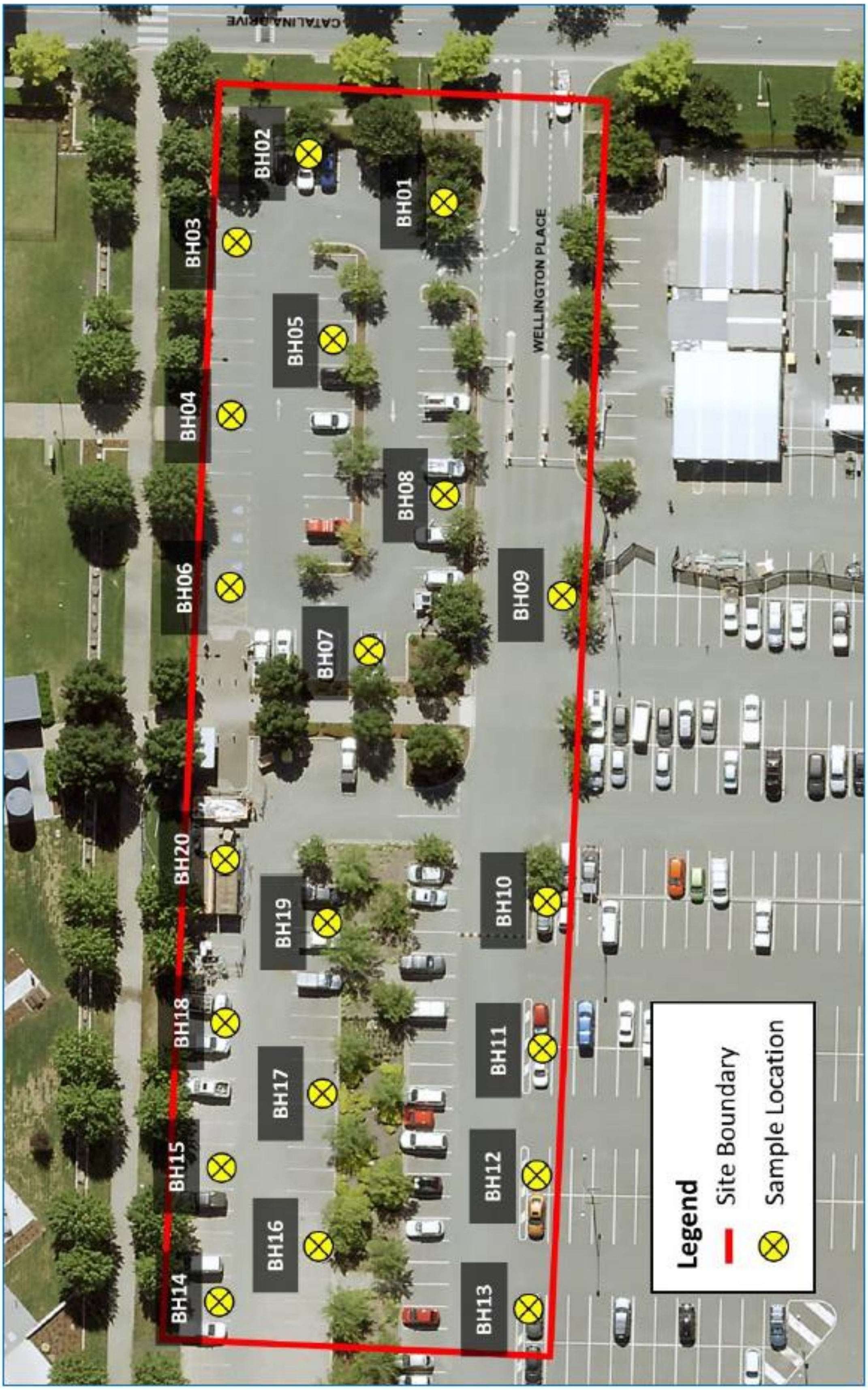
Agon Environmental have developed a CSM showing the concentration of possible contamination within the project footprint and possible receptors. In the CSM Agon has considered both qualitative and quantitative data and has not identified any completed contaminant source-pathway-receptor linkages including any potential receptors offsite.

The sample locations by Agon are shown in Figure 5 below.

Agon Environmental concluded that the site is suitable for the proposed development of a commercial complex based on the above results.

A PFAS Management Plan has been included in **Attachment I.**

Figure 5: Sample Location Plan



7.1.1 Soil and Concrete Disposal

The construction of the building requires bulk excavation of an estimated 5,800 m^3 un-bulked. Because of this there will be no reuse or respreading of soil. This soil spoil will be disposed of as per the Waste Classification Report and disposed of at an approved licensed facility in Act/NSW once approved. The transportation of PFAS-impacted soils will be undertaken in accordance with section 11 of the PFAS NEMP 2.0 (as amended from time to time) using Hazardous Waste Code M270.

All concrete and asphalt and the like will be disposed of at Pialligo Concrete Recyclers and/or Mugga Recyclers in accordance with receiving sites criteria after acceptance and all subgrade is to be reused on site.

A PFAS Soil Framework has been prepared by Canberra Airport as guidance document for the management and approvals processes for PFAS impacted soils at Canberra Airport in **Appendix 6**.

7.2 Noise

Noise generated from the project works could arise from:

- building and site construction activities; and
- traffic noise generated by vehicles transporting materials and the construction workforce to and from a site.

Noise generated from construction, maintenance and demolition of a building or other structure at the Airport should not exceed 75db(A), calculated at the site of a sensitive receptor, as defined in the *Regulations.* Noise controls shall be developed for activities that have the potential to exceed 75db(A).

Onsite contractors that are deemed to potentially be undertaking noisy works will submit a Safe Work Method Statement / Risk Assessment which includes the schedule of equipment types to be used, noise levels these will generate if applicable, expected time and duration of use, and any measure required to ensure noise levels are acceptable.

All workers on a project shall be made aware of the risks of construction noise exposure through the Site Induction. Ongoing observation will be carried out across the project to ensure noise management techniques remain suitable.

Typically, the project site and the site compound will be open from 6:00am to 6:00pm Monday to Saturday. However, physical site works can only be conducted at the following times.

Monday - Friday	6:30am to 5:30pm
Saturday	6:30am to 2:30pm
Sunday	As required after 8:00am by prior approval by Canberra Airport and the Site Manager.

The site is directly adjacent to offices which contain a childcare center at ground floor at 1 Wellington Place to the north. This is considered a sensitive noise receptor, therefore the conditions stipulated below apply to minimise noise impacts.

It should be noted there are no residential dwellings located in Majura Park, a noted commercial/retail precinct.

Noise from the operation of plant and machinery will not exceed background noise levels at a sensitive receptor site (e.g. an Airport childcare centre and nearby office buildings):

- between the hours of 07:00 and 22:00 - by more than 5dB(A); and
- between 22:00 hours and 07:00 of the next day - by more than 3dB(A) (in compliance with the Regulations).

7.2.1 Vibration Management

When planning for project works likely to include vibration, all practical effort will be made to protect vibration sensitive buildings and the amenity of the occupiers of the buildings.

Where appropriate the project will apply a practical and economical combination of vibration control measures to manage vibration impacts such as:

- Substitution by alternative process;
- Restricting times when work is carried out;
- Erecting additional screening or enclosures to localised work;
- Undertaking further consultation with nearby tenants.

The basis for vibration management will be to limit the times that certain vibration producing activities may be carried out.

No construction or demolition works causing vibration will be permitted within a 50m vicinity of any heritage listed items, features of cultural significance or sensitive equipment of Canberra Airport without a location and activity specific risk assessment being carried out by a competent person and approved by Canberra Airport and the Contractor. When vibration works are being undertaken, monitoring during the works will be carried out to ensure vibration does not exceed acceptable limits.

Mitigation measures and safety requirements for noise and vibration for a project are outlined in **Attachment C: Noise and Vibration Sub-Plan**.

7.3 Air Quality

The two primary causes of air quality issues are emissions from machinery and airborne dust. Airborne dust results from the excavation and stockpiling of soil as well as vehicle movement around a project site.

7.3.1 Dust Mitigation Measures

To prevent dust being spread beyond the boundary of a project site the Contractor, on behalf of Canberra Airport, will implement the following control measures where relevant:

- Clean and/or use rumble pad to remove excessive dirt and dust from vehicle tyres;
- Wheel wash/pollution traps located at exit gate/s;
- Provision of street sweepers to clean streets on an as required basis;
- All loads to be securely covered;
- Ensuring that there is no runoff from the site;

- Dampening down of haul routes as required (more in dry weather or as monitoring dictates);
- Having appropriate speed limit on site, in accordance with the approved TMP (Attachment B);
- Using water as a dust suppressant when cutting blocks etc;
- Covering rubbish skips and ensuring they are serviced regularly;
- Enclosing debris chutes and minimising debris chute heights;
- Regular dampening down of surfaces;
- Dampening down of earthworks in dry weather;
- Keeping stockpiles for a limited time on site as much as possible;
- Covering stockpiles where practicable;
- Keeping stockpiles away from boundary, sensitive receptors and watercourse/easements;
- Regular inspections along boundary fence lines for “drift sand or dust” and rectification;
- Position the stockpiles with consideration for predominant wind direction;
- Install filter fabric on any adjacent plant air intakes to minimise dust particles entering air conditioning systems if deemed necessary by the Airport;
- Shade cloth/solid hoarding to boundary fencing as required;
- Responding to all dust-related complaints immediately; and
- Ceasing dust generating activities as dictated by wind conditions.

Mitigation measures and safety requirements for air quality and dust control for projects are outlined in **Attachment D: Air Quality and Dust Management Sub-Plan**.

For most projects the impacts to air quality are minimal, however daily weather monitoring of the Bureau of Meteorology website will be implemented. Additionally, daily visual inspections will be carried out to ensure the controls are adequate and clean-up will occur as required.

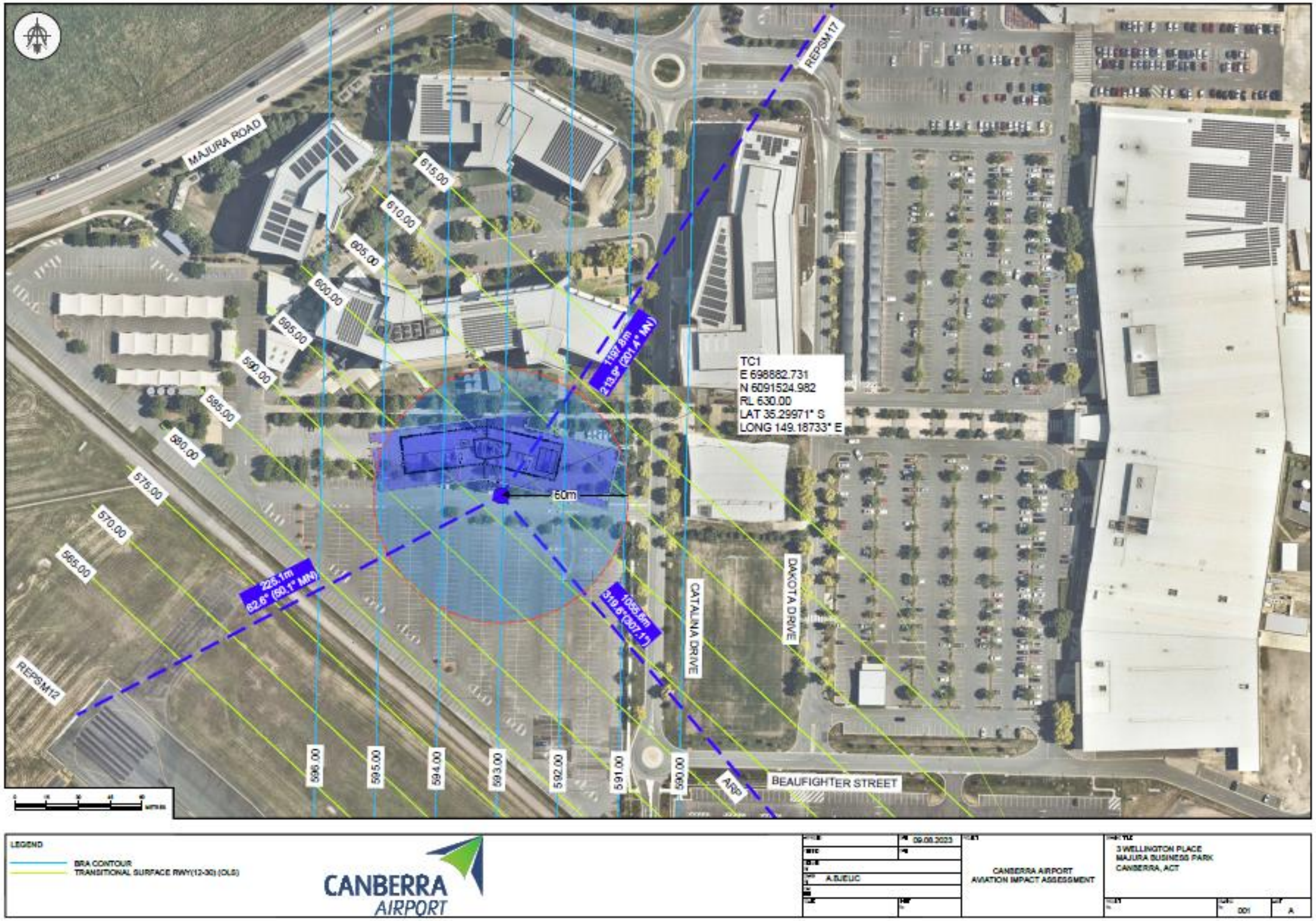
7.3.2 Material and Machinery

During the construction phase, the material and machinery storage area on the 3 Wellington Place may include the following:

- Mobile Crane
- Tower Crane (refer to **Error! Reference source not found.** for location)
- Concrete Tower Pump
- Manitou Forklift for movement of materials on site and for unloading/loading of trucks
- Storage/tool containers
- Storage/tool containers (6 × 3m) for various contractors for the duration of the project.

Cranes will require CASA approval.

Figure 6: Tower Crane Locations - Site Plan (locations are subject to change)



7.4 Hydrology and Water Quality

7.4.1 Surface and Groundwater Water Management

The Airport is located in a catchment which has been modified over time through the installation of contour banks to divert water around the main Airport Runway 17/35 and through the development of sediment control structures since the 1950s to minimise sediment reaching Lake Burley Griffin.

The majority of stormwater at the Airport is collected in a network of open and closed drains before being discharged to Woolshed Creek, Pialligo Brook and via off-site drains to the Molonglo River. All flows ultimately drain to Lake Burley Griffin. Construction projects might reasonably be expected to have short term impacts on stormwater flows. Such impacts will be dealt with and managed through project environment management plans. The 3 Wellington development site ultimately drains to the Molonglo River.

Stormwater flows may also change due to increased areas of impervious surfaces and due to the diversion of stormwater around and through developments. All developments, where such changes are regarded as likely, will be designed in accordance with the relevant Australian Standards.

An Erosion and Sediment Control Plan must detail the use of silt fences, hay or straw bales and sediment retention ponds to prevent the flow of sediment into stormwater drains and, where possible, the removal of soil/spoil to a dedicated stockpile on Airport.

The Contractor will establish a vehicle shakedown zone at the construction zone perimeter to minimise the accumulation of dirt and mud on the roads. The use of detergents on roads and in vehicle shake down areas is not permitted.

The Contractor will maintain the shakedown zone to ensure that an excessive build-up of sediment does not impede the effectiveness of the area.

It is important that no accumulated water is pumped to the stormwater system without approval from Canberra Airport. If water is collects at the low point such as a lift well during the excavation, the low point will function as a temporary sediment and erosion control pond and lined with impervious plastic. The stormwater will evaporate, and the soil will remain in place. The results will be verified by Canberra Airport. No accumulated water will be disposed directly or indirectly to stormwater or watercourses and disposal will be disposed of as part **Attachment E Water Management Sub Plan** contained in the CEMP.

Canberra Airport will engage a suitably qualified and experienced environmental consultant to undertake testing in accordance with applicable best practice guidance documents, in particular:

- The Australian Government, Airports (Environmental Protection) Regulations 1997 (AEPR)
- Heads of EPA, PFAS National Environmental Management Plan January 2020 (PFAS NEMP 2020).

Mitigation measures and safety requirements for surface water management are outlined in **Attachment E: Water Management Sub Plan**.

Alternatively, if groundwater is intercepted the Airport is to be contacted to arrange for the water to be tested before the water is pumped out and before any chemical treatment is applied to settle turbidity. The Airport will notify the Airport Environment Officer and advise of mitigation measures to be taken. Groundwater testing is to occur in compliance with the Airports (Environment Protection)

Regulations 1997 and NEMP 2.0 (as amended from time to time). It is noted that the interception of groundwater associated with excavation work for the commercial building is considered highly unlikely as excavation depths of approximately 2 metres are proposed and groundwater depth is measured at approximately 4 metres.

7.4.2 Erosion and Sediment Control

Erosion and sediment control measures must be prepared prior to disturbance, or as site conditions dictate, during a change in site layout, and documented in the Erosion and Sediment Control Plan (ESCP). This may be specific to a site, a sub-site, sub-catchment or individual component of the work. For example:

- Removal of topsoil and earthworks;
- The installation of a culvert extension;
- Works in waterways or drainage lines;
- Site compound area and stockpile area.

The ESCP will include:

- Contours and clean and dirty water drainage paths;
- Sediment basins and designated pump out locations;
- Limit of disturbance;
- Location and type of control measures;
- Order of works schedule;
- Specific construction details.

Erosion and sediment control measures must be presented as a series of drawings (based on construction drainage plans) and be retained in a register on site by the Contractor (or delegate).

The ESCP must detail the use of silt fences, hay or straw bales and sediment retention ponds to prevent the flow of sediment into stormwater drains and where possible the removal of spoil to a dedicated stockpile within the Airport grounds.

Mitigation measures and safety requirements for erosion and sediment control for a project are outlined in **Attachment F: Erosion and Sediment Control Sub Plan.**

7.5 Fuel Management

The project site will be maintained to mitigate a fuel risk for fire propagation.

Fuel and chemicals are not to be stored on site unless in an approved bunded area. If a spillage does occur during operations, an Incident Report Form must be completed (Appendix 1). Clean-up methods will be employed which are appropriate for that instance as detailed in the Airports Standard Operating Procedures (SOP 4 Appendix 2). Canberra Airport must be notified immediately if a spill is more than 5 litres or has entered a waterway/stormwater drain.

7.6 Waste Management

The Environment Strategy commits to the ACT and Commonwealth waste policies. This is achieved at the Airport by the application of the 'reduce, reuse and recycle' principle.

Waste generated during project works may, where economically feasible, be sorted off-site for recycling. The *ACT Waste Management and Resource Recovery Act 2016* and Commonwealth *Recycling and Waste Reduction Act 2020* will be applicable to the transport of all waste off Airport.

The Contractor will implement the following Waste Management activities:

TASK	METHOD
Waste Removal	Recycle at least 80% of waste, based on weight. Materials must be separated off site and disposed of in landfill as required. Waste bins must be located at each site. Waste bins must be collected from the designated refuse areas once a week.
Concrete Removal	Excess concrete must be removed from the site and returned to the relevant concrete supplier. Cleaning out of concrete trucks after delivery must be carried out off site.
Cleaning of Tools	Cleaning of tools used by sub-contractors must take place off site.
Liquid and Hazardous Waste	All activity related to liquid and hazardous waste is not to be disposed of in any location on or within any Canberra Airport infills and will instead be collected for disposal with appropriate weight tracking certificates to be submitted to Canberra Airport for its records.

Additionally, the concrete cutting saw slurry and concrete mix slurry are not permitted to be discharged to ground, or located in a position where they could lead to discharge to the stormwater system.

Mitigation measures and safety requirements for waste management for a project are outlined in **Attachment G: Waste Management Sub Plan.**

7.7 Hazardous Materials and Chemical Management

There is a potential for relatively small quantities of hazardous materials to be used during project works. These materials will be managed in accordance with the relevant legislative requirements and, in the event of a spill, Canberra Airport's Standard Operating Procedures (SOP 4).

SOP 4: Hazardous Materials Incident is provided at **Appendix 2**.

A plan will be available on site detailing the location of storage areas, spill kits, muster points, firefighting equipment and First Aid equipment.

Mitigation measures and safety requirements for hazardous materials and chemicals management are outlined in **Attachment H: Handling and Storage of Hazardous Materials Sub Plan**.

7.8 Asbestos and Contaminated Soil

If asbestos is found during works, asbestos will be managed in accordance with the **Appendix 3: Unexpected Finds Protocol (UFP)**.

7.9 Flora and Fauna

Endangered flora and fauna (NTG/GED/GSM) are not a concern for this project.

Natural Temperate Grassland (NTG) and habitat for the Grassland Earless Dragon (GED) and Golden Sun Moth (GSM) are located Airside. Contractors must not enter these areas.

Trees are only to be removed as approved by Canberra Airport and verges are to be protected.

Trees are to be fenced to protect them from damage from plant and equipment during project works.

7.10 Indigenous and Historic Heritage

This section is not applicable as Indigenous and Historic Heritage is not a concern for this project.

The Airport lease was surveyed by Australian Archaeological Survey Consultants in 2001 in consultation with the three Ngunnawal groups. Artefacts were found on the Airport during this study however none have ever been found or unearthed on the site of any subsequent development proposal at Canberra Airport.

Contractors are to report to Canberra Airport any artefacts found or unearthed during construction activity at which stage **Appendix 3: Unexpected Finds Protocol (UFP)** will be implemented.

7.11 Land Management

Consistent with the principles of the National Airports Safeguarding Framework *Guideline C: Managing the Risk of Wildlife Strikes in the Vicinity of Airports*, and to assist in mitigating bird hazards, Canberra Airport has a protocol for re-seeding and soil stabilisation at the airport.

Project sites will be revegetated in accordance with the final Landscape Plan to be approved by Canberra Airport in consultation with the contractor engaged for this purpose.

7.12 Natural Resources

The sustainable use of resources is central to Canberra Airport's development of the airport site. Energy saving measures will be employed where economically and commercially feasible through the design and construction of proposed developments.

Contractors are to comply with regulated water restrictions and, wherever possible, minimise water usage. Only non-potable water is to be used for dust suppression and irrigation.

Recycled or renewable materials must be used where practicable and economically viable.

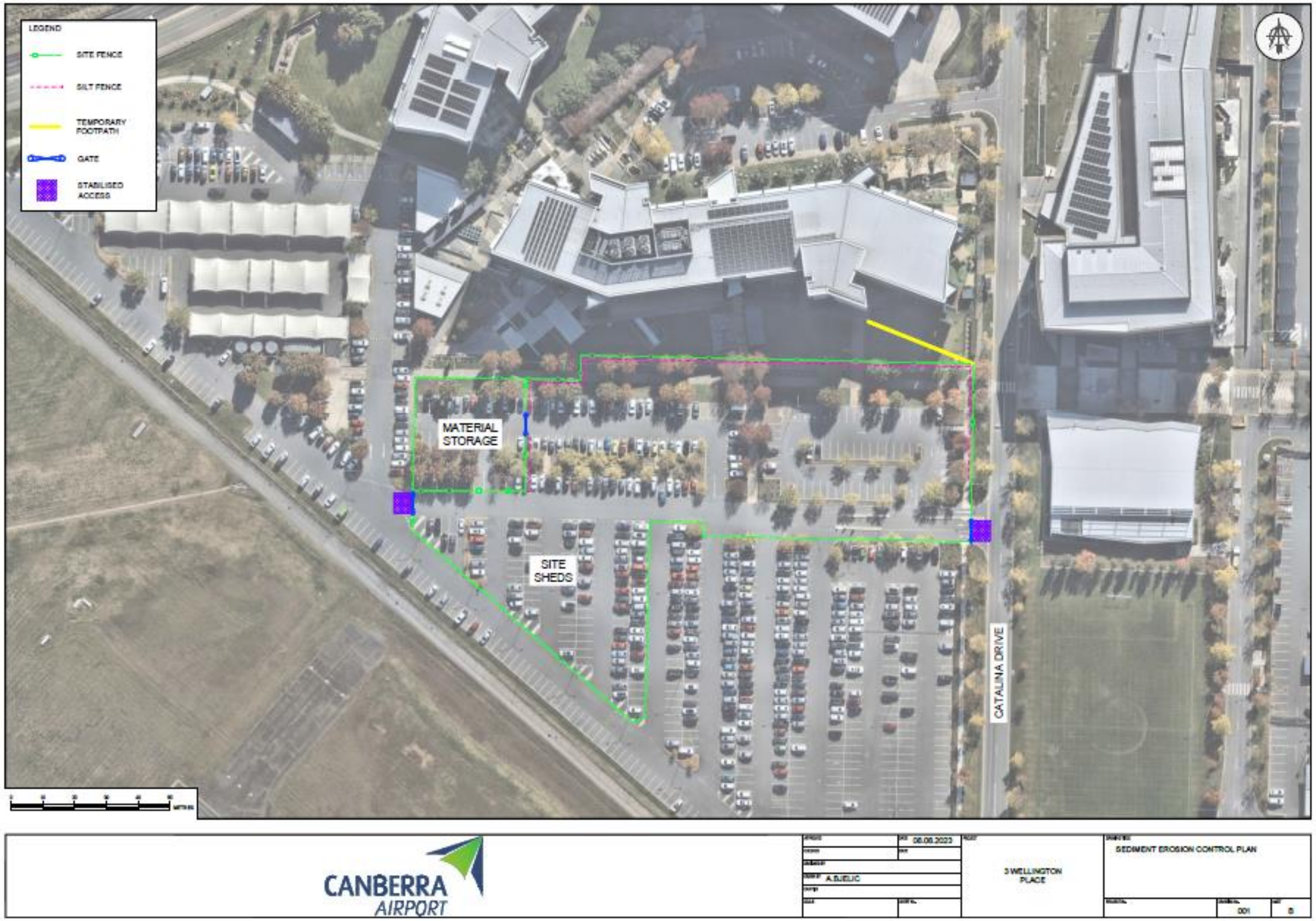
7.13 Traffic Management

A Traffic Management Plan has been prepared in consultation with the Canberra Airport Project Manager and appended to this CEMP. Refer to **Attachment B: Traffic Management Plan.**

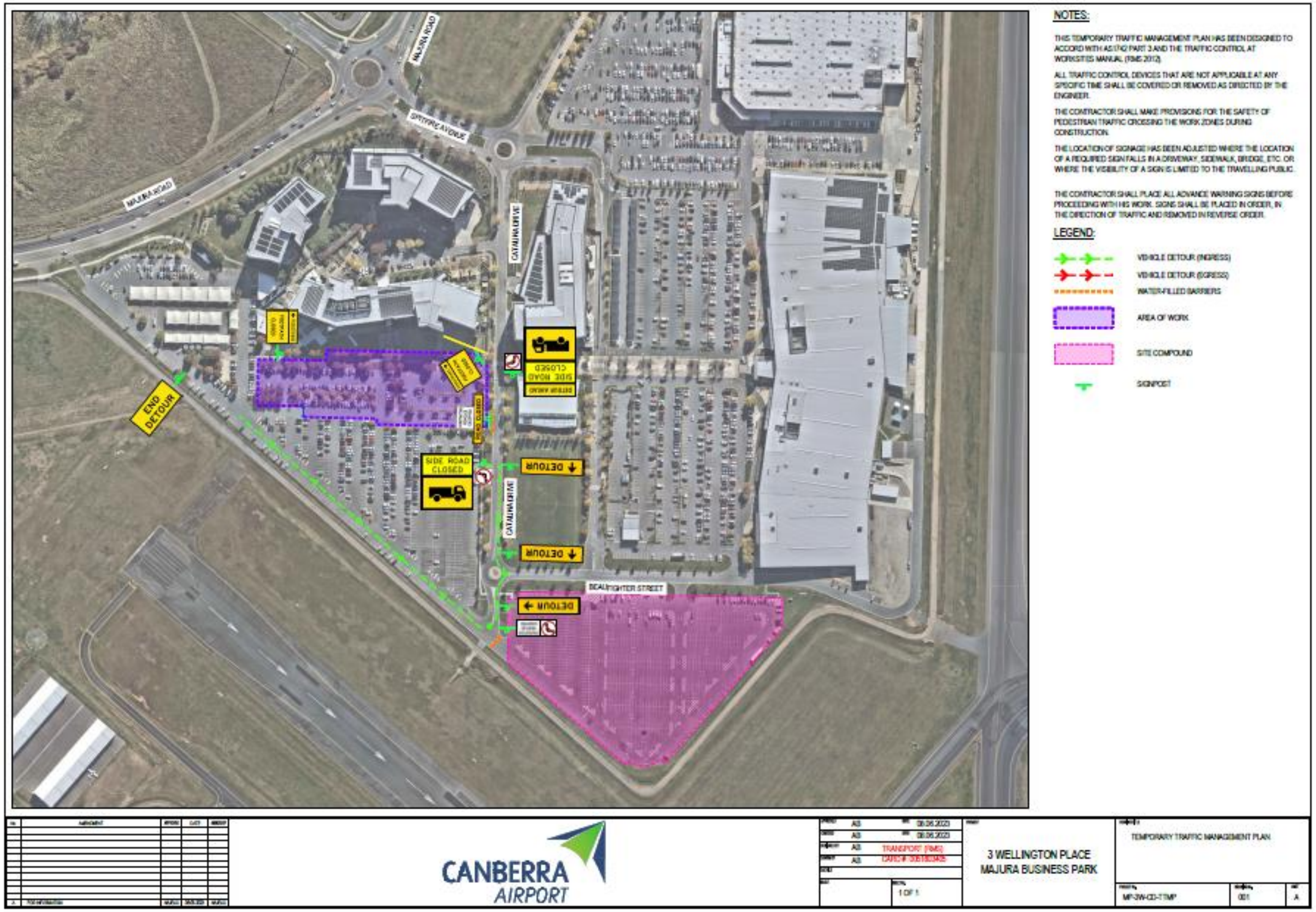
8 Project Environmental Management Plans and Other Relevant Documents (if required)

This section provides the relevant Project Management Plans, as attachments, and other relevant documents, as appendices, for a project.

ATTACHMENT A: Erosion and Sediment Control Plan



ATTACHMENT B: Traffic Management Plan



NOTES:

THIS TEMPORARY TRAFFIC MANAGEMENT PLAN HAS BEEN DESIGNED TO ACCORD WITH AS1742 PART 3 AND THE TRAFFIC CONTROL AT WORKSITES MANUAL (RMS 2012)

ALL TRAFFIC CONTROL DEVICES THAT ARE NOT APPLICABLE AT ANY SPECIFIC TIME SHALL BE COVERED OR REMOVED AS DIRECTED BY THE ENGINEER.

THE CONTRACTOR SHALL MAKE PROVISIONS FOR THE SAFETY OF PEDESTRIAN TRAFFIC CROSSING THE WORK ZONES DURING CONSTRUCTION.

THE LOCATION OF SIGNAGE HAS BEEN ADJUSTED WHERE THE LOCATION OF A REQUIRED SIGN FALLS IN A DRIVEWAY, SIDEWALK, BRIDGE, ETC. OR WHERE THE VISIBILITY OF A SIGN IS LIMITED TO THE TRAVELLING PUBLIC.

THE CONTRACTOR SHALL PLACE ALL ADVANCE WARNING SIGNS BEFORE PROCEEDING WITH HIS WORK. SIGNS SHALL BE PLACED IN ORDER, IN THE DIRECTION OF TRAFFIC AND REMOVED IN REVERSE ORDER.

LEGEND:

🟩	VEHICLE DETOUR (INGRESS)
🟥	VEHICLE DETOUR (EGRESS)
▨	WATER-FILLED BARRIERS
▨	AREA OF WORK
▨	SITE COMPOUND
⊤	SIGNPOST

ATTACHMENT C: Noise and Vibration Sub Plan

NOISE AND VIBRATION MANAGEMENT SUB PLAN			**RESPONSIBILITY**
Objectives and Targets	Maintain noise below 75db(A) at the site of a sensitive receptor, as defined in the *Airports (Environment Protection) Regulations 1997.* Refer 6.2 of this EMP.		Project Manager (CAG) Contractor
Performance Criteria	100% Compliance with Client and legal requirements 100% achievement with Site Objectives and targets		Project Manager (CAG) Contractor
	Training and Competency	As part of the Site Induction, workers will be informed of the site/project-specific controls required for noise and vibration management including: Correct use of PPE Use of monitoring equipment if required	Project Manager (CAG) Contractor
	Hours of Operation	The Canberra Airport to provide allowable hours of construction	Project Manager (CAG) Contractor
	Plant, Equipment and Vehicles	Plant will be fitted with appropriate noise emission/vibration control equipment. Plant will be fitted with adequate seat suspension. Plant should be switched off when not in use, wherever practicable. Tasks using equipment that causes vibration to hands will be rotated at intervals to reduce exposure. Consideration may be given to the use of anti-vibration PPE. All plant, equipment and vehicles are to be regularly monitored and maintained and records kept of maintenance. Any abnormalities in expected noise or vibration emissions will be recorded in the plant's logbook and reported to the plant department.	Project Manager (CAG) Contractor
	Complaints Management	Complaints will be reported to Canberra Airport immediately verbally and the Contractor will undertake actions as requested by Canberra Airport including monitoring. The Project Manager will complete an Incident Report Form provided at Appendix 1.	Project Manager (CAG) Contractor

		The Incident Report Form will be submitted to Canberra Airport within 14 days, detailing the noise and vibration related complaint and the measures undertaken to prevent the recurrence of events. Authorities may request the Contractor to conduct Noise or Vibration Monitoring following the complaint and may instruct appropriate modification to works and/or implementation of additional management measures to minimise further risk of impacts.	
Environmental Inspections and Monitoring	Daily (Visual)	Working hours Plant operation and condition	Project Manager (CAG) Contractor
	Weekly (Documented)	Environmental Daily Hazard Identification (DHI) will be completed via the Electronic Document Management System (EDMS)	Project Manager (CAG) Contractor
	Monitoring	All personnel will undertake an audiometric test and musculoskeletal examination prior to employment with the Contractor.	Project Manager (CAG) Contractor
Reporting	Work Health Environment (WHE) Monthly Management Meeting		Project Manager (CAG) Contractor

ATTACHMENT D: Air Quality and Dust Management Sub Plan

AIR QUALITY AND DUST MANAGEMENT SUB PLAN			RESPONSIBILITY
Objectives and Targets	Refer to Section 6.3 of this EMP.		Project Manager (CAG) Contractor
Performance Criteria	100% Compliance with Client and legal requirements 100% achievement with Site Objectives and targets		Project Manager (CAG) Contractor
Mitigation Measures	General	Site related dust, identifiable fumes, odours and vapours will not infringe beyond site boundaries where practical	Project Manager (CAG) Contractor
	Training and Competency	As part of the Site Induction, workers will be informed of the site/project-specific controls required for air quality and dust management including: Correct use of PPE Use of monitoring equipment Methods to control dust	Project Manager (CAG) Contractor
	Greenhouse Gases	Regular maintenance of plant and equipment for optimum performance will be undertaken to keep emissions to a minimum and increase plant productivity. Vehicles and equipment must be fitted with appropriate emission control equipment and routinely maintained. The Plant should be switched off when not in use, wherever practicable. All plant, equipment and vehicles are to be regularly monitored and maintained and records kept of maintenance. Engine tampering to increase power output is prohibited. Air emissions from plant, vehicles and equipment should be visually monitored throughout construction.	Project Manager (CAG) Contractor
	Dark Smoke	All internal combustion engines will be regularly serviced to ensure optimum operation and minimise the volume of visible smoke emitted. Any Plant or light vehicles emitting unreasonable smoke (concentrations higher than normal operation) will cease operation and be serviced by a trained and qualified technician. Materials on site will not be burned intentionally without consulting and obtaining the authorisation of the relevant Fire Authority and Client.	Project Manager (CAG) Contractor

	Dust Monitoring	The following dust monitoring methods will be applied on the Site: Obtaining weather reports from the Bureau of Meteorology (BOM) website Visual inspection	Project Manager (CAG) Contractor
	Dust Control	Dust control methods to be applied on the site to keep dust generated within the site boundaries, as reasonably practicable, will be: Wind fencing around the site or between the site and local residences Application of water/dust suppressant via water carts Physical application of ground cover Cessation of works in adverse weather conditions Restricted speed limits on site Reschedule dust generating activities to avoid adverse weather conditions Communicate dust risk and mitigation measures to staff prior to commencing work	Project Manager (CAG) Contractor
	Fumes, Odours and Vapours	The Site will endeavour to keep the generation of emission of unreasonable levels of fumes, odours and vapours to a minimum. Refer to the Waste Management Sub Plan (Attachment G) and Handling and Storage of Hazardous Materials Sub Plan (Attachment H) which detail storage and handling controls that minimise fumes, odours and vapours.	Project Manager (CAG) Contractor
Environmental Inspections and Monitoring	Daily (Visual)	Visually monitor for dust daily to ensure no dust leaves the work area as a direct result of construction activities above and beyond that or natural surrounding environment.	Project Manager (CAG) Contractor
	Weekly (Documented)	Environmental Daily Hazard Identification (DHI) will be completed via the Electronic Document Management System (EDMS)	Project Manager (CAG) Contractor
Reporting	Work Health Environment (WHE) Monthly Management Meeting		Contractor

ATTACHMENT E: Water Management Sub Plan

WATER MANAGEMENT SUB PLAN			RESPONSIBILITY
Objectives and Targets	Refer to Section 6.4 of this EMP.		Project Manager (CAG) Contractor
Performance Criteria	100% Compliance with Client and legal requirements 100% achievement with Site Objectives and Targets		Project Manager (CAG) Contractor
Mitigation Measures	General	Water should be conserved, reused and recycled where reasonably practical. At no point will any water utility asset owner's infrastructure be modified or removed without their approval.	Project Manager (CAG) Contractor
	Training and Competency	As part of the Site Induction, workers will be informed of any significant water aspects and site/project-specific controls to minimise potential impacts. At Site Induction, workers will be made aware of the risks and controls associated with an interception of groundwater on the Site, although this is considered highly unlikely. Refer Appendix 4 - Canberra Airport Work, Health and Safety Guideline for PFAS (Oct 2020). The Contractor's Emergency Management Team members will be provided with training to respond to a discharge of contaminated water or hazardous materials into the environment. Refer Appendix 2 - SOP 4: Hazardous Materials Incident.	Project Manager (CAG) Contractor
	Notification	The Site will not modify or remove any water utility assets without their approval. Notification of approval will be provided to the Client with a copy of authorisation. Notification to the asset owner will be given as per their conditions of compliance.	Project Manager (CAG) Contractor
	Trench / Excavation Water	Sediment laden water accumulated in trenches or excavations must not be discharged directly or indirectly to any stormwater or natural watercourse. A suitable location to discharge will be identified considering site slope, proximity to drainage lines, soil permeability, ground cover, and downslope sediment controls i.e. well-established existing vegetation. If necessary, consideration will be given to the use of geofabric or clean rock to assist in the prevention of erosion during discharge.	Project Manager (CAG) Contractor

	Plant/Vehicle Maintenance	The maintenance and cleaning of any vehicles, plant or equipment must not be carried out in areas from which contaminants can be released into stormwater or natural watercourses.	Project Manager (CAG) Contractor
	Discharge of Contaminated Water and Hazardous Materials	The accidental release of hazardous materials will be immediately contained, cleaned up and if required, the affected area remediated in accordance with Canberra Airport SOP 4. The incident will be reported to the Canberra Airport Project Manager. If required, the relevant Regulatory Body will be notified. Refer Appendix 2 - SOP 4: Hazardous Materials Incident.	Project Manager (CAG) Contractor
	Dieback Management	Dieback is a tree's response to a pressure or stress occurring in its environment. A number of tree stressors are well established, though it is unlikely that any single factor is the cause to such widespread dieback. It is more likely the result of a number of combined or interrelated factors that have altered the tree's condition and environment to the point where the environment is no longer optimal. If an environmental change stresses a tree while favouring another pest or competitor, this will contribute further to dieback. It is also sometimes the case that when a tree becomes stressed, they become even more vulnerable to other factors. By monitoring any changes in water on site, Canberra Airport can identify any issues with dieback prior to any permanent damage is caused.	Project Manager (CAG) Contractor
Environmental Inspections and Monitoring	Daily (Visual)	Temporary erosion and sediment control measures must be monitored daily for effectiveness during the construction phase, ensuring compliance with the Erosion and Sediment Control Plan at all times.	Project Manager (CAG) Contractor
	Weekly (Documented)	Environmental Daily Hazard Identification will be completed via the Electronic Document Management System (EDMS) and include site compliance with Erosion and Sediment Control Plan requirements.	Project Manager (CAG) Contractor
Reporting	Work Health Environment Monthly Management Meeting		Contractor

ATTACHMENT F: Erosion and Sediment Control Sub Plan

EROSION AND SEDIMENT CONTROL		
Objectives and Targets	Refer to Section 6.4.2 of this EMP.	Project Manager (CAG) Contractor
Performance Criteria	● No signs of unacceptable erosion or sediment transport. ● Absence of water quality deterioration in water bodies affected by works and any chemical spills or waste that would be swept from the site via open swales and drainage lines. ● Absence of third-party complaints including Commonwealth and Territory Regulatory authorities. ● Designated stockpile areas for contaminated soil are managed accordingly.	
Implementation Strategy	Before commencement of construction activities, the following measures will be incorporated where appropriate, to ensure minimal disturbance and adverse water quality impacts: ● Sediment fences to be constructed along the downstream edges of the exposed construction area and at the base of any fill embankments. ● Areas to be designated for plant and construction material storage. Runoff from these areas to be contained in case of spillage. ● Catch drains to be used where possible at the downstream boundary of construction activities to ensure any sediment laden runoff is contained and not permitted to flow onto downstream undisturbed areas. Diversion banks and catch drains to be constructed along contours to minimise scour along the invert. ● Sediment fences and sandbags to be placed along catch drains to slow flow, reduce scour and capture some coarse sediment from runoff. ● Sufficient materials to protect against erosion to be available on site prior to construction commencing. ● Education of site personnel in the location, inspection and maintenance of erosion and sediment control structures. During construction, sediment-laden runoff will be directed through erosion and sediment control structures prior to discharging into the stormwater system. Measures to mitigate water quality impacts during construction will include: ● Progressive stabilisation of filled areas and filled batters.	

	• Construction activities to be confined to the necessary construction area. • All construction traffic to use the specified access and exit points from the construction site. • Regular inspection and maintenance to be undertaken for all sediment control works. Replacement of damaged equipment.

ATTACHMENT G: Waste Management Sub Plan

WASTE MANAGEMENT SUB-PLAN		RESPONSIBILITY
Objectives and Targets	To minimise waste generation at source Refer 6.6 of this EMP.	Project Manager (CAG) Contractor
Performance Criteria	Waste generated as a result of works activities is located in designated areas of site awaiting appropriate disposal or, where, economically feasible, recycling. 100% Compliance with client and legal requirements 100% achievement with project objectives and targets	Project Manager (CAG) Contractor
Training and Competency	As part of the Site Induction, workers will be informed of: The types of waste generated on site; How the wastes are to be handled, stored and disposed of; Personnel responsible for clean-up of spills will be provided with instruction on how to use the sites spill kits. Personnel handling hazardous materials will be provided for training to read and understand the Safety Data Sheet (SDS).	Project Manager (CAG) Contractor
Unidentified Waste	Wastes that cannot be positively identified (i.e. unlabelled liquids, potential asbestos) will be tested before handling and disposal. Any material that is unknown should be considered hazardous until positively identified.	Project Manager (CAG) Contractor
Handling	Where practicable, dust generating rubbish and debris will be removed to minimise dust release into the atmosphere. Handling of waste will be done in accordance with relevant state or local by-laws using suitable personal protective equipment.	Project Manager (CAG) Contractor
Storage	Containers used for storage are not to be opened, handled, transported or stored in a manner that may rupture the container. All waste will be stored in waste receptacles and removed off site by a licensed contractor on a periodic basis. Dedicated recyclable and hazardous receptacles will be labelled. Wastes stored on site will be stored in a manner to prevent the attraction of vermin and native wildlife. Waste is to be stored away from access and egress routes. The quantity and volume of wastes stored on site may be minimised where reasonably practical to reduce the risk to health, safety, and the Environment.	Project Manager (CAG) Contractor

	Project Managers will be responsible for identifying and obtaining any required licenses and/or permits to store wastes.	
Disposal	In deciding how to dispose of waste generated on site, consideration will be given to reducing, reusing or recycling waste where reasonably practical to minimise the volume sent to landfill. Where reuse or recycling is not a feasible option, the waste will be sent to a facility capable of accepting the waste. Concrete cutting saw slurry and concrete mix slurry are not permitted to be discharged to ground, or located in a position where they could lead to discharge to the stormwater system. The burning of any type of wastes will not be permitted on any Canberra Airport sites. The use of stormwater drains for the disposal of waste is prohibited. The disposal of waste will be done in a manner to prevent any damage to the environment. Waste classification and disposal offsite will be in accordance with the appropriate waste legislation for each site.	Project Manager (CAG) Contractor
Transportation	The removal and transportation of hazardous waste/ controlled waste (e.g. asbestos, hydrocarbons, and sewage) for disposal will only be conducted by licensed carriers. A copy of all controlled waste carrier licenses is maintained on the Controlled Waste Carrier Register on the Document Management System (DMS) by the Environmental Representative. The Environmental Representative is responsible for ensuring the Controlled Waste Carrier Register is up to date. Licensed operators will be engaged in accordance with the Procurement Procedure. Before a hazardous waste/ controlled waste is transported off site, a waste tracking receipt will be collected from the operator as verification that the waste was correctly transported off site and to identify the proposed location for disposal. A copy of the receipt will be held for a minimum of 3 years. The transportation of other wastes for disposal will only be conducted if the load is covered or there is no risk of load/debris falling and the load is disposed of at a registered landfill.	Project Manager (CAG) Contractor
Hazardous Waste - General	Hazardous wastes will be stored in sealed containers where practical and clearly labelled with waste type. Hazardous waste receptacles will be maintained in good condition to prevent leaks or spills. Offensive odours should not be generated at any time when stored. Hazardous wastes with a significant risk to human health and safety will be stored in containers that comply with relevant legislation and guidelines. Hazardous wastes will not be permitted to accumulate to a level that presents an unreasonable risk to human health, safety or the environment. Controlled waste storage will be suitably contained to ensure debris does not travel beyond the boundary of the premise. Hazardous waste will be stored and segregated in accordance with their SDS. Hazardous waste will be risk assessed to ensure they do not contaminate or interact with goods that are incompatible. Where there may be a risk of fire, hazardous waste will be segregated to prevent storage incompatibilities.	Project Manager (CAG) Contractor

	Hazardous liquid waste will not be permitted to enter the environment. Design considerations for secondary containment will be given to the storage of liquid wastes to contain any potential spills. Hazardous waste will be stored on/in bunded pallets/areas which will be compliant with AS1940-2004 4.4.3 (the bunded pallet/area must have the capacity to contain 110% of the largest container. Hazardous waste such as batteries, hydrocarbons, sewage and asbestos will only be handled for final disposal / recycling by certified waste removing contractors. Sewage waste not plumbed directly into the main sewerage system will be contained within holding tanks on site compounds and emptied on a periodic basis or as required by a licenced contractor. The management and handling of hazardous waste will be in accordance with the Contractor'sl Hazardous Materials Procedure and the Canberra SOP4: Hazardous Materials Incident (Appendix 2).	
Hazardous Waste - Asbestos	The disposal processes for asbestos will involve independent competent persons. Identified ACM (Asbestos Contaminated Material) will be clearly marked out and controls put in place to prevent contamination into surrounding areas.	Project Manager (CAG) Contractor
Hazardous Waste - Sanitary/ Sewage Waste	Sewage waste will either be plumbed directly into the main sewerage system or contained within holding tanks on site compounds and emptied as required. Sewage waste stored in bunded tanks underneath the toilets will be emptied by a licensed contractor on a periodic basis. Sanitary wastes will be stored in solid containers and clearly labelled for identification. Sanitary wastes will not be re-handled after disposal to minimise the exposure and risk of double handling. Sanitary conveniences will be calculated based on the number of workers based on the site and meet legislative requirements. Sanitary waste will be stored away from food sources or where food is served. Controls to prevent offensive odours to the public and workers will be implemented.	Project Manager (CAG) Contractor
Recyclable Waste	On site waste identified for reuse will be segregated to be collected and transported to a recycling facility. Waste will be collected by a provider who segregates recyclable waste from general waste at its recycling facility. Green waste will be mulched for use in dust control if practicable. Aggregate will be segregated during the cut and fill operations for re-use. Consideration will be given to reusing the waste on-site or supply to the local shire/community.	Project Manager (CAG) Contractor
Putrescible Waste	Putrescible waste will be stored into general waste containers that prevent the release of debris and leachate. The release of leachate into the environment may only be permitted if it does not present significant harm to human health, safety or the environment or generate offensive odours to the public and workers.	**PROJECT MANAGER (CAG)** **CONTRACTOR**
Clinical Waste	If clinical waste has been found the following control may be employed;	Project Manager (CAG)

	Syringes and needles found on site will be stored in a clearly labelled, solid, sealed container to prevent access to contents. They will be disposed of at a licenced provider. Clinical wastes will not be re-handled after disposal to minimise the exposure and risk of double handling.		Contractor
Concrete	Concrete trucks must not be washed out on site.		Project Manager (CAG) Contractor
Environmental Inspections and Monitoring	Daily (Visual/Documented)	Visual assessments will be conducted across the waste area to determine the effectiveness of waste management controls	Project Manager (CAG) Contractor
Reporting	WHE Monthly Management Meeting		Project Manager (CAG) Contractor

ATTACHMENT H: Handling and Storage of Hazardous Materials Sub Plan

HANDLING AND STORAGE OF HAZARDOUS MATERIALS SUB PLAN			RESPONSIBILITY
Objectives and Targets	To minimise the risk of contamination and to monitor the site for fuel or other hazardous materials To minimise, as far as reasonably practicable, the potential for adverse environmental impact due to handling or storage of hazardous materials. Refer 6.7 of this EMP.		Project Manager (CAG) Contractor
Performance Criteria	100% Compliance with Client and legal requirements 100% achievement with Site Objectives and targets Absence of contamination on site The protection of groundwater monitoring wells		Project Manager (CAG) Contractor
Mitigation Measures	General	The Contractor will develop a site plan (i.e. a diagram) showing the location of storage areas for Dangerous Goods, spill kit locations, muster points, firefighting equipment and First Aid equipment including eyewash/flush locations. In the event of any spill >5 Litres, Canberra Airport is to be notified.	Project Manager (CAG) Contractor
	Training and Competency	As part of the site Induction, workers will be informed of the site/project-specific controls required to manage hydrocarbon and chemical storage and use including: Use and understanding of safety data sheets (SDS) Use of personal protective equipment (PPE) Emergency Management Team members will be provided training to respond to a hazardous substance spill.	Project Manager (CAG) Contractor
	Register	ChemAlert will be used to register all site dangerous goods and hazardous materials, manage electronic SDS and conduct and record product risk assessments Consideration will be given to substitute products assessed as high risk with a product of lesser risk	Project Manager (CAG) Contractor
	Transportation	Containers holding hazardous materials or dangerous goods will be stored upright and secured during transport. Containers are not to be dropped, tip or rolled sides.	Project Manager (CAG) Contractor

	Handling and Use	Handling of products will be subject to the following requirements: Hazardous materials and dangerous goods will be clearly labelled Current SDS (no older than 5 years) will be readily available when handling Controls stipulated in the SDS to be applied when handling and using Used oily rags, oil filters and other left-over hydrocarbon and chemical products will be stored in a designated area and removed by licensed carriers to either recycle or otherwise dispose of.	Project Manager (CAG) Contractor
	Refuelling	Refuelling of plant and vehicles must be monitored continually and conducted in designated areas away from sensitive receptors. All infield refuelling must have a spill kit available to contain and clean-up any spills. Spill kits will be stored in designated and labelled containers and include a stock control register All refuelling areas must be signed to prevent smoking or naked flame Vehicles must be switched off when refuelling and the use of mobile phones prohibited Fixed refuelling areas must have a plastic lined refuelling area Fuel storage containers must be of a double bund construction	Project Manager (CAG) Contractor
	Site layout	This site plan must be current and displayed at the work site at all times throughout construction. In the event of an emergency that involves the need for emergency services this site plan along with a product manifest must be provided to the emergency services	Project Manager (CAG) Contractor
	Storage of Hazardous Materials	Any dangerous goods and/or hazardous marerials must be stored in designated areas compliant with statutory and industry codes of practice Quantities of hazardous materials should be kept to a minimum, commensurate with their usage and shelf life. Safety Data Sheets of stored hazardous materials will be readily accessible at the place of storage/site office. Permanent and temporary containers that hold hazardous materials must be labelled with the appropriate signage. The volume and types of hazardous materials stored must be known, current and documented and must not exceed the design capacity of the storage area. Storage and containment areas (including secondary containment) must be inspected for signs of loss or damage and any deficiencies must be addressed. These areas must be inspected at least monthly as part of the workplace inspection	Project Manager (CAG) Contractor

		Hazardous materials no longer in use must be identified and assessed to determine if they should be removed from the site. Hazardous materials storage areas must be kept clear of combustible material, vegetation and refuse by a minimum of three metres.	
	Spill/Emergency Response	In the event of a spill, the following generic procedure must be followed, Do not put yourself at risk. Notify personnel in the immediate area and remove yourself and others from danger. Report ALL SPILLS immediately to the Site Foreman and WHE Coordinator (report location, type and extent of the incident) any uncontrolled release will be reported as an incident to the Canberra Airport. Refer to the Emergency Response Management Plan and SOP 4 for guidance on spill response.	Project Manager (CAG) Contractor
	Workplace Inspections	Hazardous Materials storage and use will be inspected monthly as part of workplace inspections and within the DHI Environmental Inspections checklist.	Project Manager (CAG) Contractor
	Contaminated Sites	If the Site is deemed as contaminated by a Regulatory Body, the WHE Coordinator will be advised by suitably qualified personnel on ongoing monitoring of the site for the duration of the works or as required.	Project Manager (CAG) Contractor
Environmental Inspections and Monitoring	Daily (Visual)	Visual inspections of land for hydrocarbon staining or water bodies for slicks	Project Manager (CAG) Contractor
	Weekly (Documented)	Environmental Daily Hazard Identification (DHI) will be completed via the Electronic Document Management System (EDMS)	Project Manager (CAG) Contractor
Reporting	Work Health Environment Monthly Management Meeting		Contractor

ATTACHMENT I: PFAS Management Plan

Attachment I - PFAS MANAGEMENT PLAN

3 Wellington Place, Majura Precinct, Canberra Airport

The CEMP summaries the environmental assessment of the site, for consistency purposes this has been replicated in the following sections.

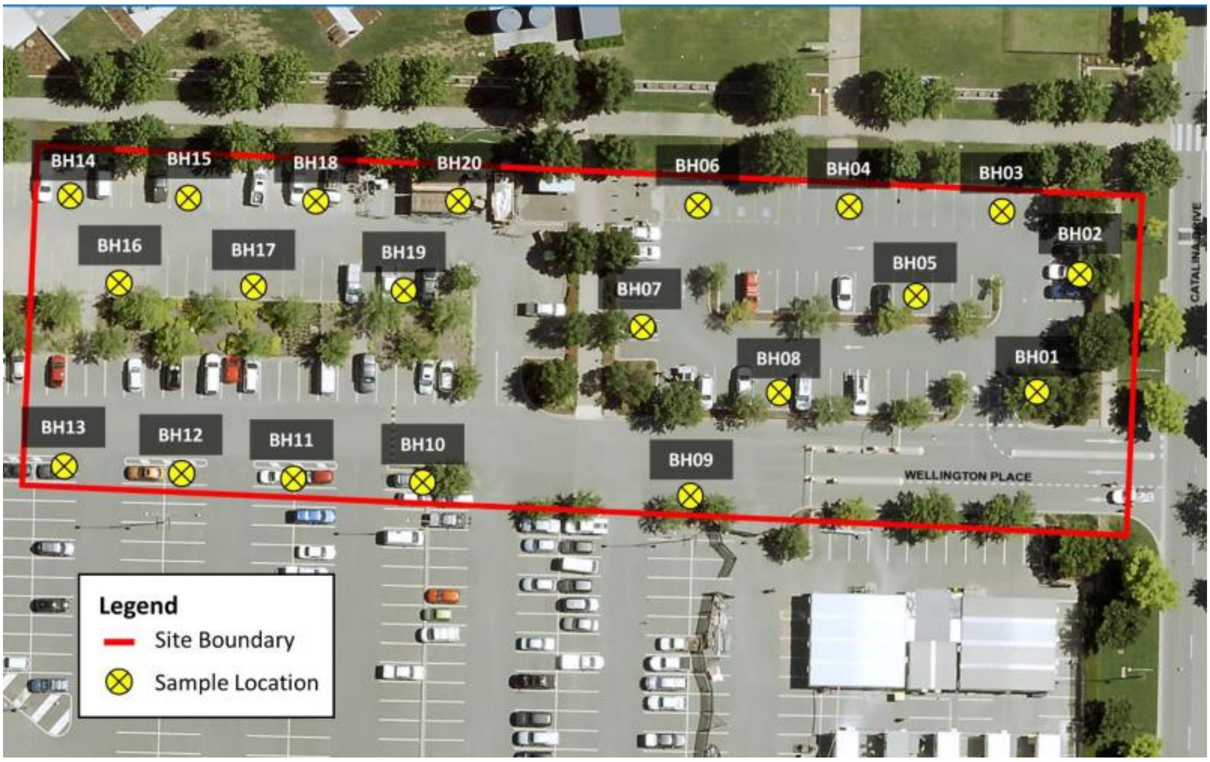
1. PFAS in Soil at the Project Site

Agon Environmental conducted a Limited Detailed Site Investigation (LDSI) on behalf of Canberra Airport, with sampling completed for the 3 Wellington Drive site in February 2023. The scope of the LDSI by Agon Environmental is summarised as follows:

- Completion of 20 boreholes (BH01-BH20) to a maximum depth of 2 metres. The depth of the samples was selecting targeted at the lift overrun location.
- Collection of 68 samples for a broad range of analytes, 41 of which were tested for PFAS and selectively targeting the fill profile.
- Comparison of the soil analysis data with the applicable land use criteria.
- Implementation of a QA/QC program. The QA/QC employed was determined to be suitable for the purpose of the assessment.
- Preparation of a Limited Detailed Site Investigation (LDSI) report.

The sample locations by Agon are shown in Figure 1 below. Key findings of this assessment, with regard to land use suitability and soil disposal, they are summarised in the following sections.

Figure 1: Sample Location Plan



Copies the environmental assessment reports and the Canberra Unexpected Finds Protocol are included in Attachments 1-2 of the PFAS Management Plan.

2. Land Use Suitability

The key findings of the Agon Environmental (2023) LDSI were as follows:

- The following potential sources of contamination were identified:
  - Historic importation of fill material from off-Airport in 2006 for the bulk earthworks of the Majura Carpark and eventual current carparking site and/or;
  - Unknown PFAS impacts soils based as a result of historical activities.
- In summary all soil analysis results were less than the adopted assessment criteria and the corresponding Airports (Environment Protection) Regulations 1997 Soil Pollution – Accepted Limits (General Airport Area).
- Low level of Sum (PFHxS + PFOS) were noted at the following sample locations:
  - BH09 - 0.5 - Sum (PFHxS + PFOS) 0.0051 mg/kg marginally above the laboratory limit of reporting of 0.005 mg/kg.
  - BH13 - 0.5 - Sum (PFHxS + PFOS) 0.0059 mg/kg marginally above the laboratory limit of reporting of 0.005 mg/kg.
  - BH14 - 0.5 - Sum (PFHxS + PFOS) 0.0054 mg/kg marginally above the laboratory limit of reporting of 0.005 mg/kg.
  - BH16 - 0.5 - Sum (PFHxS + PFOS) 0.0055 mg/kg marginally above the laboratory limit of reporting of 0.005 mg/kg.
- The overall dataset is consistent with the Meinhardt (2019) investigation of 25-27 Catalina Drive which is <100m northeast of the site area.

On the basis of the assessment, Agon conclude the site to be suitable for the proposed development of a commercial complex.

This conclusion is subject to the following requirements:

- An Unexpected Finds Protocol (UFP) be developed for the site and is to be implemented during any future redevelopment works.
- Any other soils proposed to be removed from the site must be assessed in accordance with ACT EPA (2019) Information Sheet 4 'Requirements for the Reuse and Disposal of Contaminated Soil in the ACT' and the Canberra Airport PFAS Soil Management Framework (once finalised). If any soils are proposed for reuse within the Airport a reuse assessment must be completed in accordance with the PFAS NEMP Version 2 (or prevailing version at time of application) and is subject to review and approval by the Airport Environmental Officer (AEO) prior to reuse.

The Unexpected Finds Protocol (UFP) forms part of Appendix 3 of the Site-Specific CEMP for the project and is included in Attachment 2 of this PFAS Management Plan.

The Canberra Airport PFAS Soil Management Framework has been finalised and the checklist has been included as an Attachment of the site-specific CEMP.

3. Soil Disposal Assessment

Soil spoil from the excavation of 3 Wellington will be disposed of at an approved licensed facility in ACT/NSW once approved based on the Waste Classification Report.

The in-situ assessment of soils at the site will comply with the required sampling densities of the receiver sites regulator, either the ACT EPA or NSW EPA.

4. PFAS Impacted Excavated Soil Management

Whilst the 4 low level concentrations of PFAS were noted to be present at soils at the site, these have been evaluated through a CSM as not presenting any completed contaminant-source-pathway-receptor linkages. In summary:

- All soil analysis results were less than the applicable health-based screening criteria for site construction workers.
- Site end users will not come into contact with soils at the site (as they are proposed to be beneath a foundation slab).
- Ecological receptors are also unlikely to come into contact with these soils for the reasons detailed above.
- Furthermore, the soils containing low levels of PFAS (sample locations BH09-0.5m, BH013-0.5m, BH014- 0.5m, BH016- 0.5m) will be removed via bulk excavation and will not pose an ongoing indirect ecological risk.

The total concentrations of PFAS in soil at the project site are at low levels and are a number of order of magnitude less then the PFAS NEMP 2.0 human health guidance level for soil at a commercial/industrial site (20 mg/kg). Therefore, the risk to the health of construction workers is negligible. However, all workers on the site will be made aware of the Canberra Airport WHS Policy for PFAS at induction (refer **Appendix 4** of the CEMP).

4. Attachments to this PFAS Management Plan

Attachment 1	Agon Environmental LDSI – August 2023
Attachment 2	Unexpected Finds Protocol

LIMITED DETAILED SITE INVESTIGATION REPORT

Part of Block 587 Section 1 Canberra Airport
3 Wellington Place

Prepared for:	Capital Airport Group
Date:	15 August 2023
Reference:	JC1147
Version:	JC1147/06

Agon Environmental Pty Ltd

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TABLE OF CONTENTS

TABLES

AGON DOCUMENT CONTROL

Report Title	Project Reference
Limited Detailed Site Investigation Part of Block 587 Section 1 Canberra Airport 3 Wellington Place	JC1147
Written	**Approved**
Kurt Lockwood **Environmental Scientist**	John O’Brien **Principal Environmental Scientist**

Rev No	Status	Date	Author	Reviewer
01	Issue	6/2/2023	K.L	J.O
02	Issue	15/2/2023	J.O	-
03	Issue	22/02/2023	J.O	-
04	Issue	3/03/2023	J.O	-
05	Issue	4/05/2023	J.O	-
06	Issue	15/08/2023	J.O	-

Rev No	Copies	Recipient
01	1 electronic	Capital Airport Group
02	1 electronic	Capital Airport Group
03	1 electronic	Capital Airport Group
04	1 electronic	Capital Airport Group
05	1 electronic	Capital Airport Group
06	1 electronic	Capital Airport Group

LIST OF ABBREVIATIONS

Abbreviation	Description
ADWG	Australian Drinking Water Quality Guidelines (NHMRC, 2004)
AHD	Australian Height Datum
ANZECC	Australian and New Zealand Environment and Conservation Council
BTEXN	Benzene, toluene, ethylbenzene, xylenes, and naphthalene
CHC	Chlorinated Hydrocarbons
COC	Chain of Custody
COPC	Contaminant of Potential Concern
CSM	Conceptual Site Model
DQIs	Data Quality Indicators
DQOs	Data Quality Objectives
DSI	Detailed Site Investigation
EPA	Environment Protection Authority
HHRA	Human Health Risk Assessment
HILs	Health Investigation Levels
HSLs	Health Screening Levels
LDSI	Limited Detailed Site Investigation
LOR	Limit of reporting
mbgl/ mbgs	Metres Below Ground Level/Surface
NATA	National Association of Testing Authorities
NAPL	Non-Aqueous Phase Liquids
NEPM	National Environment Protection (Assessment of Site Contamination) Measure 1999, updated 2013
NHMRC	National Health and Medical Research Council
OCP	Organochlorine pesticides
OPP	Organophosphorus pesticides
PAH	Polycyclic aromatic hydrocarbons
PCA	Potentially Contaminating Activity (PCA)
PAH	Polycyclic Aromatic Hydrocarbons
PCB	Polychlorinated biphenyls
PFAS	Per- and Poly-fluoroalkyl substances
PFAS NEMP	PFAS National Environmental Management Plan (Heads of EPA, 2020).
PSI	Preliminary Site Investigation
QA/QC	Quality Assurance and Quality Control
RPD	Relative percentage difference
SVOC	Semi-volatile organic compounds
SWL	Standing Water Level
TRH	Total Recoverable Hydrocarbons
WQOs	Water Quality Objectives
VOC	Volatile Organic Compounds

EXECUTIVE SUMMARY

Agon Environmental Pty Ltd (Agon) was engaged by Capital Airport Group to undertake a Limited Detailed Site Investigation (LDSI), for a portion of Block 587 Section 1 Canberra Airport (3 Wellington Place, the site). Agon understand the site area will be developed as a multi-level commercial complex with no basement carparking. For clarity, the investigation has been limited to soils for the following reasons:

- A groundwater assessment has already been completed in close proximity to the site area (at 25-27 Catalina Drive, <100m northeast), refer Section 3.2. The local groundwater conditions are expected to be similar with 25-27 Catalina Drive. No further potential offsite sources of groundwater contamination have been identified in proximity to the site, refer Section 2.4.
- The proposed development (i.e. multi-level commercial complex with no basement carparking) will not interact with groundwater (estimated depth 4 metres below ground level [mbgl]) there are no conceivable exposure pathways (to groundwater) during construction and future occupancy of the site.

The LDSI data summarised in this report indicates that the site was vacant undeveloped land until 2006 when it was developed as carpark for the Majura Commercial Park. Two PCAs were identified, these were potential PFAS impacts (to soils) and potential fill of unknown origin, no potential sources of groundwater contamination (either onsite or offsite) were identified.

Two PCAs were identified, these were potential PFAS impacts (to soils) and potential fill of unknown origin. A summary of the assessment is as follows:

- Advancement of 20 boreholes (BH01-BH20) across the site area to a maximum depth of 2 metres below ground level (mbgl).
- A total of 68 samples have been analysed for a broad range of analytes including TRH, BTEXN, PAHs, PCBs, PAHs, Phenols, OCP and Metals. PFAS were also assessed in 41 samples preferentially targeting the fill profile (i.e. likely source of PFAS impacts) within the site area. In summary:
  - All soil analysis results were either less than the laboratory limit of reporting or the adopted assessment criteria.
  - Low concentrations of Sum (PFHxS + PFOS) were noted at the following sample locations:
    - BH09 - 0.5 - Sum (PFHxS + PFOS) 0.0051 mg/kg marginally above the laboratory limit of reporting of 0.005 mg/kg.
    - BH13 - 0.5 - Sum (PFHxS + PFOS) 0.0059 mg/kg marginally above the laboratory limit of reporting of 0.005 mg/kg.
    - BH14 - 0.5 - Sum (PFHxS + PFOS) 0.0054 mg/kg marginally above the laboratory limit of reporting of 0.005 mg/kg.
    - BH16 - 0.5 - Sum (PFHxS + PFOS) 0.0055 mg/kg marginally above the laboratory limit of reporting of 0.005 mg/kg.

The identified PCAs have been qualitatively and quantitatively assessed through a CSM which did not identify any complete contaminant source-pathway-linkages. On this basis Agon conclude the site (as shown in **Figure 2**) to be suitable for the proposed development of a commercial complex.

This conclusion is subject to the following requirements:

- An Unexpected Finds Protocol (UFP) be developed for the site and is to be implemented during any future redevelopment works.
- Any other soils proposed to be removed from the site must be assessed in accordance with ACT EPA (2019) Information Sheet 4 'Requirements for the Reuse and Disposal of Contaminated Soil in the ACT' and the Canberra Airport PFAS Soil Management Framework (once finalised). If any soils are proposed for reuse within the Airport a reuse assessment must be completed in accordance with the PFAS NEMP Version 2 (or prevailing version at time of application) and is subject to review and approval by the Airport Environmental Officer (AEO) prior to reuse.

1.0 INTRODUCTION

1.1 Background

Agon Environmental Pty Ltd (Agon) was engaged by Capital Airport Group to undertake a Limited Detailed Site Investigation (LDSI), for a portion of Block 587 Section 1 Canberra Airport (3 Wellington Place, the site), refer **Figure 1**. Agon understand the site area will be developed as a multi-level commercial complex with no basement carparking. For clarity, the investigation has been limited to soils for the following reasons:

- A groundwater assessment has already been completed in close proximity to the site area (at 25-27 Catalina Drive, <100m northeast), refer Section 3.2. The local groundwater conditions are expected to be similar with 25-27 Catalina Drive. No further potential offsite sources of groundwater contamination have been identified in proximity to the site, refer Section 2.4.
- The proposed development (i.e. multi-level commercial complex with no basement carparking) will not interact with groundwater (estimated depth 4 metres below ground level [mbgl]) there are no conceivable exposure pathways (to groundwater) during construction and future occupancy of the site.

1.2 Objective

The objective of this LDSI is to identify potentially contaminating activities (PCAs) which may have occurred at the site, provide an assessment of potential risks to human health and the environment and provide a conclusion as to the suitability of the site for the proposed land use.

1.3 Scope of Work

The scope of work for this investigation comprised:

- A review of property details and a description of the features of this site.
- A review of regional geology and hydrogeology.
- An inspection of the site.
- A review of historical aerial photographs of the site and surrounding area.
- A review of publicly available information.
- In-situ soil assessment comprising:
    - Collection of soil samples from 20 boreholes (BH01-BH20) which were advanced to a maximum depth of 2 metres below ground level (mbgl).
    - Laboratory analysis of selected soil samples (collected at depths of 0.1, 0.5, 1.0, 1.5 and 2.0m) by commercial analytical laboratories using methods registered by the National Association of Testing Authorities (NATA) for the identified contaminants of concern.
- Compilation of this information presented in this LDSI report.

1.4 Legislative Framework

The LDSI has been prepared in general accordance with the following guidance documents:

- ACT Government (2019) Information Sheet 4 - Requirements for the Reuse and Disposal of Contaminated Soil in the ACT.
- ACT EPA Information Sheet 11 – Environment Protection Authority Report Submission Requirements.
- Airports (Environment Protection) Regulations 1997.
- National Environment Management (Assessment of Site Contamination) Measure 1999 (amended 2013) (the NEPM).
- NSW EPA (2014) Waste Classification Guidelines – Part 1: Classifying Waste and Addenda.
- NSW EPA (2014) 'The Excavated Natural Material Order 2014.
- NEMP 2.0 Heads of EPA (2020) 'PFAS National Environmental Management Plan, Version 2.0 – January 2020.
- NSW EPA (2020) Contaminated Sites: Guidelines for Consultants Reporting on Contaminated Sites.
- Standards Australia (2005) Guide to the investigation and sampling of sites with potentially contaminated soil. Part 1: Non-volatile and semi-volatile compounds AS4482.1 (2005) and Part 2: Volatile substances, AS4482.2 (2005) (hereafter AS4482.1 and AS4482.2).

1.5 Report Structure

This LDSI has been prepared to present the key reporting requirements of a Preliminary Site Investigation (PSI) and a Detailed Site Investigation (DSI) as defined by the ASC (2013) NEPM. For ease of review the Sections of this report has been summarised as follows:

- **Section 2 (Site Details)** - A summary of the site setting, physical setting, zoning, surrounding land uses and a site inspection. This addresses the key requirements of the ASC (2013) NEPM.
- **Section 3 (Historical Information)** – A summary of the relevant historical information that may be applicable to the site to determine if any PCAs occur at (or in proximity to) the site. Sufficient historical information has been presented to comply with the intent of the ASC (2013) NEPM to identify the PCAs at the site.
- **Section 4 (Site Assessment)** – This section presents the details of the site assessment as would be required in a DSI cumulating in the evaluation of the qualitative and quantitative dataset through a Conceptual Site Model (CSM). This is complaint with the key requirements of the ASC (2013) NEPM**.**
- **Section 5 (Conclusion)** -This section presents a clear and concise conclusion as to the suitability of the site for the proposed land use from a contaminated land perspective.

Figure 1: Site Location
Source: ACTmapi (2023)

2.0 SITE DETAILS

2.1 Site Identification

Table 1: Site Identification

Site Identification	
Site Address	3 Wellington Place, Canberra ACT 2609
Allotment Description	Portion of Block 587 Section 1, Canberra Airport
Volume/Folio	N/A
Current Land Use	Carpark
Proposed Land Use	Commercial Uses
Total Area	Approx. 8,500m^2

2.2 Physical Setting

At the time of the LDSI, the site area is a carpark. The layout of the site is shown below in **Figure 2**.

2.3 Site Zoning

The Canberra Airport is governed by the National Capital Plan (NCP) and is subject to a Master Plan under applicable Commonwealth Legislation (Airports Act 1996). In the NCP, Figure 2: General Policy Plan - Metropolitan Canberra, the Canberra Airport is zoned BROADACRE (NUZ1).

2.4 Surrounding Land Use

The immediate surrounding land uses to the site are summarised below in and **Table 2**.

Table 2: Surrounding Land Use

Direction	Land Use
North	Majura Park Complex (commercial offices) fronting Lancaster Place followed by the roundabout of Spitfire Ave & Majura Road and IKEA.
East	Catalina Drive, Kingswim Majura Park Complex, carparking and the Majura Park Shopping Complex.
South	Catalina Drive carpark followed by the Airfield.
West	Carparking, Airfield and Majura Road.

In summary, no contaminating land uses have been identified within 100m of the site. More broadly there are several service stations and/or fuel dispensing facilities in the wider area, these are:

- Ampol Aviation Fuel Depot (426m southwest to the site). Regionally the groundwater flow direction has been determined to south to southwest, meaning this fuel depot is down hydraulic gradient (i.e. no potential for hydrocarbon impacts to the site area) and has not been considered further as part of this LDSI.

- Costco Service Station (412m north to the site). Agon were provided with groundwater monitoring reports for this service station, these have been reviewed in Section 3.2.
- Caltex Service Station (630m north to the site). Agon were provided with groundwater monitoring reports for this service station, these have been reviewed in Section 3.2.

Figure 2: Site Plan
Source: CAG (2023)

2.5 Site Geology, Hydrology and Hydrogeology

The 1:100,000 Geological Series, Canberra (Bureau of Mineral Resources, 1992) describe the site area as being underlain by rocks of the Canberra Formation (comprising of mudstone, siltstone, minor sandstone, limestone, hornfels, dacitic ignimbrite volcaniclastics, minor agglomerate and lithic tuff).

Surface water is expected to be redirected to sealed drainage channels within the existing carpark prior to being discharged to Woolshed Creek west of the site. Some local infiltration may occur via leaks in stormwater infrastructure and local garden beds. Agon understand groundwater is encountered at an approximate depth of 4mbgl within the site area and has a regional groundwater flow direction to the south-southwest.

Review of the 1:100,000 Hydrology of the Australian Capital Territory and Environs (1984) indicates that the groundwater beneath the Site is present in fractured rock aquifers, wells in the area typically yield 0.5 – 1.0 L/s. The quality of groundwater abstracted from these wells is anticipated to be less than 1000 mg/L Total Dissolved Solids (TDS).

2.6 Site Inspection

An inspection of the site was undertaken by Agon personnel, key observations were as follows:

- The site area is a carpark located on Wellington Place, adjacent to the Majura Park Complex.
- The site also contained a series of garden beds, Agon noted the vegetation to be un-stressed.
- No sensitive receptors were identified in proximity to the site area.

3.0 HISTORICAL INFORMATION

3.1 Historical Aerial Imagery

Aerial Photographs were reviewed from 1951 to 2022 to investigate the former land uses at the site. Selected aerial extracts are provided in **Appendix A**, with approximate site locations outlined in blue.

Table 3: Historical Aerial Imagery

Year	Description
1951	**Site:** The site area is undeveloped land adjoining the runway. **Surrounds:** Initial stages of the airport evident.
1961	**Site:** No changes. **Surrounds:** No significant changes.
1972	**Site:** No changes. **Surrounds:** No significant changes.
1987	**Site**: No changes. **Surrounds:** Further development of the airport to the south
1998	**Site**: No changes. **Surrounds:** Further development of the airport to the south
2004	**Site**: No changes. **Surrounds:** Further development of the airport to the south
2006	**Site**: It appears the site and surrounding area have received fill which is being spread presumably to level the area in preparation of development. **Surrounds:** Further development of the airport to the south and initial stages in the development of the Majura Park Precinct to the northeast.
2009	**Site**: The site has been developed into a carpark to the extent observed today. **Surrounds:** Substantial development of the Majura Park Precinct to the north and northwest
2015	**Site**: No significant changes. **Surrounds:** Further development of the Majura precinct to the east.
2022	**Site**: No significant changes. **Surrounds:** Further development of the Majura precinct to the east.

In summary, the site remained vacant (undeveloped) up until 2006 when the site was prepared for development and by 2009 the site was a carpark. The surrounding areas were in the initial stages of the airport development from the 1950’s and was progressively developed up until the late 2020's.

3.2 Previous Environmental Assessments

Agon has reviewed the following reports:

- AECOM (2019) *Preliminary Site Investigation and Limited Sampling, Canberra Airport* (PSI).
- Meinhardt (2019) *25-27 Catalina Drive – Canberra Airport, ACT 2609. Detailed Site Investigation (DSI).*
- Trace Environmental (2023) *Follow-up Groundwater Monitoring Event. EG Service Station (Store No. 1193) 5 Mustang Avenue, Canberra Airport ACT.*
- GHD (2022) *Costco Fuel Biannual Groundwater Monitoring Report – Canberra, ACT – GME #15, October 2022*.

For context, a figure depicting the site within the wider airport setting (referencing the locations of the reports reviewed in Section 3.2) has been provided in **Figure 3**.

Figure 3: Site Environmental Setting
Source: ACTmapi (2023)

AECOM (2019)

The AECOM (2019) was completed on behalf of Airservices Australia to investigation areas of the airport that used Aqueous Film Forming Foam (AFFF). However the PSI provides a broader site history review including the 'Majura Commercial Park' north of the site area. Relevant findings were as follows:

- The Majura Commercial Park was identified as an Area of Potential Environmental Concern (APEC 6). AECOM noted '*AFFF use at the Airport Terminal, Brindabella Business Park and Majura Commercial Park areas is considered unlikely although insufficient evidence exists on these areas to the rule it out'*.
- AECOM indicted there to be a network of eighteen monitoring bores located within the Terminal, Brindabella Business Park, Majura Commercial Park and the former Fairbairn fuel farm area. At the

time of the PSI PFAS was not detected in groundwater at the Majura Commercial Park and the standing groundwater level was approximately 4.5m below ground surface.

- Groundwater flow is inferred to be in a southern to south-western flow direction.

Meinhardt (2019)

The assessment area is located approximately 100m northeast of the site area. Key findings of the assessment were as follows:

- The report details the assessment of an approximate area of 8,000m^2 that required excavation for the construction of a commercial complex.
- The scope of work comprised:
    - *Investigation of soils at a total of 17 locations (CAG-CAT01-SB01 – CAG-CAT-SB17);*
    - *Installation and development of three (3) GW monitoring wells (MWs) (CAG-CAT01-MW01 – CAG-CAT01-MW034) at three (3) of the soil bore investigation locations;*
    - *Analysis of soil samples for a range of Contaminants of Potential Concern (CoPC) for airport sites, including PFAS;*
    - *Completion of a GW monitoring event (GME) at the Site assess the presence and distribution of potential impacts to GW;*
    - *Analysis of GW samples for a range of CoPC for airport sites, including PFAS; and*
    - *Preparation of a DSI report, detailing the intrusive works completed, methodology applied, sampling, discussion of the results of sample analysis with screening against the applicable guideline criteria, as well as provision of conclusions and recommendations for any further works, as required.*
- Key findings of the assessment were as follows:
    - In-situ soil conditions were logged to comprise:
        - *FILL (0.0-0.7m) - CLAYEY SILT and SILT – pale orange brown, pale brown, brown and pale yellow with occasional fine to medium gravels.*
        - *NATURAL (>0.4-0.7m) - SILTY CLAY and Clayey SILT – orange brown, brown with occasional yellow, black and red mottling, low to medium plasticity or CLAY – orange to brown with red to orange mottling throughout, traces of black mottles, medium plasticity underlain by SANDSTONE – Pale grey to brown or Sandy CLAY and CLAY– pale grey, dark brown and brown with orange, red and black mottling, medium plasticity and stiff. Fine to medium sands.*
    - A summary of the soil assessment is as follows:
        - *There were no reported exceedances of the adopted ecological, human health or buildings and structures screening criteria for soil samples collected from the Site.*
        - *No exceedances of the adopted PFAS NEMP 2018 human health or ecological screening criteria for the Site were noted for PFAS in soils sampled at the Site. While*

no exceedances were noted, detectable concentrations of PFAS (both total and leachable) were reported in all 17 investigation locations. These detections were generally in fill soil samples taken from across the Site. The reason for the presence of detectable PFAS in soils at these locations is not immediately apparent.

- A summary of the groundwater assessment is as follows:
    - *Based on GW level and survey data, GW beneath the Site was inferred to flow in a south westerly direction towards the Molonglo River.*
    - *Standing Water Levels (SWLs) ranged between 4.068m and 4.375m*
    - *A total of 16 exceedances of the adopted ecological screening criteria for GW were reported in samples collected from the Site, comprising a total of three (3) for PFAS and 13 for a range of metals.*
    - *PFAS was reported above laboratory detection limits in all three (3) MWs sampled on-site. Due to elevated concentrations of PFAS in GW analysed from beneath the Site, Meinhardt understands that CAG does not intend on using GW for irrigation at the Site to minimise the potential spread of PFAS.*

Agon note Meinhardt do not list specific CoPC that were testing for in soil and groundwater however a review of the analysis tables (Appendix F) indicate Meinhardt adopted a broad analytical suite for soil (TRH, BTEX, Metals, PAHs, Phenols, OCP/OPP, VOCs, PFAS) and groundwater (TRH, BTEX, Metals, PAHs and PFAS).

Trace Environmental (2023)

The report presents the most recent bi-annual groundwater monitoring event of four groundwater wells (MW-1, MW-3 to MW-5) and three tank pit wells (TPMW-1 to TPMW-3). Bi-annual monitoring was undertaken to comply with the requirements of the ACT EPA (2019) *Environmental Guidelines for Petroleum Storage in the ACT*. Key findings of the report are as follows:

- The scope of work comprised the gauging of all groundwater and tank wells. The groundwater wells were sampled and laboratory analysed for contaminants of concern, being BTEXN, TRH and ethanol.
- All groundwater analysis results were less than the adopted assessment criteria indicating there to be no hydrocarbon based impacts to groundwater at the service station.
- SWLs were measured to be between 2.055m (MW-5) to 2.314m (MW-4).
- Table 1A appended to the report also present the data for previous monitoring events since 2021, these monitoring round also did not identify the presence of hydrocarbon impacts to groundwater.
- Trace stated 'As *such, no petroleum hydrocarbon impacts have been identified at the site that are considered to pose a risk to human and/or ecological receptors at the site and surrounding site area*'.

GHD (2022)

The report presents the October 2022 biannual groundwater monitoring of seven groundwater monitoring wells (MMW10, MMW11, MMW12, MMW13, MMW14, EX1 and EX2) and four tank pit observation wells (TPOW1, TPOW2, TPOW3, TPOW4). Key findings of the report are as follows:

- GHD summarised the site history as follows:

Costco Canberra opened on 22 July 2011. In 2014, Costco commenced building a fuel station. Prior to opening, SLR Pty Ltd decommissioned five redundant groundwater monitoring wells (GWMW) and replaced them with new wells (on 27 November 2014). The well installation, groundwater sampling methodology and chemistry results are detailed in the SLR (2014) report Installation of Groundwater Monitoring Wells and Groundwater Sampling, Proposed new Costco Service Station Site. All groundwater chemistry results reported petroleum hydrocarbons and most heavy metals at less than the laboratory level of reporting.

In addition to the five GWMW's the site has four tank pit observation wells (TPOW) on site and two GWMW's located off-site. According to the Costco Wholesale Typical Tank Section and Pipe Burial drawing (developed by SKM, 2013) the TPOW's are installed at the time of tank installation. Typically, the TPOW's are constructed utilising 150 mm slotted PVC pipe with a pipe bottom cap. The base of the TPOW is seated into a sump that is 600 mm below the base of the fuel tanks. The TPOW is capped and secured below a gatic cover at ground surface, which is shown as reinforced concrete in the drawing.

- SWL ranged from 0.604m to 1.654m during the October 2022 monitoring event.
- GHD summarised the monitoring results of the last 15 monitoring events, Table 2.1 of the report details the results of these reports. Agon note occasional elevated PID readings (in well cap headspace), low detections of BTEX and TRH C6-C9, and slight sheen were periodically noted in tank pit wells TPOW2 and TPOW3 over the years.
- The scope of work for the October (2022) monitoring event included gauging of all wells with laboratory analysis of selected GWMWs (MW10, MW13 and EX2) for TRH, BTEX and Ethanol. Results were as follows:
  - *Low range ethanol values were detected in all water samples collected, the concentration detected ranged from just above the LoR (50 µg/L) 54 - 181 µg/L*
  - *A concentration of 190 µg/L for TRH in the C6 – C10 fraction was detected in the water sampled at TPOW3, and the TRH (C6 – C10) fraction minus BTEX was calculated as 90 µg/L.*
  - *BTEX compounds were also detected in water sampled at TPOW3. The sum of BTEX compounds equated to a concentration of 98 µg/L. Naphthalene was not detected.*
- On the basis of the results GHD made the following recommendations:
  - *Review Statistical Inventory Reconciliation Analysis (SIRA) data and pressure testing records for indications of infrastructure leaks*
  - *Continue biannual monitoring in April 2023.*
  - *Collect and submit for analysis a water sample from TPOW3 during the next GME to monitor TRHs and ethanol concentrations.*
  - *Collect and submit for analysis a water samples from TPOW1, MMW10 and MMW13 during the next GME to monitor for increases in ethanol concentrations.*
  - *Replace loose well caps with pressure sealing caps.*

Agon note the periodic low concentrations of hydrocarbons appear to be limited to the tank pit wells with no evidence of wider hydrocarbon impacts in groundwater wells at the service station. This does not suggest there to be widespread hydrocarbon impacts at the service station.

3.3 ACT EPA Contaminated Land Search

A search of the Register of Contaminated Sites maintained by the ACT EPA (under the Environment Protection Act 1997) was undertaken to identify any site contamination notifications. A summary of the search is summarised as follows:

> *At the time of reporting, the EPA had not issued any orders of assessment or remediation under sections 91C (1) or 91D (1) respectively, environment protection orders under sections 125 (2) or (3), requested an audit under section 76 (2) or received an audit notification under section 76A (1) of the Environment Protection Act 1997 (the Act) over the site and as a result the site is not recorded on the Register of contaminated sites under section 21A of the Act.*
>
> *Per- and poly-fluoroalkyl substances (PFAS) contamination is also present as a result of the firefighting activities undertaken at the wider airport site. Airservices Australia commissioned a preliminary site investigation (PSI) to identify areas that have been potentially impacted by PFAS at Canberra Airport. EPA records indicate that the PFAS investigation is ongoing.*
>
> *It was also noted that other potentially contaminating activities may have also been undertaken at the site associated with past or current permitted uses. The correspondence received from the EPA did not expand on the types of activities.*
>
> *The information detailed above only relates to records held by the EPA and may not represent the actual condition of the site. At present, the EPA has no information on contamination of Block 587 Section 1, Canberra Airport, Majura, other than as detailed above.*

Agon note the Canberra Airport is National Land with the Airport itself being subject to separate jurisdiction to the ACT.

3.4 Historical Building Plans

There were no historical building plans available for the site which has remained vacant.

3.5 Summary of Site Environmental Setting

On the basis of the review of the site history and previous reports the site setting is summarised as follows:

- **Soil** – Soil conditions at the site are expected to be consistent with those reported at 25 Catalina Drive by Meinhardt (2019) given its close proximity (<100m away from the site) and same site history (i.e. vacant land followed by filling activities around 2006, refer Section 3.1). That is to say soils (both fill and natural soils) at the site are expected to be free of contamination with the exception of low concentrations of PFAS.

- **Groundwater** – Groundwater conditions at the site are expected to be consistent with those 25 Catalina Drive by Meinhardt (2019) given its close proximity (<100m away from the site) and that 25 Catalina Drive is up-hydraulic gradient to the site noting a regional groundwater flow direction of south to south-west has been established by both AECOM (2019) and Meinhardt (2019). Expected groundwater conditions are summarised as follows:

- SWL is expected to be around 4m as reported by Meinhardt (2019).
- Groundwater flow direction is in a south to southern westerly flow direction.
- There are categorically no sources of hydrocarbon contamination at or in proximity to the site, a review of the closest potential sources of hydrocarbons (Costco and Caltex Service Stations between 400m-600m north of the site) are demonstrably free of significant hydrocarbon impacts that would pose a risk to the site.
- Groundwater conditions are expected to be consistent with those report at 25 Catalina Drive, being free of contamination (Meinhardt tested for a broad range of analytes with the exception of PFAS as reported by Meinhardt (2019).

For context, a figure depicting the site within the wider airport setting (referencing the locations of the reports reviewed in Section 3.2) has been provided in **Figure 3**.

3.6 Potentially Contaminating Activities

The site history data indicates the site has largely been vacant with no discernible development until 2006. Surrounding land uses within 100m of the site have been evaluated with no potentially contaminating land uses occurring (i.e. surrounding land use predominately comprises commercial offices, retail, roads and carparking).

On the basis of the site history, site inspection, review of previous reports and the site environmental setting (Section 3.5) the following potentially contaminating activities (PCAs) and Contaminants of Concern (CoCs) have been identified as being present at the site.

Table 4: PCA

PCA	CoCs	Description
PCA01 **PFAS Impacts**	PFAS	**Soil** It is unknown if the site area is impacted with PFAS as a result of historical activities or other diffuse PFAS sources. **Groundwater** It is known that groundwater at 25-27 Catalina Drive is impacted with PFAS (refer Section 3.2), no other groundwater contamination was identified in Meinhardt (2019). The PFAS impacts were attributed to: *'ARFF activities historically conducted at the airside Fire Station and Fire Training Ground, located in the south eastern and north eastern parts of Canberra Airport'* Groundwater at the site is expected to contain similar concentrations of PFAS as 25-27 Catalina Drive (which is <100m up hydraulic gradient) however as the proposed development does not contain a basement carpark there is no conceivable contaminant source-pathway-receptor-linkages during construction and future occupancy of the site that would warrant/trigger the requirement for the assessment of groundwater at the site as part of this LDSI.
PCA02 **Fill**	TRH BTEXN PAHs OCPs/OPPs Phenols	Fill was imported to the site in 2006 associated with preparing the area for the development of the Majura Commercial Park and the carpark (site). Given the recent filling timeframe (2006) Agon have no reason to suspect unsuitable fill (geotechnical or otherwise) would have been used at the site. It is probable the fill comprised reworked natural soils derived from within (or around) the Canberra Airport and has a low overall contamination risk.

4.0 SITE ASSESSMENT

4.1 Data Quality Objectives

The Data Quality Objective (DQO) process is a seven-step process that assists in the development of sampling programs to optimise the relevance and quality of the data collected. The ASC (2013) NEPM guidelines pertaining to the DQO process are used to establish field and laboratory quality control, assurance and methodologies and are used to measure the performance of field and laboratory data. Relevant DQO steps are summarised in **Table 5**.

Table 5: Data Quality Objectives

Step	Description
Step 1: State the Problem	It is unknown if the site is suitable for its intended use from a contaminated land perspective. If contamination is present, as a result of the identified PCAs, what remedial or management measures are required to render the site suitable.
Step 2: Identify the Decision	The purpose of this step is to define the decision statement that the sampling undertaken in conjunction with the PSI will attempt to resolve, based on the problem stated above in Step 1. The decision statement can be summarised as follows: *To assess whether the site is suitable for ongoing commercial/industrial land uses from a contaminated land perspective.* *If unsuitable, to provide sufficient information to develop remediation or management strategies to render the site suitable for the current or proposed land uses, from a contamination perspective.*
Step 3: Decision Inputs	The primary inputs required to meet the Decision include: • Soil sampling to obtain samples representative of the relevant media. • Compare concentrations of contaminants in soil and groundwater against the adopted site assessment criteria. • Assess, to the extent permitted by the sampling program, the presence, nature and extent of contamination as a result of the identified PCA.
Step 4: Define Boundaries	The boundaries of the site area being identified in Section 2. A summary of the target population, temporal and geographic boundaries including constraints is provided below: • **Target Populations**: The target population for this study comprises the environmental samples of site area. • **Temporal Boundaries**: The temporal boundaries included in the decision-making process are based on the current environmental condition of the site at the time of investigation.
Step 5: Decision Rules	The following outlines the key drivers and relevant decision rules that will be applied in the decision-making process: • Assess the need for further investigation, more detailed assessment of risk, management controls and/ or remediation if chemical concentrations are found to exceed adopted assessment criteria. • The safety of current and future users of the site. The analytical and field data generated through the assessment process will be compared to the adopted site assessment criteria, and the decision rules become: • If soil concentrations are greater than the adopted criteria, further assessment may be required, comprising one or more of the following: ○ Further assessment of soils to determine nature and extent of detected contaminants. ○ Further consideration of potential for groundwater impacts. ○ Development of remediation plans; and/ or management plans. • If contaminant concentrations in soil are less than the adopted assessment criteria, then further characterisation is unlikely to be required.
Step 6: Decision Errors	

Step	Description
	The Tolerable Limits on Decision Errors are considered during the sampling and analysis planning stage of the project. Data Quality Indicators (DQIs) are used to establish the acceptance criteria of the field and laboratory components of the assessment. They are defined in terms of Precision, Accuracy, Representativeness, Completeness and Comparability (PARCC). The assessment of the DQIs is a means to determine the useability of the data and includes an evaluation of the data's PARCC. The potential for significant decisions errors (sampling and/or measurement errors) is limited by: • Presentation of the sampling plans, field methods and laboratory methods (Section 4) that describe sampling density, sample collection, contaminants of concern and laboratory analysis. • Review of the Field and Laboratory QA/QC program (Section 4). Provide comment on the overall adequacy of the QA/QC program for the purpose of this report.
Step 7: Optimisation	
	The sampling design has been developed to target soils and groundwater at the site which may be impacted by the PCAs, Steps 1 to 6 of the DQO process were used to refine the sampling design and field/laboratory methodologies described in Section 4. The sampling design has therefore been developed to optimise the collection of data needed to meet the project objective and DQOs. It is noted that variability in site conditions and contaminant concentrations may have an effect on the sampling design. Field screening methodologies and observations will be used to assist in the collection of representative data.

4.2 Sampling Plan and Scope of Work

Given the potential for diffuse sources of PFAS and the presence of fill a systematic sampling regime was adopted to assess the site. In general accordance with Table 2 of the NSW (2022) Sampling Design Guidelines for Contaminated Land – Part 1 20 sample locations, which is in excess of the NSW guidelines for the adopted site area of 8,500m^2 to detect a hotspot of up to 24.2m^2. Sample locations were on an approximate 15-20m grid and were modified were required to access constraints and/or underground services. The following scope of work was implemented:

- Collection of soil samples from 20 boreholes (BH01-BH20).
- Submission of select soil samples to a NATA accredited laboratory to evaluate concentrations of CoCs.
- Comparison of soil analysis data against the following adopted assessment criteria:
    - Airports (Environment Protection) Regulations 1997 (AEPR) provides Soil Pollution – Accepted Limits (General Airport Area) for TPH, BTEX, PAHs, PCBs, Phenols, pesticides and metals.
    - NEPM (2013) Health Investigation Levels (HIL) for direct contact with soils. Provides health investigation levels for pesticides, metals, hydrocarbons for a commercial/ industrial (HIL D) land use setting.
    - NEPM (2013) Health Screening Levels (HSL) for vapour intrusion risk. Provides screening values for petroleum hydrocarbons (Total Recoverable Hydrocarbons [TRH] and BTEXN) for a commercial/ industrial (HSL D) land use setting. Sand soil type, soil depth 0-<1 m.
    - NEPM (2013) Ecological Investigation Levels (EIL) for a commercial/industrial (HIL D) land use setting.
    - Ecological Screening Levels (ESL) for a commercial/industrial (HIL D) land use setting (fine soils).
    - PFAS NEMP V2 – HIL D land use criterion adopted on the basis the site will be used for commercial purposes.

- PFAS NEMP V2 – Ecological soil guideline value of indirect exposure.

4.3 Field Methodology

The field methodology implemented to assess the site is outlined in **Table 6**, sample locations are shown in **Figure 3**.

Table 6: Field Methodology

Step	Description
Boreholes **Sample Collection** **Decontamination**	Boreholes were drilled by Ground Control Pty Ltd utilising 300mm solid stem auger drilling capabilities. Samples were collected by Agon Environmental at regular intervals from boreholes advanced within the site area to a maximum depth of 2.0m. Additional samples were collected (if required) targeting changes in lithology and/ or at the presence of visual or olfactory indicators contamination. Samples were collected using a freshly nitrile gloved hand and placed into laboratory supplied containers before being sent to the NATA accredited analysing laboratory under chain-of-custody documentation. This methodology is consistent with industry standards.
Field Screening	The in-situ soils were visually screened by Agon during the investigation for changes in lithology and/ or at the presence of visual or olfactory indicators contamination. The use of a Photo-Ionisation Device (PID) to screen soils at the site for presence of Volatile Organic Compounds (VOCs) was not considered warranted on the basis of the site history which did not identify a risk of hydrocarbon impacts to soils at the site. This opinion has been validated by the soil analysis dataset which verifies the absence of detectable hydrocarbon impacts furthermore there were no olfactory indicators (i.e. odours or staining) of hydrocarbon contamination noted in soils at the site.
QA/QC Evaluation	Agon adopted and reviewed the following QA/QC: • **Field Personnel**: The field sampling team included John O'Brien and Kurt Lockwood, who collectively have over 15 years' experience in the field of contaminated land assessment. • **Decontamination**: Due to PFAS being identified as a potential contaminant of concern the auger was periodically decontaminated with a Liquinox® Anionic Detergent solution followed by rinsing in a series of three fresh potable water buckets. Two Rinsate Blank (RB) samples were analysed as part of the assessment to verify that reusable equipment utilised as part of the LDSI were adequately decontaminated. The RB results are presented in Table 3 **Appendix B**. In summary: ○ PFOS and PFOS + PFHxS concentrations were reported marginally above the laboratory limit of reporting (0.01 ug/L), this was attributed to slightly impure (non PFAS free) deionised water supplied by the analysing laboratory. It is evident from the soil analysis results cross contamination of PFAS between sample locations did not occur (i.e. majority of results were non-detect for PFAS). • **Sample Handling** - Samples (soil) were kept in appropriate laboratory supplied containers. All samples were received by the analysing laboratory within holding time and under chain of custody documentation. • **Trip Blank** – The utilisation of a trip blank was not considered warranted for the purpose of the investigation. It is evident upon review of the soil analysis results cross contamination of the samples during transport to the laboratory did not occur. • **Trip Spike –** The utilisation of a trip spike (which would measure volatile loss during transport to the laboratory) was not warranted given the site history indicating a negligible risks of hydrocarbon contamination. It is evident upon review of the soil analysis results cross contamination of the samples during transport to the laboratory did not occur. • **Intra Laboratory Duplicate**: Five inter laboratory duplicates were assessed as part of the LDSI, refer Table 2 **Appendix B**. Results of which were compared to calculate Relative Percent Difference (RPD) which were within the acceptable range with the exception of: ○ QC03/BH04-1.0: Chromium (86%) and Zinc (84%) were attributed to the heterogeneity reworked clays within the fill profile. ○ QC04/BH10-0.1: Zinc (58%) was attributed to the heterogeneity reworked clays within the fill profile. ○ QC08/BH19-1.0: Arsenic (90%) and Zinc (91%) were attributed to the heterogeneity reworked clays within the fill profile.

Step	Description
	• **Inter Laboratory Duplicate**: Three intra duplicates were assessed as part of the LDSI. No elevated RPDs were reported, refer Table 2 **Appendix B**. • **Duplicate Rate** - The ASC (2013) NEPM requires at least 5% of samples of the site be assessed to verify the precision of the laboratory via intra and inter laboratory duplicates. The overall analysis rates of the duplicates for this project were 7% exceeding the requirements of the ASC (2013) NEPM. • **Laboratory QA/QC**: A review of the laboratory QA/QC including Method Blanks, Spike Recoveries and RPDs indicated these to be within the acceptable range with the exception of: ○ 957950-S: 7 RPD exceedances for metals were reported, however these RPDs passed the Eurofins Environment Testing's QC - Acceptance Criteria. Overall the degree of QA/QC employed is considered appropriate for the purpose of the assessment. The accuracy and precision of the dataset is adequate to support the findings of the report and the DQOs established for the project.

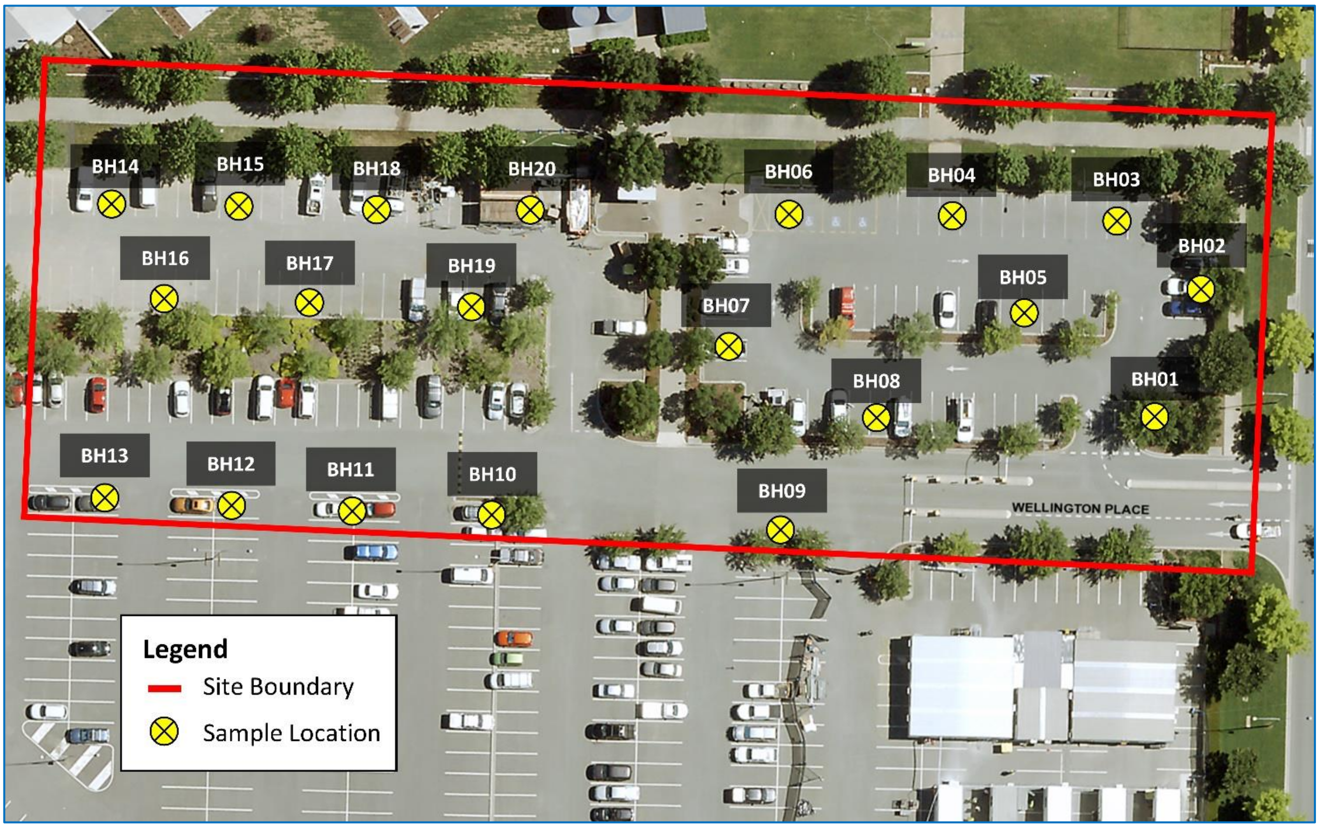

Figure 3: Sample Location Plan
Source: ACTmapi (2023)

4.4 Results

4.4.1 Soil Observations

Borehole logs are provided in **Appendix C**. In-situ conditions were consistent across the site area and were logged to comprise:

- Asphalt – 50mm asphalt layer underlain by 250mm sandy gravel road base.

- Fill – Typically logged to depths between 1-1.7m, comprised orange brown, grey brown and yellow to pale brown, gravelly sandy CLAY, to silty CLAY, low to medium plasticity, soft to firm, moist with traces of gravel (angular up to 20-25mm).

  Agon noted the difficulty in differentiating the Fill and natural soil layers suggesting the Fill layer comprised reworked natural soils. This is supported by the historical aerial imagery which indicated the bulk importation of fill to the site area in 2006 in preparation of development of the Majura Commercial Park.

  Some sample locations were 'potentially' terminated in the Fill profile (noting aforementioned difficulty distinguishing fill from natural soils), this is not considered to have a bearing on the overall objective of the investigation as the Fill at the site (identified as PCA#02) is demonstrably free of contamination (refer Section 4.4.2). It is evident from the dataset all soils at the site to a depth of 2m (irrespective of being Fill or natural soils) present a low/negligible contamination risk, this is expressed through the CSM (Section 5).

- Natural Soils – Logged below the Fill to comprise Silty Clay to Clay, grey brown, orange grey brown, pale brown to brown, soft to firm, low to medium plasticity, moist.

4.4.2 Soil Analysis Results

Tabulated soil analysis results are provided in **Appendix B** along with the corresponding laboratory certificates provided in **Appendix D**. In summary, all soil analysis results were less than the adopted assessment criteria and the corresponding Airports (Environment Protection) Regulations 1997 Soil Pollution – Accepted Limits (General Airport Area).

Low concentrations of Sum (PFHxS + PFOS) were noted at the following sample locations:

- BH09 - 0.5 - Sum (PFHxS + PFOS) 0.0051 mg/kg marginally above the laboratory limit of reporting of 0.005 mg/kg.
- BH13 - 0.5 - Sum (PFHxS + PFOS) 0.0059 mg/kg marginally above the laboratory limit of reporting of 0.005 mg/kg.
- BH14 - 0.5 - Sum (PFHxS + PFOS) 0.0054 mg/kg marginally above the laboratory limit of reporting of 0.005 mg/kg.
- BH16 - 0.5 - Sum (PFHxS + PFOS) 0.0055 mg/kg marginally above the laboratory limit of reporting of 0.005 mg/kg.

The overall dataset is consistent with the Meinhardt (2019) investigation of 25-27 Catalina Drive which is <100m northeast of the site area.

4.5 Conceptual Site Model

A Conceptual Site Model (CSM) provides the framework for evaluating contaminant source-pathway-receptor linkages as a result of PCAs which may have occurred at the site. Any linkages may be presented as complete or incomplete thereby establishing a potential exposure pathway that may, depending on the nature of the proposed land use, warrant further assessment.

On the basis of site history, previous investigations and the soil analysis data, Agon has evaluated the PCAs through a CSM to determine if there are any complete contaminant source-pathway-receptor linkages.

Table 7: CSM

PCA	Source/CoCs	Receptor	Pathway
PCA01 **PFAS Impacts**	Site soils or groundwater may by impacted by PFAS	Soil Ecologies Groundwater Ecologies Workers Occupants	**Soil Considerations** Migration and Exposure Pathway **incomplete**. Pathway negated by: • PFAS only detected in 4 out 20 sample locations which does not suggest widespread PFAS impacts to soils within the site area. • All analysis results were less than the adopted assessment criteria. • The findings of this investigation are consistent with Meinhardt (2019) which is <100m northeast of the site. **Groundwater Considerations** Migration and Exposure Pathway **incomplete**. Pathway negated by: • It is known that groundwater at 25-27 Catalina Drive is impacted with PFAS (refer Section 3.2), no other groundwater contamination was identified in Meinhardt (2019). • Groundwater at the site is expected to contain similar concentrations of PFAS as 25-27 Catalina Drive (which is <100m up hydraulic gradient) however as the proposed development does not contain a basement carpark there is no conceivable contaminant source-pathway-receptor-linkages during construction and future occupancy of the site.
PCA02 **Fill**	Fill of unknown origin	Soil Ecologies Groundwater Ecologies Workers Occupants	Migration and Exposure Pathway **incomplete**. Pathway negated by: • Absence of soil contamination in soil samples analysed by Agon. • All analysis results were less than the adopted assessment criteria. • The findings of this investigation are consistent with Meinhardt (2019) which is <100m northeast of the site.

In summary:

- A total of 68 samples have been analysed for a broad range of analytes including TRH, BTEXN, PAHs, PCBs, PAHs, Phenols, OCP and Metals. PFAS were also assessed in 41 samples preferentially targeting the fill profile (i.e. likely source of PFAS impacts) within the site area. Soil analysis data did not identify the presence of chemical contamination with the exception of low concentrations of Sum (PFHxS + PFOS) at 4 of the 20 sample locations.

- All soil analysis results were either less than the laboratory limit of reporting or the adopted assessment criteria.

The CSM has considered both qualitative and quantitative data and has not identified any completed contaminant source-pathway-receptor linkages.

5.0 CONCLUSION

The LDSI data summarised in this report indicates that the site was vacant undeveloped land until 2006 when it was developed as carpark for the Majura Commercial Park.

Two PCAs were identified, these were potential PFAS impacts (to soils) and potential fill of unknown origin, no potential sources of groundwater contamination (either onsite or offsite) were identified. These PCAs have been qualitatively and quantitatively assessed through a CSM which did not identify any complete contaminant source-pathway-linkages. On this basis Agon conclude the site (as shown in **Figure 2**) to be suitable for the proposed development of a commercial complex.

This conclusion is subject to the following requirements:

- An Unexpected Finds Protocol (UFP) be developed for the site and is to be implemented during any future redevelopment works.
- Any other soils proposed to be removed from the site must be assessed in accordance with ACT EPA (2019) Information Sheet 4 ‘Requirements for the Reuse and Disposal of Contaminated Soil in the ACT’ and the Canberra Airport PFAS Soil Management Framework (once finalised). If any soils are proposed for reuse within the Airport a reuse assessment must be completed in accordance with the PFAS NEMP Version 2 (or prevailing version at time of application) and is subject to review and approval by the Airport Environmental Officer (AEO) prior to reuse.

6.0 LIMITATIONS OF THIS REPORT

This report has been prepared in accordance with industry recognised standards and procedures current at the time of the work. The report presents the results of the assessment based on the quoted scope of works (unless otherwise agreed in writing) for the specific purposes of the engagement by the Client. No warranties expressed or implied are offered to any third parties and no liability will be accepted for use of this report by third parties.

Collection and laboratory analysis of environmental media (i.e., samples of soil, groundwater, soil vapour and building material) has not been undertaken as part of the reported site assessment. Conclusions in relation to potential site contamination and associated human health and ecological risks are based on historical and current onsite and offsite land uses and activities identified by this assessment and are made in the context of proposed land uses at the site.

Demolition or refurbishment of existing structures or subsequent intrusive assessments (onsite or offsite) may reveal site contamination impacts to onsite environmental media or buildings that could not have been anticipated at the time of publication of this report but may alter the assessment of human health and ecological risks at the site. Agon assumes no liability for such impacts not visible or reasonably expected based on available site information.

Although no onsite sources of groundwater contamination were identified during this investigation, given the regional history of land use around the site, groundwater contamination may have occurred in the vicinity of the site. Groundwater investigation was excluded from the scope of this investigation and comments in relation to potential groundwater at the site have been excluded from this report.

All information provided by third parties has been assumed to be correct and complete. Agon does not assume any liability for misrepresentation of information by third parties or for matters not visible, accessible or present on the subject site.

Opinions and judgements expressed herein are based on Agon’s understanding of current regulatory standards and should not be construed as legal opinions.

No responsibility is accepted for use of any part of this report in any other context or for any other purpose or by third parties other than those listed above.

This report should be read in full.

7.0 REFERENCES

Abell. 1992. Canberra New South Wales and Australian Capital Territory 1:000 000 Map Sheet 8727. Canberra: Bureau of Mineral Resources, 1992.

ACT EPA Information Sheet 4 - Requirements for the Reuse and Disposal of Contaminated Soil in the ACT.

ACT EPA Information Sheet 11 – Environment Protection Authority Report Submission Requirements.

ACT Government. 2022. ACTmapi. [Online] 2022. http://www.actmapi.act.gov.au/.

Evans, W, R. 1984. Hydrogeology of the Australian Capital Territory and Environs. Canberra: Bureau of Mineral Resources, Geology and Geophysics, 1984.

Evans, W, R, et al. 2004. Sustainable Groundwater Yield Assessment: Weston Sub-Catchment, ACT. Canberra: Integrated Catchment, assessment and Management Centre (iACM) Australian National University, 2004.

Muller, R, et al. 2016. Hydrological Landscapes of the Australian Capital Territory. Wagga Wagga, NSW: Office of Environment and Heritage, 2016.

National Environment Management (Assessment of Site Contamination) Measure 1999 (amended 2013) (the NEPM).

NSW EPA (2014) Waste Classification Guidelines – Part 1: Classifying Waste and Addenda.

NSW EPA (2014) ‘The Excavated Natural Material Order 2014.

NEMP 2.0 Heads of EPA (2020) ‘PFAS National Environmental Management Plan, Version 2.0 –January 2020.

NSW EPA (2020) Contaminated Sites: Guidelines for Consultants Reporting on Contaminated Sites.

Standards Australia (2005) Guide to the investigation and sampling of sites with potentially contaminated soil. Part 1: Non-volatile and semi-volatile compounds AS4482.1 (2005) and Part 2: Volatile substances, AS4482.2 (2005) (hereafter AS4482.1 and AS4482.2).

APPENDIX A: AERIAL IMAGERY

Historical Aerial Photograph 1: 1951

Historical Aerial Photograph 2: 1961

Historical Aerial Photograph 3: 1972

Historical Aerial Photograph 4: 1987

Historical Aerial Photograph 5: 1998

Historical Aerial Photograph 6: 2004

Historical Aerial Photograph 7: 2006

Historical Aerial Photograph 8: 2009

Historical Aerial Photograph 9: 2015

Historical Aerial Photograph 10: 2022

APPENDIX B: TABULATED ANALYSIS TABLES

Table 1 - Soil Analysis Results

				PFOS/PFOA			Metals								PAH																	BTEX					
				Perfluorooctanesulfonic acid (PFOS)	Perfluorooctanoic acid (PFOA)	Sum of PFHxS and PFOS	Cadmium	Arsenic	Chromium (III+VI)	Copper	Lead	Mercury	Nickel	Zinc	Benzo(b+j)fluoranthene	Benzo(k)fluoranthene	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a) pyrene	Benzo(g,h,i)perylene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Naphthalene	Phenanthrene	PAHs (Sum of total)	Pyrene	Benzene	Ethylbenzene	Toluene	Xylene Total	C6-C10	C10-C16 (F2 minus Naphthalene)
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	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				0.005	0.005	0.005	0.4	2	5	5	5	0.1	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	0.1	0.1	0.1	0.3	20	50
Airport Regulations - Area of an airport generally							100	500		5,000	1,500	75	3,000	35,000							5									100		1	50	130	25		
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil							900	3,000		240,000	1,500	730	6,000	400,000																4,000							
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand																																3 | 3 | 3 | 3			230		
NEPM 2013 Table 1B(5) Generic EIL - Comm/Ind								160			1,800																	370									
PFAS NEMP 2020 Ecological indirect exposure				0.01																																	
PFAS NEMP 2020 Industrial/ commercial (HIL D)				20	50	20																															
Field ID	**Depth**	**Lab Report**	**Matrix Type**																																		
BH01 - 0.1	**0.1**	**957950**	**Soil**	<0.005	<0.005	<0.005	<0.4	2.0	10.0	5.9	23	<0.1	<5	52	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	<0.1	<0.3	<20	<50
BH01 - 0.5	**0.5**	**957950**	**Soil**	<0.005	<0.005	<0.005	<0.4	11	32	29	31	<0.1	50	140	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	<0.1	<0.3	<20	<50
BH01 - 1.0	**1.0**	**957950**	**Soil**				<0.4	6.3	41	18	21	<0.1	14	35	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	<0.1	<0.3	<20	<50
BH01 - 1.5	**1.5**	**957950**	**Soil**				<0.4	11	55	37	36	<0.1	33	62	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	<0.1	<0.3	<20	<50
BH02 - 0.1	**0.1**	**957950**	**Soil**	<0.005	<0.005	<0.005	<0.4	<2	10	6.0	19	<0.1	<5	50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	<0.1	<0.3	<20	<50
BH02 - 0.5	**0.5**	**957950**	**Soil**				<0.4	5.9	37	19	23	<0.1	18	78	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	<0.1	<0.3	<20	<50
BH02 - 1.0	**1.0**	**957950**	**Soil**				<0.4	14	28	14	14	<0.1	56	150	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	<0.1	<0.3	<20	<50
BH02 - 1.5	**1.5**	**957950**	**Soil**				<0.4	13	58	32	47	<0.1	50	55	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	<0.1	<0.3	<20	<50
BH03 - 0.1	**0.1**	**957950**	**Soil**	<0.005	<0.005	<0.005	<0.4	2.3	11	8.7	28	<0.1	<5	65	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	<0.1	<0.3	<20	<50
BH03 - 0.5	**0.5**	**957950**	**Soil**	<0.005	<0.005	<0.005	<0.4	21	37	31	19	<0.1	79	190	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	<0.1	<0.3	<20	<50
BH03 - 1.5	**1.5**	**957950**	**Soil**				<0.4	5.8	35	14	12	<0.1	15	39	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	<0.1	<0.3	<20	<50
BH04 - 0.1	**0.1**	**957950**	**Soil**				<0.4	<2	8.6	7.0	17	<0.1	<5	45	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	<0.1	<0.3	<20	<50
BH04 - 0.5	**0.5**	**957950**	**Soil**				<0.4	18	43	29	27	<0.1	73	190	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	<0.1	<0.3	<20	<50
BH04 - 1.0	**1.0**	**957950**	**Soil**	<0.005	<0.005	<0.005	<0.4	9.5	55	21	28	<0.1	28	61	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	<0.1	<0.3	<20	<50
BH04 - 1.5	**1.5**	**957950**	**Soil**				<0.4	8.2	38	24	29	<0.1	45	65	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	<0.1	<0.3	<20	<50
BH05 - 0.1	**0.1**	**957950**	**Soil**	<0.005	<0.005	<0.005	<0.4	3.1	11	7.9	31	<0.1	7.4	84	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	<0.1	<0.3	<20	<50
BH05 - 0.5	**0.5**	**957950**	**Soil**	<0.005	<0.005	<0.005	<0.4	11	39	22	27	<0.1	27	62	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	<0.1	<0.3	<20	<50
BH05 - 1.0	**1.0**	**957950**	**Soil**				<0.4	12	45	23	20	<0.1	28	73	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	<0.1	<0.3	<20	<50
BH05 - 1.5	**1.5**	**957950**	**Soil**				<0.4	7.6	63	21	25	<0.1	19	42	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	<0.1	<0.3	<20	<50
BH06 - 0.1	**0.1**	**957950**	**Soil**	<0.005	<0.005	<0.005	<0.4	2.3	8.7	5.9	22	<0.1	<5	50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	<0.1	<0.3	<20	<50
BH06 - 0.5	**0.5**	**957950**	**Soil**	<0.005	<0.005	<0.005																															
BH06 - 1.0	**1.0**	**957950**	**Soil**				<0.4	6.6	52	23	22	<0.1	21	52	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	<0.1	<0.3	<20	<50
BH06 - 1.5	**1.5**	**957950**	**Soil**				<0.4	6.7	42	20	18	<0.1	26	62	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	<0.1	<0.3	<20	<50
BH07 - 0.1	**0.1**	**957950**	**Soil**				<0.4	2.9	9.8	6.5	25	<0.1	5.8	67	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	<0.1	<0.3	<20	<50
BH07 - 0.5	**0.5**	**957950**	**Soil**	<0.005	<0.005	<0.005	<0.4	8.3	49	21	21	<0.1	24	63	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	<0.1	<0.3	<20	<50
BH07 - 1.5	**1.5**	**957950**	**Soil**				<0.4	7.4	45	26	12	<0.1	34	69	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	<0.1	<0.3	<20	<50
BH08 - 0.1	**0.1**	**957950**	**Soil**	<0.005	<0.005	<0.005	<0.4	3.4	12	8.1	25	<0.1	6.8	82	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	<0.1	<0.3	<20	<50
BH08 - 0.5	**0.5**	**957950**	**Soil**	<0.005	<0.005	<0.005	<0.4	9.2	40	20	23	<0.1	23	70	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	<0.1	<0.3	<20	<50
BH08 - 1.0	**1.0**	**957950**	**Soil**				<0.4	17	27	26	27	<0.1	35	83	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	<0.1	<0.3	<20	<50
BH08 - 1.5	**1.5**	**957950**	**Soil**				<0.4	6.4	45	24	12	<0.1	31	54	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	<0.1	<0.3	<20	<50
BH09 - 0.1	**0.1**	**957950**	**Soil**	<0.005	<0.005	<0.005	<0.4	3.0	11	8.2	28	<0.1	6.7	76	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	<0.5	<0.1	<0.1	<0.1	<0.3	<20	<50
BH09 - 0.5	**0.5**	**957950**	**Soil**	0.0051	<0.005	0.0051	<0.4	8.2	47	20	31	<0.1	20	65	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	<0.1	<0.3	<20	<50
BH09 - 1.0	**1.0**	**957950**	**Soil**				<0.4	15	39	29	27	<0.1	46	140	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	<0.1	<0.3	<20	<50
BH10 - 0.1	**0.1**	**957950**	**Soil**	<0.005	<0.005	<0.005	<0.4	2.7	11	8.2	28	<0.1	<5	89	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	<0.1	<0.3	<20	<50
BH10 - 0.5	**0.5**	**957950**	**Soil**	<0.005	<0.005	<0.005	<0.4	13	57	29	32	<0.1	37	99	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	<0.1	<0.3	<20	<50
B10 - 1.0	**1.0**	**957950**	**Soil**				<0.4	13	42	27	36	<0.1	39	140	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	<0.1	<0.3	<20	<50
BH10 - 1.5	**1.5**	**957950**	**Soil**				<0.4	6.3	44	19	25	<0.1	17	47	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	<0.1	<0.3	<20	<50
BH11 - 0.1	**0.1**	**957950**	**Soil**	<0.005	<0.005	<0.005	<0.4	3.9	14	10	32	<0.1	7.5	85	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	<0.1	<0.3	<20	<50
BH11 - 0.5	**0.5**	**957950**	**Soil**	<0.005	<0.005	<0.005																															
BH11 - 1.0	**1.0**	**957950**	**Soil**				<0.4	16	49	27	77	<0.1	42	140	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	<0.1	<0.3	<20	<50
BH11 - 1.5	**1.5**	**957950**	**Soil**	<0.005	<0.005	<0.005	<0.4	8.0	60	24	42	<0.1	35	88	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	<0.1	<0.3	<20	<50
BH12 - 0.1	**0.1**	**957950**	**Soil**	<0.005	<0.005	<0.005	<0.4	3.2	13	11	32	<0.1	7.7	87	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	<0.1	<0.3	<20	<50
BH12 - 0.5	**0.5**	**957950**	**Soil**	<0.005	<0.005	<0.005	<0.4	16	40	30	35	<0.1	51	120	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	<0.1	<0.3	<20	<50
BH12 - 1.5	**1.5**	**957950**	**Soil**				<0.4	16	36	23	69	<0.1	35	110	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	<0.1	<0.3	<20	<50
BH13 - 0.1	**0.1**	**957950**	**Soil**	<0.005	<0.005	<0.005	<0.4	<2	9.5	5.8	18	<0.1	<5	47	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	<0.1	<0.3	<20	<50
BH13 - 0.5	**0.5**	**957950**	**Soil**	0.0059	<0.005	0.0059	<0.4	6.5	35	17	19	<0.1	15	56	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	<0.1	<0.3	<20	<50
BH13 - 1.0	**1.0**	**957950**	**Soil**				<0.4	4.8	43	18	16	<0.1	15	41	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	<0.1	<0.3	<20	<50
BH13 - 1.5	**1.5**	**957950**	**Soil**				<0.4	7.5	40	20	17	<0.1	28	76	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	<0.1	<0.3	<20	<50
BH14 - 0.1	**0.1**	**957950**	**Soil**	<0.005	<0.005	<0.005																															
BH14 - 0.5	**0.5**	**957950**	**Soil**	0.0054	<0.005	0.0054	<0.4	8.2	33	19	15	<0.1	41	73	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	<0.1	<0.3	<20	<50
BH14 - 1.0	**1.0**	**957950**	**Soil**				<0.4	5.8	38	24	20	<0.1	15	34	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	<0.1	<0.3	<20	<50
BH14 - 2.0	**2.0**	**957950**	**Soil**				<0.4	4.5	37	19	11	<0.1	17	58	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	<0.1	<0.3	<20	<50
BH15 - 0.1	**0.1**	**957950**	**Soil**	<0.005	<0.005	<0.005	<0.4	2.3	9.6	11	21	<0.1	<5	45	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	<0.1	<0.3	<20	66
BH15 - 0.5	**0.5**	**957950**	**Soil**	<0.005	<0.005	<0.005																															
BH15 - 1.0	**1.0**	**957950**	**Soil**				<0.4	4.5	39	20	17	<0.1	19	35	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	<0.1	<0.3	<20	<50
BH15 - 1.5	**1.5**	**957950**	**Soil**				<0.4	4.9	32	17	9.4	<0.1	18	48	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	<0.1	<0.3	<20	<50
BH16 - 0.1	**0.1**	**957950**	**Soil**	<0.005	<0.005	<0.005	<0.4	2.5	10	8.4	21	<0.1	<5	61	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	<0.1	<0.3	<20	<50
BH16 - 0.5	**0.5**	**957950**	**Soil**	0.0055	<0.005	0.0055	<0.4	7.2	44	17	22	<0.1	15	38	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	<0.1	<0.3	<20	<50
BH16 - 1.0	**1.0**	**957950**	**Soil**				<0.4	8.2	28	17	8.3	<0.1	25	39	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	<0.1	<0.3	<20	<50
BH17 - 0.1	**0.1**	**957950**	**Soil**	<0.005	<0.005	<0.005	<0.4	2.7	11	9.0	20	<0.1	5.6	44	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	<0.1	<0.3	<20	<50
BH17 - 0.5	**0.5**	**957950**	**Soil**	<0.005	<0.005	<0.005	<0.4	8.9	29	18	17	<0.1	26	84	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	<0.1	<0.3	<20	<50
BH17 - 1.0	**1.0**	**957950**	**Soil**				0.6	22	28	30	28	<0.1	51	130	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	<0.1	<0.3	<20	<50
BH18 - 0.1	**0,1**	**957950**	**Soil**	<0.005	<0.005	<0.005	<0.4	2.0	8.2	6.0	19	<0.1	<5	46	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	<0.1	<0.3	<20	<50
BH18 - 0.5	**0.5**	**957950**	**Soil**	<0.005	<0.005	<0.005	<0.4	9.8	40	22	27	<0.1	22	74	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	<0.1	<0.3	<20	<50
BH18 - 1.0	**1.0**	**957950**	**Soil**	<0.005	<0.005	<0.005	<0.4	5.2	48	25	17	<0.1	25	59	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	<0.1	<0.3	<20	<50
BH19 - 0.1	**0.1**	**957950**	**Soil**	<0.005	<0.005	<0.005	<0.4	2.4	10.0	7.6	24	<0.1	5.5	51	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	<0.1	<0.3	<20	<50
BH19 - 0.5	**0.5**	**957950**	**Soil**	<0.005	<0.005	<0.005	<0.4	8.3	38	21	23	<0.1	28	87	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	<0.1	<0.3	<20	<50
BH19 - 1.0	**1.0**	**957950**	**Soil**				0.4	18	49	27	26	<0.1	41	150	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	<0.1	<0.3	<20	<50
BH19 - 1.5	**1.5**	**957950**	**Soil**	<0.005	<0.005	<0.005	<0.4	7.5	51	27	13	<0.1	23	64	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	<0.1	<0.3	<20	<50
BH20 - 0.1	**0.1**	**957950**	**Soil**	<0.005	<0.005	<0.005	<0.4	2.1	8.4	8.1	23	<0.1	<5	47	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	<0.1	<0.3	<20	<50
BH20 - 0.5	**0.5**	**957950**	**Soil**	<0.005	<0.005	<0.005	<0.4	7.7	58	21	22	<0.1	15	34	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	<0.1	<0.3	<20	<50
BH20- 1.0	**1.0**	**957950**	**Soil**	<0.005	<0.005	<0.005	<0.4	16	29	25	20	<0.1	35	120	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	<0.1	<0.3	<20	<50

Statistics

Number of Results	**41**	**41**	**41**	**68**	**68**	**68**	**68**	**68**	**68**	**68**	**68**	**68**	**68**	**68**	**68**	**68**	**68**	**68**	**68**	**68**	**68**	**68**	**68**	**68**	**68**	**68**	**68**	**68**	**68**	**68**	**68**	**68**	**68**	**68**
Number of Detects	**4**	**0**	**4**	**2**	**65**	**68**	**68**	**68**	**0**	**57**	**68**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**1**
Minimum Concentration	**<0.005**	**<0.005**	**<0.005**	**0.4**	**2**	**8.2**	**5.8**	**8.3**	**<0.1**	**<5**	**34**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**0.5**	**<0.5**	**<0.1**	**<0.1**	**<0.1**	**<0.3**	**<20**	**<50**
Maximum Concentration	**0.0059**	**<0.005**	**0.0059**	**0.6**	**22**	**63**	**37**	**77**	**<0.1**	**79**	**190**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**0.5**	**<0.5**	**<0.1**	**<0.1**	**<0.1**	**<0.3**	**<20**	**66**
Average Concentration *	**0.0028**	**0.0025**	**0.0028**	**0.21**	**7.9**	**33**	**19**	**25**	**0.05**	**24**	**75**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.05**	**0.05**	**0.05**	**0.15**	**10**	**26**
Standard Deviation *	**0.0009**	**0**	**0.0009**	**0.054**	**5.2**	**16**	**8.1**	**11**	**0**	**18**	**37**	**0**	**0**	**0**	**0**	**0**	**0**	**0.03**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0.03**	**0**	**0**	**0**	**0**	**0**	**0**	**5**
95% UCL (Student's-t) *	**0.00303**	**0.0025**	**0.00303**	**0.22**	**8.97**	**36.47**	**20.39**	**26.87**	**0.05**	**27.16**	**82.67**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.26**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**	**0.26**	**0.25**	**0.05**	**0.05**	**0.05**	**0.15**	**10**	**26.61**

* A Non Detect Multiplier of 0.5 has been applied.

Environmental Standards

Office of Parliamentary Counsel, 12 October 2017, Airport Regulations - Area of an airport generally
HEPA, January 2020, PFAS NEMP 2020 Ecological indirect exposure
HEPA, January 2020, PFAS NEMP 2020 Industrial/ commercial (HIL D)

Table 1 - Soil Analysis Results

				TRH			TPH					Organochlorine Pesticides																									
				C34-C40	C16-C34	C10-C16	+C10-C36 (Sum of total)	C10-C14	C15-C28	C29-C36	C6-C9	Aldrin + Dieldrin	Chlordane	Endrin ketone	Organochlorine pesticides EPAVic	Toxaphene	Other organochlorine pesticides EPAVic	4,4-DDE	a-BHC	Aldrin	d-BHC	b-BHC	DDD	DDT	DDT+DDE+DDD	Dieldrin	Endosulfan II	Endosulfan I	Endosulfan sulphate	Endrin	Endrin aldehyde	g-BHC (Lindane)	Heptachlor epoxide	Methoxychlor	Heptachlor	2,4,5-Trichlorophenol	3&4-Methylphenol (m&p-cresol)
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	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				100	100	50	50	20	50	50	20	0.05	0.1	0.05	0.1	0.5	0.1	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	1	0.4
Airport Regulations - Area of an airport generally							5,000				800		250							50				1,000		20									50		
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil												45	530			160									3,600					100				2,500	50		
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand																																					
NEPM 2013 Table 1B(5) Generic EIL - Comm/Ind																								640													
PFAS NEMP 2020 Ecological indirect exposure																																					
PFAS NEMP 2020 Industrial/ commercial (HIL D)																																					
Field ID	Depth	Lab Report	Matrix Type																																		
BH01 - 0.1	0.1	957950	Soil	<100	<100	<50	<50	<20	<50	<50	<20	<0.5	<1	<0.5	<1	<10	<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	<1	<1
BH01 - 0.5	0.5	957950	Soil	<100	<100	<50	<50	<20	<50	<50	<20	<0.05	<0.1	<0.05	<0.1	<0.5	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<1	<0.4
BH01 - 1.0	1.0	957950	Soil	<100	<100	<50	<50	<20	<50	<50	<20	<0.05	<0.1	<0.05	<0.1	<0.5	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<1	<0.4
BH01 - 1.5	1.5	957950	Soil	<100	<100	<50	<50	<20	<50	<50	<20	<0.05	<0.1	<0.05	<0.1	<0.5	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<1	<0.4
BH02 - 0.1	0.1	957950	Soil	<100	<100	<50	<50	<20	<50	<50	<20	<0.5	<1	<0.5	<1	<10	<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	<1	<1
BH02 - 0.5	0.5	957950	Soil	<100	<100	<50	<50	<20	<50	<50	<20	<0.05	<0.1	<0.05	<0.1	<0.5	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<1	<0.4
BH02 - 1.0	1.0	957950	Soil	<100	<100	<50	<50	<20	<50	<50	<20	<0.05	<0.1	<0.05	<0.1	<0.5	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<1	<0.4
BH02 - 1.5	1.5	957950	Soil	<100	<100	<50	<50	<20	<50	<50	<20	<0.05	<0.1	<0.05	<0.1	<0.5	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<1	<0.4
BH03 - 0.1	0.1	957950	Soil	<100	<100	<50	<50	<20	<50	<50	<20	<0.5	<1	<0.5	<1	<10	<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	<1	<1
BH03 - 0.5	0.5	957950	Soil	<100	<100	<50	<50	<20	<50	<50	<20	<0.05	<0.1	<0.05	<0.1	<0.5	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<1	<0.4
BH03 - 1.5	1.5	957950	Soil	<100	<100	<50	<50	<20	<50	<50	<20	<0.05	<0.1	<0.05	<0.1	<0.5	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<1	<0.4
BH04 - 0.1	0.1	957950	Soil	<100	<100	<50	<50	<20	<50	<50	<20	<0.5	<1	<0.5	<1	<10	<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	<1	<1
BH04 - 0.5	0.5	957950	Soil	<100	<100	<50	<50	<20	<50	<50	<20	<0.05	<0.1	<0.05	<0.1	<0.5	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<1	<0.4
BH04 - 1.0	1.0	957950	Soil	<100	<100	<50	<50	<20	<50	<50	<20	<0.05	<0.1	<0.05	<0.1	<0.5	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<1	<0.4
BH04 - 1.5	1.5	957950	Soil	<100	<100	<50	<50	<20	<50	<50	<20	<0.05	<0.1	<0.05	<0.1	<0.5	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<1	<0.4
BH05 - 0.1	0.1	957950	Soil	<100	<100	<50	<50	<20	<50	<50	<20	<0.05	<0.1	<0.05	<0.1	<0.5	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<1	<0.4
BH05 - 0.5	0.5	957950	Soil	<100	<100	<50	<50	<20	<50	<50	<20	<0.05	<0.1	<0.05	<0.1	<0.5	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<1	<0.4
BH05 - 1.0	1.0	957950	Soil	<100	<100	<50	<50	<20	<50	<50	<20	<0.05	<0.1	<0.05	<0.1	<0.5	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<1	<0.4
BH05 - 1.5	1.5	957950	Soil	<100	<100	<50	<50	<20	<50	<50	<20	<0.05	<0.1	<0.05	<0.1	<0.5	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<1	<0.4
BH06 - 0.1	0.1	957950	Soil	<100	<100	<50	<50	<20	<50	<50	<20	<0.5	<1	<0.5	<1	<10	<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	<1	3.1
BH06 - 0.5	0.5	957950	Soil																																		
BH06 - 1.0	1.0	957950	Soil	<100	<100	<50	<50	<20	<50	<50	<20	<0.05	<0.1	<0.05	<0.1	<0.5	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<1	<0.4
BH06 - 1.5	1.5	957950	Soil	<100	<100	<50	<50	<20	<50	<50	<20	<0.05	<0.1	<0.05	<0.1	<0.5	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<1	<0.4
BH07 - 0.1	0.1	957950	Soil	<100	<100	<50	<50	<20	<50	<50	<20	<0.5	<1	<0.5	<1	<10	<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	<1	3.1
BH07 - 0.5	0.5	957950	Soil	<100	<100	<50	<50	<20	<50	<50	<20	<0.05	<0.1	<0.05	<0.1	<0.5	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<1	<0.4
BH07 - 1.5	1.5	957950	Soil	<100	<100	<50	<50	<20	<50	<50	<20	<0.05	<0.1	<0.05	<0.1	<0.5	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<1	<0.4
BH08 - 0.1	0.1	957950	Soil	<100	<100	<50	<50	<20	<50	<50	<20	<0.05	<0.1	<0.05	<0.1	<0.5	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<1	<0.4
BH08 - 0.5	0.5	957950	Soil	<100	<100	<50	<50	<20	<50	<50	<20	<0.05	<0.1	<0.05	<0.1	<0.5	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<1	<0.4
BH08 - 1.0	1.0	957950	Soil	<100	<100	<50	<50	<20	<50	<50	<20	<0.05	<0.1	<0.05	<0.1	<0.5	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<1	<0.4
BH08 - 1.5	1.5	957950	Soil	<100	<100	<50	<50	<20	<50	<50	<20	<0.05	<0.1	<0.05	<0.1	<0.5	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<1	<0.4
BH09 - 0.1	0.1	957950	Soil	<100	<100	<50	<50	<20	<50	<50	<20	<0.5	<1	<0.5	<1	<10	<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	<1	<1
BH09 - 0.5	0.5	957950	Soil	<100	<100	<50	<50	<20	<50	<50	<20	<0.05	<0.1	<0.05	<0.1	<0.5	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<1	<0.4
BH09 - 1.0	1.0	957950	Soil	<100	<100	<50	<50	<20	<50	<50	<20	<0.05	<0.1	<0.05	<0.1	<0.5	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<1	<0.4
BH10 - 0.1	0.1	957950	Soil	<100	<100	<50	<50	<20	<50	<50	<20	<0.05	<0.1	<0.05	<0.1	<0.5	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<1	<0.4
BH10 - 0.5	0.5	957950	Soil	<100	<100	<50	<50	<20	<50	<50	<20	<0.05	<0.1	<0.05	<0.1	<0.5	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<1	<0.4
B10 - 1.0	1.0	957950	Soil	<100	<100	<50	<50	<20	<50	<50	<20	<0.05	<0.1	<0.05	<0.1	<0.5	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<1	<0.4
BH10 - 1.5	1.5	957950	Soil	<100	<100	<50	<50	<20	<50	<50	<20	<0.05	<0.1	<0.05	<0.1	<0.5	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<1	<0.4
BH11 - 0.1	0.1	957950	Soil	<100	<100	<50	<50	<20	<50	<50	<20	<0.05	<0.1	<0.05	<0.1	<0.5	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<1	<0.4
BH11 - 0.5	0.5	957950	Soil																																		
BH11 - 1.0	1.0	957950	Soil	<100	<100	<50	52	<20	52	<50	<20	<0.5	<1	<0.5	<1	<10	<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	<1	<1
BH11 - 1.5	1.5	957950	Soil	<100	<100	<50	<50	<20	<50	<50	<20	<0.05	<0.1	<0.05	<0.1	<0.5	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<1	<0.4
BH12 - 0.1	0.1	957950	Soil	<100	<100	<50	<50	<20	<50	<50	<20	<0.5	<1	<0.5	<1	<10	<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	<1	<1
BH12 - 0.5	0.5	957950	Soil	<100	<100	<50	<50	<20	<50	<50	<20	<0.05	<0.1	<0.05	<0.1	<0.5	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<1	<0.4
BH12 - 1.5	1.5	957950	Soil	<100	<100	<50	<50	<20	<50	<50	<20	<0.05	<0.1	<0.05	<0.1	<0.5	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<1	<0.4
BH13 - 0.1	0.1	957950	Soil	<100	<100	<50	<50	<20	<50	<50	<20	<0.5	<1	<0.5	<1	<10	<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	<1	<1
BH13 - 0.5	0.5	957950	Soil	<100	<100	<50	<50	<20	<50	<50	<20	<0.05	<0.1	<0.05	<0.1	<0.5	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<1	<0.4
BH13 - 1.0	1.0	957950	Soil	<100	<100	<50	<50	<20	<50	<50	<20	<0.05	<0.1	<0.05	<0.1	<0.5	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<1	<0.4
BH13 - 1.5	1.5	957950	Soil	<100	<100	<50	<50	<20	<50	<50	<20	<0.05	<0.1	<0.05	<0.1	<0.5	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<1	<0.4
BH14 - 0.1	0.1	957950	Soil																																		
BH14 - 0.5	0.5	957950	Soil	<100	150	<50	173	<20	83	90	<20	<0.5	<1	<0.5	<1	<10	<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	<1	<1
BH14 - 1.0	1.0	957950	Soil	<100	<100	<50	<50	<20	<50	<50	<20	<0.05	<0.1	<0.05	<0.1	<0.5	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<1	<0.4
BH14 - 2.0	2.0	957950	Soil	<100	<100	<50	<50	<20	<50	<50	<20	<0.05	<0.1	<0.05	<0.1	<0.5	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<1	<0.4
BH15 - 0.1	0.1	957950	Soil	<100	<100	66	51	<20	51	<50	<20	<0.05	<0.1	<0.05	<0.1	<0.5	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<1	<0.4
BH15 - 0.5	0.5	957950	Soil																																		
BH15 - 1.0	1.0	957950	Soil	<100	<100	<50	<50	<20	<50	<50	<20	<0.05	<0.1	<0.05	<0.1	<0.5	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<1	<0.4
BH15 - 1.5	1.5	957950	Soil	<100	<100	<50	<50	<20	<50	<50	<20	<0.05	<0.1	<0.05	<0.1	<0.5	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<1	<0.4
BH16 - 0.1	0.1	957950	Soil	<100	<100	<50	<50	<20	<50	<50	<20	<0.05	<0.1	<0.05	<0.1	<0.5	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<1	<0.4
BH16 - 0.5	0.5	957950	Soil	<100	<100	<50	<50	<20	<50	<50	<20	<0.05	<0.1	<0.05	<0.1	<0.5	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<1	<0.4
BH16 - 1.0	1.0	957950	Soil	<100	<100	<50	<50	<20	<50	<50	<20	<0.05	<0.1	<0.05	<0.1	<0.5	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<1	<0.4
BH17 - 0.1	0.1	957950	Soil	<100	<100	<50	<50	<20	<50	<50	<20	<0.05	<0.1	<0.05	<0.1	<0.5	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<1	<0.4
BH17 - 0.5	0.5	957950	Soil	<100	<100	<50	<50	<20	<50	<50	<20	<0.05	<0.1	<0.05	<0.1	<0.5	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<1	<0.4
BH17 - 1.0	1.0	957950	Soil	<100	<100	<50	<50	<20	<50	<50	<20	<0.05	<0.1	<0.05	<0.1	<0.5	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<1	<0.4
BH18 - 0.1	0,1	957950	Soil	<100	<100	<50	<50	<20	<50	<50	<20	<0.05	<0.1	<0.05	<0.1	<0.5	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<1	<0.4
BH18 - 0.5	0.5	957950	Soil	<100	<100	<50	<50	<20	<50	<50	<20	<0.05	<0.1	<0.05	<0.1	<0.5	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<1	<0.4
BH18 - 1.0	1.0	957950	Soil	<100	<100	<50	<50	<20	<50	<50	<20	<0.05	<0.1	<0.05	<0.1	<0.5	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<1	<0.4
BH19 - 0.1	0.1	957950	Soil	<100	<100	<50	<50	<20	<50	<50	<20	<0.05	<0.1	<0.05	<0.1	<0.5	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<1	<0.4
BH19 - 0.5	0.5	957950	Soil	<100	<100	<50	<50	<20	<50	<50	<20	<0.05	<0.1	<0.05	<0.1	<0.5	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<1	<0.4
BH19 - 1.0	1.0	957950	Soil	<100	<100	<50	<50	<20	<50	<50	<20	<0.05	<0.1	<0.05	<0.1	<0.5	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<1	<0.4
BH19 - 1.5	1.5	957950	Soil	<100	<100	<50	<50	<20	<50	<50	<20	<0.05	<0.1	<0.05	<0.1	<0.5	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<1	<0.4
BH20 - 0.1	0.1	957950	Soil	<100	<100	<50	<50	<20	<50	<50	<20	<0.05	<0.1	<0.05	<0.1	<0.5	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<1	<0.4
BH20 - 0.5	0.5	957950	Soil	<100	<100	<50	<50	<20	<50	<50	<20	<0.05	<0.1	<0.05	<0.1	<0.5	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<1	<0.4
BH20- 1.0	1.0	957950	Soil	<100	<100	<50	<50	<20	<50	<50	<20	<0.05	<0.1	<0.05	<0.1	<0.5	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<1	<0.4

Statistics

Number of Results	**68**	**68**	**68**	**68**	**68**	**68**	**68**	**68**	**68**	**68**	**68**	**68**	**68**	**68**	**68**	**68**	**68**	**68**	**68**	**68**	**68**	**68**	**68**	**68**	**68**	**68**	**68**	**68**	**68**	**68**	**68**	**68**	**68**	**68**
Number of Detects	**0**	**1**	**1**	**3**	**0**	**3**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**
Minimum Concentration	**<100**	**<100**	**<50**	**<50**	**<20**	**<50**	**<50**	**<20**	**<0.05**	**<0.1**	**<0.05**	**<0.1**	**<0.5**	**<0.1**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<1**	**<0.4**
Maximum Concentration	**<100**	**150**	**66**	**173**	**<20**	**83**	**90**	**<20**	**<0.5**	**<1**	**<0.5**	**<1**	**<10**	**<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**	**<1**	**3.1**
Average Concentration *	**50**	**51**	**26**	**28**	**10**	**27**	**26**	**10**	**0.061**	**0.12**	**0.061**	**0.12**	**1**	**0.12**	**0.061**	**0.061**	**0.061**	**0.061**	**0.061**	**0.061**	**0.061**	**0.061**	**0.061**	**0.061**	**0.061**	**0.061**	**0.061**	**0.061**	**0.061**	**0.061**	**0.061**	**0.061**	**0.5**	**0.32**
Standard Deviation *	**0**	**12**	**5**	**18**	**0**	**8.3**	**7.9**	**0**	**0.083**	**0.17**	**0.083**	**0.17**	**1.8**	**0.17**	**0.083**	**0.083**	**0.083**	**0.083**	**0.083**	**0.083**	**0.083**	**0.083**	**0.083**	**0.083**	**0.083**	**0.083**	**0.083**	**0.083**	**0.083**	**0.083**	**0.083**	**0.083**	**0**	**0.5**
95% UCL (Student's-t) *	**50**	**53.92**	**26.61**	**31.68**	**10**	**28.31**	**27.55**	**10**	**0.0783**	**0.157**	**0.0783**	**0.157**	**1.375**	**0.157**	**0.0783**	**0.0783**	**0.0783**	**0.0783**	**0.0783**	**0.0783**	**0.0783**	**0.0783**	**0.0783**	**0.0783**	**0.0783**	**0.0783**	**0.0783**	**0.0783**	**0.0783**	**0.0783**	**0.0783**	**0.0783**	**0.5**	**0.426**

* A Non Detect Multiplier of 0.5 has been applied.

Environmental Standards

Office of Parliamentary Counsel, 12 October 2017, Airport Regulations - Area of a
HEPA, January 2020, PFAS NEMP 2020 Ecological indirect exposure
HEPA, January 2020, PFAS NEMP 2020 Industrial/ commercial (HIL D)

Table 1 - Soil Analysis Results

				Phenols																		Halogenated Benzenes	Herbicides	PCBs	Inorganics
				2,4,6-Trichlorophenol	Phenols (Total Non Halogenated)	Cresol Total	Phenols (Total Halogenated)	2,4-Dichlorophenol	2,4-Dinitrophenol	2,4-Dimethylphenol	2,6-Dichlorophenol	Tetrachlorophenols	2-Chlorophenol	2-Methylphenol	4,6-Dinitro-2-methylphenol	4,6-Dinitro-o-cyclohexyl phenol	2-Nitrophenol	4-chloro-3-methylphenol	4-Nitrophenol	Pentachlorophenol	Phenol	Hexachlorobenzene	Dinoseb	PCBs (Sum of total)	Moisture Content (dried @ 103°C)
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	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	20	0.5	1	0.5	5	0.5	0.5	10	0.5	0.2	5	20	1	1	5	1	0.5	0.05	20	0.1	1
Airport Regulations - Area of an airport generally																					42,500			50	
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil						25,000														660	240,000	80		7	
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand																									
NEPM 2013 Table 1B(5) Generic EIL - Comm/Ind																									
PFAS NEMP 2020 Ecological indirect exposure																									
PFAS NEMP 2020 Industrial/ commercial (HIL D)																									
Field ID	**Depth**	**Lab Report**	**Matrix Type**																						
BH01 - 0.1	**0.1**	**957950**	**Soil**	<1	<20	<1	<1	<0.5	<5	<0.5	<0.5	<10	<0.5	<0.5	<5	<20	<1	<1	<5	<1	<0.5	<0.5	<20	<1	2.4
BH01 - 0.5	**0.5**	**957950**	**Soil**	<1	<20	<0.5	<1	<0.5	<5	<0.5	<0.5	<10	<0.5	<0.2	<5	<20	<1	<1	<5	<1	<0.5	<0.05	<20	<0.1	13
BH01 - 1.0	**1.0**	**957950**	**Soil**	<1	<20	<0.5	<1	<0.5	<5	<0.5	<0.5	<10	<0.5	<0.2	<5	<20	<1	<1	<5	<1	<0.5	<0.05	<20	<0.1	14
BH01 - 1.5	**1.5**	**957950**	**Soil**	<1	<20	<0.5	<1	<0.5	<5	<0.5	<0.5	<10	<0.5	<0.2	<5	<20	<1	<1	<5	<1	<0.5	<0.05	<20	<0.1	23
BH02 - 0.1	**0.1**	**957950**	**Soil**	<1	<20	<1	<1	<0.5	<5	<0.5	<0.5	<10	<0.5	<0.5	<5	<20	<1	<1	<5	<1	<0.5	<0.5	<20	<1	3.4
BH02 - 0.5	**0.5**	**957950**	**Soil**	<1	<20	<0.5	<1	<0.5	<5	<0.5	<0.5	<10	<0.5	<0.2	<5	<20	<1	<1	<5	<1	<0.5	<0.05	<20	<0.1	10
BH02 - 1.0	**1.0**	**957950**	**Soil**	<1	<20	<0.5	<1	<0.5	<5	<0.5	<0.5	<10	<0.5	<0.2	<5	<20	<1	<1	<5	<1	<0.5	<0.05	<20	<0.1	16
BH02 - 1.5	**1.5**	**957950**	**Soil**	<1	<20	<0.5	<1	<0.5	<5	<0.5	<0.5	<10	<0.5	<0.2	<5	<20	<1	<1	<5	<1	<0.5	<0.05	<20	<0.1	18
BH03 - 0.1	**0.1**	**957950**	**Soil**	<1	<20	<1	<1	<0.5	<5	<0.5	<0.5	<10	<0.5	<0.5	<5	<20	<1	<1	<5	<1	<0.5	<0.5	<20	<1	2.5
BH03 - 0.5	**0.5**	**957950**	**Soil**	<1	<20	<0.5	<1	<0.5	<5	<0.5	<0.5	<10	<0.5	<0.2	<5	<20	<1	<1	<5	<1	<0.5	<0.05	<20	<0.1	17
BH03 - 1.5	**1.5**	**957950**	**Soil**	<1	<20	<0.5	<1	<0.5	<5	<0.5	<0.5	<10	<0.5	<0.2	<5	<20	<1	<1	<5	<1	<0.5	<0.05	<20	<0.1	17
BH04 - 0.1	**0.1**	**957950**	**Soil**	<1	<20	<1	<1	<0.5	<5	<0.5	<0.5	<10	<0.5	<0.5	<5	<20	<1	<1	<5	<1	<0.5	<0.5	<20	<1	3.9
BH04 - 0.5	**0.5**	**957950**	**Soil**	<1	<20	<0.5	<1	<0.5	<5	<0.5	<0.5	<10	<0.5	<0.2	<5	<20	<1	<1	<5	<1	<0.5	<0.05	<20	<0.1	15
BH04 - 1.0	**1.0**	**957950**	**Soil**	<1	<20	<0.5	<1	<0.5	<5	<0.5	<0.5	<10	<0.5	<0.2	<5	<20	<1	<1	<5	<1	<0.5	<0.05	<20	<0.1	16
BH04 - 1.5	**1.5**	**957950**	**Soil**	<1	<20	<0.5	<1	<0.5	<5	<0.5	<0.5	<10	<0.5	<0.2	<5	<20	<1	<1	<5	<1	<0.5	<0.05	<20	<0.1	17
BH05 - 0.1	**0.1**	**957950**	**Soil**	<1	<20	<0.5	<1	<0.5	<5	<0.5	<0.5	<10	<0.5	<0.2	<5	<20	<1	<1	<5	<1	<0.5	<0.05	<20	<0.1	4.0
BH05 - 0.5	**0.5**	**957950**	**Soil**	<1	<20	<0.5	<1	<0.5	<5	<0.5	<0.5	<10	<0.5	<0.2	<5	<20	<1	<1	<5	<1	<0.5	<0.05	<20	<0.1	13
BH05 - 1.0	**1.0**	**957950**	**Soil**	<1	<20	<0.5	<1	<0.5	<5	<0.5	<0.5	<10	<0.5	<0.2	<5	<20	<1	<1	<5	<1	<0.5	<0.05	<20	<0.1	17
BH05 - 1.5	**1.5**	**957950**	**Soil**	<1	<20	<0.5	<1	<0.5	<5	<0.5	<0.5	<10	<0.5	<0.2	<5	<20	<1	<1	<5	<1	<0.5	<0.05	<20	<0.1	15
BH06 - 0.1	**0.1**	**957950**	**Soil**	<1	<20	3.1	<1	<0.5	<5	<0.5	<0.5	<10	<0.5	<0.5	<5	<20	<1	<1	<5	<1	0.7	<0.5	<20	<1	4.4
BH06 - 0.5	**0.5**	**957950**	**Soil**																						15
BH06 - 1.0	**1.0**	**957950**	**Soil**	<1	<20	<0.5	<1	<0.5	<5	<0.5	<0.5	<10	<0.5	<0.2	<5	<20	<1	<1	<5	<1	<0.5	<0.05	<20	<0.1	17
BH06 - 1.5	**1.5**	**957950**	**Soil**	<1	<20	<0.5	<1	<0.5	<5	<0.5	<0.5	<10	<0.5	<0.2	<5	<20	<1	<1	<5	<1	<0.5	<0.05	<20	<0.1	18
BH07 - 0.1	**0.1**	**957950**	**Soil**	<1	<20	3.1	<1	<0.5	<5	<0.5	<0.5	<10	<0.5	<0.5	<5	<20	<1	<1	<5	<1	<0.5	<0.5	<20	<1	4.1
BH07 - 0.5	**0.5**	**957950**	**Soil**	<1	<20	<0.5	<1	<0.5	<5	<0.5	<0.5	<10	<0.5	<0.2	<5	<20	<1	<1	<5	<1	<0.5	<0.05	<20	<0.1	16
BH07 - 1.5	**1.5**	**957950**	**Soil**	<1	<20	<0.5	<1	<0.5	<5	<0.5	<0.5	<10	<0.5	<0.2	<5	<20	<1	<1	<5	<1	<0.5	<0.05	<20	<0.1	18
BH08 - 0.1	**0.1**	**957950**	**Soil**	<1	<20	<0.5	<1	<0.5	<5	<0.5	<0.5	<10	<0.5	<0.2	<5	<20	<1	<1	<5	<1	<0.5	<0.05	<20	<0.1	4.7
BH08 - 0.5	**0.5**	**957950**	**Soil**	<1	<20	<0.5	<1	<0.5	<5	<0.5	<0.5	<10	<0.5	<0.2	<5	<20	<1	<1	<5	<1	<0.5	<0.05	<20	<0.1	13
BH08 - 1.0	**1.0**	**957950**	**Soil**	<1	<20	<0.5	<1	<0.5	<5	<0.5	<0.5	<10	<0.5	<0.2	<5	<20	<1	<1	<5	<1	<0.5	<0.05	<20	<0.1	15
BH08 - 1.5	**1.5**	**957950**	**Soil**	<1	<20	<0.5	<1	<0.5	<5	<0.5	<0.5	<10	<0.5	<0.2	<5	<20	<1	<1	<5	<1	<0.5	<0.05	<20	<0.1	20
BH09 - 0.1	**0.1**	**957950**	**Soil**	<1	<20	<1	<1	<0.5	<5	<0.5	<0.5	<10	<0.5	<0.5	<5	<20	<1	<1	<5	<1	<0.5	<0.5	<20	<1	3.1
BH09 - 0.5	**0.5**	**957950**	**Soil**	<1	<20	<0.5	<1	<0.5	<5	<0.5	<0.5	<10	<0.5	<0.2	<5	<20	<1	<1	<5	<1	<0.5	<0.05	<20	<0.1	11
BH09 - 1.0	**1.0**	**957950**	**Soil**	<1	<20	<0.5	<1	<0.5	<5	<0.5	<0.5	<10	<0.5	<0.2	<5	<20	<1	<1	<5	<1	<0.5	<0.05	<20	<0.1	13
BH10 - 0.1	**0.1**	**957950**	**Soil**	<1	<20	<0.5	<1	<0.5	<5	<0.5	<0.5	<10	<0.5	<0.2	<5	<20	<1	<1	<5	<1	<0.5	<0.05	<20	<0.1	3.7
BH10 - 0.5	**0.5**	**957950**	**Soil**	<1	<20	<0.5	<1	<0.5	<5	<0.5	<0.5	<10	<0.5	<0.2	<5	<20	<1	<1	<5	<1	<0.5	<0.05	<20	<0.1	14
B10 - 1.0	**1.0**	**957950**	**Soil**	<1	<20	<0.5	<1	<0.5	<5	<0.5	<0.5	<10	<0.5	<0.2	<5	<20	<1	<1	<5	<1	<0.5	<0.05	<20	<0.1	12
BH10 - 1.5	**1.5**	**957950**	**Soil**	<1	<20	<0.5	<1	<0.5	<5	<0.5	<0.5	<10	<0.5	<0.2	<5	<20	<1	<1	<5	<1	<0.5	<0.05	<20	<0.1	14
BH11 - 0.1	**0.1**	**957950**	**Soil**	<1	<20	<0.5	<1	<0.5	<5	<0.5	<0.5	<10	<0.5	<0.2	<5	<20	<1	<1	<5	<1	<0.5	<0.05	<20	<0.1	4.6
BH11 - 0.5	**0.5**	**957950**	**Soil**																						14
BH11 - 1.0	**1.0**	**957950**	**Soil**	<1	<20	<1	<1	<0.5	<5	<0.5	<0.5	<10	<0.5	<0.5	<5	<20	<1	<1	<5	<1	<0.5	<0.5	<20	<1	13
BH11 - 1.5	**1.5**	**957950**	**Soil**	<1	<20	<0.5	<1	<0.5	<5	<0.5	<0.5	<10	<0.5	<0.2	<5	<20	<1	<1	<5	<1	<0.5	<0.05	<20	<0.1	12
BH12 - 0.1	**0.1**	**957950**	**Soil**	<1	<20	<1	<1	<0.5	<5	<0.5	<0.5	<10	<0.5	<0.5	<5	<20	<1	<1	<5	<1	<0.5	<0.5	<20	<1	2.6
BH12 - 0.5	**0.5**	**957950**	**Soil**	<1	<20	<0.5	<1	<0.5	<5	<0.5	<0.5	<10	<0.5	<0.2	<5	<20	<1	<1	<5	<1	<0.5	<0.05	<20	<0.1	12
BH12 - 1.5	**1.5**	**957950**	**Soil**	<1	<20	<0.5	<1	<0.5	<5	<0.5	<0.5	<10	<0.5	<0.2	<5	<20	<1	<1	<5	<1	<0.5	<0.05	<20	<0.1	14
BH13 - 0.1	**0.1**	**957950**	**Soil**	<1	<20	<1	<1	<0.5	<5	<0.5	<0.5	<10	<0.5	<0.5	<5	<20	<1	<1	<5	<1	0.8	<0.5	<20	<1	4.8
BH13 - 0.5	**0.5**	**957950**	**Soil**	<1	<20	<0.5	<1	<0.5	<5	<0.5	<0.5	<10	<0.5	<0.2	<5	<20	<1	<1	<5	<1	<0.5	<0.05	<20	<0.1	10
BH13 - 1.0	**1.0**	**957950**	**Soil**	<1	<20	<0.5	<1	<0.5	<5	<0.5	<0.5	<10	<0.5	<0.2	<5	<20	<1	<1	<5	<1	<0.5	<0.05	<20	<0.1	14
BH13 - 1.5	**1.5**	**957950**	**Soil**	<1	<20	<0.5	<1	<0.5	<5	<0.5	<0.5	<10	<0.5	<0.2	<5	<20	<1	<1	<5	<1	<0.5	<0.05	<20	<0.1	15
BH14 - 0.1	**0.1**	**957950**	**Soil**																						4.1
BH14 - 0.5	**0.5**	**957950**	**Soil**	<1	<20	<1	<1	<0.5	<5	<0.5	<0.5	<10	<0.5	<0.5	<5	<20	<1	<1	<5	<1	<0.5	<0.5	<20	<1	14
BH14 - 1.0	**1.0**	**957950**	**Soil**	<1	<20	<0.5	<1	<0.5	<5	<0.5	<0.5	<10	<0.5	<0.2	<5	<20	<1	<1	<5	<1	<0.5	<0.05	<20	<0.1	13
BH14 - 2.0	**2.0**	**957950**	**Soil**	<1	<20	<0.5	<1	<0.5	<5	<0.5	<0.5	<10	<0.5	<0.2	<5	<20	<1	<1	<5	<1	<0.5	<0.05	<20	<0.1	19
BH15 - 0.1	**0.1**	**957950**	**Soil**	<1	<20	<0.5	<1	<0.5	<5	<0.5	<0.5	<10	<0.5	<0.2	<5	<20	<1	<1	<5	<1	<0.5	<0.05	<20	<0.1	4.5
BH15 - 0.5	**0.5**	**957950**	**Soil**																						7.2
BH15 - 1.0	**1.0**	**957950**	**Soil**	<1	<20	<0.5	<1	<0.5	<5	<0.5	<0.5	<10	<0.5	<0.2	<5	<20	<1	<1	<5	<1	<0.5	<0.05	<20	<0.1	16
BH15 - 1.5	**1.5**	**957950**	**Soil**	<1	<20	<0.5	<1	<0.5	<5	<0.5	<0.5	<10	<0.5	<0.2	<5	<20	<1	<1	<5	<1	<0.5	<0.05	<20	<0.1	18
BH16 - 0.1	**0.1**	**957950**	**Soil**	<1	<20	<0.5	<1	<0.5	<5	<0.5	<0.5	<10	<0.5	<0.2	<5	<20	<1	<1	<5	<1	<0.5	<0.05	<20	<0.1	2.7
BH16 - 0.5	**0.5**	**957950**	**Soil**	<1	<20	<0.5	<1	<0.5	<5	<0.5	<0.5	<10	<0.5	<0.2	<5	<20	<1	<1	<5	<1	<0.5	<0.05	<20	<0.1	13
BH16 - 1.0	**1.0**	**957950**	**Soil**	<1	<20	<0.5	<1	<0.5	<5	<0.5	<0.5	<10	<0.5	<0.2	<5	<20	<1	<1	<5	<1	<0.5	<0.05	<20	<0.1	8.1
BH17 - 0.1	**0.1**	**957950**	**Soil**	<1	<20	<0.5	<1	<0.5	<5	<0.5	<0.5	<10	<0.5	<0.2	<5	<20	<1	<1	<5	<1	<0.5	<0.05	<20	<0.1	4.4
BH17 - 0.5	**0.5**	**957950**	**Soil**	<1	<20	<0.5	<1	<0.5	<5	<0.5	<0.5	<10	<0.5	<0.2	<5	<20	<1	<1	<5	<1	<0.5	<0.05	<20	<0.1	13
BH17 - 1.0	**1.0**	**957950**	**Soil**	<1	<20	<0.5	<1	<0.5	<5	<0.5	<0.5	<10	<0.5	<0.2	<5	<20	<1	<1	<5	<1	<0.5	<0.05	<20	<0.1	14
BH18 - 0.1	**0,1**	**957950**	**Soil**	<1	<20	<0.5	<1	<0.5	<5	<0.5	<0.5	<10	<0.5	<0.2	<5	<20	<1	<1	<5	<1	<0.5	<0.05	<20	<0.1	4.6
BH18 - 0.5	**0.5**	**957950**	**Soil**	<1	<20	<0.5	<1	<0.5	<5	<0.5	<0.5	<10	<0.5	<0.2	<5	<20	<1	<1	<5	<1	<0.5	<0.05	<20	<0.1	11
BH18 - 1.0	**1.0**	**957950**	**Soil**	<1	<20	<0.5	<1	<0.5	<5	<0.5	<0.5	<10	<0.5	<0.2	<5	<20	<1	<1	<5	<1	<0.5	<0.05	<20	<0.1	18
BH19 - 0.1	**0.1**	**957950**	**Soil**	<1	<20	<0.5	<1	<0.5	<5	<0.5	<0.5	<10	<0.5	<0.2	<5	<20	<1	<1	<5	<1	<0.5	<0.05	<20	<0.1	5.1
BH19 - 0.5	**0.5**	**957950**	**Soil**	<1	<20	<0.5	<1	<0.5	<5	<0.5	<0.5	<10	<0.5	<0.2	<5	<20	<1	<1	<5	<1	<0.5	<0.05	<20	<0.1	11
BH19 - 1.0	**1.0**	**957950**	**Soil**	<1	<20	<0.5	<1	<0.5	<5	<0.5	<0.5	<10	<0.5	<0.2	<5	<20	<1	<1	<5	<1	<0.5	<0.05	<20	<0.1	14
BH19 - 1.5	**1.5**	**957950**	**Soil**	<1	<20	<0.5	<1	<0.5	<5	<0.5	<0.5	<10	<0.5	<0.2	<5	<20	<1	<1	<5	<1	<0.5	<0.05	<20	<0.1	23
BH20 - 0.1	**0.1**	**957950**	**Soil**	<1	<20	<0.5	<1	<0.5	<5	<0.5	<0.5	<10	<0.5	<0.2	<5	<20	<1	<1	<5	<1	<0.5	<0.05	<20	<0.1	2.8
BH20 - 0.5	**0.5**	**957950**	**Soil**	<1	<20	<0.5	<1	<0.5	<5	<0.5	<0.5	<10	<0.5	<0.2	<5	<20	<1	<1	<5	<1	<0.5	<0.05	<20	<0.1	15
BH20- 1.0	**1.0**	**957950**	**Soil**	<1	<20	<0.5	<1	<0.5	<5	<0.5	<0.5	<10	<0.5	<0.2	<5	<20	<1	<1	<5	<1	<0.5	<0.05	<20	<0.1	15

Statistics

Number of Results	**68**	**68**	**68**	**68**	**68**	**68**	**68**	**68**	**68**	**68**	**68**	**68**	**68**	**68**	**68**	**68**	**68**	**68**	**68**	**68**	**68**	**72**
Number of Detects	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**72**
Minimum Concentration	**<1**	**<20**	**<0.5**	**<1**	**<0.5**	**<5**	**<0.5**	**<0.5**	**<10**	**<0.5**	**<0.2**	**<5**	**<20**	**<1**	**<1**	**<5**	**<1**	**<0.5**	**<0.05**	**<20**	**<0.1**	**2.4**
Maximum Concentration	**<1**	**<20**	**3.1**	**<1**	**<0.5**	**<5**	**<0.5**	**<0.5**	**<10**	**<0.5**	**<0.5**	**<5**	**<20**	**<1**	**<1**	**<5**	**<1**	**0.8**	**<0.5**	**<20**	**<1**	**23**
Average Concentration *	**0.5**	**10**	**0.37**	**0.5**	**0.25**	**2.5**	**0.25**	**0.25**	**5**	**0.25**	**0.12**	**2.5**	**10**	**0.5**	**0.5**	**2.5**	**0.5**	**0.26**	**0.061**	**10**	**0.12**	**12**
Standard Deviation *	**0**	**0**	**0.49**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0.056**	**0**	**0**	**0**	**0**	**0**	**0**	**0.086**	**0.083**	**0**	**0.17**	**5.6**
95% UCL (Student's-t) *	**0.5**	**10**	**0.465**	**0.5**	**0.25**	**2.5**	**0.25**	**0.25**	**5**	**0.25**	**0.136**	**2.5**	**10**	**0.5**	**0.5**	**2.5**	**0.5**	**0.282**	**0.0783**	**10**	**0.157**	**12.76**

* A Non Detect Multiplier of 0.5 has been applied.

Environmental Standards

Office of Parliamentary Counsel, 12 October 2017, Airport Regulations - Area of a
HEPA, January 2020, PFAS NEMP 2020 Ecological indirect exposure
HEPA, January 2020, PFAS NEMP 2020 Industrial/ commercial (HIL D)

Table 2 - RPDs

				PFOS/PFOA			Metals								PAH																
				Perfluorooctanesulfonic acid (PFOS)	Perfluorooctanoic acid (PFOA)	Sum of PFHxS and PFOS	Arsenic	Cadmium	Chromium (III+VI)	Copper	Lead	Mercury	Nickel	Zinc	Benzo(b+j)fluoranthene	Benzo(k)fluoranthene	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a) pyrene	Benzo(g,h,i)perylene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Naphthalene	Phenanthrene	PAHs (Sum of total)	Pyrene
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	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	2	0.4	2	5	5	0.1	2	5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Field ID	**Lab Report Number**	**Matrix Type**	**Date**																												
BH01 - 0.5	**957950**	**Soil**	**20 Jan 2023**	<0.005	<0.005	<0.005	11	<0.4	32	29	31	<0.1	50	140	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
QC01	**957950**	**Soil**	**20 Jan 2023**	<0.005	<0.005	<0.005	14	<0.4	38	28	25	<0.1	39	120	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
RPD				0	0	0	24	0	17	4	21	0	25	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BH03 - 0.1	**957950**	**Soil**	**20 Jan 2023**	<0.005	<0.005	<0.005	2.3	<0.4	11	8.7	28	<0.1	<5	65	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
QC02	**ES2302842**	**Soil**	**20 Jan 2023**	<0.0002	<0.0002	<0.0002	<5	<1	8	6	19	<0.1	4	45	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
RPD				0	0	0	0	0	32	37	38	0	0	36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BH04 - 1.0	**957950**	**Soil**	**20 Jan 2023**	<0.005	<0.005	<0.005	9.5	<0.4	55	21	28	<0.1	28	61	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
QC03	**957950**	**Soil**	**20 Jan 2023**	<0.005	<0.005	<0.005	13	<0.4	22	26	23	<0.1	43	150	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
RPD				0	0	0	31	0	**86**	21	20	0	42	**84**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BH10 - 0.1	**957950**	**Soil**	**21 Jan 2023**	<0.005	<0.005	<0.005	2.7	<0.4	11	8.2	28	<0.1	<5	89	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
QC04	**ES2302842**	**Soil**	**21 Jan 2023**	<0.0002	<0.0002	<0.0002	<5	<1	8	5	21	<0.1	4	49	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
RPD				0	0	0	0	0	32	48	29	0	0	**58**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BH11 - 1.5	**957950**	**Soil**	**21 Jan 2023**	<0.005	<0.005	<0.005	8.0	<0.4	60	24	42	<0.1	35	88	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
QC05	**957950**	**Soil**	**21 Jan 2023**	<0.005	<0.005	<0.005	6.1	<0.4	45	18	22	<0.1	32	73	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
RPD				0	0	0	27	0	29	29	62	0	9	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BH14 - 2.0	**957950**	**Soil**	**21 Jan 2023**				4.5	<0.4	37	19	11	<0.1	17	58	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
QC06	**957950**	**Soil**	**21 Jan 2023**				4.4	<0.4	37	19	12	<0.1	16	59																	
RPD							2	0	0	0	9	0	6	2																	
BH18 - 1.0	**957950**	**Soil**	**21 Jan 2023**	<0.005	<0.005	<0.005	5.2	<0.4	48	25	17	<0.1	25	59	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
QC07	**ES2302842**	**Soil**	**21 Jan 2023**	<0.0002	<0.0002	0.0004	<5	<1	37	20	14	<0.1	17	36	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
RPD				0	0	0	4	0	26	22	19	0	38	48	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BH19 - 1.0	**957950**	**Soil**	**21 Jan 2023**				18	0.4	49	27	26	<0.1	41	150	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
QC08	**957950**	**Soil**	**21 Jan 2023**	<0.005	<0.005	<0.005	6.8	<0.4	38	21	13	<0.1	20	56	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
RPD							**90**	0	25	25	67	0	69	**91**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BH20- 1.0	**957950**	**Soil**	**21 Jan 2023**	<0.005	<0.005	<0.005	16	<0.4	29	25	20	<0.1	35	120	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
QC09	**957950**	**Soil**	**21 Jan 2023**	<0.005	<0.005	<0.005	14	<0.4	36	25	22	<0.1	43	120	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
RPD				0	0	0	13	0	22	0	10	0	21	0	0	0	0	0	0	0	0	0	0	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**

Table 2 - RPDs

				BTEX					TRH					TPH					NA												
				Total BTEX	Benzene	Ethylbenzene	Toluene	Xylene Total	C6-C10 (F1 minus BTEX)	C10-C16 (F2 minus Naphthalene)	C16-C34	C34-C40	C10-C40 (Sum of total)	C6-C9	C10-C14	C15-C28	C29-C36	+C10-C36 (Sum of total)	Sum of WA DWER PFAS (n=10)*	Moisture Content	Aldrin + Dieldrin	Chlordane (cis)	Endosulfan	Chlordane (trans)	Chlordane	Endrin ketone	Organochlorine pesticides EPAVic	Toxaphene	Other organochlorine pesticides EPAVic	4,4-DDE	a-BHC
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	UG/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	0.1	0.1	0.1	0.3	10	50	100	100	50	10	20	50	50	50	0.2	1	0.05	0.05	0.05	0.05	0.05	0.05	0.1	0.5	0.1	0.05	0.05
Field ID	**Lab Report Number**	**Matrix Type**	**Date**																												
BH01 - 0.5	**957950**	**Soil**	**20 Jan 2023**		<0.1	<0.1	<0.1	<0.3	<20	<50	<100	<100	<100	<20	<20	<50	<50	<50			<0.05				<0.1	<0.05	<0.1	<0.5	<0.1	<0.05	<0.05
QC01	**957950**	**Soil**	**20 Jan 2023**		<0.1	<0.1	<0.1	<0.3	<20	<50	<100	<100	<100	<20	<20	<50	<50	<50			<0.05				<0.1	<0.05	<0.1	<0.5	<0.1	<0.05	<0.05
RPD					0	0	0	0	0	0	0	0	0	0	0	0	0	0			0				0	0	0	0	0	0	0
BH03 - 0.1	**957950**	**Soil**	**20 Jan 2023**		<0.1	<0.1	<0.1	<0.3	<20	<50	<100	<100	<100	<20	<20	<50	<50	<50			<0.5				<1	<0.5	<1	<10	<1	<0.5	<0.5
QC02	**ES2302842**	**Soil**	**20 Jan 2023**	<0.2	<0.2	<0.5	<0.5	<0.5	<10	<50	<100	<100	<50	<10	<50	<100	<100	<50	<0.2	3.4	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05				<0.05	<0.05
RPD					0	0	0	0	0	0	0	0	0	0	0	0	0	0			0				0	0				0	0
BH04 - 1.0	**957950**	**Soil**	**20 Jan 2023**		<0.1	<0.1	<0.1	<0.3	<20	<50	<100	<100	<100	<20	<20	<50	<50	<50			<0.05				<0.1	<0.05	<0.1	<0.5	<0.1	<0.05	<0.05
QC03	**957950**	**Soil**	**20 Jan 2023**		<0.1	<0.1	<0.1	<0.3	<20	<50	<100	<100	<100	<20	<20	<50	<50	<50			<0.05				<0.1	<0.05	<0.1	<0.5	<0.1	<0.05	<0.05
RPD					0	0	0	0	0	0	0	0	0	0	0	0	0	0			0				0	0	0	0	0	0	0
BH10 - 0.1	**957950**	**Soil**	**21 Jan 2023**		<0.1	<0.1	<0.1	<0.3	<20	<50	<100	<100	<100	<20	<20	<50	<50	<50			<0.05				<0.1	<0.05	<0.1	<0.5	<0.1	<0.05	<0.05
QC04	**ES2302842**	**Soil**	**21 Jan 2023**	<0.2	<0.2	<0.5	<0.5	<0.5	<10	<50	<100	<100	<50	<10	<50	<100	<100	<50	<0.2	3.4	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05				<0.05	<0.05
RPD					0	0	0	0	0	0	0	0	0	0	0	0	0	0			0				0	0				0	0
BH11 - 1.5	**957950**	**Soil**	**21 Jan 2023**		<0.1	<0.1	<0.1	<0.3	<20	<50	<100	<100	<100	<20	<20	<50	<50	<50			<0.05				<0.1	<0.05	<0.1	<0.5	<0.1	<0.05	<0.05
QC05	**957950**	**Soil**	**21 Jan 2023**		<0.1	<0.1	<0.1	<0.3	<20	<50	<100	<100	<100	<20	<20	<50	<50	<50			<0.05				<0.1	<0.05	<0.1	<0.5	<0.1	<0.05	<0.05
RPD					0	0	0	0	0	0	0	0	0	0	0	0	0	0			0				0	0	0	0	0	0	0
BH14 - 2.0	**957950**	**Soil**	**21 Jan 2023**		<0.1	<0.1	<0.1	<0.3	<20	<50	<100	<100	<100	<20	<20	<50	<50	<50			<0.05				<0.1	<0.05	<0.1	<0.5	<0.1	<0.05	<0.05
QC06	**957950**	**Soil**	**21 Jan 2023**																												
RPD																															
BH18 - 1.0	**957950**	**Soil**	**21 Jan 2023**		<0.1	<0.1	<0.1	<0.3	<20	<50	<100	<100	<100	<20	<20	<50	<50	<50			<0.05				<0.1	<0.05	<0.1	<0.5	<0.1	<0.05	<0.05
QC07	**ES2302842**	**Soil**	**21 Jan 2023**	<0.2	<0.2	<0.5	<0.5	<0.5	<10	<50	<100	<100	<50	<10	<50	<100	<100	<50	0.4	17.9	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05				<0.05	<0.05
RPD					0	0	0	0	0	0	0	0	0	0	0	0	0	0			0				0	0				0	0
BH19 - 1.0	**957950**	**Soil**	**21 Jan 2023**		<0.1	<0.1	<0.1	<0.3	<20	<50	<100	<100	<100	<20	<20	<50	<50	<50			<0.05				<0.1	<0.05	<0.1	<0.5	<0.1	<0.05	<0.05
QC08	**957950**	**Soil**	**21 Jan 2023**		<0.1	<0.1	<0.1	<0.3	<20	<50	<100	<100	<100	<20	<20	<50	<50	<50			<0.05				<0.1	<0.05	<0.1	<0.5	<0.1	<0.05	<0.05
RPD					0	0	0	0	0	0	0	0	0	0	0	0	0	0			0				0	0	0	0	0	0	0
BH20- 1.0	**957950**	**Soil**	**21 Jan 2023**		<0.1	<0.1	<0.1	<0.3	<20	<50	<100	<100	<100	<20	<20	<50	<50	<50			<0.05				<0.1	<0.05	<0.1	<0.5	<0.1	<0.05	<0.05
QC09	**957950**	**Soil**	**21 Jan 2023**		<0.1	<0.1	<0.1	<0.3	<20	<50	<100	<100	<100	<20	<20	<50	<50	<50			<0.05				<0.1	<0.05	<0.1	<0.5	<0.1	<0.05	<0.05
RPD					0	0	0	0	0	0	0	0	0	0	0	0	0	0			0				0	0	0	0	0	0	0

***RPDs have only been considered where a concentration is greater tha**

****Elevated RPDs are highlighted as per QAQC Profile settings (Accepta**

*****Interlab Duplicates are matched on a per compound basis as meth**

Table 2 - RPDs

				Organochlorine Pesticides																Phenols											
				Aldrin	d-BHC	b-BHC	DDD	DDT	DDT+DDE+DDD	Dieldrin	Endosulfan II	Endosulfan I	Endosulfan sulphate	Endrin	Endrin aldehyde	g-BHC (Lindane)	Heptachlor epoxide	Methoxychlor	Heptachlor	2,4,5-Trichlorophenol	3&4-Methylphenol (m&p-cresol)	2,4,6-Trichlorophenol	Phenols (Total Non Halogenated)	Cresol Total	Phenols (Total Halogenated)	2,4-Dichlorophenol	2,4-Dinitrophenol	2,4-Dimethylphenol	2,6-Dichlorophenol	Tetrachlorophenols	2-Chlorophenol
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	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	0.05	0.05	0.05	0.5	0.4	0.5	20	0.5	1	0.5	5	0.5	0.5	10	0.5
Field ID	**Lab Report Number**	**Matrix Type**	**Date**																												
BH01 - 0.5	**957950**	**Soil**	**20 Jan 2023**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<1	<0.4	<1	<20	<0.5	<1	<0.5	<5	<0.5	<0.5	<10	<0.5
QC01	**957950**	**Soil**	**20 Jan 2023**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<1	<0.4	<1	<20	<0.5	<1	<0.5	<5	<0.5	<0.5	<10	<0.5
RPD				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BH03 - 0.1	**957950**	**Soil**	**20 Jan 2023**	<0.5	<0.5	<0.5	<0.5	<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	<1	<1	<20	<1	<1	<0.5	<5	<0.5	<0.5	<10	<0.5
QC02	**ES2302842**	**Soil**	**20 Jan 2023**	<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	<0.2	<0.05	<0.5	<1	<0.5				<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	0	0	0				0		0	0		0
BH04 - 1.0	**957950**	**Soil**	**20 Jan 2023**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<1	<0.4	<1	<20	<0.5	<1	<0.5	<5	<0.5	<0.5	<10	<0.5
QC03	**957950**	**Soil**	**20 Jan 2023**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<1	<0.4	<1	<20	<0.5	<1	<0.5	<5	<0.5	<0.5	<10	<0.5
RPD				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BH10 - 0.1	**957950**	**Soil**	**21 Jan 2023**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<1	<0.4	<1	<20	<0.5	<1	<0.5	<5	<0.5	<0.5	<10	<0.5
QC04	**ES2302842**	**Soil**	**21 Jan 2023**	<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	<0.2	<0.05	<0.5	<1	<0.5				<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	0	0	0				0		0	0		0
BH11 - 1.5	**957950**	**Soil**	**21 Jan 2023**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<1	<0.4	<1	<20	<0.5	<1	<0.5	<5	<0.5	<0.5	<10	<0.5
QC05	**957950**	**Soil**	**21 Jan 2023**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<1	<0.4	<1	<20	<0.5	<1	<0.5	<5	<0.5	<0.5	<10	<0.5
RPD				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BH14 - 2.0	**957950**	**Soil**	**21 Jan 2023**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<1	<0.4	<1	<20	<0.5	<1	<0.5	<5	<0.5	<0.5	<10	<0.5
QC06	**957950**	**Soil**	**21 Jan 2023**																												
RPD																															
BH18 - 1.0	**957950**	**Soil**	**21 Jan 2023**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<1	<0.4	<1	<20	<0.5	<1	<0.5	<5	<0.5	<0.5	<10	<0.5
QC07	**ES2302842**	**Soil**	**21 Jan 2023**	<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	<0.2	<0.05	<0.5	<1	<0.5				<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	0	0	0				0		0	0		0
BH19 - 1.0	**957950**	**Soil**	**21 Jan 2023**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<1	<0.4	<1	<20	<0.5	<1	<0.5	<5	<0.5	<0.5	<10	<0.5
QC08	**957950**	**Soil**	**21 Jan 2023**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<1	<0.4	<1	<20	<0.5	<1	<0.5	<5	<0.5	<0.5	<10	<0.5
RPD				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BH20- 1.0	**957950**	**Soil**	**21 Jan 2023**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<1	<0.4	<1	<20	<0.5	<1	<0.5	<5	<0.5	<0.5	<10	<0.5
QC09	**957950**	**Soil**	**21 Jan 2023**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<1	<0.4	<1	<20	<0.5	<1	<0.5	<5	<0.5	<0.5	<10	<0.5
RPD				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

***RPDs have only been considered where a concentration is greater th**

****Elevated RPDs are highlighted as per QAQC Profile settings (Accepta**

*****Interlab Duplicates are matched on a per compound basis as meth**

Table 2 - RPDs

Capital Airport Group

												Halogenated Benzenes	Herbicides	PCBs	Inorganics
				2-Methylphenol	4,6-Dinitro-2-methylphenol	4,6-Dinitro-o-cyclohexyl phenol	2-Nitrophenol	4-chloro-3-methylphenol	4-Nitrophenol	Pentachlorophenol	Phenol	Hexachlorobenzene	Dinoseb	PCBs (Sum of total)	Moisture Content (dried @ 103°C)
				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	20	0.5	0.5	5	1	0.5	0.05	20	0.1	1
Field ID	**Lab Report Number**	**Matrix Type**	**Date**												
BH01 - 0.5	**957950**	**Soil**	**20 Jan 2023**	<0.2	<5	<20	<1	<1	<5	<1	<0.5	<0.05	<20	<0.1	13
QC01	**957950**	**Soil**	**20 Jan 2023**	<0.2	<5	<20	<1	<1	<5	<1	<0.5	<0.05	<20	<0.1	14
RPD				0	0	0	0	0	0	0	0	0	0	0	7
BH03 - 0.1	**957950**	**Soil**	**20 Jan 2023**	<0.5	<5	<20	<1	<1	<5	<1	<0.5	<0.5	<20	<1	2.5
QC02	**ES2302842**	**Soil**	**20 Jan 2023**	<0.5			<0.5	<0.5		<2	<0.5	<0.05		<0.1	
RPD				0			0	0		0	0	0		0	
BH04 - 1.0	**957950**	**Soil**	**20 Jan 2023**	<0.2	<5	<20	<1	<1	<5	<1	<0.5	<0.05	<20	<0.1	16
QC03	**957950**	**Soil**	**20 Jan 2023**	<0.2	<5	<20	<1	<1	<5	<1	<0.5	<0.05	<20	<0.1	15
RPD				0	0	0	0	0	0	0	0	0	0	0	6
BH10 - 0.1	**957950**	**Soil**	**21 Jan 2023**	<0.2	<5	<20	<1	<1	<5	<1	<0.5	<0.05	<20	<0.1	3.7
QC04	**ES2302842**	**Soil**	**21 Jan 2023**	<0.5			<0.5	<0.5		<2	<0.5	<0.05		<0.1	
RPD				0			0	0		0	0	0		0	
BH11 - 1.5	**957950**	**Soil**	**21 Jan 2023**	<0.2	<5	<20	<1	<1	<5	<1	<0.5	<0.05	<20	<0.1	12
QC05	**957950**	**Soil**	**21 Jan 2023**	<0.2	<5	<20	<1	<1	<5	<1	<0.5	<0.05	<20	<0.1	15
RPD				0	0	0	0	0	0	0	0	0	0	0	22
BH14 - 2.0	**957950**	**Soil**	**21 Jan 2023**	<0.2	<5	<20	<1	<1	<5	<1	<0.5	<0.05	<20	<0.1	19
QC06	**957950**	**Soil**	**21 Jan 2023**												19
RPD															0
BH18 - 1.0	**957950**	**Soil**	**21 Jan 2023**	<0.2	<5	<20	<1	<1	<5	<1	<0.5	<0.05	<20	<0.1	18
QC07	**ES2302842**	**Soil**	**21 Jan 2023**	<0.5			<0.5	<0.5		<2	<0.5	<0.05		<0.1	
RPD				0			0	0		0	0	0		0	
BH19 - 1.0	**957950**	**Soil**	**21 Jan 2023**	<0.2	<5	<20	<1	<1	<5	<1	<0.5	<0.05	<20	<0.1	14
QC08	**957950**	**Soil**	**21 Jan 2023**	<0.2	<5	<20	<1	<1	<5	<1	<0.5	<0.05	<20	<0.1	20
RPD				0	0	0	0	0	0	0	0	0	0	0	35
BH20- 1.0	**957950**	**Soil**	**21 Jan 2023**	<0.2	<5	<20	<1	<1	<5	<1	<0.5	<0.05	<20	<0.1	15
QC09	**957950**	**Soil**	**21 Jan 2023**	<0.2	<5	<20	<1	<1	<5	<1	<0.5	<0.05	<20	<0.1	16
RPD				0	0	0	0	0	0	0	0	0	0	0	6

***RPDs have only been considered where a concentration is greater tha**

****Elevated RPDs are highlighted as per QAQC Profile settings (Accepta**

*****Interlab Duplicates are matched on a per compound basis as meth**

Table 3 - Rinsate Blanks

				PFOS/PFOA		
				Perfluorooctanesulfonic acid (PFOS)	Perfluorooctanoic acid (PFOA)	Sum of PFHxS and PFOS
				ug/L	ug/L	µg/L
EQL				0.01	0.01	0.01
Field ID	**Lab Report Number**	**Matrix Type**	**Date**			
RB01	**957950**	**Water**	**20 Jan 2023**	0.02	<0.01	0.02
RB02	**957950**	**Water**	**21 Jan 2023**	0.01	<0.01	0.01

APPENDIX C: LOGS

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ENVIRONMENTAL BOREHOLE LOG

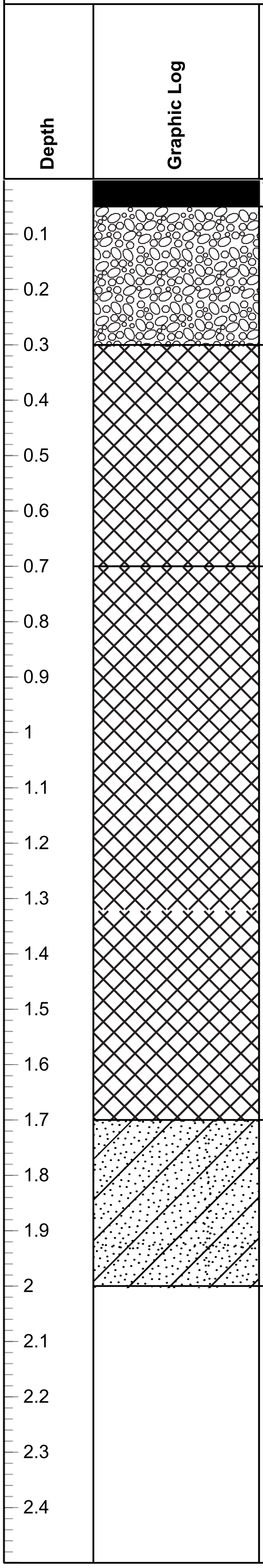
PROJECT NUMBER JC1047
PROJECT NAME LDSI - 3WP
CLIENT Capital Airport Group
ADDRESS 3 Wellington Place, ACT 2609

DRILL MODEL JCB3CX Backhoe
DRILL METHOD Auger
TOTAL DEPTH 2.0m
DIAMETER 150mm
DRILLING COMPANY Ground Control ACT

BOREHOLE NUMBER BH01
DRILLING DATE 20/01/2023

COMMENTS

LOGGED BY KL
CHECKED BY JO



Material Description	Additional Observations
Asphalt.	
Sandy GRAVEL, grey, medium to large sized angular gravel, medium to coarse grained sand.	Road base.
Gravelly sandy CLAY, orange brown, small to medium sized angular gravel, medium to coarse grained sand, moist, soft to firm, low to moderate plasticity.	Fill.
Gravelly sandy CLAY, brown, small to medium sized angular gravel, medium to coarse grained sand, moist, soft to firm, low to moderate plasticity.	Probable reworked natural soils.
Sandy CLAY, light brown, moist, soft to firm, medium plasticity.	

ENVIRONMENTAL BOREHOLE LOG

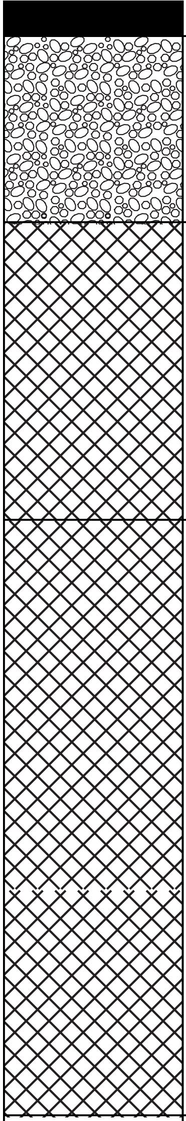
PROJECT NUMBER JC1047
PROJECT NAME LDSI - 3WP
CLIENT Capital Airport Group
ADDRESS 3 Wellington Place, ACT 2609

DRILL MODEL JCB3CX Backhoe
DRILL METHOD Auger
TOTAL DEPTH 1.5m
DIAMETER 150mm
DRILLING COMPANY Ground Control ACT

BOREHOLE NUMBER BH02
DRILLING DATE 20/01/2023

COMMENTS

LOGGED BY KL
CHECKED BY JO

Depth	Graphic Log	Material Description	Additional Observations
		Asphalt.	
0.1 0.2		Sandy GRAVEL, grey, medium to large sized angular gravel, medium to coarse grained sand.	Road base.
0.3 0.4 0.5 0.6		Gravelly sandy CLAY, orange brown, small to medium sized angular gravel, medium to coarse grained sand, moist, soft to firm, low to medium plasticity.	Fill.
0.7 0.8 0.9 1 1.1 1.2 1.3 1.4		Gravelly sandy CLAY, brown, small to medium sized angular gravel, medium to coarse grained sand, moist, soft to firm, low to medium plasticity.	Probable reworked natural soils.
1.5 1.6 1.7 1.8 1.9			

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ENVIRONMENTAL BOREHOLE LOG

PROJECT NUMBER JC1047
PROJECT NAME LDSI - 3WP
CLIENT Capital Airport Group
ADDRESS 3 Wellington Place, ACT 2609

DRILL MODEL JCB3CX Backhoe
DRILL METHOD Auger
TOTAL DEPTH 1.5m
DIAMETER 150mm
DRILLING COMPANY Ground Control ACT

BOREHOLE NUMBER BH03
DRILLING DATE 20/01/2023

COMMENTS

LOGGED BY KL
CHECKED BY JO

Depth	Graphic Log	Material Description	Additional Observations
	■	Asphalt.	
0.1 0.2	⁘	Sandy GRAVEL, grey, medium to large sized angular gravel, medium to coarse grained sand.	Road base.
0.3 0.4 0.5 0.6	▨	Gravelly sandy CLAY, orange brown, small to medium sized angular gravel, medium to coarse grained sand, moist, soft to firm, low to medium plasticity.	Fill.
0.7 0.8 0.9 1 1.1 1.2 1.3 1.4	▨	Gravelly sandy CLAY, brown, small to medium sized angular gravel, medium to coarse grained sand, moist, soft to firm, low to medium plasticity.	Probable reworked natural soils.
1.5 1.6 1.7 1.8 1.9			

ENVIRONMENTAL BOREHOLE LOG

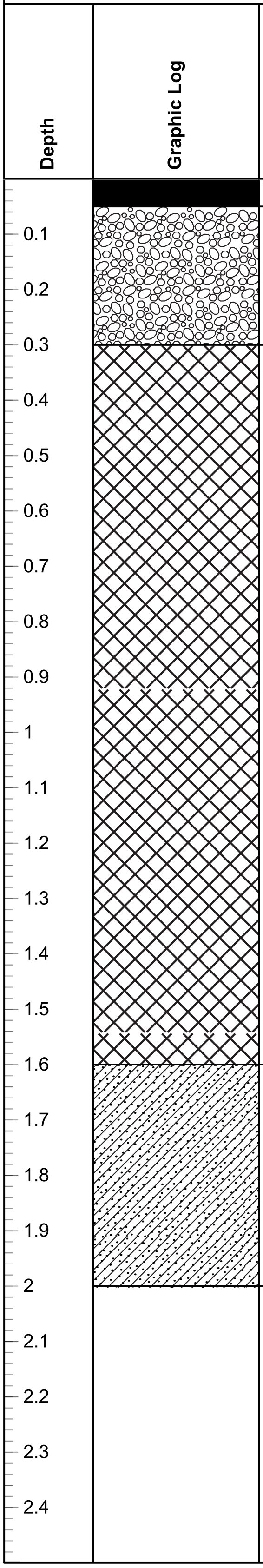
PROJECT NUMBER JC1047
PROJECT NAME LDSI - 3WP
CLIENT Capital Airport Group
ADDRESS 3 Wellington Place, ACT 2609

DRILL MODEL JCB3CX Backhoe
DRILL METHOD Auger
TOTAL DEPTH 2.0m
DIAMETER 150mm
DRILLING COMPANY Ground Control ACT

BOREHOLE NUMBER BH04
DRILLING DATE 20/01/2023

COMMENTS

LOGGED BY KL
CHECKED BY JO



Material Description	Additional Observations
Asphalt.	
Sandy GRAVEL, grey, medium to large sized angular gravel, medium to coarse grained sand.	Road base.
Gravelly sandy CLAY, light brown to brown, small to medium sized angular gravel, medium to coarse grained sand, moist, soft to firm, low to medium plasticity, trace manganese nodules.	Probable reworked natural soils.
CLAY, grey brown, moist, firm, medium plasticity.	Alluvial.

ENVIRONMENTAL BOREHOLE LOG

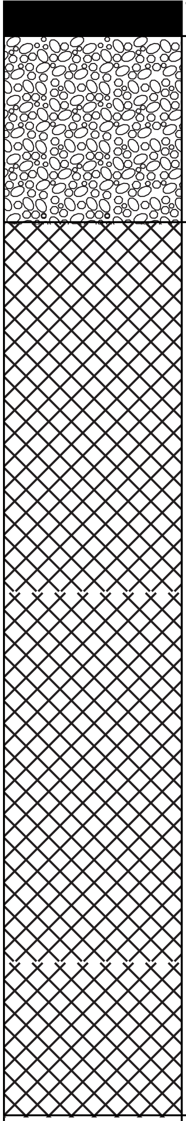
PROJECT NUMBER JC1047
PROJECT NAME LDSI - 3WP
CLIENT Capital Airport Group
ADDRESS 3 Wellington Place, ACT 2609

DRILL MODEL JCB3CX Backhoe
DRILL METHOD Auger
TOTAL DEPTH 1.5 m
DIAMETER 150mm
DRILLING COMPANY Ground Control ACT

BOREHOLE NUMBER BH05
DRILLING DATE 20/01/2023

COMMENTS

LOGGED BY KL
CHECKED BY JO

Depth	Graphic Log	Material Description	Additional Observations
		Asphalt.	
0.1 0.2		Sandy GRAVEL, grey, medium to large sized angular gravel, medium to coarse grained sand.	Road base.
0.3 0.4 0.5 0.6 0.7 0.8 0.9 1 1.1 1.2 1.3 1.4 1.5		Gravelly sandy CLAY, light brown to orange brown, small to medium sized angular gravel, fine to coarse grained sand, moist, soft to firm, low to moderate plasticity.	Probable reworked natural soils.
1.6 1.7 1.8 1.9			

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ENVIRONMENTAL BOREHOLE LOG

PROJECT NUMBER JC1047
PROJECT NAME LDSI - 3WP
CLIENT Capital Airport Group
ADDRESS 3 Wellington Place, ACT 2609

DRILL MODEL JCB3CX Backhoe
DRILL METHOD Auger
TOTAL DEPTH 1.5 m
DIAMETER 150mm
DRILLING COMPANY Ground Control ACT

BOREHOLE NUMBER BH06
DRILLING DATE 20/01/2023

COMMENTS

LOGGED BY KL
CHECKED BY JO

Depth	Graphic Log	Material Description	Additional Observations
	■	Asphalt.	
0.1 0.2	▒	Sandy GRAVEL, grey, medium to large sized angular gravel, medium to coarse grained sand.	Road base.
0.3 0.4 0.5 0.6 0.7 0.8 0.9 1 1.1 1.2	▩	Gravelly sandy CLAY, orange, grey brown, small to medium sized angular gravel, fine to coarse grained sand, moist, soft to firm, low to moderate plasticity.	Probable reworked natural soils.
1.3 1.4	▨	Silty CLAY, light brown, moist, soft, low plasticity.	Alluvial.
1.5 1.6 1.7 1.8 1.9			

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ENVIRONMENTAL BOREHOLE LOG

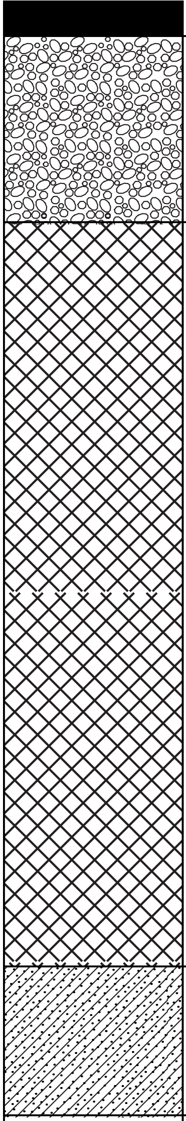
PROJECT NUMBER JC1047
PROJECT NAME LDSI - 3WP
CLIENT Capital Airport Group
ADDRESS 3 Wellington Place, ACT 2609

DRILL MODEL JCB3CX Backhoe
DRILL METHOD Auger
TOTAL DEPTH 1.5 m
DIAMETER 150mm
DRILLING COMPANY Ground Control ACT

BOREHOLE NUMBER BH07
DRILLING DATE 20/01/2023

COMMENTS

LOGGED BY KL
CHECKED BY JO

Depth	Graphic Log	Material Description	Additional Observations
		Asphalt.	
0.1 0.2		Sandy GRAVEL, grey, medium to large sized angular gravel, medium to coarse grained sand.	Road base.
0.3 0.4 0.5 0.6 0.7 0.8 0.9 1 1.1 1.2		Gravelly sandy CLAY, orange, grey brown, small to medium sized angular gravel, fine to coarse grained sand, moist, soft to firm, low to moderate plasticity.	Probable reworked natural soils.
1.3 1.4		Silty CLAY, light brown, moist, soft, low plasticity.	Alluvial.
1.5 1.6 1.7 1.8 1.9			

ENVIRONMENTAL BOREHOLE LOG

PROJECT NUMBER JC1047
PROJECT NAME LDSI - 3WP
CLIENT Capital Airport Group
ADDRESS 3 Wellington Place, ACT 2609

DRILL MODEL JCB3CX Backhoe
DRILL METHOD Auger
TOTAL DEPTH 1.5 m
DIAMETER 150mm
DRILLING COMPANY Ground Control ACT

BOREHOLE NUMBER BH08
DRILLING DATE 20/01/2023

COMMENTS

LOGGED BY KL
CHECKED BY JO

Depth	Graphic Log	Material Description	Additional Observations
	■	Asphalt.	
0.1 0.2	⁘	Sandy GRAVEL, grey, medium to large sized angular gravel, medium to coarse grained sand.	Road base.
0.3 0.4 0.5 0.6 0.7 0.8 0.9 1 1.1 1.2	▩	Gravelly sandy CLAY, orange, grey brown, small to medium sized angular gravel, fine to coarse grained sand, moist, soft to firm, low to moderate plasticity.	Probable reworked natural soils.
1.3 1.4	▨	Silty CLAY, light brown, moist, soft, low plasticity.	Alluvial.
1.5 1.6 1.7 1.8 1.9			

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ENVIRONMENTAL BOREHOLE LOG

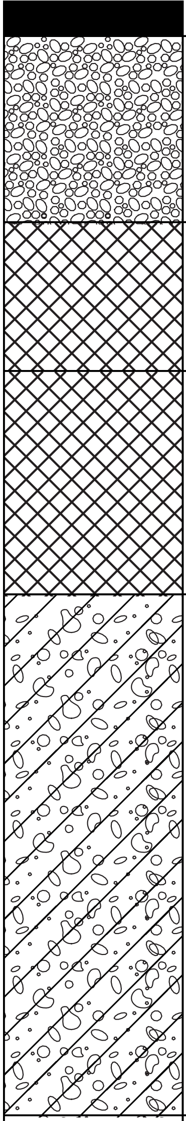
PROJECT NUMBER JC1047
PROJECT NAME LDSI - 3WP
CLIENT Capital Airport Group
ADDRESS 3 Wellington Place, ACT 2609

DRILL MODEL JCB3CX Backhoe
DRILL METHOD Auger
TOTAL DEPTH 1.5m
DIAMETER 150mm
DRILLING COMPANY Ground Control ACT

BOREHOLE NUMBER BH09
DRILLING DATE 21/01/2023

COMMENTS

LOGGED BY KL
CHECKED BY JO



Depth	Graphic Log	Material Description	Additional Observations
		Asphalt.	
0.1 0.2		Sandy GRAVEL, grey, medium to large sized angular gravel, medium to coarse grained sand.	Road base.
0.3 0.4		Gravelly sandy CLAY, orange brown, small to medium sized angular gravel, medium to coarse grained sand, moist, soft to firm, low to moderate plasticity.	Fill.
0.5 0.6 0.7		CLAY, grey brown, moist, soft to firm, low to medium plasticity.	Probable reworked natural soils.
0.8 0.9 1 1.1 1.2 1.3 1.4		Gravelly sandy CLAY, yellow to pale brown, small to medium sized angular gravel, fine to coarse grained sand, moist, soft, low plasticity.	
1.5 1.6 1.7 1.8 1.9			

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ENVIRONMENTAL BOREHOLE LOG

PROJECT NUMBER JC1047
PROJECT NAME LDSI - 3WP
CLIENT Capital Airport Group
ADDRESS 3 Wellington Place, ACT 2609

DRILL MODEL JCB3CX Backhoe
DRILL METHOD Auger
TOTAL DEPTH 1.5m
DIAMETER 150mm
DRILLING COMPANY Ground Control ACT

BOREHOLE NUMBER BH10
DRILLING DATE 21/01/2023

COMMENTS

LOGGED BY KL
CHECKED BY JO

Depth	Graphic Log	Material Description	Additional Observations
	■	Asphalt.	
0.1 0.2	⁘	Sandy GRAVEL, grey, medium to large sized angular gravel, medium to coarse grained sand.	Road base
0.3 0.4 0.5 0.6	▦	Gravelly CLAY, grey brown, small to medium sized angular gravel, moist, soft to firm, low to moderate plasticity.	Fill.
0.7 0.8 0.9 1	▦	Gravelly, sandy CLAY, pale brown to brown, small to large sized angular gravel, moist, soft, low plasticity.	Probable reworked natural soils.
1.1 1.2 1.3 1.4	▨	CLAY, grey brown, firm, low to medium plasticity, moist.	Alluvial.
1.5 1.6 1.7 1.8 1.9			

ENVIRONMENTAL BOREHOLE LOG

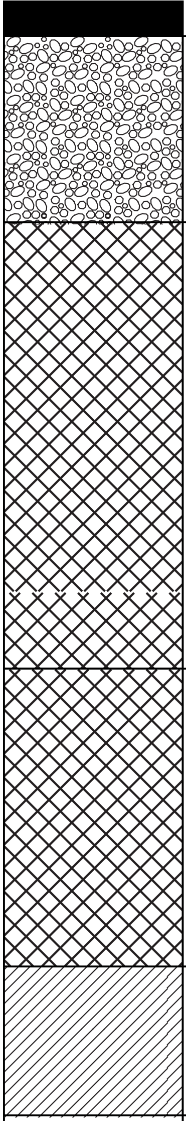
PROJECT NUMBER JC1047
PROJECT NAME LDSI - 3WP
CLIENT Capital Airport Group
ADDRESS 3 Wellington Place, ACT 2609

DRILL MODEL JCB3CX Backhoe
DRILL METHOD Auger
TOTAL DEPTH 1.5m
DIAMETER 150mm
DRILLING COMPANY Ground Control ACT

BOREHOLE NUMBER BH11
DRILLING DATE 21/01/2023

COMMENTS

LOGGED BY KL
CHECKED BY JO



Depth	Graphic Log	Material Description	Additional Observations
		Asphalt.	
0.1 0.2		Sandy GRAVEL, grey, medium to large sized angular gravel, medium to coarse grained sand.	Road base.
0.3 0.4 0.5 0.6 0.7 0.8		Gravelly CLAY, grey brown, small to medium sized angular gravel, moist, soft to firm, low to moderate plasticity.	Fill.
0.9 1 1.1 1.2		Gravelly, sandy CLAY, pale brown to brown, small to large sized angular gravel, moist, soft, low plasticity.	Probable reworked natural soils.
1.3 1.4		CLAY, grey brown, firm, low to medium plasticity, moist.	
1.5 1.6 1.7 1.8 1.9			

ENVIRONMENTAL BOREHOLE LOG

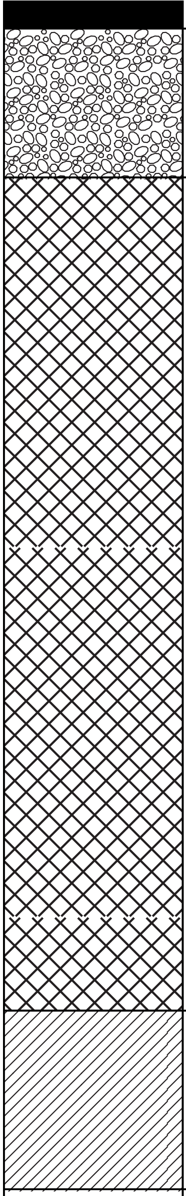
PROJECT NUMBER JC1047
PROJECT NAME LDSI - 3WP
CLIENT Capital Airport Group
ADDRESS 3 Wellington Place, ACT 2609

DRILL MODEL JCB3CX Backhoe
DRILL METHOD Auger
TOTAL DEPTH 2.0m
DIAMETER 150mm
DRILLING COMPANY Ground Control ACT

BOREHOLE NUMBER BH12
DRILLING DATE 21/01/2023

COMMENTS

LOGGED BY KL
CHECKED BY JO



Depth	Graphic Log	Material Description	Additional Observations
		Asphalt.	
0.1 0.2		Sandy GRAVEL, grey, medium to large sized angular gravel, medium to coarse grained sand.	Road base.
0.3 0.4 0.5 0.6 0.7 0.8 0.9 1 1.1 1.2 1.3 1.4 1.5 1.6		Gravelly, sandy CLAY, brown, small to large sized angular gravel, moist, soft, low plasticity.	Probable reworked natural soils.
1.7 1.8 1.9		Gravelly, sandy CLAY, orange, grey brown, small to large sized angular gravel, moist, soft, low plasticity.	
2 2.1 2.2 2.3 2.4			

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ENVIRONMENTAL

ENVIRONMENTAL BOREHOLE LOG

PROJECT NUMBER JC1047
PROJECT NAME LDSI - 3WP
CLIENT Capital Airport Group
ADDRESS 3 Wellington Place, ACT 2609

DRILL MODEL JCB3CX Backhoe
DRILL METHOD Auger
TOTAL DEPTH 1.5m
DIAMETER 150mm
DRILLING COMPANY Ground Control ACT

BOREHOLE NUMBER BH13
DRILLING DATE 21/01/2023

COMMENTS

LOGGED BY KL
CHECKED BY JO

Depth	Graphic Log	Material Description	Additional Observations
	■	Asphalt.	
0.1 0.2	⁘	Sandy GRAVEL, grey, medium to large sized angular gravel, medium to coarse grained sand.	Road base.
0.3 0.4 0.5 0.6 0.7 0.8 0.9 1 1.1	▦	Gravelly, sandy CLAY, orange, grey brown, small to medium sized angular gravel, moist, soft to firm, low to medium plasticity.	Probable reworked natural soils.
1.2 1.3 1.4	▨	CLAY, orange grey, firm, low to medium plasticity, moist.	Alluvial.
1.5 1.6 1.7 1.8 1.9			

ENVIRONMENTAL BOREHOLE LOG

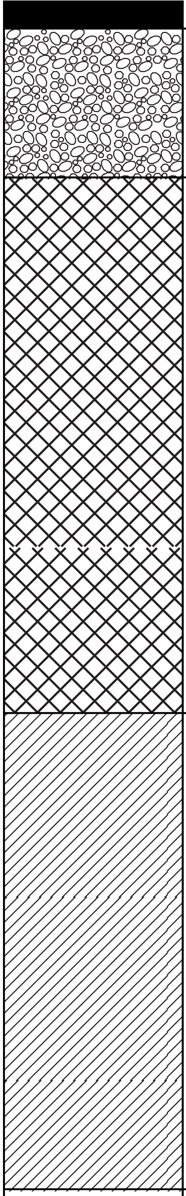
PROJECT NUMBER JC1047
PROJECT NAME LDSI - 3WP
CLIENT Capital Airport Group
ADDRESS 3 Wellington Place, ACT 2609

DRILL MODEL JCB3CX Backhoe
DRILL METHOD Auger
TOTAL DEPTH 1.5m
DIAMETER 150mm
DRILLING COMPANY Ground Control ACT

BOREHOLE NUMBER BH14
DRILLING DATE 21/01/2023

COMMENTS

LOGGED BY KL
CHECKED BY JO

Depth	Graphic Log	Material Description	Additional Observations
		Asphalt.	
0.1 0.2		Sandy GRAVEL, grey, medium to large sized angular gravel, medium to coarse grained sand.	Road base.
0.3 0.4 0.5 0.6 0.7 0.8 0.9 1 1.1		Gravelly, sandy CLAY, orange, grey brown, small to medium sized angular gravel, moist, soft to firm, low to medium plasticity.	Probable reworked natural soils.
1.2 1.3 1.4 1.5 1.6 1.7 1.8 1.9		CLAY, orange grey, firm, low to medium plasticity, moist.	Alluvial.
2 2.1 2.2 2.3 2.4			

ENVIRONMENTAL BOREHOLE LOG

PROJECT NUMBER JC1047
PROJECT NAME LDSI - 3WP
CLIENT Capital Airport Group
ADDRESS 3 Wellington Place, ACT 2609

DRILL MODEL JCB3CX Backhoe
DRILL METHOD Auger
TOTAL DEPTH 1.5m
DIAMETER 150mm
DRILLING COMPANY Ground Control ACT

BOREHOLE NUMBER BH15
DRILLING DATE 21/01/2023

COMMENTS

LOGGED BY KL
CHECKED BY JO

Depth	**Graphic Log**	**Material Description**	**Additional Observations**
	■	Asphalt.	
0.1 0.2	⁙	Sandy GRAVEL, grey, medium to large sized angular gravel, medium to coarse grained sand.	Road base.
0.3 0.4 0.5 0.6 0.7 0.8 0.9 1 1.1	▩	Gravelly, sandy CLAY, orange, grey brown, small to medium sized angular gravel, moist, soft to firm, low to medium plasticity.	Probable reworked natural soils.
1.2 1.3 1.4	▨	CLAY, orange grey, firm, low to medium plasticity, moist.	Alluvial.
1.5 1.6 1.7 1.8 1.9			

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ENVIRONMENTAL BOREHOLE LOG

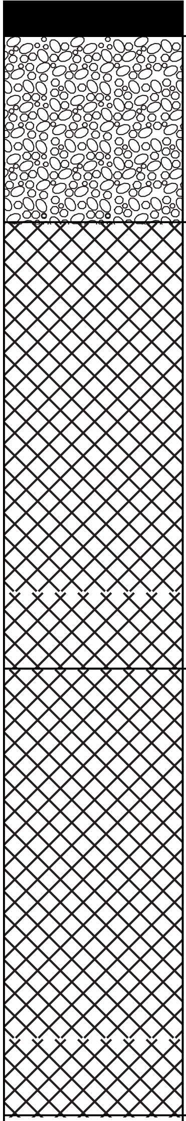
PROJECT NUMBER JC1047
PROJECT NAME LDSI - 3WP
CLIENT Capital Airport Group
ADDRESS 3 Wellington Place, ACT 2609

DRILL MODEL JCB3CX Backhoe
DRILL METHOD Auger
TOTAL DEPTH 1.5m
DIAMETER 150mm
DRILLING COMPANY Ground Control ACT

BOREHOLE NUMBER BH16
DRILLING DATE 21/01/2023

COMMENTS

LOGGED BY KL
CHECKED BY JO



Depth	Graphic Log	Material Description	Additional Observations
		Asphalt.	
0.1 0.2		Sandy GRAVEL, grey, medium to large sized angular gravel, medium to coarse grained sand.	Road base.
0.3 0.4 0.5 0.6 0.7 0.8		Gravelly, sandy CLAY, orange, grey brown, small to medium sized angular gravel, moist, soft to firm, low to medium plasticity.	Probable reworked natural soils.
0.9 1 1.1 1.2 1.3 1.4		Sandy CLAY, brown to dark brown, soft to firm, low to medium plasticity, moist.	Probable reworked natural soils.
1.5 1.6 1.7 1.8 1.9			

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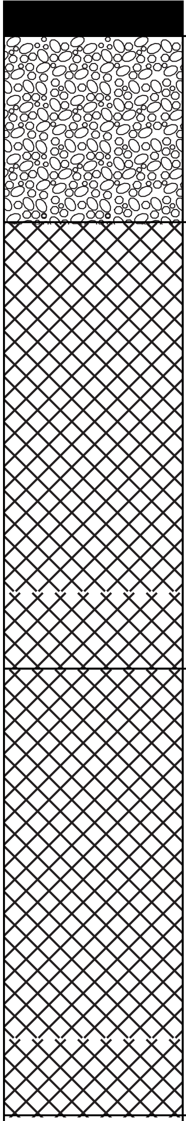
produced by ESlog.ESdat.net on 17 Feb 2023

ENVIRONMENTAL BOREHOLE LOG

PROJECT NUMBER JC1047	**DRILL MODEL** JCB3CX Backhoe	**BOREHOLE NUMBER** BH17
PROJECT NAME LDSI - 3WP	**DRILL METHOD** Auger	**DRILLING DATE** 21/01/2023
CLIENT Capital Airport Group	**TOTAL DEPTH** 1.5m	
ADDRESS 3 Wellington Place, ACT 2609	**DIAMETER** 150mm	
	DRILLING COMPANY Ground Control ACT	

COMMENTS

LOGGED BY KL
CHECKED BY JO



Depth	Graphic Log	Material Description	Additional Observations
		Asphalt.	
0.1 0.2		Sandy GRAVEL, grey, medium to large sized angular gravel, medium to coarse grained sand.	Road base.
0.3 0.4 0.5 0.6 0.7 0.8		Gravelly, sandy CLAY, orange, grey brown, small to medium sized angular gravel, moist, soft to firm, low to medium plasticity.	Fill.
0.9 1 1.1 1.2 1.3 1.4		Sandy CLAY, brown to dark brown, soft to firm, low to medium plasticity, moist.	Probable reworked natural soils.
1.5 1.6 1.7 1.8 1.9			

ENVIRONMENTAL BOREHOLE LOG

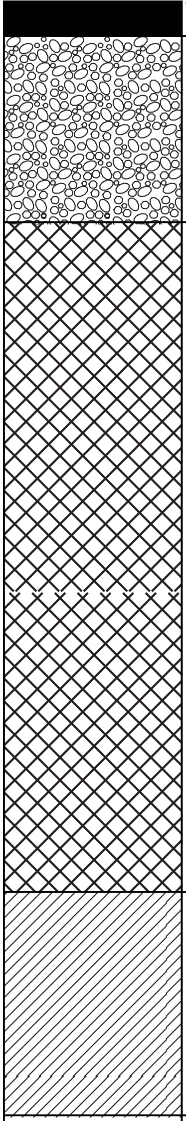
PROJECT NUMBER JC1047
PROJECT NAME LDSI - 3WP
CLIENT Capital Airport Group
ADDRESS 3 Wellington Place, ACT 2609

DRILL MODEL JCB3CX Backhoe
DRILL METHOD Auger
TOTAL DEPTH 1.5m
DIAMETER 150mm
DRILLING COMPANY Ground Control ACT

BOREHOLE NUMBER BH18
DRILLING DATE 21/01/2023

COMMENTS

LOGGED BY KL
CHECKED BY JO

Depth	Graphic Log	Material Description	Additional Observations
		Asphalt.	
0.1 0.2		Sandy GRAVEL, grey, medium to large sized angular gravel, medium to coarse grained sand.	Road base.
0.3 0.4 0.5 0.6 0.7 0.8 0.9 1 1.1		Gravelly, sandy CLAY, orange, grey brown, small to medium sized angular gravel, moist, soft to firm, low to medium plasticity.	Probable reworked natural soils.
1.2 1.3 1.4		CLAY, orange grey, firm, low to medium plasticity, moist.	Alluvial.
1.5 1.6 1.7 1.8 1.9			

ENVIRONMENTAL BOREHOLE LOG

PROJECT NUMBER JC1047
PROJECT NAME LDSI - 3WP
CLIENT Capital Airport Group
ADDRESS 3 Wellington Place, ACT 2609

DRILL MODEL JCB3CX Backhoe
DRILL METHOD Auger
TOTAL DEPTH 1.5m
DIAMETER 150mm
DRILLING COMPANY Ground Control ACT

BOREHOLE NUMBER BH19
DRILLING DATE 21/01/2023

COMMENTS

LOGGED BY KL
CHECKED BY JO

Depth	Graphic Log	Material Description	Additional Observations
	■	Asphalt.	
0.1 0.2	⁘	Sandy GRAVEL, grey, medium to large sized angular gravel, medium to coarse grained sand.	Road base
0.3 0.4 0.5 0.6	▦	Gravelly CLAY, grey brown, small to medium sized angular gravel, moist, soft to firm, low to moderate plasticity.	Fill.
0.7 0.8 0.9 1 1.1 1.2 1.3 1.4 1.5 1.6	▦	Gravelly, sandy CLAY, pale brown to brown, small sized angular gravel, moist, soft, low plasticity.	Probable reworked natural soils.
1.7 1.8 1.9	▨	CLAY, orange grey, firm, low to medium plasticity, moist.	
2 2.1 2.2 2.3 2.4			

ENVIRONMENTAL BOREHOLE LOG

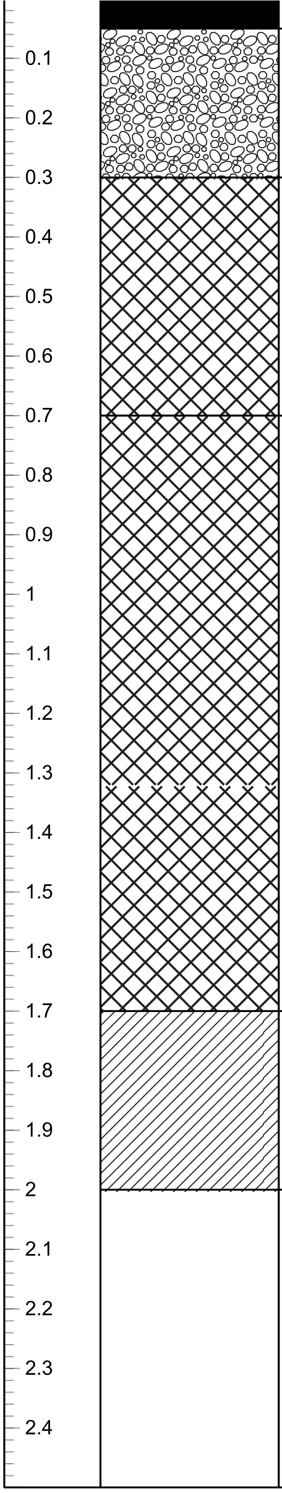
PROJECT NUMBER JC1047
PROJECT NAME LDSI - 3WP
CLIENT Capital Airport Group
ADDRESS 3 Wellington Place, ACT 2609

DRILL MODEL JCB3CX Backhoe
DRILL METHOD Auger
TOTAL DEPTH 2m
DIAMETER 150mm
DRILLING COMPANY Ground Control ACT

BOREHOLE NUMBER BH20
DRILLING DATE 21/01/2023

COMMENTS

LOGGED BY KL
CHECKED BY JO



Depth	**Graphic Log**	**Material Description**	**Additional Observations**
		Asphalt.	
		Sandy GRAVEL, grey, medium to large sized angular gravel, medium to coarse grained sand.	Road base
		Gravelly CLAY, grey brown, small to medium sized angular gravel, moist, soft to firm, low to moderate plasticity.	Fill.
		Gravelly, sandy CLAY, pale brown to brown, small sized angular gravel, moist, soft, low plasticity.	Probable reworked natural soils.
		CLAY, orange grey, firm, low to medium plasticity, moist.	

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

APPENDIX D: LABORATORY CERTIFICATES

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

sbane 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	Agon	**Project №**	-	**Project Manager**	JO
Address	68 Northbourne Ave, Canberra ACT 2600	**Project Name**	WCP	**EDD Format (ESdat, EQuIS, Custom)**	ESDAT
Contact Name	John O'Brien			**Sampler(s)**	KL
Phone №	0431582323			**Handed over by**	K.L
Special Directions	5 Day TAT			**Email for Invoice**	john.o'brien@agonenviro.com.au; finance@agonenviro.com.au;
Purchase Order				**Email for Results**	john.o'brien@agonenviro.com.au
Quote ID №	Quotation # 190123AEGA				

Analyses
Note: Where metals are requested, please specify "Total" or "Filtered". SUITE codes must be used to attract SUITE pricing.

Turnaround Time (TAT) Requirements (Default will be 5 days if not ticked)
Overnight (9am)*
1 Day* 2 Day*
3 Day* 5 Day
* Surcharges apply
Other ( )

№	Client Sample ID	Sampled Date/Time (dd/mm/yy hh:mm)	Matrix (Solid (S) Water (W))	BTA	B13	PFAS Short Suite	Jar (Glass)	Jar (HDPE)	ENM Bag	Bag Acid Sulphate Soil	Small plastic bottle	Vial (headspace)	Plastic bottle (inorganics)	Amber bottle	Sample Comments / Dangerous Goods Hazard Warning
1	BH01 - 0.1	20/01/23	S	X	X	X	1	1							
2	BH01 - 0.5	20/01/23	S	X	X	X	1	1							
3	BH01 - 1.0	20/01/23	S	X	X		1	1							
4	BH01 - 1.5	20/01/23	S	X	X		1	1							
4	BH01 - 2.0	20/01/23	S				1	1							
5	BH02 - 0.1	20/01/23	S	X	X	X	1	1							
6	BH02 - 0.5	20/01/23	S	X	X		1	1							
7	BH02 - 1.0	20/01/23	S	X	X		1	1							
8	BH02 - 1.5	20/01/23	S	X	X		1	1							
9	BH03 - 0.1	20/01/23	S	X	X	X	1	1							
10	BH03 - 0.5	20/01/23	S	X	X	X	1	1							
11	BH03 - 1.0	20/01/23	S				1	1							
12	BH03 - 1.5	20/01/23	S	X	X		1	1							
13	BH04 - 0.1	20/01/23	S	X	X		1	1							
14	BH04 - 0.5	20/01/23	S	X	X		1	1							
15	BH04 - 1.0	20/01/23	S	X	X	X	1	1							
16	BH04 - 1.5	20/01/23	S	X	X		1	1							
17	BH04 - 2.0	20/01/23	S				1	1							
18	BH05 - 0.1	20/01/23	S	X	X	X	1	1							
19	BH05 - 0.5	20/01/23	S	X	X	X	1	1							
20	BH05 - 1.0	20/01/23	S	X	X		1	1							
21	BH05 - 1.5	20/01/23	S	X	X		1	1							
22	BH06 - 0.1	20/01/23	S	X	X	X	1	1							
23	BH06 - 0.5	20/01/23	S			X	1	1							
24	BH06 - 1.0	20/01/23	S	X	X		1	1							
25	BH06 - 1.5	20/01/23	S	X	X		1	1							
26	BH07 - 0.1	20/01/23	S	X	X		1	1							
27	BH07 - 0.5	20/01/23	S	X	X	X	1	1							
28	BH07 - 1.0	20/01/23	S				1	1							
29	BH07 - 1.5	20/01/23	S	X	X		1	1							
30	BH08 - 0.1	20/01/23	S	X	X	X	1	1							
31	BH08 - 0.5	20/01/23	S	X	X	X	1	1							
32	BH08 - 1.0	20/01/23	S	X	X		1	1							
33	BH08 - 1.5	20/01/23	S	X	X		1	1							
34	BH09 - 0.1	21/01/23	S	X	X	X	1	1							
35	BH09 - 0.5	21/01/23	S	X	X	X	1	1							
36	BH09 - 1.0	21/01/23	S	X	X		1	1							
37	BH09 - 1.5	21/01/23	S				1	1							
38	BH10 - 0.1	21/01/23	S	X	X	X	1	1							
39	BH10 - 0.5	21/01/23	S	X	X	X	1	1							
40	B10 - 1.0	21/01/23	S	X	X		1	1							
41	BH10 - 1.5	21/01/23	S	X	X		1	1							
42	BH11 - 0.1	21/01/23	S	X	X	X	1	1							
43	BH11 - 0.5	21/01/23	S			X	1	1							
44	BH11 - 1.0	21/01/23	S	X	X		1	1							
45	BH11 - 1.5	21/01/23	S	X	X	X	1	1							
46	BH12 - 0.1	21/01/23	S	X	X	X	1	1							
47	BH12 - 0.5	21/01/23	S	X	X	X	1	1							
48	BH12 - 1.0	21/01/23	S				1	1							
49	BH12 - 1.5	21/01/23	S	X	X		1	1							
49	BH12 - 2.0	21/01/23	S				1	1							
	Total Counts			-	-	-	###								

Method of Shipment	Courier (#)	Hand Delivered	Postal	Name		Date	__/__/__	Time	__:__
Eurofins | mgt Laboratory Use Only	**Received By**	L-Boxsell ACT	SYD | BNE | MEL | PER | ADL | NTL | DRW	Jeen	Date 24-1-23	Time	2.15	Temperature	9.9
	Received By		SYD | BNE | MEL | PER | ADL | NTL | DRW		Date __/__/__	Time	__:__	Report №	951950

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 Australia Pty Ltd trading as Eurofins | mgt

9.5
13.3 -0.9
9.6

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	Agon	Project №	•
Address	68 Northbourne Ave, Canberra ACT 2600	Project Name	WCP
Contact Name	John O'Brien	Project Manager	JO
Phone №	0431582323	EDD Format (ESdat, EQuIS, Custom)	ESDAT
Special Directions	5 Day TAT	Sampler(s)	KL
Purchase Order		Handed over by	K.L
Quote ID №	Quotation # 190129AEGA	Email for Invoice	john.o'brien@agonenviro.com.au; finance@agonenviro.com.au;
		Email for Results	john.o'brien@agonenviro.com.au

Turnaround Time (TAT) Requirements
- Overnight (9am)*
- 1 Day*
- 2 Day*
- 3 Day*
- ✓ 5 Day
- Other ( )

* Surcharges apply

№	Client Sample ID	Sampled Date/Time (dd/mm/yy hh:mm)	Matrix (Solid (S) Water (W))	B7A	B13	PFAS Short Suite	8 Metals	Jar (Glass)	Jar (HDPE)	ENM Bag	Bag Acid Sulphate Soil	Metals plastic bottle	Vial (headspace)	PFAS Bottle	Amber bottle	Sample Comments / Dangerous Goods Hazard Warning
1	BH13 - 0.1	21/01/23	S	X	X	X		1	1							
2	BH13 - 0.5	21/01/23	S	X	X	X		1	1							
3	BH13 - 1.0	21/01/23	S	X	X			1	1							
4	BH13 - 1.5	21/01/23	S	X	X			1	1							
4	BH14 - 0.1	21/01/23	S			X		1	1							
5	BH14 - 0.5	21/01/23	S	X	X	X		1	1							
6	BH14 - 1.0	21/01/23	S	X	X			1	1							
7	BH14 - 1.5	21/01/23	S					1	1							
8	BH14 - 2.0	21/01/23	S	X	X			1	1							
9	BH15 - 0.1	21/01/23	S	X	X	X		1	1							
10	BH15 - 0.5	21/01/23	S			X		1	1							
11	BH15 - 1.0	21/01/23	S	X	X			1	1							
12	BH15 - 1.5	21/01/23	S	X	X			1	1							
13	BH16 - 0.1	21/01/23	S	X	X	X		1	1							
14	BH16 - 0.5	21/01/23	S	X	X	X		1	1							
15	BH16 - 1.0	21/01/23	S	X	X			1	1							
16	BH16 - 1.5	21/01/23	S					1	1							
17	BH17 - 0.1	21/01/23	S	X	X	X		1	1							
18	BH17 - 0.5	21/01/23	S	X	X	X		1	1							
19	BH17 - 1.0	21/01/23	S	X	X			1	1							
20	BH17 - 1.5	21/01/23	S					1	1							
21	BH18 - 0.1	21/01/23	S	X	X	X		1	1							
22	BH18 - 0.5	21/01/23	S	X	X	X		1	1							
23	BH18 - 1.0	21/01/23	S	X	X	X		1	1							
24	BH18 - 1.5	21/01/23	S					1	1							
25	BH19 - 0.1	21/01/23	S	X	X	X		1	1							
26	BH19 - 0.5	21/01/23	S	X	X	X		1	1							
27	BH19 - 1.0	21/01/23	S	X	X			1	1							
28	BH19 - 1.5	21/01/23	S	X	X	X		1	1							
29	BH19 - 2.0	21/01/23	S					1	1							
30	BH20 - 0.1	21/01/23	S	X	X	X		1	1							
31	BH20 - 0.5	21/01/23	S	X	X	X		1	1							
32	BH20- 1.0	21/01/23	S	X	X	X		1	1							
33	BH20 - 1.5	21/01/23	S					1	1							
34	QC01	20/01/23	S	X	X	X		1	1							
35	QC02	20/01/23	S	X	X	X		1	1							Please FWD ALS
36	QC03	20/01/23	S	X	X	X		1	1							
37	QC04	21/01/23	S	X	X	X		1	1							Please FWD ALS
38	QC05	21/01/23	S	X	X	X		1	1							
39	QC06	21/01/23	S				X	1	1							
40	QC07	21/01/23	S	X	X	X		1	1							Please FWD ALS
41	QC08	21/01/23	S	X	X	X		1	1							
42	QC09	21/01/23	S	X	X	X		1	1							
43	RB01	20/01/23	W			X						1	2	1	1	
44	RB02	21/01/23	W			X						1	2	1	1	
45																
46																
47																
48																
49																
	Total Counts			-	-	-	-									

Method of Shipment	Courier (#)	Hand Delivered	Postal	Name		Date	__/__/__	Time __:__
Eurofins | mgt Laboratory Use Only	Received By	L. Borich AT	SYD | BNE | MEL | PER | ADL | NTL | DRW		Date	24/1/23	Time 2:15	Temperature 9.9
	Received By		SYD | BNE | MEL | PER | ADL | NTL | DRW		Date	__/__/__	Time	Report № 957950

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 Australia Pty Ltd trading as Eurofins | mgt

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
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Tel: +61 3 8564 5000
NATA# 1261 Site# 1254

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NATA# 1261 Site# 18217

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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

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46-48 Banksia Road
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WA 6106
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NATA# 2377 Site# 2370

Eurofins Environment Testing NZ Ltd
NZBN: 9429046024954

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IANZ# 1327

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

Sample Receipt Advice

Company name:	Agon Environmental Pty Ltd - ACT
Contact name:	John O Brien - ACT Manager
Project name:	WCP
Project ID:	Not provided
Turnaround time:	5 Day
Date/Time received	Jan 24, 2023 2:15 PM
Eurofins reference	957950

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:

Quinn Raw on phone : or by email: QuinnRaw@eurofins.com

Results will be delivered electronically via email to John O Brien - ACT Manager - john.obrien@agonenviro.com.au.

Note: A copy of these results will also be delivered to the general Agon Environmental Pty Ltd - ACT email address.

Global Leader - Results you can trust

eurofins

Environment Testing

Certificate of Analysis

Agon Environmental Pty Ltd - ACT
68 Northbourne Ave
Canberra
ACT 2060

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: **John O Brien - ACT Manager**

Report **957950-S**
Project name WCP
Received Date Jan 24, 2023

Client Sample ID			[G01]**BH01 - 0.1**	**BH01 - 0.5**	**BH01 - 1.0**	**BH01 - 1.5**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**R23-Ja0033880**	**R23-Ja0033881**	**R23-Ja0033882**	**R23-Ja0033883**
Date Sampled			**Jan 20, 2023**	**Jan 20, 2023**	**Jan 20, 2023**	**Jan 20, 2023**
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	< 50	< 50
TRH C29-C36	50	mg/kg	< 50	< 50	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	< 50	< 50
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	92	87	93	95
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	0.6	0.6	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.2	1.2	1.2
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Chrysene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5

Client Sample ID			[G01]**BH01 - 0.1**	**BH01 - 0.5**	**BH01 - 1.0**	**BH01 - 1.5**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**R23-Ja0033880**	**R23-Ja0033881**	**R23-Ja0033882**	**R23-Ja0033883**
Date Sampled			**Jan 20, 2023**	**Jan 20, 2023**	**Jan 20, 2023**	**Jan 20, 2023**
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Total PAH*	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2-Fluorobiphenyl (surr.)	1	%	127	99	111	122
p-Terphenyl-d14 (surr.)	1	%	126	103	118	126
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 1	< 0.1	< 0.1	< 0.1
4.4'-DDD	0.05	mg/kg	< 0.5	< 0.05	< 0.05	< 0.05
4.4'-DDE	0.05	mg/kg	< 0.5	< 0.05	< 0.05	< 0.05
4.4'-DDT	0.05	mg/kg	< 0.5	< 0.05	< 0.05	< 0.05
a-HCH	0.05	mg/kg	< 0.5	< 0.05	< 0.05	< 0.05
Aldrin	0.05	mg/kg	< 0.5	< 0.05	< 0.05	< 0.05
b-HCH	0.05	mg/kg	< 0.5	< 0.05	< 0.05	< 0.05
d-HCH	0.05	mg/kg	< 0.5	< 0.05	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	< 0.5	< 0.05	< 0.05	< 0.05
Endosulfan I	0.05	mg/kg	< 0.5	< 0.05	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	< 0.5	< 0.05	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.5	< 0.05	< 0.05	< 0.05
Endrin	0.05	mg/kg	< 0.5	< 0.05	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.5	< 0.05	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	< 0.5	< 0.05	< 0.05	< 0.05
g-HCH (Lindane)	0.05	mg/kg	< 0.5	< 0.05	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	< 0.5	< 0.05	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.5	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.5	< 0.05	< 0.05	< 0.05
Methoxychlor	0.05	mg/kg	< 0.5	< 0.05	< 0.05	< 0.05
Toxaphene	0.5	mg/kg	< 10	< 0.5	< 0.5	< 0.5
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.5	< 0.05	< 0.05	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.5	< 0.05	< 0.05	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 1	< 0.1	< 0.1	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 1	< 0.1	< 0.1	< 0.1
Dibutylchlorendate (surr.)	1	%	68	91	103	118
Tetrachloro-m-xylene (surr.)	1	%	109	86	98	104
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	< 1	< 0.1	< 0.1	< 0.1
Aroclor-1221	0.1	mg/kg	< 1	< 0.1	< 0.1	< 0.1
Aroclor-1232	0.1	mg/kg	< 1	< 0.1	< 0.1	< 0.1
Aroclor-1242	0.1	mg/kg	< 1	< 0.1	< 0.1	< 0.1
Aroclor-1248	0.1	mg/kg	< 1	< 0.1	< 0.1	< 0.1
Aroclor-1254	0.1	mg/kg	< 1	< 0.1	< 0.1	< 0.1
Aroclor-1260	0.1	mg/kg	< 1	< 0.1	< 0.1	< 0.1
Total PCB*	0.1	mg/kg	< 1	< 0.1	< 0.1	< 0.1
Dibutylchlorendate (surr.)	1	%	68	91	103	118
Tetrachloro-m-xylene (surr.)	1	%	109	86	98	104
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4.5-Trichlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
2.4.6-Trichlorophenol	1	mg/kg	< 1	< 1	< 1	< 1

Client Sample ID			G01**BH01 - 0.1**	**BH01 - 0.5**	**BH01 - 1.0**	**BH01 - 1.5**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**R23-Ja0033880**	**R23-Ja0033881**	**R23-Ja0033882**	**R23-Ja0033883**
Date Sampled			**Jan 20, 2023**	**Jan 20, 2023**	**Jan 20, 2023**	**Jan 20, 2023**
Test/Reference	LOR	Unit				
Phenols (Halogenated)						
2.6-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
4-Chloro-3-methylphenol	1	mg/kg	< 1	< 1	< 1	< 1
Pentachlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
Tetrachlorophenols - Total	10	mg/kg	< 10	< 10	< 10	< 10
Total Halogenated Phenol*	1	mg/kg	< 1	< 1	< 1	< 1
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	< 20	< 20	< 20	< 20
2-Methyl-4.6-dinitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
2-Nitrophenol	1	mg/kg	< 1	< 1	< 1	< 1
2.4-Dimethylphenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4-Dinitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
2-Methylphenol (o-Cresol)	0.2	mg/kg	< 0.5	< 0.2	< 0.2	< 0.2
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	< 1	< 0.4	< 0.4	< 0.4
Total cresols*	0.5	mg/kg	< 1	< 0.5	< 0.5	< 0.5
4-Nitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
Dinoseb	20	mg/kg	< 20	< 20	< 20	< 20
Phenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenol-d6 (surr.)	1	%	110	94	103	110
Total Non-Halogenated Phenol*	20	mg/kg	< 20	< 20	< 20	< 20
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	< 100	< 100
Metals M8						
Arsenic	2	mg/kg	2.0	11	6.3	11
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	10.0	32	41	55
Copper	5	mg/kg	5.9	29	18	37
Lead	5	mg/kg	23	31	21	36
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	< 5	50	14	33
Zinc	5	mg/kg	52	140	35	62
% Moisture	1	%	2.4	13	14	23
Per- and Polyfluoroalkyl Substances (PFASs) - Short						
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)N11	10	ug/kg	< 10	< 10	-	-
13C2-6:2 FTSA (surr.)	1	%	107	106	-	-
Perfluorohexanesulfonic acid (PFHxS)N11	5	ug/kg	< 5	< 5	-	-
Perfluorooctanesulfonic acid (PFOS)N11	5	ug/kg	< 5	< 5	-	-
18O2-PFHxS (surr.)	1	%	121	117	-	-
13C8-PFOS (surr.)	1	%	126	114	-	-
Perfluorooctanoic acid (PFOA)N11	5	ug/kg	< 5	< 5	-	-
13C8-PFOA (surr.)	1	%	114	109	-	-
Sum (PFHxS + PFOS)*	5	ug/kg	< 5	< 5	-	-
Sum of US EPA PFAS (PFOS + PFOA)*	5	ug/kg	< 5	< 5	-	-
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	5	ug/kg	< 5	< 5	-	-

Client Sample ID			[G01]**BH02 - 0.1**	**BH02 - 0.5**	**BH02 - 1.0**	**BH02 - 1.5**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**R23-Ja0033884**	**R23-Ja0033885**	**R23-Ja0033886**	**R23-Ja0033887**
Date Sampled			**Jan 20, 2023**	**Jan 20, 2023**	**Jan 20, 2023**	**Jan 20, 2023**
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	< 50	< 50
TRH C29-C36	50	mg/kg	< 50	< 50	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	< 50	< 50
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	89	86	94	96
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	0.6	0.6	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.2	1.2	1.2
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Chrysene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Total PAH*	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2-Fluorobiphenyl (surr.)	1	%	133	122	131	119
p-Terphenyl-d14 (surr.)	1	%	116	127	148	132
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 1	< 0.1	< 0.1	< 0.1
4.4'-DDD	0.05	mg/kg	< 0.5	< 0.05	< 0.05	< 0.05
4.4'-DDE	0.05	mg/kg	< 0.5	< 0.05	< 0.05	< 0.05
4.4'-DDT	0.05	mg/kg	< 0.5	< 0.05	< 0.05	< 0.05
a-HCH	0.05	mg/kg	< 0.5	< 0.05	< 0.05	< 0.05
Aldrin	0.05	mg/kg	< 0.5	< 0.05	< 0.05	< 0.05
b-HCH	0.05	mg/kg	< 0.5	< 0.05	< 0.05	< 0.05

Client Sample ID			^{G01}**BH02 - 0.1**	**BH02 - 0.5**	**BH02 - 1.0**	**BH02 - 1.5**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**R23-Ja0033884**	**R23-Ja0033885**	**R23-Ja0033886**	**R23-Ja0033887**
Date Sampled			**Jan 20, 2023**	**Jan 20, 2023**	**Jan 20, 2023**	**Jan 20, 2023**
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
d-HCH	0.05	mg/kg	< 0.5	< 0.05	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	< 0.5	< 0.05	< 0.05	< 0.05
Endosulfan I	0.05	mg/kg	< 0.5	< 0.05	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	< 0.5	< 0.05	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.5	< 0.05	< 0.05	< 0.05
Endrin	0.05	mg/kg	< 0.5	< 0.05	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.5	< 0.05	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	< 0.5	< 0.05	< 0.05	< 0.05
g-HCH (Lindane)	0.05	mg/kg	< 0.5	< 0.05	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	< 0.5	< 0.05	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.5	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.5	< 0.05	< 0.05	< 0.05
Methoxychlor	0.05	mg/kg	< 0.5	< 0.05	< 0.05	< 0.05
Toxaphene	0.5	mg/kg	< 10	< 0.5	< 0.5	< 0.5
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.5	< 0.05	< 0.05	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.5	< 0.05	< 0.05	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 1	< 0.1	< 0.1	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 1	< 0.1	< 0.1	< 0.1
Dibutylchlorendate (surr.)	1	%	87	117	145	130
Tetrachloro-m-xylene (surr.)	1	%	105	110	123	109
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	< 1	< 0.1	< 0.1	< 0.1
Aroclor-1221	0.1	mg/kg	< 1	< 0.1	< 0.1	< 0.1
Aroclor-1232	0.1	mg/kg	< 1	< 0.1	< 0.1	< 0.1
Aroclor-1242	0.1	mg/kg	< 1	< 0.1	< 0.1	< 0.1
Aroclor-1248	0.1	mg/kg	< 1	< 0.1	< 0.1	< 0.1
Aroclor-1254	0.1	mg/kg	< 1	< 0.1	< 0.1	< 0.1
Aroclor-1260	0.1	mg/kg	< 1	< 0.1	< 0.1	< 0.1
Total PCB*	0.1	mg/kg	< 1	< 0.1	< 0.1	< 0.1
Dibutylchlorendate (surr.)	1	%	87	117	145	130
Tetrachloro-m-xylene (surr.)	1	%	105	110	123	109
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4.5-Trichlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
2.4.6-Trichlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
2.6-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
4-Chloro-3-methylphenol	1	mg/kg	< 1	< 1	< 1	< 1
Pentachlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
Tetrachlorophenols - Total	10	mg/kg	< 10	< 10	< 10	< 10
Total Halogenated Phenol*	1	mg/kg	< 1	< 1	< 1	< 1
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	< 20	< 20	< 20	< 20
2-Methyl-4.6-dinitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
2-Nitrophenol	1	mg/kg	< 1	< 1	< 1	< 1
2.4-Dimethylphenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4-Dinitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
2-Methylphenol (o-Cresol)	0.2	mg/kg	< 0.5	< 0.2	< 0.2	< 0.2
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	< 1	< 0.4	< 0.4	< 0.4

Client Sample ID			[G01]**BH02 - 0.1**	**BH02 - 0.5**	**BH02 - 1.0**	**BH02 - 1.5**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**R23-Ja0033884**	**R23-Ja0033885**	**R23-Ja0033886**	**R23-Ja0033887**
Date Sampled			**Jan 20, 2023**	**Jan 20, 2023**	**Jan 20, 2023**	**Jan 20, 2023**
Test/Reference	LOR	Unit				
Phenols (non-Halogenated)						
Total cresols*	0.5	mg/kg	< 1	< 0.5	< 0.5	< 0.5
4-Nitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
Dinoseb	20	mg/kg	< 20	< 20	< 20	< 20
Phenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenol-d6 (surr.)	1	%	107	113	129	110
Total Non-Halogenated Phenol*	20	mg/kg	< 20	< 20	< 20	< 20
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	< 100	< 100
Metals M8						
Arsenic	2	mg/kg	< 2	5.9	14	13
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	10	37	28	58
Copper	5	mg/kg	6.0	19	14	32
Lead	5	mg/kg	19	23	14	47
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	< 5	18	56	50
Zinc	5	mg/kg	50	78	150	55
% Moisture	1	%	3.4	10	16	18
Per- and Polyfluoroalkyl Substances (PFASs) - Short						
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)[N11]	10	ug/kg	< 10	-	-	-
13C2-6:2 FTSA (surr.)	1	%	104	-	-	-
Perfluorohexanesulfonic acid (PFHxS)[N11]	5	ug/kg	< 5	-	-	-
Perfluorooctanesulfonic acid (PFOS)[N11]	5	ug/kg	< 5	-	-	-
18O2-PFHxS (surr.)	1	%	120	-	-	-
13C8-PFOS (surr.)	1	%	116	-	-	-
Perfluorooctanoic acid (PFOA)[N11]	5	ug/kg	< 5	-	-	-
13C8-PFOA (surr.)	1	%	112	-	-	-
Sum (PFHxS + PFOS)*	5	ug/kg	< 5	-	-	-
Sum of US EPA PFAS (PFOS + PFOA)*	5	ug/kg	< 5	-	-	-
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	5	ug/kg	< 5	-	-	-

Client Sample ID			[G01]**BH03 - 0.1**	**BH03 - 0.5**	**BH03 - 1.5**	[G01]**BH04 - 0.1**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**R23-Ja0033888**	**R23-Ja0033889**	**R23-Ja0033890**	**R23-Ja0033891**
Date Sampled			**Jan 20, 2023**	**Jan 20, 2023**	**Jan 20, 2023**	**Jan 20, 2023**
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	< 50	< 50
TRH C29-C36	50	mg/kg	< 50	< 50	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	< 50	< 50

Client Sample ID **Sample Matrix** **Eurofins Sample No.** **Date Sampled** Test/Reference	LOR	Unit	G01**BH03 - 0.1** **Soil** **R23-Ja0033888** **Jan 20, 2023**	**BH03 - 0.5** **Soil** **R23-Ja0033889** **Jan 20, 2023**	**BH03 - 1.5** **Soil** **R23-Ja0033890** **Jan 20, 2023**	G01**BH04 - 0.1** **Soil** **R23-Ja0033891** **Jan 20, 2023**
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	105	91	93	102
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	0.6	0.6	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.2	1.2	1.2
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Chrysene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Total PAH*	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2-Fluorobiphenyl (surr.)	1	%	136	122	119	133
p-Terphenyl-d14 (surr.)	1	%	125	130	133	135
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 1	< 0.1	< 0.1	< 1
4.4'-DDD	0.05	mg/kg	< 0.5	< 0.05	< 0.05	< 0.5
4.4'-DDE	0.05	mg/kg	< 0.5	< 0.05	< 0.05	< 0.5
4.4'-DDT	0.05	mg/kg	< 0.5	< 0.05	< 0.05	< 0.5
a-HCH	0.05	mg/kg	< 0.5	< 0.05	< 0.05	< 0.5
Aldrin	0.05	mg/kg	< 0.5	< 0.05	< 0.05	< 0.5
b-HCH	0.05	mg/kg	< 0.5	< 0.05	< 0.05	< 0.5
d-HCH	0.05	mg/kg	< 0.5	< 0.05	< 0.05	< 0.5
Dieldrin	0.05	mg/kg	< 0.5	< 0.05	< 0.05	< 0.5
Endosulfan I	0.05	mg/kg	< 0.5	< 0.05	< 0.05	< 0.5
Endosulfan II	0.05	mg/kg	< 0.5	< 0.05	< 0.05	< 0.5
Endosulfan sulphate	0.05	mg/kg	< 0.5	< 0.05	< 0.05	< 0.5
Endrin	0.05	mg/kg	< 0.5	< 0.05	< 0.05	< 0.5

Client Sample ID Sample Matrix Eurofins Sample No. Date Sampled Test/Reference	LOR	Unit	G01 BH03 - 0.1 Soil R23-Ja0033888 Jan 20, 2023	BH03 - 0.5 Soil R23-Ja0033889 Jan 20, 2023	BH03 - 1.5 Soil R23-Ja0033890 Jan 20, 2023	G01 BH04 - 0.1 Soil R23-Ja0033891 Jan 20, 2023
Organochlorine Pesticides						
Endrin aldehyde	0.05	mg/kg	< 0.5	< 0.05	< 0.05	< 0.5
Endrin ketone	0.05	mg/kg	< 0.5	< 0.05	< 0.05	< 0.5
g-HCH (Lindane)	0.05	mg/kg	< 0.5	< 0.05	< 0.05	< 0.5
Heptachlor	0.05	mg/kg	< 0.5	< 0.05	< 0.05	< 0.5
Heptachlor epoxide	0.05	mg/kg	< 0.5	< 0.05	< 0.05	< 0.5
Hexachlorobenzene	0.05	mg/kg	< 0.5	< 0.05	< 0.05	< 0.5
Methoxychlor	0.05	mg/kg	< 0.5	< 0.05	< 0.05	< 0.5
Toxaphene	0.5	mg/kg	< 10	< 0.5	< 0.5	< 10
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.5	< 0.05	< 0.05	< 0.5
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.5	< 0.05	< 0.05	< 0.5
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 1	< 0.1	< 0.1	< 1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 1	< 0.1	< 0.1	< 1
Dibutylchlorendate (surr.)	1	%	82	132	132	100
Tetrachloro-m-xylene (surr.)	1	%	123	110	107	116
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	< 1	< 0.1	< 0.1	< 1
Aroclor-1221	0.1	mg/kg	< 1	< 0.1	< 0.1	< 1
Aroclor-1232	0.1	mg/kg	< 1	< 0.1	< 0.1	< 1
Aroclor-1242	0.1	mg/kg	< 1	< 0.1	< 0.1	< 1
Aroclor-1248	0.1	mg/kg	< 1	< 0.1	< 0.1	< 1
Aroclor-1254	0.1	mg/kg	< 1	< 0.1	< 0.1	< 1
Aroclor-1260	0.1	mg/kg	< 1	< 0.1	< 0.1	< 1
Total PCB*	0.1	mg/kg	< 1	< 0.1	< 0.1	< 1
Dibutylchlorendate (surr.)	1	%	82	132	132	100
Tetrachloro-m-xylene (surr.)	1	%	123	110	107	116
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4.5-Trichlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
2.4.6-Trichlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
2.6-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
4-Chloro-3-methylphenol	1	mg/kg	< 1	< 1	< 1	< 1
Pentachlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
Tetrachlorophenols - Total	10	mg/kg	< 10	< 10	< 10	< 10
Total Halogenated Phenol*	1	mg/kg	< 1	< 1	< 1	< 1
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	< 20	< 20	< 20	< 20
2-Methyl-4.6-dinitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
2-Nitrophenol	1	mg/kg	< 1	< 1	< 1	< 1
2.4-Dimethylphenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4-Dinitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
2-Methylphenol (o-Cresol)	0.2	mg/kg	< 0.5	< 0.2	< 0.2	< 0.5
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	< 1	< 0.4	< 0.4	< 1
Total cresols*	0.5	mg/kg	< 1	< 0.5	< 0.5	< 1
4-Nitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
Dinoseb	20	mg/kg	< 20	< 20	< 20	< 20
Phenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenol-d6 (surr.)	1	%	120	114	113	122
Total Non-Halogenated Phenol*	20	mg/kg	< 20	< 20	< 20	< 20

Client Sample ID			[G01]**BH03 - 0.1**	**BH03 - 0.5**	**BH03 - 1.5**	[G01]**BH04 - 0.1**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**R23-Ja0033888**	**R23-Ja0033889**	**R23-Ja0033890**	**R23-Ja0033891**
Date Sampled			**Jan 20, 2023**	**Jan 20, 2023**	**Jan 20, 2023**	**Jan 20, 2023**
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	< 100	< 100
Metals M8						
Arsenic	2	mg/kg	2.3	21	5.8	< 2
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	11	37	35	8.6
Copper	5	mg/kg	8.7	31	14	7.0
Lead	5	mg/kg	28	19	12	17
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	< 5	79	15	< 5
Zinc	5	mg/kg	65	190	39	45
% Moisture	1	%	2.5	17	17	3.9
Per- and Polyfluoroalkyl Substances (PFASs) - Short						
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)[N11]	10	ug/kg	< 10	< 10	-	-
13C2-6:2 FTSA (surr.)	1	%	103	101	-	-
Perfluorohexanesulfonic acid (PFHxS)[N11]	5	ug/kg	< 5	< 5	-	-
Perfluorooctanesulfonic acid (PFOS)[N11]	5	ug/kg	< 5	< 5	-	-
18O2-PFHxS (surr.)	1	%	115	111	-	-
13C8-PFOS (surr.)	1	%	115	112	-	-
Perfluorooctanoic acid (PFOA)[N11]	5	ug/kg	< 5	< 5	-	-
13C8-PFOA (surr.)	1	%	107	111	-	-
Sum (PFHxS + PFOS)*	5	ug/kg	< 5	< 5	-	-
Sum of US EPA PFAS (PFOS + PFOA)*	5	ug/kg	< 5	< 5	-	-
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	5	ug/kg	< 5	< 5	-	-

Client Sample ID			**BH04 - 0.5**	**BH04 - 1.0**	**BH04 - 1.5**	**BH05 - 0.1**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**R23-Ja0033892**	**R23-Ja0033893**	**R23-Ja0033894**	**R23-Ja0033895**
Date Sampled			**Jan 20, 2023**	**Jan 20, 2023**	**Jan 20, 2023**	**Jan 20, 2023**
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	< 50	< 50
TRH C29-C36	50	mg/kg	< 50	< 50	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	< 50	< 50
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	76	86	91	85

Client Sample ID **Sample Matrix** **Eurofins Sample No.** **Date Sampled** Test/Reference	LOR	Unit	**BH04 - 0.5** **Soil** **R23-Ja0033892** **Jan 20, 2023**	**BH04 - 1.0** **Soil** **R23-Ja0033893** **Jan 20, 2023**	**BH04 - 1.5** **Soil** **R23-Ja0033894** **Jan 20, 2023**	**BH05 - 0.1** **Soil** **R23-Ja0033895** **Jan 20, 2023**
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene^{N02}	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH >C10-C16 less Naphthalene (F2)^{N01}	50	mg/kg	< 50	< 50	< 50	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)^{N04}	20	mg/kg	< 20	< 20	< 20	< 20
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	0.6	0.6	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.2	1.2	1.2
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(b&j)fluoranthene^{N07}	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Chrysene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Total PAH*	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2-Fluorobiphenyl (surr.)	1	%	117	112	112	111
p-Terphenyl-d14 (surr.)	1	%	128	130	130	112
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
4.4'-DDD	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4.4'-DDE	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4.4'-DDT	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
a-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Aldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
b-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
d-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
g-HCH (Lindane)	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Methoxychlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Toxaphene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5

Client Sample ID **Sample Matrix** **Eurofins Sample No.** **Date Sampled** Test/Reference	LOR	Unit	**BH04 - 0.5** **Soil** **R23-Ja0033892** **Jan 20, 2023**	**BH04 - 1.0** **Soil** **R23-Ja0033893** **Jan 20, 2023**	**BH04 - 1.5** **Soil** **R23-Ja0033894** **Jan 20, 2023**	**BH05 - 0.1** **Soil** **R23-Ja0033895** **Jan 20, 2023**
Organochlorine Pesticides						
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Dibutylchlorendate (surr.)	1	%	124	127	115	91
Tetrachloro-m-xylene (surr.)	1	%	113	107	110	102
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1221	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1232	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1242	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1248	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1254	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1260	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Total PCB*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Dibutylchlorendate (surr.)	1	%	124	127	115	91
Tetrachloro-m-xylene (surr.)	1	%	113	107	110	102
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4.5-Trichlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
2.4.6-Trichlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
2.6-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
4-Chloro-3-methylphenol	1	mg/kg	< 1	< 1	< 1	< 1
Pentachlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
Tetrachlorophenols - Total	10	mg/kg	< 10	< 10	< 10	< 10
Total Halogenated Phenol*	1	mg/kg	< 1	< 1	< 1	< 1
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	< 20	< 20	< 20	< 20
2-Methyl-4.6-dinitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
2-Nitrophenol	1	mg/kg	< 1	< 1	< 1	< 1
2.4-Dimethylphenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4-Dinitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
2-Methylphenol (o-Cresol)	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Total cresols*	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
4-Nitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
Dinoseb	20	mg/kg	< 20	< 20	< 20	< 20
Phenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenol-d6 (surr.)	1	%	112	106	104	104
Total Non-Halogenated Phenol*	20	mg/kg	< 20	< 20	< 20	< 20
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	< 100	< 100

Client Sample ID **Sample Matrix** **Eurofins Sample No.** **Date Sampled** Test/Reference	LOR	Unit	**BH04 - 0.5** **Soil** **R23-Ja0033892** **Jan 20, 2023**	**BH04 - 1.0** **Soil** **R23-Ja0033893** **Jan 20, 2023**	**BH04 - 1.5** **Soil** **R23-Ja0033894** **Jan 20, 2023**	**BH05 - 0.1** **Soil** **R23-Ja0033895** **Jan 20, 2023**
Metals M8						
Arsenic	2	mg/kg	18	9.5	8.2	3.1
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	43	55	38	11
Copper	5	mg/kg	29	21	24	7.9
Lead	5	mg/kg	27	28	29	31
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	73	28	45	7.4
Zinc	5	mg/kg	190	61	65	84
% Moisture	1	%	15	16	17	4.0
Per- and Polyfluoroalkyl Substances (PFASs) - Short						
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)N11	10	ug/kg	-	< 10	-	< 10
13C2-6:2 FTSA (surr.)	1	%	-	106	-	99
Perfluorohexanesulfonic acid (PFHxS)N11	5	ug/kg	-	< 5	-	< 5
Perfluorooctanesulfonic acid (PFOS)N11	5	ug/kg	-	< 5	-	< 5
18O2-PFHxS (surr.)	1	%	-	113	-	113
13C8-PFOS (surr.)	1	%	-	120	-	117
Perfluorooctanoic acid (PFOA)N11	5	ug/kg	-	< 5	-	< 5
13C8-PFOA (surr.)	1	%	-	106	-	104
Sum (PFHxS + PFOS)*	5	ug/kg	-	< 5	-	< 5
Sum of US EPA PFAS (PFOS + PFOA)*	5	ug/kg	-	< 5	-	< 5
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	5	ug/kg	-	< 5	-	< 5

Client Sample ID **Sample Matrix** **Eurofins Sample No.** **Date Sampled** Test/Reference	LOR	Unit	**BH05 - 0.5** **Soil** **R23-Ja0033896** **Jan 20, 2023**	**BH05 - 1.0** **Soil** **R23-Ja0033897** **Jan 20, 2023**	**BH05 - 1.5** **Soil** **R23-Ja0033898** **Jan 20, 2023**	G01**BH06 - 0.1** **Soil** **R23-Ja0033899** **Jan 20, 2023**
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	< 50	< 50
TRH C29-C36	50	mg/kg	< 50	< 50	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	< 50	< 50
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	81	83	102	66
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
NaphthaleneN02	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH >C10-C16 less Naphthalene (F2)N01	50	mg/kg	< 50	< 50	< 50	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)N04	20	mg/kg	< 20	< 20	< 20	< 20

Client Sample ID **Sample Matrix** **Eurofins Sample No.** **Date Sampled** Test/Reference	LOR	Unit	**BH05 - 0.5** **Soil** **R23-Ja0033896** **Jan 20, 2023**	**BH05 - 1.0** **Soil** **R23-Ja0033897** **Jan 20, 2023**	**BH05 - 1.5** **Soil** **R23-Ja0033898** **Jan 20, 2023**	G01**BH06 - 0.1** **Soil** **R23-Ja0033899** **Jan 20, 2023**
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	0.6	0.6	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.2	1.2	1.2
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(b&j)fluorantheneN07	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Chrysene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Total PAH*	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2-Fluorobiphenyl (surr.)	1	%	119	117	107	133
p-Terphenyl-d14 (surr.)	1	%	124	128	123	112
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 1
4.4'-DDD	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.5
4.4'-DDE	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.5
4.4'-DDT	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.5
a-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.5
Aldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.5
b-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.5
d-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.5
Dieldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.5
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.5
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.5
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.5
Endrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.5
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.5
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.5
g-HCH (Lindane)	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.5
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.5
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.5
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.5
Methoxychlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.5
Toxaphene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 10
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.5
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.5
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 1
Dibutylchlorendate (surr.)	1	%	117	150	134	133
Tetrachloro-m-xylene (surr.)	1	%	111	97	99	118

Client Sample ID **Sample Matrix** **Eurofins Sample No.** **Date Sampled** Test/Reference	LOR	Unit	**BH05 - 0.5** **Soil** **R23-Ja0033896** **Jan 20, 2023**	**BH05 - 1.0** **Soil** **R23-Ja0033897** **Jan 20, 2023**	**BH05 - 1.5** **Soil** **R23-Ja0033898** **Jan 20, 2023**	^{G01}**BH06 - 0.1** **Soil** **R23-Ja0033899** **Jan 20, 2023**
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 1
Aroclor-1221	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 1
Aroclor-1232	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 1
Aroclor-1242	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 1
Aroclor-1248	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 1
Aroclor-1254	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 1
Aroclor-1260	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 1
Total PCB*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 1
Dibutylchlorendate (surr.)	1	%	117	150	134	133
Tetrachloro-m-xylene (surr.)	1	%	111	97	99	118
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4.5-Trichlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
2.4.6-Trichlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
2.6-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
4-Chloro-3-methylphenol	1	mg/kg	< 1	< 1	< 1	< 1
Pentachlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
Tetrachlorophenols - Total	10	mg/kg	< 10	< 10	< 10	< 10
Total Halogenated Phenol*	1	mg/kg	< 1	< 1	< 1	< 1
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	< 20	< 20	< 20	< 20
2-Methyl-4.6-dinitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
2-Nitrophenol	1	mg/kg	< 1	< 1	< 1	< 1
2.4-Dimethylphenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4-Dinitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
2-Methylphenol (o-Cresol)	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.5
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	< 0.4	< 0.4	< 0.4	3.1
Total cresols*	0.5	mg/kg	< 0.5	< 0.5	< 0.5	3.1
4-Nitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
Dinoseb	20	mg/kg	< 20	< 20	< 20	< 20
Phenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	0.7
Phenol-d6 (surr.)	1	%	117	115	89	117
Total Non-Halogenated Phenol*	20	mg/kg	< 20	< 20	< 20	< 20
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	< 100	< 100
Metals M8						
Arsenic	2	mg/kg	11	12	7.6	2.3
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	39	45	63	8.7
Copper	5	mg/kg	22	23	21	5.9
Lead	5	mg/kg	27	20	25	22
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	27	28	19	< 5
Zinc	5	mg/kg	62	73	42	50
% Moisture	1	%	13	17	15	4.4

Client Sample ID Sample Matrix Eurofins Sample No. Date Sampled Test/Reference	LOR	Unit	**BH05 - 0.5** **Soil** **R23-Ja0033896** **Jan 20, 2023**	**BH05 - 1.0** **Soil** **R23-Ja0033897** **Jan 20, 2023**	**BH05 - 1.5** **Soil** **R23-Ja0033898** **Jan 20, 2023**	G01**BH06 - 0.1** **Soil** **R23-Ja0033899** **Jan 20, 2023**
Per- and Polyfluoroalkyl Substances (PFASs) - Short						
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)N11	10	ug/kg	< 10	-	-	< 10
13C2-6:2 FTSA (surr.)	1	%	99	-	-	95
Perfluorohexanesulfonic acid (PFHxS)N11	5	ug/kg	< 5	-	-	< 5
Perfluorooctanesulfonic acid (PFOS)N11	5	ug/kg	< 5	-	-	< 5
18O2-PFHxS (surr.)	1	%	113	-	-	112
13C8-PFOS (surr.)	1	%	117	-	-	115
Perfluorooctanoic acid (PFOA)N11	5	ug/kg	< 5	-	-	< 5
13C8-PFOA (surr.)	1	%	104	-	-	108
Sum (PFHxS + PFOS)*	5	ug/kg	< 5	-	-	< 5
Sum of US EPA PFAS (PFOS + PFOA)*	5	ug/kg	< 5	-	-	< 5
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	5	ug/kg	< 5	-	-	< 5

Client Sample ID Sample Matrix Eurofins Sample No. Date Sampled Test/Reference	LOR	Unit	**BH06 - 0.5** **Soil** **R23-Ja0033900** **Jan 20, 2023**	**BH06 - 1.0** **Soil** **R23-Ja0033901** **Jan 20, 2023**	**BH06 - 1.5** **Soil** **R23-Ja0033902** **Jan 20, 2023**	G01**BH07 - 0.1** **Soil** **R23-Ja0033903** **Jan 20, 2023**
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	-	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	-	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	-	< 50	< 50	< 50
TRH C29-C36	50	mg/kg	-	< 50	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	-	< 50	< 50	< 50
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	%	-	76	68	114
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
NaphthaleneN02	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
TRH >C10-C16 less Naphthalene (F2)N01	50	mg/kg	-	< 50	< 50	< 50
TRH C6-C10	20	mg/kg	-	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)N04	20	mg/kg	-	< 20	< 20	< 20
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	0.6	0.6	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	1.2	1.2	1.2
Acenaphthene	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
Anthracene	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
Benzo(b&j)fluorantheneN07	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

Client Sample ID **Sample Matrix** **Eurofins Sample No.** **Date Sampled** Test/Reference	LOR	Unit	**BH06 - 0.5** **Soil** **R23-Ja0033900** **Jan 20, 2023**	**BH06 - 1.0** **Soil** **R23-Ja0033901** **Jan 20, 2023**	**BH06 - 1.5** **Soil** **R23-Ja0033902** **Jan 20, 2023**	^{G01}**BH07 - 0.1** **Soil** **R23-Ja0033903** **Jan 20, 2023**
Polycyclic Aromatic Hydrocarbons						
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	%	-	117	100	126
p-Terphenyl-d14 (surr.)	1	%	-	136	119	129
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	< 0.1	< 0.1	< 1
4.4'-DDD	0.05	mg/kg	-	< 0.05	< 0.05	< 0.5
4.4'-DDE	0.05	mg/kg	-	< 0.05	< 0.05	< 0.5
4.4'-DDT	0.05	mg/kg	-	< 0.05	< 0.05	< 0.5
a-HCH	0.05	mg/kg	-	< 0.05	< 0.05	< 0.5
Aldrin	0.05	mg/kg	-	< 0.05	< 0.05	< 0.5
b-HCH	0.05	mg/kg	-	< 0.05	< 0.05	< 0.5
d-HCH	0.05	mg/kg	-	< 0.05	< 0.05	< 0.5
Dieldrin	0.05	mg/kg	-	< 0.05	< 0.05	< 0.5
Endosulfan I	0.05	mg/kg	-	< 0.05	< 0.05	< 0.5
Endosulfan II	0.05	mg/kg	-	< 0.05	< 0.05	< 0.5
Endosulfan sulphate	0.05	mg/kg	-	< 0.05	< 0.05	< 0.5
Endrin	0.05	mg/kg	-	< 0.05	< 0.05	< 0.5
Endrin aldehyde	0.05	mg/kg	-	< 0.05	< 0.05	< 0.5
Endrin ketone	0.05	mg/kg	-	< 0.05	< 0.05	< 0.5
g-HCH (Lindane)	0.05	mg/kg	-	< 0.05	< 0.05	< 0.5
Heptachlor	0.05	mg/kg	-	< 0.05	< 0.05	< 0.5
Heptachlor epoxide	0.05	mg/kg	-	< 0.05	< 0.05	< 0.5
Hexachlorobenzene	0.05	mg/kg	-	< 0.05	< 0.05	< 0.5
Methoxychlor	0.05	mg/kg	-	< 0.05	< 0.05	< 0.5
Toxaphene	0.5	mg/kg	-	< 0.5	< 0.5	< 10
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	< 0.05	< 0.05	< 0.5
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	< 0.05	< 0.05	< 0.5
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	< 0.1	< 0.1	< 1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	< 0.1	< 0.1	< 1
Dibutylchlorendate (surr.)	1	%	-	148	118	77
Tetrachloro-m-xylene (surr.)	1	%	-	99	89	126
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	-	< 0.1	< 0.1	< 1
Aroclor-1221	0.1	mg/kg	-	< 0.1	< 0.1	< 1
Aroclor-1232	0.1	mg/kg	-	< 0.1	< 0.1	< 1
Aroclor-1242	0.1	mg/kg	-	< 0.1	< 0.1	< 1
Aroclor-1248	0.1	mg/kg	-	< 0.1	< 0.1	< 1
Aroclor-1254	0.1	mg/kg	-	< 0.1	< 0.1	< 1
Aroclor-1260	0.1	mg/kg	-	< 0.1	< 0.1	< 1
Total PCB*	0.1	mg/kg	-	< 0.1	< 0.1	< 1

Client Sample ID			**BH06 - 0.5**	**BH06 - 1.0**	**BH06 - 1.5**	[G01]**BH07 - 0.1**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**R23-Ja0033900**	**R23-Ja0033901**	**R23-Ja0033902**	**R23-Ja0033903**
Date Sampled			**Jan 20, 2023**	**Jan 20, 2023**	**Jan 20, 2023**	**Jan 20, 2023**
Test/Reference	LOR	Unit				
Polychlorinated Biphenyls						
Dibutylchlorendate (surr.)	1	%	-	148	118	77
Tetrachloro-m-xylene (surr.)	1	%	-	99	89	126
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
2.4-Dichlorophenol	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
2.4.5-Trichlorophenol	1	mg/kg	-	< 1	< 1	< 1
2.4.6-Trichlorophenol	1	mg/kg	-	< 1	< 1	< 1
2.6-Dichlorophenol	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
4-Chloro-3-methylphenol	1	mg/kg	-	< 1	< 1	< 1
Pentachlorophenol	1	mg/kg	-	< 1	< 1	< 1
Tetrachlorophenols - Total	10	mg/kg	-	< 10	< 10	< 10
Total Halogenated Phenol*	1	mg/kg	-	< 1	< 1	< 1
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	-	< 20	< 20	< 20
2-Methyl-4.6-dinitrophenol	5	mg/kg	-	< 5	< 5	< 5
2-Nitrophenol	1	mg/kg	-	< 1	< 1	< 1
2.4-Dimethylphenol	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
2.4-Dinitrophenol	5	mg/kg	-	< 5	< 5	< 5
2-Methylphenol (o-Cresol)	0.2	mg/kg	-	< 0.2	< 0.2	< 0.5
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	-	< 0.4	< 0.4	3.1
Total cresols*	0.5	mg/kg	-	< 0.5	< 0.5	3.1
4-Nitrophenol	5	mg/kg	-	< 5	< 5	< 5
Dinoseb	20	mg/kg	-	< 20	< 20	< 20
Phenol	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
Phenol-d6 (surr.)	1	%	-	107	81	112
Total Non-Halogenated Phenol*	20	mg/kg	-	< 20	< 20	< 20
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
TRH >C10-C16	50	mg/kg	-	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	-	< 100	< 100	< 100
TRH >C34-C40	100	mg/kg	-	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	-	< 100	< 100	< 100
Metals M8						
Arsenic	2	mg/kg	-	6.6	6.7	2.9
Cadmium	0.4	mg/kg	-	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	-	52	42	9.8
Copper	5	mg/kg	-	23	20	6.5
Lead	5	mg/kg	-	22	18	25
Mercury	0.1	mg/kg	-	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	-	21	26	5.8
Zinc	5	mg/kg	-	52	62	67
% Moisture	1	%	15	17	18	4.1
Per- and Polyfluoroalkyl Substances (PFASs) - Short						
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)[N11]	10	ug/kg	< 10	-	-	-
13C2-6:2 FTSA (surr.)	1	%	105	-	-	-
Perfluorohexanesulfonic acid (PFHxS)[N11]	5	ug/kg	< 5	-	-	-
Perfluorooctanesulfonic acid (PFOS)[N11]	5	ug/kg	< 5	-	-	-
18O2-PFHxS (surr.)	1	%	114	-	-	-

Client Sample ID			**BH06 - 0.5**	**BH06 - 1.0**	**BH06 - 1.5**	[G01]**BH07 - 0.1**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**R23-Ja0033900**	**R23-Ja0033901**	**R23-Ja0033902**	**R23-Ja0033903**
Date Sampled			**Jan 20, 2023**	**Jan 20, 2023**	**Jan 20, 2023**	**Jan 20, 2023**
Test/Reference	LOR	Unit				
Per- and Polyfluoroalkyl Substances (PFASs) - Short						
13C8-PFOS (surr.)	1	%	113	-	-	-
Perfluorooctanoic acid (PFOA)[N11]	5	ug/kg	< 5	-	-	-
13C8-PFOA (surr.)	1	%	105	-	-	-
Sum (PFHxS + PFOS)*	5	ug/kg	< 5	-	-	-
Sum of US EPA PFAS (PFOS + PFOA)*	5	ug/kg	< 5	-	-	-
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	5	ug/kg	< 5	-	-	-

Client Sample ID			**BH07 - 0.5**	**BH07 - 1.5**	**BH08 - 0.1**	**BH08 - 0.5**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**R23-Ja0033904**	**R23-Ja0033905**	**R23-Ja0033906**	**R23-Ja0033907**
Date Sampled			**Jan 20, 2023**	**Jan 20, 2023**	**Jan 20, 2023**	**Jan 20, 2023**
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	< 50	< 50
TRH C29-C36	50	mg/kg	< 50	< 50	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	< 50	< 50
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	85	64	115	83
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	0.6	0.6	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.2	1.2	1.2
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Chrysene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5

Client Sample ID **Sample Matrix** **Eurofins Sample No.** **Date Sampled** Test/Reference	LOR	Unit	**BH07 - 0.5** **Soil** **R23-Ja0033904** **Jan 20, 2023**	**BH07 - 1.5** **Soil** **R23-Ja0033905** **Jan 20, 2023**	**BH08 - 0.1** **Soil** **R23-Ja0033906** **Jan 20, 2023**	**BH08 - 0.5** **Soil** **R23-Ja0033907** **Jan 20, 2023**
Polycyclic Aromatic Hydrocarbons						
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Total PAH*	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2-Fluorobiphenyl (surr.)	1	%	118	92	109	114
p-Terphenyl-d14 (surr.)	1	%	122	108	121	133
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
4.4'-DDD	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4.4'-DDE	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4.4'-DDT	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
a-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Aldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
b-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
d-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
g-HCH (Lindane)	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Methoxychlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Toxaphene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Dibutylchlorendate (surr.)	1	%	141	107	98	129
Tetrachloro-m-xylene (surr.)	1	%	104	78	91	105
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1221	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1232	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1242	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1248	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1254	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1260	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Total PCB*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Dibutylchlorendate (surr.)	1	%	141	107	98	129
Tetrachloro-m-xylene (surr.)	1	%	104	78	91	105

Client Sample ID			**BH07 - 0.5**	**BH07 - 1.5**	**BH08 - 0.1**	**BH08 - 0.5**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**R23-Ja0033904**	**R23-Ja0033905**	**R23-Ja0033906**	**R23-Ja0033907**
Date Sampled			**Jan 20, 2023**	**Jan 20, 2023**	**Jan 20, 2023**	**Jan 20, 2023**
Test/Reference	LOR	Unit				
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4.5-Trichlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
2.4.6-Trichlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
2.6-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
4-Chloro-3-methylphenol	1	mg/kg	< 1	< 1	< 1	< 1
Pentachlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
Tetrachlorophenols - Total	10	mg/kg	< 10	< 10	< 10	< 10
Total Halogenated Phenol*	1	mg/kg	< 1	< 1	< 1	< 1
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	< 20	< 20	< 20	< 20
2-Methyl-4.6-dinitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
2-Nitrophenol	1	mg/kg	< 1	< 1	< 1	< 1
2.4-Dimethylphenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4-Dinitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
2-Methylphenol (o-Cresol)	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Total cresols*	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
4-Nitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
Dinoseb	20	mg/kg	< 20	< 20	< 20	< 20
Phenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenol-d6 (surr.)	1	%	91	87	107	88
Total Non-Halogenated Phenol*	20	mg/kg	< 20	< 20	< 20	< 20
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	< 100	< 100
Metals M8						
Arsenic	2	mg/kg	8.3	7.4	3.4	9.2
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	49	45	12	40
Copper	5	mg/kg	21	26	8.1	20
Lead	5	mg/kg	21	12	25	23
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	24	34	6.8	23
Zinc	5	mg/kg	63	69	82	70
% Moisture	1	%	16	18	4.7	13
Per- and Polyfluoroalkyl Substances (PFASs) - Short						
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)^{N11}	10	ug/kg	< 10	-	< 10	< 10
13C2-6:2 FTSA (surr.)	1	%	103	-	104	99
Perfluorohexanesulfonic acid (PFHxS)^{N11}	5	ug/kg	< 5	-	< 5	< 5
Perfluorooctanesulfonic acid (PFOS)^{N11}	5	ug/kg	< 5	-	< 5	< 5
18O2-PFHxS (surr.)	1	%	111	-	106	112
13C8-PFOS (surr.)	1	%	108	-	110	108
Perfluorooctanoic acid (PFOA)^{N11}	5	ug/kg	< 5	-	< 5	< 5
13C8-PFOA (surr.)	1	%	105	-	102	104

Client Sample ID			**BH07 - 0.5**	**BH07 - 1.5**	**BH08 - 0.1**	**BH08 - 0.5**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**R23-Ja0033904**	**R23-Ja0033905**	**R23-Ja0033906**	**R23-Ja0033907**
Date Sampled			**Jan 20, 2023**	**Jan 20, 2023**	**Jan 20, 2023**	**Jan 20, 2023**
Test/Reference	LOR	Unit				
Per- and Polyfluoroalkyl Substances (PFASs) - Short						
Sum (PFHxS + PFOS)*	5	ug/kg	< 5	-	< 5	< 5
Sum of US EPA PFAS (PFOS + PFOA)*	5	ug/kg	< 5	-	< 5	< 5
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	5	ug/kg	< 5	-	< 5	< 5

Client Sample ID			**BH08 - 1.0**	**BH08 - 1.5**	[G01]**BH09 - 0.1**	**BH09 - 0.5**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**R23-Ja0033908**	**R23-Ja0033909**	**R23-Ja0033910**	**R23-Ja0033911**
Date Sampled			**Jan 20, 2023**	**Jan 20, 2023**	**Jan 21, 2023**	**Jan 21, 2023**
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	< 50	< 50
TRH C29-C36	50	mg/kg	< 50	< 50	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	< 50	< 50
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	86	71	84	80
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	< 0.5	0.5	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	0.6	0.9	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.2	1.2	1.2
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	0.5	< 0.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Chrysene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5

Client Sample ID			**BH08 - 1.0**	**BH08 - 1.5**	G01**BH09 - 0.1**	**BH09 - 0.5**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**R23-Ja0033908**	**R23-Ja0033909**	**R23-Ja0033910**	**R23-Ja0033911**
Date Sampled			**Jan 20, 2023**	**Jan 20, 2023**	**Jan 21, 2023**	**Jan 21, 2023**
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Total PAH*	0.5	mg/kg	< 0.5	< 0.5	0.5	< 0.5
2-Fluorobiphenyl (surr.)	1	%	108	109	131	114
p-Terphenyl-d14 (surr.)	1	%	125	137	136	142
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	< 0.1	< 1	< 0.1
4.4'-DDD	0.05	mg/kg	< 0.05	< 0.05	< 0.5	< 0.05
4.4'-DDE	0.05	mg/kg	< 0.05	< 0.05	< 0.5	< 0.05
4.4'-DDT	0.05	mg/kg	< 0.05	< 0.05	< 0.5	< 0.05
a-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.5	< 0.05
Aldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.5	< 0.05
b-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.5	< 0.05
d-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.5	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.5	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05	< 0.5	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05	< 0.5	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	< 0.5	< 0.05
Endrin	0.05	mg/kg	< 0.05	< 0.05	< 0.5	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	< 0.5	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	< 0.5	< 0.05
g-HCH (Lindane)	0.05	mg/kg	< 0.05	< 0.05	< 0.5	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	< 0.5	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	< 0.5	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	< 0.5	< 0.05
Methoxychlor	0.05	mg/kg	< 0.05	< 0.05	< 0.5	< 0.05
Toxaphene	0.5	mg/kg	< 0.5	< 0.5	< 10	< 0.5
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.5	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.5	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 1	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 1	< 0.1
Dibutylchlorendate (surr.)	1	%	141	129	74	149
Tetrachloro-m-xylene (surr.)	1	%	99	98	103	101
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	< 0.1	< 0.1	< 1	< 0.1
Aroclor-1221	0.1	mg/kg	< 0.1	< 0.1	< 1	< 0.1
Aroclor-1232	0.1	mg/kg	< 0.1	< 0.1	< 1	< 0.1
Aroclor-1242	0.1	mg/kg	< 0.1	< 0.1	< 1	< 0.1
Aroclor-1248	0.1	mg/kg	< 0.1	< 0.1	< 1	< 0.1
Aroclor-1254	0.1	mg/kg	< 0.1	< 0.1	< 1	< 0.1
Aroclor-1260	0.1	mg/kg	< 0.1	< 0.1	< 1	< 0.1
Total PCB*	0.1	mg/kg	< 0.1	< 0.1	< 1	< 0.1
Dibutylchlorendate (surr.)	1	%	141	129	74	149
Tetrachloro-m-xylene (surr.)	1	%	99	98	103	101
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4.5-Trichlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
2.4.6-Trichlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
2.6-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
4-Chloro-3-methylphenol	1	mg/kg	< 1	< 1	< 1	< 1

Client Sample ID **Sample Matrix** **Eurofins Sample No.** **Date Sampled** Test/Reference	LOR	Unit	**BH08 - 1.0** **Soil** **R23-Ja0033908** **Jan 20, 2023**	**BH08 - 1.5** **Soil** **R23-Ja0033909** **Jan 20, 2023**	G01**BH09 - 0.1** **Soil** **R23-Ja0033910** **Jan 21, 2023**	**BH09 - 0.5** **Soil** **R23-Ja0033911** **Jan 21, 2023**
Phenols (Halogenated)						
Pentachlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
Tetrachlorophenols - Total	10	mg/kg	< 10	< 10	< 10	< 10
Total Halogenated Phenol*	1	mg/kg	< 1	< 1	< 1	< 1
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	< 20	< 20	< 20	< 20
2-Methyl-4.6-dinitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
2-Nitrophenol	1	mg/kg	< 1	< 1	< 1	< 1
2.4-Dimethylphenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4-Dinitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
2-Methylphenol (o-Cresol)	0.2	mg/kg	< 0.2	< 0.2	< 0.5	< 0.2
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	< 0.4	< 0.4	< 1	< 0.4
Total cresols*	0.5	mg/kg	< 0.5	< 0.5	< 1	< 0.5
4-Nitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
Dinoseb	20	mg/kg	< 20	< 20	< 20	< 20
Phenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenol-d6 (surr.)	1	%	85	92	114	104
Total Non-Halogenated Phenol*	20	mg/kg	< 20	< 20	< 20	< 20
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	< 100	< 100
Metals M8						
Arsenic	2	mg/kg	17	6.4	3.0	8.2
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	27	45	11	47
Copper	5	mg/kg	26	24	8.2	20
Lead	5	mg/kg	27	12	28	31
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	35	31	6.7	20
Zinc	5	mg/kg	83	54	76	65
% Moisture	1	%	15	20	3.1	11
Per- and Polyfluoroalkyl Substances (PFASs) - Short						
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)N11	10	ug/kg	-	-	< 10	< 10
13C2-6:2 FTSA (surr.)	1	%	-	-	103	99
Perfluorohexanesulfonic acid (PFHxS)N11	5	ug/kg	-	-	< 5	< 5
Perfluorooctanesulfonic acid (PFOS)N11	5	ug/kg	-	-	< 5	5.1
18O2-PFHxS (surr.)	1	%	-	-	112	110
13C8-PFOS (surr.)	1	%	-	-	108	111
Perfluorooctanoic acid (PFOA)N11	5	ug/kg	-	-	< 5	< 5
13C8-PFOA (surr.)	1	%	-	-	103	107
Sum (PFHxS + PFOS)*	5	ug/kg	-	-	< 5	5.1
Sum of US EPA PFAS (PFOS + PFOA)*	5	ug/kg	-	-	< 5	5.1
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	5	ug/kg	-	-	< 5	5.1

Client Sample ID **Sample Matrix** **Eurofins Sample No.** **Date Sampled** Test/Reference	LOR	Unit	**BH09 - 1.0** **Soil** **R23-Ja0033912** **Jan 21, 2023**	**BH10 - 0.1** **Soil** **R23-Ja0033913** **Jan 21, 2023**	**BH10 - 0.5** **Soil** **R23-Ja0033914** **Jan 21, 2023**	**B10 - 1.0** **Soil** **R23-Ja0033915** **Jan 21, 2023**
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	< 50	< 50
TRH C29-C36	50	mg/kg	< 50	< 50	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	< 50	< 50
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	79	90	105	79
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene^{N02}	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH >C10-C16 less Naphthalene (F2)^{N01}	50	mg/kg	< 50	< 50	< 50	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)^{N04}	20	mg/kg	< 20	< 20	< 20	< 20
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	0.6	0.6	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.2	1.2	1.2
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(b&j)fluoranthene^{N07}	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Chrysene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Total PAH*	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2-Fluorobiphenyl (surr.)	1	%	109	96	111	115
p-Terphenyl-d14 (surr.)	1	%	139	132	126	112
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
4.4'-DDD	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4.4'-DDE	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4.4'-DDT	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
a-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Aldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
b-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05

Client Sample ID **Sample Matrix** **Eurofins Sample No.** **Date Sampled** Test/Reference	LOR	Unit	**BH09 - 1.0** **Soil** **R23-Ja0033912** **Jan 21, 2023**	**BH10 - 0.1** **Soil** **R23-Ja0033913** **Jan 21, 2023**	**BH10 - 0.5** **Soil** **R23-Ja0033914** **Jan 21, 2023**	**B10 - 1.0** **Soil** **R23-Ja0033915** **Jan 21, 2023**
Organochlorine Pesticides						
d-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
g-HCH (Lindane)	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Methoxychlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Toxaphene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Dibutylchlorendate (surr.)	1	%	128	98	127	145
Tetrachloro-m-xylene (surr.)	1	%	101	98	100	102
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1221	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1232	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1242	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1248	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1254	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1260	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Total PCB*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Dibutylchlorendate (surr.)	1	%	128	98	127	145
Tetrachloro-m-xylene (surr.)	1	%	101	98	100	102
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4.5-Trichlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
2.4.6-Trichlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
2.6-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
4-Chloro-3-methylphenol	1	mg/kg	< 1	< 1	< 1	< 1
Pentachlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
Tetrachlorophenols - Total	10	mg/kg	< 10	< 10	< 10	< 10
Total Halogenated Phenol*	1	mg/kg	< 1	< 1	< 1	< 1
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	< 20	< 20	< 20	< 20
2-Methyl-4.6-dinitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
2-Nitrophenol	1	mg/kg	< 1	< 1	< 1	< 1
2.4-Dimethylphenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4-Dinitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
2-Methylphenol (o-Cresol)	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4

Client Sample ID			**BH09 - 1.0**	**BH10 - 0.1**	**BH10 - 0.5**	**B10 - 1.0**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**R23-Ja0033912**	**R23-Ja0033913**	**R23-Ja0033914**	**R23-Ja0033915**
Date Sampled			**Jan 21, 2023**	**Jan 21, 2023**	**Jan 21, 2023**	**Jan 21, 2023**
Test/Reference	LOR	Unit				
Phenols (non-Halogenated)						
Total cresols*	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
4-Nitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
Dinoseb	20	mg/kg	< 20	< 20	< 20	< 20
Phenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenol-d6 (surr.)	1	%	89	70	89	96
Total Non-Halogenated Phenol*	20	mg/kg	< 20	< 20	< 20	< 20
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	< 100	< 100
Metals M8						
Arsenic	2	mg/kg	15	2.7	13	13
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	39	11	57	42
Copper	5	mg/kg	29	8.2	29	27
Lead	5	mg/kg	27	28	32	36
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	46	< 5	37	39
Zinc	5	mg/kg	140	89	99	140
% Moisture	1	%	13	3.7	14	12
Per- and Polyfluoroalkyl Substances (PFASs) - Short						
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)[N11]	10	ug/kg	-	< 10	< 10	-
13C2-6:2 FTSA (surr.)	1	%	-	103	102	-
Perfluorohexanesulfonic acid (PFHxS)[N11]	5	ug/kg	-	< 5	< 5	-
Perfluorooctanesulfonic acid (PFOS)[N11]	5	ug/kg	-	< 5	< 5	-
18O2-PFHxS (surr.)	1	%	-	110	110	-
13C8-PFOS (surr.)	1	%	-	109	112	-
Perfluorooctanoic acid (PFOA)[N11]	5	ug/kg	-	< 5	< 5	-
13C8-PFOA (surr.)	1	%	-	104	103	-
Sum (PFHxS + PFOS)*	5	ug/kg	-	< 5	< 5	-
Sum of US EPA PFAS (PFOS + PFOA)*	5	ug/kg	-	< 5	< 5	-
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	5	ug/kg	-	< 5	< 5	-

Client Sample ID			**BH10 - 1.5**	**BH11 - 0.1**	**BH11 - 0.5**	[G01]**BH11 - 1.0**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**R23-Ja0033916**	**R23-Ja0033917**	**R23-Ja0033918**	**R23-Ja0033919**
Date Sampled			**Jan 21, 2023**	**Jan 21, 2023**	**Jan 21, 2023**	**Jan 21, 2023**
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	< 20	< 20	-	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	-	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	-	52
TRH C29-C36	50	mg/kg	< 50	< 50	-	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	-	52

Client Sample ID			**BH10 - 1.5**	**BH11 - 0.1**	**BH11 - 0.5**	^{G01}**BH11 - 1.0**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**R23-Ja0033916**	**R23-Ja0033917**	**R23-Ja0033918**	**R23-Ja0033919**
Date Sampled			**Jan 21, 2023**	**Jan 21, 2023**	**Jan 21, 2023**	**Jan 21, 2023**
Test/Reference	LOR	Unit				
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	%	76	85	-	74
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene^{N02}	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
TRH >C10-C16 less Naphthalene (F2)^{N01}	50	mg/kg	< 50	< 50	-	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	-	< 20
TRH C6-C10 less BTEX (F1)^{N04}	20	mg/kg	< 20	< 20	-	< 20
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	0.6	-	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.2	-	1.2
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Benzo(b&j)fluoranthene^{N07}	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Chrysene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Fluorene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Pyrene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Total PAH*	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
2-Fluorobiphenyl (surr.)	1	%	110	109	-	123
p-Terphenyl-d14 (surr.)	1	%	111	122	-	150
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	< 0.1	-	< 1
4.4'-DDD	0.05	mg/kg	< 0.05	< 0.05	-	< 0.5
4.4'-DDE	0.05	mg/kg	< 0.05	< 0.05	-	< 0.5
4.4'-DDT	0.05	mg/kg	< 0.05	< 0.05	-	< 0.5
a-HCH	0.05	mg/kg	< 0.05	< 0.05	-	< 0.5
Aldrin	0.05	mg/kg	< 0.05	< 0.05	-	< 0.5
b-HCH	0.05	mg/kg	< 0.05	< 0.05	-	< 0.5
d-HCH	0.05	mg/kg	< 0.05	< 0.05	-	< 0.5
Dieldrin	0.05	mg/kg	< 0.05	< 0.05	-	< 0.5
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05	-	< 0.5
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05	-	< 0.5
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	-	< 0.5
Endrin	0.05	mg/kg	< 0.05	< 0.05	-	< 0.5

Client Sample ID **Sample Matrix** **Eurofins Sample No.** **Date Sampled** Test/Reference	LOR	Unit	**BH10 - 1.5** **Soil** **R23-Ja0033916** **Jan 21, 2023**	**BH11 - 0.1** **Soil** **R23-Ja0033917** **Jan 21, 2023**	**BH11 - 0.5** **Soil** **R23-Ja0033918** **Jan 21, 2023**	G01**BH11 - 1.0** **Soil** **R23-Ja0033919** **Jan 21, 2023**
Organochlorine Pesticides						
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	-	< 0.5
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	-	< 0.5
g-HCH (Lindane)	0.05	mg/kg	< 0.05	< 0.05	-	< 0.5
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	-	< 0.5
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	-	< 0.5
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	-	< 0.5
Methoxychlor	0.05	mg/kg	< 0.05	< 0.05	-	< 0.5
Toxaphene	0.5	mg/kg	< 0.5	< 0.5	-	< 10
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	< 0.05	-	< 0.5
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	< 0.05	-	< 0.5
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	-	< 1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	-	< 1
Dibutylchlorendate (surr.)	1	%	122	127	-	128
Tetrachloro-m-xylene (surr.)	1	%	94	96	-	104
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	< 0.1	< 0.1	-	< 1
Aroclor-1221	0.1	mg/kg	< 0.1	< 0.1	-	< 1
Aroclor-1232	0.1	mg/kg	< 0.1	< 0.1	-	< 1
Aroclor-1242	0.1	mg/kg	< 0.1	< 0.1	-	< 1
Aroclor-1248	0.1	mg/kg	< 0.1	< 0.1	-	< 1
Aroclor-1254	0.1	mg/kg	< 0.1	< 0.1	-	< 1
Aroclor-1260	0.1	mg/kg	< 0.1	< 0.1	-	< 1
Total PCB*	0.1	mg/kg	< 0.1	< 0.1	-	< 1
Dibutylchlorendate (surr.)	1	%	122	127	-	128
Tetrachloro-m-xylene (surr.)	1	%	94	96	-	104
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
2.4-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
2.4.5-Trichlorophenol	1	mg/kg	< 1	< 1	-	< 1
2.4.6-Trichlorophenol	1	mg/kg	< 1	< 1	-	< 1
2.6-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
4-Chloro-3-methylphenol	1	mg/kg	< 1	< 1	-	< 1
Pentachlorophenol	1	mg/kg	< 1	< 1	-	< 1
Tetrachlorophenols - Total	10	mg/kg	< 10	< 10	-	< 10
Total Halogenated Phenol*	1	mg/kg	< 1	< 1	-	< 1
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	< 20	< 20	-	< 20
2-Methyl-4.6-dinitrophenol	5	mg/kg	< 5	< 5	-	< 5
2-Nitrophenol	1	mg/kg	< 1	< 1	-	< 1
2.4-Dimethylphenol	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
2.4-Dinitrophenol	5	mg/kg	< 5	< 5	-	< 5
2-Methylphenol (o-Cresol)	0.2	mg/kg	< 0.2	< 0.2	-	< 0.5
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	< 0.4	< 0.4	-	< 1
Total cresols*	0.5	mg/kg	< 0.5	< 0.5	-	< 1
4-Nitrophenol	5	mg/kg	< 5	< 5	-	< 5
Dinoseb	20	mg/kg	< 20	< 20	-	< 20
Phenol	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Phenol-d6 (surr.)	1	%	98	93	-	96
Total Non-Halogenated Phenol*	20	mg/kg	< 20	< 20	-	< 20

Client Sample ID			BH10 - 1.5	BH11 - 0.1	BH11 - 0.5	[G01]BH11 - 1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			R23-Ja0033916	R23-Ja0033917	R23-Ja0033918	R23-Ja0033919
Date Sampled			Jan 21, 2023	Jan 21, 2023	Jan 21, 2023	Jan 21, 2023
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
TRH >C10-C16	50	mg/kg	< 50	< 50	-	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	-	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	-	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	-	< 100
Metals M8						
Arsenic	2	mg/kg	6.3	3.9	-	16
Cadmium	0.4	mg/kg	< 0.4	< 0.4	-	< 0.4
Chromium	5	mg/kg	44	14	-	49
Copper	5	mg/kg	19	10	-	27
Lead	5	mg/kg	25	32	-	77
Mercury	0.1	mg/kg	< 0.1	< 0.1	-	< 0.1
Nickel	5	mg/kg	17	7.5	-	42
Zinc	5	mg/kg	47	85	-	140
% Moisture	1	%	14	4.6	14	13
Per- and Polyfluoroalkyl Substances (PFASs) - Short						
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)[N11]	10	ug/kg	-	< 10	< 10	-
13C2-6:2 FTSA (surr.)	1	%	-	95	106	-
Perfluorohexanesulfonic acid (PFHxS)[N11]	5	ug/kg	-	< 5	< 5	-
Perfluorooctanesulfonic acid (PFOS)[N11]	5	ug/kg	-	< 5	< 5	-
18O2-PFHxS (surr.)	1	%	-	109	111	-
13C8-PFOS (surr.)	1	%	-	109	110	-
Perfluorooctanoic acid (PFOA)[N11]	5	ug/kg	-	< 5	< 5	-
13C8-PFOA (surr.)	1	%	-	103	108	-
Sum (PFHxS + PFOS)*	5	ug/kg	-	< 5	< 5	-
Sum of US EPA PFAS (PFOS + PFOA)*	5	ug/kg	-	< 5	< 5	-
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	5	ug/kg	-	< 5	< 5	-

Client Sample ID			BH11 - 1.5	[G01]BH12 - 0.1	BH12 - 0.5	BH12 - 1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			R23-Ja0033920	R23-Ja0033921	R23-Ja0033922	R23-Ja0033923
Date Sampled			Jan 21, 2023	Jan 21, 2023	Jan 21, 2023	Jan 21, 2023
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	< 50	< 50
TRH C29-C36	50	mg/kg	< 50	< 50	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	< 50	< 50
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	85	89	87	66

Client Sample ID			**BH11 - 1.5**	[G01]**BH12 - 0.1**	**BH12 - 0.5**	**BH12 - 1.5**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**R23-Ja0033920**	**R23-Ja0033921**	**R23-Ja0033922**	**R23-Ja0033923**
Date Sampled			**Jan 21, 2023**	**Jan 21, 2023**	**Jan 21, 2023**	**Jan 21, 2023**
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	0.6	0.6	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.2	1.2	1.2
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Chrysene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Total PAH*	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2-Fluorobiphenyl (surr.)	1	%	111	126	111	118
p-Terphenyl-d14 (surr.)	1	%	132	125	109	143
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	< 1	< 0.1	< 0.1
4.4'-DDD	0.05	mg/kg	< 0.05	< 0.5	< 0.05	< 0.05
4.4'-DDE	0.05	mg/kg	< 0.05	< 0.5	< 0.05	< 0.05
4.4'-DDT	0.05	mg/kg	< 0.05	< 0.5	< 0.05	< 0.05
a-HCH	0.05	mg/kg	< 0.05	< 0.5	< 0.05	< 0.05
Aldrin	0.05	mg/kg	< 0.05	< 0.5	< 0.05	< 0.05
b-HCH	0.05	mg/kg	< 0.05	< 0.5	< 0.05	< 0.05
d-HCH	0.05	mg/kg	< 0.05	< 0.5	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	< 0.5	< 0.05	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	< 0.5	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	< 0.5	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.5	< 0.05	< 0.05
Endrin	0.05	mg/kg	< 0.05	< 0.5	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.5	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	< 0.5	< 0.05	< 0.05
g-HCH (Lindane)	0.05	mg/kg	< 0.05	< 0.5	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	< 0.5	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.5	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.5	< 0.05	< 0.05
Methoxychlor	0.05	mg/kg	< 0.05	< 0.5	< 0.05	< 0.05
Toxaphene	0.5	mg/kg	< 0.5	< 10	< 0.5	< 0.5

Client Sample ID			**BH11 - 1.5**	**G01BH12 - 0.1**	**BH12 - 0.5**	**BH12 - 1.5**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**R23-Ja0033920**	**R23-Ja0033921**	**R23-Ja0033922**	**R23-Ja0033923**
Date Sampled			**Jan 21, 2023**	**Jan 21, 2023**	**Jan 21, 2023**	**Jan 21, 2023**
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	< 0.5	< 0.05	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	< 0.5	< 0.05	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	< 1	< 0.1	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	< 1	< 0.1	< 0.1
Dibutylchlorendate (surr.)	1	%	146	139	146	Q09INT
Tetrachloro-m-xylene (surr.)	1	%	100	108	97	111
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	< 0.1	< 1	< 0.1	< 0.1
Aroclor-1221	0.1	mg/kg	< 0.1	< 1	< 0.1	< 0.1
Aroclor-1232	0.1	mg/kg	< 0.1	< 1	< 0.1	< 0.1
Aroclor-1242	0.1	mg/kg	< 0.1	< 1	< 0.1	< 0.1
Aroclor-1248	0.1	mg/kg	< 0.1	< 1	< 0.1	< 0.1
Aroclor-1254	0.1	mg/kg	< 0.1	< 1	< 0.1	< 0.1
Aroclor-1260	0.1	mg/kg	< 0.1	< 1	< 0.1	< 0.1
Total PCB*	0.1	mg/kg	< 0.1	< 1	< 0.1	< 0.1
Dibutylchlorendate (surr.)	1	%	146	139	146	Q09INT
Tetrachloro-m-xylene (surr.)	1	%	100	108	97	111
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4.5-Trichlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
2.4.6-Trichlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
2.6-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
4-Chloro-3-methylphenol	1	mg/kg	< 1	< 1	< 1	< 1
Pentachlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
Tetrachlorophenols - Total	10	mg/kg	< 10	< 10	< 10	< 10
Total Halogenated Phenol*	1	mg/kg	< 1	< 1	< 1	< 1
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	< 20	< 20	< 20	< 20
2-Methyl-4.6-dinitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
2-Nitrophenol	1	mg/kg	< 1	< 1	< 1	< 1
2.4-Dimethylphenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4-Dinitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
2-Methylphenol (o-Cresol)	0.2	mg/kg	< 0.2	< 0.5	< 0.2	< 0.2
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	< 0.4	< 1	< 0.4	< 0.4
Total cresols*	0.5	mg/kg	< 0.5	< 1	< 0.5	< 0.5
4-Nitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
Dinoseb	20	mg/kg	< 20	< 20	< 20	< 20
Phenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenol-d6 (surr.)	1	%	88	90	95	101
Total Non-Halogenated Phenol*	20	mg/kg	< 20	< 20	< 20	< 20
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	< 100	< 100

Client Sample ID			**BH11 - 1.5**	[G01]**BH12 - 0.1**	**BH12 - 0.5**	**BH12 - 1.5**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**R23-Ja0033920**	**R23-Ja0033921**	**R23-Ja0033922**	**R23-Ja0033923**
Date Sampled			**Jan 21, 2023**	**Jan 21, 2023**	**Jan 21, 2023**	**Jan 21, 2023**
Test/Reference	LOR	Unit				
Metals M8						
Arsenic	2	mg/kg	8.0	3.2	16	16
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	60	13	40	36
Copper	5	mg/kg	24	11	30	23
Lead	5	mg/kg	42	32	35	69
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	35	7.7	51	35
Zinc	5	mg/kg	88	87	120	110
% Moisture	1	%	12	2.6	12	14
Per- and Polyfluoroalkyl Substances (PFASs) - Short						
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)[N11]	10	ug/kg	< 10	< 10	< 10	-
13C2-6:2 FTSA (surr.)	1	%	91	102	100	-
Perfluorohexanesulfonic acid (PFHxS)[N11]	5	ug/kg	< 5	< 5	< 5	-
Perfluorooctanesulfonic acid (PFOS)[N11]	5	ug/kg	< 5	< 5	< 5	-
18O2-PFHxS (surr.)	1	%	111	112	109	-
13C8-PFOS (surr.)	1	%	111	109	109	-
Perfluorooctanoic acid (PFOA)[N11]	5	ug/kg	< 5	< 5	< 5	-
13C8-PFOA (surr.)	1	%	103	108	106	-
Sum (PFHxS + PFOS)*	5	ug/kg	< 5	< 5	< 5	-
Sum of US EPA PFAS (PFOS + PFOA)*	5	ug/kg	< 5	< 5	< 5	-
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	5	ug/kg	< 5	< 5	< 5	-

Client Sample ID			[G01]**BH13 - 0.1**	**BH13 - 0.5**	**BH13 - 1.0**	**BH13 - 1.5**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**R23-Ja0033924**	**R23-Ja0033925**	**R23-Ja0033926**	**R23-Ja0033927**
Date Sampled			**Jan 21, 2023**	**Jan 21, 2023**	**Jan 21, 2023**	**Jan 21, 2023**
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	< 50	< 50
TRH C29-C36	50	mg/kg	< 50	< 50	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	< 50	< 50
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	81	99	66	99
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20

Client Sample ID			[G01]**BH13 - 0.1**	**BH13 - 0.5**	**BH13 - 1.0**	**BH13 - 1.5**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**R23-Ja0033924**	**R23-Ja0033925**	**R23-Ja0033926**	**R23-Ja0033927**
Date Sampled			**Jan 21, 2023**	**Jan 21, 2023**	**Jan 21, 2023**	**Jan 21, 2023**
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	0.6	0.6	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.2	1.2	1.2
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Chrysene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Total PAH*	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2-Fluorobiphenyl (surr.)	1	%	132	116	124	118
p-Terphenyl-d14 (surr.)	1	%	117	121	127	108
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 1	< 0.1	< 0.1	< 0.1
4.4'-DDD	0.05	mg/kg	< 0.5	< 0.05	< 0.05	< 0.05
4.4'-DDE	0.05	mg/kg	< 0.5	< 0.05	< 0.05	< 0.05
4.4'-DDT	0.05	mg/kg	< 0.5	< 0.05	< 0.05	< 0.05
a-HCH	0.05	mg/kg	< 0.5	< 0.05	< 0.05	< 0.05
Aldrin	0.05	mg/kg	< 0.5	< 0.05	< 0.05	< 0.05
b-HCH	0.05	mg/kg	< 0.5	< 0.05	< 0.05	< 0.05
d-HCH	0.05	mg/kg	< 0.5	< 0.05	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	< 0.5	< 0.05	< 0.05	< 0.05
Endosulfan I	0.05	mg/kg	< 0.5	< 0.05	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	< 0.5	< 0.05	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.5	< 0.05	< 0.05	< 0.05
Endrin	0.05	mg/kg	< 0.5	< 0.05	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.5	< 0.05	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	< 0.5	< 0.05	< 0.05	< 0.05
g-HCH (Lindane)	0.05	mg/kg	< 0.5	< 0.05	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	< 0.5	< 0.05	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.5	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.5	< 0.05	< 0.05	< 0.05
Methoxychlor	0.05	mg/kg	< 0.5	< 0.05	< 0.05	< 0.05
Toxaphene	0.5	mg/kg	< 10	< 0.5	< 0.5	< 0.5
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.5	< 0.05	< 0.05	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.5	< 0.05	< 0.05	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 1	< 0.1	< 0.1	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 1	< 0.1	< 0.1	< 0.1
Dibutylchlorendate (surr.)	1	%	87	122	128	115
Tetrachloro-m-xylene (surr.)	1	%	109	104	109	98

Client Sample ID			G01BH13 - 0.1	BH13 - 0.5	BH13 - 1.0	BH13 - 1.5
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**R23-Ja0033924**	**R23-Ja0033925**	**R23-Ja0033926**	**R23-Ja0033927**
Date Sampled			Jan 21, 2023	Jan 21, 2023	Jan 21, 2023	Jan 21, 2023
Test/Reference	LOR	Unit				
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	< 1	< 0.1	< 0.1	< 0.1
Aroclor-1221	0.1	mg/kg	< 1	< 0.1	< 0.1	< 0.1
Aroclor-1232	0.1	mg/kg	< 1	< 0.1	< 0.1	< 0.1
Aroclor-1242	0.1	mg/kg	< 1	< 0.1	< 0.1	< 0.1
Aroclor-1248	0.1	mg/kg	< 1	< 0.1	< 0.1	< 0.1
Aroclor-1254	0.1	mg/kg	< 1	< 0.1	< 0.1	< 0.1
Aroclor-1260	0.1	mg/kg	< 1	< 0.1	< 0.1	< 0.1
Total PCB*	0.1	mg/kg	< 1	< 0.1	< 0.1	< 0.1
Dibutylchlorendate (surr.)	1	%	87	122	128	115
Tetrachloro-m-xylene (surr.)	1	%	109	104	109	98
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4.5-Trichlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
2.4.6-Trichlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
2.6-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
4-Chloro-3-methylphenol	1	mg/kg	< 1	< 1	< 1	< 1
Pentachlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
Tetrachlorophenols - Total	10	mg/kg	< 10	< 10	< 10	< 10
Total Halogenated Phenol*	1	mg/kg	< 1	< 1	< 1	< 1
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	< 20	< 20	< 20	< 20
2-Methyl-4.6-dinitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
2-Nitrophenol	1	mg/kg	< 1	< 1	< 1	< 1
2.4-Dimethylphenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4-Dinitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
2-Methylphenol (o-Cresol)	0.2	mg/kg	< 0.5	< 0.2	< 0.2	< 0.2
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	< 1	< 0.4	< 0.4	< 0.4
Total cresols*	0.5	mg/kg	< 1	< 0.5	< 0.5	< 0.5
4-Nitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
Dinoseb	20	mg/kg	< 20	< 20	< 20	< 20
Phenol	0.5	mg/kg	0.8	< 0.5	< 0.5	< 0.5
Phenol-d6 (surr.)	1	%	103	96	103	105
Total Non-Halogenated Phenol*	20	mg/kg	< 20	< 20	< 20	< 20
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	< 100	< 100
Metals M8						
Arsenic	2	mg/kg	< 2	6.5	4.8	7.5
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	9.5	35	43	40
Copper	5	mg/kg	5.8	17	18	20
Lead	5	mg/kg	18	19	16	17
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	< 5	15	15	28
Zinc	5	mg/kg	47	56	41	76
% Moisture	1	%	4.8	10	14	15

Client Sample ID			^{G01}**BH13 - 0.1**	**BH13 - 0.5**	**BH13 - 1.0**	**BH13 - 1.5**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**R23-Ja0033924**	**R23-Ja0033925**	**R23-Ja0033926**	**R23-Ja0033927**
Date Sampled			**Jan 21, 2023**	**Jan 21, 2023**	**Jan 21, 2023**	**Jan 21, 2023**
Test/Reference	LOR	Unit				
Per- and Polyfluoroalkyl Substances (PFASs) - Short						
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)^{N11}	10	ug/kg	< 10	< 10	-	-
13C2-6:2 FTSA (surr.)	1	%	101	98	-	-
Perfluorohexanesulfonic acid (PFHxS)^{N11}	5	ug/kg	< 5	< 5	-	-
Perfluorooctanesulfonic acid (PFOS)^{N11}	5	ug/kg	< 5	5.9	-	-
18O2-PFHxS (surr.)	1	%	110	111	-	-
13C8-PFOS (surr.)	1	%	110	112	-	-
Perfluorooctanoic acid (PFOA)^{N11}	5	ug/kg	< 5	< 5	-	-
13C8-PFOA (surr.)	1	%	105	106	-	-
Sum (PFHxS + PFOS)*	5	ug/kg	< 5	5.9	-	-
Sum of US EPA PFAS (PFOS + PFOA)*	5	ug/kg	< 5	5.9	-	-
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	5	ug/kg	< 5	5.9	-	-

Client Sample ID			**BH14 - 0.1**	^{G01}**BH14 - 0.5**	**BH14 - 1.0**	**BH14 - 2.0**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**R23-Ja0033928**	**R23-Ja0033929**	**R23-Ja0033930**	**R23-Ja0033931**
Date Sampled			**Jan 21, 2023**	**Jan 21, 2023**	**Jan 21, 2023**	**Jan 21, 2023**
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	-	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	-	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	-	83	< 50	< 50
TRH C29-C36	50	mg/kg	-	90	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	-	173	< 50	< 50
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	%	-	81	75	94
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene^{N02}	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
TRH >C10-C16 less Naphthalene (F2)^{N01}	50	mg/kg	-	< 50	< 50	< 50
TRH C6-C10	20	mg/kg	-	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)^{N04}	20	mg/kg	-	< 20	< 20	< 20
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	0.6	0.6	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	1.2	1.2	1.2
Acenaphthene	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
Anthracene	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
Benzo(b&j)fluoranthene^{N07}	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5

Client Sample ID			**BH14 - 0.1**	G01**BH14 - 0.5**	**BH14 - 1.0**	**BH14 - 2.0**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**R23-Ja0033928**	**R23-Ja0033929**	**R23-Ja0033930**	**R23-Ja0033931**
Date Sampled			**Jan 21, 2023**	**Jan 21, 2023**	**Jan 21, 2023**	**Jan 21, 2023**
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
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	%	-	136	122	129
p-Terphenyl-d14 (surr.)	1	%	-	126	125	137
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	< 1	< 0.1	< 0.1
4.4'-DDD	0.05	mg/kg	-	< 0.5	< 0.05	< 0.05
4.4'-DDE	0.05	mg/kg	-	< 0.5	< 0.05	< 0.05
4.4'-DDT	0.05	mg/kg	-	< 0.5	< 0.05	< 0.05
a-HCH	0.05	mg/kg	-	< 0.5	< 0.05	< 0.05
Aldrin	0.05	mg/kg	-	< 0.5	< 0.05	< 0.05
b-HCH	0.05	mg/kg	-	< 0.5	< 0.05	< 0.05
d-HCH	0.05	mg/kg	-	< 0.5	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	-	< 0.5	< 0.05	< 0.05
Endosulfan I	0.05	mg/kg	-	< 0.5	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	-	< 0.5	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	-	< 0.5	< 0.05	< 0.05
Endrin	0.05	mg/kg	-	< 0.5	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	-	< 0.5	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	-	< 0.5	< 0.05	< 0.05
g-HCH (Lindane)	0.05	mg/kg	-	< 0.5	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	-	< 0.5	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	-	< 0.5	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	-	< 0.5	< 0.05	< 0.05
Methoxychlor	0.05	mg/kg	-	< 0.5	< 0.05	< 0.05
Toxaphene	0.5	mg/kg	-	< 10	< 0.5	< 0.5
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	< 0.5	< 0.05	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	< 0.5	< 0.05	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	< 1	< 0.1	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	< 1	< 0.1	< 0.1
Dibutylchlorendate (surr.)	1	%	-	74	127	142
Tetrachloro-m-xylene (surr.)	1	%	-	115	109	114
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	-	< 1	< 0.1	< 0.1
Aroclor-1221	0.1	mg/kg	-	< 1	< 0.1	< 0.1
Aroclor-1232	0.1	mg/kg	-	< 1	< 0.1	< 0.1
Aroclor-1242	0.1	mg/kg	-	< 1	< 0.1	< 0.1
Aroclor-1248	0.1	mg/kg	-	< 1	< 0.1	< 0.1
Aroclor-1254	0.1	mg/kg	-	< 1	< 0.1	< 0.1
Aroclor-1260	0.1	mg/kg	-	< 1	< 0.1	< 0.1
Total PCB*	0.1	mg/kg	-	< 1	< 0.1	< 0.1

Client Sample ID			BH14 - 0.1	[G01]BH14 - 0.5	BH14 - 1.0	BH14 - 2.0
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**R23-Ja0033928**	**R23-Ja0033929**	**R23-Ja0033930**	**R23-Ja0033931**
Date Sampled			**Jan 21, 2023**	**Jan 21, 2023**	**Jan 21, 2023**	**Jan 21, 2023**
Test/Reference	LOR	Unit				
Polychlorinated Biphenyls						
Dibutylchlorendate (surr.)	1	%	-	74	127	142
Tetrachloro-m-xylene (surr.)	1	%	-	115	109	114
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
2.4-Dichlorophenol	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
2.4.5-Trichlorophenol	1	mg/kg	-	< 1	< 1	< 1
2.4.6-Trichlorophenol	1	mg/kg	-	< 1	< 1	< 1
2.6-Dichlorophenol	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
4-Chloro-3-methylphenol	1	mg/kg	-	< 1	< 1	< 1
Pentachlorophenol	1	mg/kg	-	< 1	< 1	< 1
Tetrachlorophenols - Total	10	mg/kg	-	< 10	< 10	< 10
Total Halogenated Phenol*	1	mg/kg	-	< 1	< 1	< 1
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	-	< 20	< 20	< 20
2-Methyl-4.6-dinitrophenol	5	mg/kg	-	< 5	< 5	< 5
2-Nitrophenol	1	mg/kg	-	< 1	< 1	< 1
2.4-Dimethylphenol	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
2.4-Dinitrophenol	5	mg/kg	-	< 5	< 5	< 5
2-Methylphenol (o-Cresol)	0.2	mg/kg	-	< 0.5	< 0.2	< 0.2
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	-	< 1	< 0.4	< 0.4
Total cresols*	0.5	mg/kg	-	< 1	< 0.5	< 0.5
4-Nitrophenol	5	mg/kg	-	< 5	< 5	< 5
Dinoseb	20	mg/kg	-	< 20	< 20	< 20
Phenol	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
Phenol-d6 (surr.)	1	%	-	117	100	105
Total Non-Halogenated Phenol*	20	mg/kg	-	< 20	< 20	< 20
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
TRH >C10-C16	50	mg/kg	-	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	-	150	< 100	< 100
TRH >C34-C40	100	mg/kg	-	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	-	150	< 100	< 100
Metals M8						
Arsenic	2	mg/kg	-	8.2	5.8	4.5
Cadmium	0.4	mg/kg	-	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	-	33	38	37
Copper	5	mg/kg	-	19	24	19
Lead	5	mg/kg	-	15	20	11
Mercury	0.1	mg/kg	-	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	-	41	15	17
Zinc	5	mg/kg	-	73	34	58
% Moisture	1	%	4.1	14	13	19
Per- and Polyfluoroalkyl Substances (PFASs) - Short						
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)[N11]	10	ug/kg	< 10	< 10	-	-
13C2-6:2 FTSA (surr.)	1	%	100	97	-	-
Perfluorohexanesulfonic acid (PFHxS)[N11]	5	ug/kg	< 5	< 5	-	-
Perfluorooctanesulfonic acid (PFOS)[N11]	5	ug/kg	< 5	5.4	-	-
18O2-PFHxS (surr.)	1	%	111	114	-	-

Client Sample ID			**BH14 - 0.1**	**G01BH14 - 0.5**	**BH14 - 1.0**	**BH14 - 2.0**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**R23-Ja0033928**	**R23-Ja0033929**	**R23-Ja0033930**	**R23-Ja0033931**
Date Sampled			**Jan 21, 2023**	**Jan 21, 2023**	**Jan 21, 2023**	**Jan 21, 2023**
Test/Reference	LOR	Unit				
Per- and Polyfluoroalkyl Substances (PFASs) - Short						
13C8-PFOS (surr.)	1	%	110	118	-	-
Perfluorooctanoic acid (PFOA)N11	5	ug/kg	< 5	< 5	-	-
13C8-PFOA (surr.)	1	%	101	107	-	-
Sum (PFHxS + PFOS)*	5	ug/kg	< 5	5.4	-	-
Sum of US EPA PFAS (PFOS + PFOA)*	5	ug/kg	< 5	5.4	-	-
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	5	ug/kg	< 5	5.4	-	-

Client Sample ID			**BH15 - 0.1**	**BH15 - 0.5**	**BH15 - 1.0**	**BH15 - 1.5**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**R23-Ja0033932**	**R23-Ja0033933**	**R23-Ja0033934**	**R23-Ja0033935**
Date Sampled			**Jan 21, 2023**	**Jan 21, 2023**	**Jan 21, 2023**	**Jan 21, 2023**
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	< 20	-	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	-	< 20	< 20
TRH C15-C28	50	mg/kg	51	-	< 50	< 50
TRH C29-C36	50	mg/kg	< 50	-	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	51	-	< 50	< 50
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	%	101	-	80	102
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
NaphthaleneN02	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
TRH >C10-C16 less Naphthalene (F2)N01	50	mg/kg	66	-	< 50	< 50
TRH C6-C10	20	mg/kg	< 20	-	< 20	< 20
TRH C6-C10 less BTEX (F1)N04	20	mg/kg	< 20	-	< 20	< 20
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	-	0.6	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	-	1.2	1.2
Acenaphthene	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Benzo(b&j)fluorantheneN07	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

Client Sample ID **Sample Matrix** **Eurofins Sample No.** **Date Sampled** Test/Reference	LOR	Unit	**BH15 - 0.1** **Soil** **R23-Ja0033932** **Jan 21, 2023**	**BH15 - 0.5** **Soil** **R23-Ja0033933** **Jan 21, 2023**	**BH15 - 1.0** **Soil** **R23-Ja0033934** **Jan 21, 2023**	**BH15 - 1.5** **Soil** **R23-Ja0033935** **Jan 21, 2023**
Polycyclic Aromatic Hydrocarbons						
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	%	119	-	116	114
p-Terphenyl-d14 (surr.)	1	%	113	-	120	120
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	%	99	-	124	121
Tetrachloro-m-xylene (surr.)	1	%	101	-	104	103
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	%	99	-	124	121
Tetrachloro-m-xylene (surr.)	1	%	101	-	104	103

Client Sample ID			**BH15 - 0.1**	**BH15 - 0.5**	**BH15 - 1.0**	**BH15 - 1.5**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**R23-Ja0033932**	**R23-Ja0033933**	**R23-Ja0033934**	**R23-Ja0033935**
Date Sampled			**Jan 21, 2023**	**Jan 21, 2023**	**Jan 21, 2023**	**Jan 21, 2023**
Test/Reference	LOR	Unit				
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
2.4-Dichlorophenol	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
2.4.5-Trichlorophenol	1	mg/kg	< 1	-	< 1	< 1
2.4.6-Trichlorophenol	1	mg/kg	< 1	-	< 1	< 1
2.6-Dichlorophenol	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
4-Chloro-3-methylphenol	1	mg/kg	< 1	-	< 1	< 1
Pentachlorophenol	1	mg/kg	< 1	-	< 1	< 1
Tetrachlorophenols - Total	10	mg/kg	< 10	-	< 10	< 10
Total Halogenated Phenol*	1	mg/kg	< 1	-	< 1	< 1
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	< 20	-	< 20	< 20
2-Methyl-4.6-dinitrophenol	5	mg/kg	< 5	-	< 5	< 5
2-Nitrophenol	1	mg/kg	< 1	-	< 1	< 1
2.4-Dimethylphenol	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
2.4-Dinitrophenol	5	mg/kg	< 5	-	< 5	< 5
2-Methylphenol (o-Cresol)	0.2	mg/kg	< 0.2	-	< 0.2	< 0.2
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	< 0.4	-	< 0.4	< 0.4
Total cresols*	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
4-Nitrophenol	5	mg/kg	< 5	-	< 5	< 5
Dinoseb	20	mg/kg	< 20	-	< 20	< 20
Phenol	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Phenol-d6 (surr.)	1	%	100	-	98	96
Total Non-Halogenated Phenol*	20	mg/kg	< 20	-	< 20	< 20
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
TRH >C10-C16	50	mg/kg	66	-	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	-	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	-	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	-	< 100	< 100
Metals M8						
Arsenic	2	mg/kg	2.3	-	4.5	4.9
Cadmium	0.4	mg/kg	< 0.4	-	< 0.4	< 0.4
Chromium	5	mg/kg	9.6	-	39	32
Copper	5	mg/kg	11	-	20	17
Lead	5	mg/kg	21	-	17	9.4
Mercury	0.1	mg/kg	< 0.1	-	< 0.1	< 0.1
Nickel	5	mg/kg	< 5	-	19	18
Zinc	5	mg/kg	45	-	35	48
% Moisture	1	%	4.5	7.2	16	18
Per- and Polyfluoroalkyl Substances (PFASs) - Short						
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)^{N11}	10	ug/kg	< 10	< 10	-	-
13C2-6:2 FTSA (surr.)	1	%	98	99	-	-
Perfluorohexanesulfonic acid (PFHxS)^{N11}	5	ug/kg	< 5	< 5	-	-
Perfluorooctanesulfonic acid (PFOS)^{N11}	5	ug/kg	< 5	< 5	-	-
18O2-PFHxS (surr.)	1	%	114	118	-	-
13C8-PFOS (surr.)	1	%	119	116	-	-
Perfluorooctanoic acid (PFOA)^{N11}	5	ug/kg	< 5	< 5	-	-
13C8-PFOA (surr.)	1	%	104	106	-	-

Client Sample ID			BH15 - 0.1	BH15 - 0.5	BH15 - 1.0	BH15 - 1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			R23-Ja0033932	R23-Ja0033933	R23-Ja0033934	R23-Ja0033935
Date Sampled			Jan 21, 2023	Jan 21, 2023	Jan 21, 2023	Jan 21, 2023
Test/Reference	LOR	Unit				
Per- and Polyfluoroalkyl Substances (PFASs) - Short						
Sum (PFHxS + PFOS)*	5	ug/kg	< 5	< 5	-	-
Sum of US EPA PFAS (PFOS + PFOA)*	5	ug/kg	< 5	< 5	-	-
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	5	ug/kg	< 5	< 5	-	-

Client Sample ID			BH16 - 0.1	BH16 - 0.5	BH16 - 1.0	BH17 - 0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			R23-Ja0033936	R23-Ja0033937	R23-Ja0033938	R23-Ja0033939
Date Sampled			Jan 21, 2023	Jan 21, 2023	Jan 21, 2023	Jan 21, 2023
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	< 50	< 50
TRH C29-C36	50	mg/kg	< 50	< 50	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	< 50	< 50
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	81	83	121	93
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene^{N02}	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH >C10-C16 less Naphthalene (F2)^{N01}	50	mg/kg	< 50	< 50	< 50	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)^{N04}	20	mg/kg	< 20	< 20	< 20	< 20
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	0.6	0.6	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.2	1.2	1.2
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(b&j)fluoranthene^{N07}	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Chrysene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5

Client Sample ID			**BH16 - 0.1**	**BH16 - 0.5**	**BH16 - 1.0**	**BH17 - 0.1**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**R23-Ja0033936**	**R23-Ja0033937**	**R23-Ja0033938**	**R23-Ja0033939**
Date Sampled			**Jan 21, 2023**	**Jan 21, 2023**	**Jan 21, 2023**	**Jan 21, 2023**
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Total PAH*	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2-Fluorobiphenyl (surr.)	1	%	118	112	114	113
p-Terphenyl-d14 (surr.)	1	%	113	118	123	109
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
4.4'-DDD	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4.4'-DDE	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4.4'-DDT	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
a-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Aldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
b-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
d-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
g-HCH (Lindane)	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Methoxychlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Toxaphene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Dibutylchlorendate (surr.)	1	%	107	129	136	109
Tetrachloro-m-xylene (surr.)	1	%	103	102	106	101
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1221	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1232	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1242	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1248	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1254	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1260	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Total PCB*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Dibutylchlorendate (surr.)	1	%	107	129	136	109
Tetrachloro-m-xylene (surr.)	1	%	103	102	106	101
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4.5-Trichlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
2.4.6-Trichlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
2.6-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
4-Chloro-3-methylphenol	1	mg/kg	< 1	< 1	< 1	< 1

Client Sample ID			**BH16 - 0.1**	**BH16 - 0.5**	**BH16 - 1.0**	**BH17 - 0.1**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**R23-Ja0033936**	**R23-Ja0033937**	**R23-Ja0033938**	**R23-Ja0033939**
Date Sampled			**Jan 21, 2023**	**Jan 21, 2023**	**Jan 21, 2023**	**Jan 21, 2023**
Test/Reference	LOR	Unit				
Phenols (Halogenated)						
Pentachlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
Tetrachlorophenols - Total	10	mg/kg	< 10	< 10	< 10	< 10
Total Halogenated Phenol*	1	mg/kg	< 1	< 1	< 1	< 1
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	< 20	< 20	< 20	< 20
2-Methyl-4.6-dinitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
2-Nitrophenol	1	mg/kg	< 1	< 1	< 1	< 1
2.4-Dimethylphenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4-Dinitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
2-Methylphenol (o-Cresol)	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Total cresols*	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
4-Nitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
Dinoseb	20	mg/kg	< 20	< 20	< 20	< 20
Phenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenol-d6 (surr.)	1	%	101	92	90	93
Total Non-Halogenated Phenol*	20	mg/kg	< 20	< 20	< 20	< 20
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	< 100	< 100
Metals M8						
Arsenic	2	mg/kg	2.5	7.2	8.2	2.7
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	10	44	28	11
Copper	5	mg/kg	8.4	17	17	9.0
Lead	5	mg/kg	21	22	8.3	20
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	< 5	15	25	5.6
Zinc	5	mg/kg	61	38	39	44
% Moisture	1	%	2.7	13	8.1	4.4
Per- and Polyfluoroalkyl Substances (PFASs) - Short						
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)^{N11}	10	ug/kg	< 10	< 10	-	< 10
13C2-6:2 FTSA (surr.)	1	%	107	99	-	100
Perfluorohexanesulfonic acid (PFHxS)^{N11}	5	ug/kg	< 5	< 5	-	< 5
Perfluorooctanesulfonic acid (PFOS)^{N11}	5	ug/kg	< 5	5.5	-	< 5
18O2-PFHxS (surr.)	1	%	112	119	-	113
13C8-PFOS (surr.)	1	%	111	116	-	118
Perfluorooctanoic acid (PFOA)^{N11}	5	ug/kg	< 5	< 5	-	< 5
13C8-PFOA (surr.)	1	%	106	114	-	112
Sum (PFHxS + PFOS)*	5	ug/kg	< 5	5.5	-	< 5
Sum of US EPA PFAS (PFOS + PFOA)*	5	ug/kg	< 5	5.5	-	< 5
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	5	ug/kg	< 5	5.5	-	< 5

Client Sample ID **Sample Matrix** **Eurofins Sample No.** **Date Sampled** Test/Reference	LOR	Unit	**BH17 - 0.5** **Soil** **R23-Ja0033940** **Jan 21, 2023**	**BH17 - 1.0** **Soil** **R23-Ja0033941** **Jan 21, 2023**	**BH18 - 0.1** **Soil** **R23-Ja0033942** **Jan 21, 2023**	**BH18 - 0.5** **Soil** **R23-Ja0033943** **Jan 21, 2023**
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	< 50	< 50
TRH C29-C36	50	mg/kg	< 50	< 50	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	< 50	< 50
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	97	66	117	54
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene^{N02}	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH >C10-C16 less Naphthalene (F2)^{N01}	50	mg/kg	< 50	< 50	< 50	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)^{N04}	20	mg/kg	< 20	< 20	< 20	< 20
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	0.6	0.6	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.2	1.2	1.2
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(b&j)fluoranthene^{N07}	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Chrysene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Total PAH*	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2-Fluorobiphenyl (surr.)	1	%	103	95	103	114
p-Terphenyl-d14 (surr.)	1	%	121	103	113	128
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
4.4'-DDD	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4.4'-DDE	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4.4'-DDT	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
a-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Aldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
b-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05

Client Sample ID **Sample Matrix** **Eurofins Sample No.** **Date Sampled** Test/Reference	LOR	Unit	**BH17 - 0.5** **Soil** **R23-Ja0033940** **Jan 21, 2023**	**BH17 - 1.0** **Soil** **R23-Ja0033941** **Jan 21, 2023**	**BH18 - 0.1** **Soil** **R23-Ja0033942** **Jan 21, 2023**	**BH18 - 0.5** **Soil** **R23-Ja0033943** **Jan 21, 2023**
Organochlorine Pesticides						
d-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
g-HCH (Lindane)	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Methoxychlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Toxaphene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Dibutylchlorendate (surr.)	1	%	127	129	91	148
Tetrachloro-m-xylene (surr.)	1	%	103	83	84	97
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1221	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1232	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1242	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1248	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1254	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1260	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Total PCB*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Dibutylchlorendate (surr.)	1	%	127	129	91	148
Tetrachloro-m-xylene (surr.)	1	%	103	83	84	97
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4.5-Trichlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
2.4.6-Trichlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
2.6-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
4-Chloro-3-methylphenol	1	mg/kg	< 1	< 1	< 1	< 1
Pentachlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
Tetrachlorophenols - Total	10	mg/kg	< 10	< 10	< 10	< 10
Total Halogenated Phenol*	1	mg/kg	< 1	< 1	< 1	< 1
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	< 20	< 20	< 20	< 20
2-Methyl-4.6-dinitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
2-Nitrophenol	1	mg/kg	< 1	< 1	< 1	< 1
2.4-Dimethylphenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4-Dinitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
2-Methylphenol (o-Cresol)	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4

Client Sample ID			**BH17 - 0.5**	**BH17 - 1.0**	**BH18 - 0.1**	**BH18 - 0.5**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**R23-Ja0033940**	**R23-Ja0033941**	**R23-Ja0033942**	**R23-Ja0033943**
Date Sampled			**Jan 21, 2023**	**Jan 21, 2023**	**Jan 21, 2023**	**Jan 21, 2023**
Test/Reference	LOR	Unit				
Phenols (non-Halogenated)						
Total cresols*	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
4-Nitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
Dinoseb	20	mg/kg	< 20	< 20	< 20	< 20
Phenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenol-d6 (surr.)	1	%	78	88	98	104
Total Non-Halogenated Phenol*	20	mg/kg	< 20	< 20	< 20	< 20
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	< 100	< 100
Metals M8						
Arsenic	2	mg/kg	8.9	22	2.0	9.8
Cadmium	0.4	mg/kg	< 0.4	0.6	< 0.4	< 0.4
Chromium	5	mg/kg	29	28	8.2	40
Copper	5	mg/kg	18	30	6.0	22
Lead	5	mg/kg	17	28	19	27
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	26	51	< 5	22
Zinc	5	mg/kg	84	130	46	74
% Moisture	1	%	13	14	4.6	11
Per- and Polyfluoroalkyl Substances (PFASs) - Short						
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)[N11]	10	ug/kg	< 10	-	< 10	< 10
13C2-6:2 FTSA (surr.)	1	%	99	-	99	104
Perfluorohexanesulfonic acid (PFHxS)[N11]	5	ug/kg	< 5	-	< 5	< 5
Perfluorooctanesulfonic acid (PFOS)[N11]	5	ug/kg	< 5	-	< 5	< 5
18O2-PFHxS (surr.)	1	%	114	-	115	117
13C8-PFOS (surr.)	1	%	115	-	121	117
Perfluorooctanoic acid (PFOA)[N11]	5	ug/kg	< 5	-	< 5	< 5
13C8-PFOA (surr.)	1	%	108	-	107	107
Sum (PFHxS + PFOS)*	5	ug/kg	< 5	-	< 5	< 5
Sum of US EPA PFAS (PFOS + PFOA)*	5	ug/kg	< 5	-	< 5	< 5
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	5	ug/kg	< 5	-	< 5	< 5

Client Sample ID			**BH18 - 1.0**	**BH19 - 0.1**	**BH19 - 0.5**	**BH19 - 1.0**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**R23-Ja0033944**	**R23-Ja0033945**	**R23-Ja0033946**	**R23-Ja0033947**
Date Sampled			**Jan 21, 2023**	**Jan 21, 2023**	**Jan 21, 2023**	**Jan 21, 2023**
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	< 50	< 50
TRH C29-C36	50	mg/kg	< 50	< 50	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	< 50	< 50

Client Sample ID			**BH18 - 1.0**	**BH19 - 0.1**	**BH19 - 0.5**	**BH19 - 1.0**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**R23-Ja0033944**	**R23-Ja0033945**	**R23-Ja0033946**	**R23-Ja0033947**
Date Sampled			**Jan 21, 2023**	**Jan 21, 2023**	**Jan 21, 2023**	**Jan 21, 2023**
Test/Reference	LOR	Unit				
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	92	93	104	81
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene^{N02}	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH >C10-C16 less Naphthalene (F2)^{N01}	50	mg/kg	< 50	< 50	< 50	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)^{N04}	20	mg/kg	< 20	< 20	< 20	< 20
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	0.6	0.6	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.2	1.2	1.2
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(b&j)fluoranthene^{N07}	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Chrysene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Total PAH*	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2-Fluorobiphenyl (surr.)	1	%	109	122	118	105
p-Terphenyl-d14 (surr.)	1	%	125	131	115	120
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
4.4'-DDD	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4.4'-DDE	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4.4'-DDT	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
a-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Aldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
b-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
d-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05

Client Sample ID Sample Matrix Eurofins Sample No. Date Sampled			BH18 - 1.0 Soil R23-Ja0033944 Jan 21, 2023	BH19 - 0.1 Soil R23-Ja0033945 Jan 21, 2023	BH19 - 0.5 Soil R23-Ja0033946 Jan 21, 2023	BH19 - 1.0 Soil R23-Ja0033947 Jan 21, 2023
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
g-HCH (Lindane)	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Methoxychlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Toxaphene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Dibutylchlorendate (surr.)	1	%	149	105	108	130
Tetrachloro-m-xylene (surr.)	1	%	93	103	105	103
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1221	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1232	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1242	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1248	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1254	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1260	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Total PCB*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Dibutylchlorendate (surr.)	1	%	149	105	108	130
Tetrachloro-m-xylene (surr.)	1	%	93	103	105	103
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4.5-Trichlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
2.4.6-Trichlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
2.6-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
4-Chloro-3-methylphenol	1	mg/kg	< 1	< 1	< 1	< 1
Pentachlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
Tetrachlorophenols - Total	10	mg/kg	< 10	< 10	< 10	< 10
Total Halogenated Phenol*	1	mg/kg	< 1	< 1	< 1	< 1
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	< 20	< 20	< 20	< 20
2-Methyl-4.6-dinitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
2-Nitrophenol	1	mg/kg	< 1	< 1	< 1	< 1
2.4-Dimethylphenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4-Dinitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
2-Methylphenol (o-Cresol)	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Total cresols*	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
4-Nitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
Dinoseb	20	mg/kg	< 20	< 20	< 20	< 20
Phenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenol-d6 (surr.)	1	%	102	119	103	82
Total Non-Halogenated Phenol*	20	mg/kg	< 20	< 20	< 20	< 20

Client Sample ID			BH18 - 1.0	BH19 - 0.1	BH19 - 0.5	BH19 - 1.0
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**R23-Ja0033944**	**R23-Ja0033945**	**R23-Ja0033946**	**R23-Ja0033947**
Date Sampled			**Jan 21, 2023**	**Jan 21, 2023**	**Jan 21, 2023**	**Jan 21, 2023**
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	< 100	< 100
Metals M8						
Arsenic	2	mg/kg	5.2	2.4	8.3	18
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	0.4
Chromium	5	mg/kg	48	10.0	38	49
Copper	5	mg/kg	25	7.6	21	27
Lead	5	mg/kg	17	24	23	26
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	25	5.5	28	41
Zinc	5	mg/kg	59	51	87	150
% Moisture	1	%	18	5.1	11	14
Per- and Polyfluoroalkyl Substances (PFASs) - Short						
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)[N11]	10	ug/kg	< 10	< 10	< 10	-
13C2-6:2 FTSA (surr.)	1	%	97	100	113	-
Perfluorohexanesulfonic acid (PFHxS)[N11]	5	ug/kg	< 5	< 5	< 5	-
Perfluorooctanesulfonic acid (PFOS)[N11]	5	ug/kg	< 5	< 5	< 5	-
18O2-PFHxS (surr.)	1	%	118	120	121	-
13C8-PFOS (surr.)	1	%	114	116	119	-
Perfluorooctanoic acid (PFOA)[N11]	5	ug/kg	< 5	< 5	< 5	-
13C8-PFOA (surr.)	1	%	105	108	111	-
Sum (PFHxS + PFOS)*	5	ug/kg	< 5	< 5	< 5	-
Sum of US EPA PFAS (PFOS + PFOA)*	5	ug/kg	< 5	< 5	< 5	-
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	5	ug/kg	< 5	< 5	< 5	-

Client Sample ID			BH19 - 1.5	BH20 - 0.1	BH20 - 0.5	BH20- 1.0
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**R23-Ja0033948**	**R23-Ja0033949**	**R23-Ja0033950**	**R23-Ja0033951**
Date Sampled			**Jan 21, 2023**	**Jan 21, 2023**	**Jan 21, 2023**	**Jan 21, 2023**
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	< 50	< 50
TRH C29-C36	50	mg/kg	< 50	< 50	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	< 50	< 50
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	81	92	96	97

Client Sample ID **Sample Matrix** **Eurofins Sample No.** **Date Sampled** Test/Reference	LOR	Unit	**BH19 - 1.5** **Soil** **R23-Ja0033948** **Jan 21, 2023**	**BH20 - 0.1** **Soil** **R23-Ja0033949** **Jan 21, 2023**	**BH20 - 0.5** **Soil** **R23-Ja0033950** **Jan 21, 2023**	**BH20- 1.0** **Soil** **R23-Ja0033951** **Jan 21, 2023**
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene^{N02}	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH >C10-C16 less Naphthalene (F2)^{N01}	50	mg/kg	< 50	< 50	< 50	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)^{N04}	20	mg/kg	< 20	< 20	< 20	< 20
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	0.6	0.6	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.2	1.2	1.2
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(b&j)fluoranthene^{N07}	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Chrysene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Total PAH*	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2-Fluorobiphenyl (surr.)	1	%	113	115	109	114
p-Terphenyl-d14 (surr.)	1	%	145	127	119	126
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
4.4'-DDD	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4.4'-DDE	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4.4'-DDT	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
a-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Aldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
b-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
d-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
g-HCH (Lindane)	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Methoxychlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Toxaphene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5

Client Sample ID **Sample Matrix** **Eurofins Sample No.** **Date Sampled** Test/Reference	LOR	Unit	**BH19 - 1.5** **Soil** **R23-Ja0033948** **Jan 21, 2023**	**BH20 - 0.1** **Soil** **R23-Ja0033949** **Jan 21, 2023**	**BH20 - 0.5** **Soil** **R23-Ja0033950** **Jan 21, 2023**	**BH20- 1.0** **Soil** **R23-Ja0033951** **Jan 21, 2023**
Organochlorine Pesticides						
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Dibutylchlorendate (surr.)	1	%	144	149	146	146
Tetrachloro-m-xylene (surr.)	1	%	99	99	98	97
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1221	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1232	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1242	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1248	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1254	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1260	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Total PCB*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Dibutylchlorendate (surr.)	1	%	144	149	146	146
Tetrachloro-m-xylene (surr.)	1	%	99	99	98	97
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4.5-Trichlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
2.4.6-Trichlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
2.6-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
4-Chloro-3-methylphenol	1	mg/kg	< 1	< 1	< 1	< 1
Pentachlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
Tetrachlorophenols - Total	10	mg/kg	< 10	< 10	< 10	< 10
Total Halogenated Phenol*	1	mg/kg	< 1	< 1	< 1	< 1
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	< 20	< 20	< 20	< 20
2-Methyl-4.6-dinitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
2-Nitrophenol	1	mg/kg	< 1	< 1	< 1	< 1
2.4-Dimethylphenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4-Dinitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
2-Methylphenol (o-Cresol)	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Total cresols*	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
4-Nitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
Dinoseb	20	mg/kg	< 20	< 20	< 20	< 20
Phenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenol-d6 (surr.)	1	%	99	118	91	108
Total Non-Halogenated Phenol*	20	mg/kg	< 20	< 20	< 20	< 20
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	< 100	< 100

Client Sample ID **Sample Matrix** **Eurofins Sample No.** **Date Sampled** Test/Reference	LOR	Unit	**BH19 - 1.5** **Soil** **R23-Ja0033948** **Jan 21, 2023**	**BH20 - 0.1** **Soil** **R23-Ja0033949** **Jan 21, 2023**	**BH20 - 0.5** **Soil** **R23-Ja0033950** **Jan 21, 2023**	**BH20- 1.0** **Soil** **R23-Ja0033951** **Jan 21, 2023**
Metals M8						
Arsenic	2	mg/kg	7.5	2.1	7.7	16
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	51	8.4	58	29
Copper	5	mg/kg	27	8.1	21	25
Lead	5	mg/kg	13	23	22	20
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	23	< 5	15	35
Zinc	5	mg/kg	64	47	34	120
% Moisture	1	%	23	2.8	15	15
Per- and Polyfluoroalkyl Substances (PFASs) - Short						
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)^{N11}	10	ug/kg	< 10	< 10	< 10	< 10
13C2-6:2 FTSA (surr.)	1	%	109	109	102	107
Perfluorohexanesulfonic acid (PFHxS)^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
Perfluorooctanesulfonic acid (PFOS)^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
18O2-PFHxS (surr.)	1	%	118	110	118	119
13C8-PFOS (surr.)	1	%	118	117	116	115
Perfluorooctanoic acid (PFOA)^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
13C8-PFOA (surr.)	1	%	112	108	106	108
Sum (PFHxS + PFOS)*	5	ug/kg	< 5	< 5	< 5	< 5
Sum of US EPA PFAS (PFOS + PFOA)*	5	ug/kg	< 5	< 5	< 5	< 5
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	5	ug/kg	< 5	< 5	< 5	< 5

Client Sample ID **Sample Matrix** **Eurofins Sample No.** **Date Sampled** Test/Reference	LOR	Unit	**QC01** **Soil** **R23-Ja0033952** **Jan 20, 2023**	**QC03** **Soil** **R23-Ja0033953** **Jan 20, 2023**	**QC05** **Soil** **R23-Ja0033954** **Jan 21, 2023**	**QC08** **Soil** **R23-Ja0033955** **Jan 21, 2023**
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	< 50	< 50
TRH C29-C36	50	mg/kg	< 50	< 50	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	< 50	< 50
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	79	94	88	93
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene^{N02}	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH >C10-C16 less Naphthalene (F2)^{N01}	50	mg/kg	< 50	< 50	< 50	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)^{N04}	20	mg/kg	< 20	< 20	< 20	< 20

Client Sample ID **Sample Matrix** **Eurofins Sample No.** **Date Sampled** Test/Reference	LOR	Unit	QC01 Soil R23-Ja0033952 Jan 20, 2023	QC03 Soil R23-Ja0033953 Jan 20, 2023	QC05 Soil R23-Ja0033954 Jan 21, 2023	QC08 Soil R23-Ja0033955 Jan 21, 2023
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	0.6	0.6	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.2	1.2	1.2
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Chrysene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Total PAH*	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2-Fluorobiphenyl (surr.)	1	%	110	109	112	111
p-Terphenyl-d14 (surr.)	1	%	129	117	133	123
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
4.4'-DDD	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4.4'-DDE	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4.4'-DDT	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
a-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Aldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
b-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
d-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
g-HCH (Lindane)	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Methoxychlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Toxaphene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Dibutylchlorendate (surr.)	1	%	148	128	138	131
Tetrachloro-m-xylene (surr.)	1	%	98	102	96	103

Client Sample ID			QC01	QC03	QC05	QC08
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**R23-Ja0033952**	**R23-Ja0033953**	**R23-Ja0033954**	**R23-Ja0033955**
Date Sampled			**Jan 20, 2023**	**Jan 20, 2023**	**Jan 21, 2023**	**Jan 21, 2023**
Test/Reference	LOR	Unit				
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1221	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1232	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1242	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1248	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1254	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1260	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Total PCB*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Dibutylchlorendate (surr.)	1	%	148	128	138	131
Tetrachloro-m-xylene (surr.)	1	%	98	102	96	103
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4.5-Trichlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
2.4.6-Trichlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
2.6-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
4-Chloro-3-methylphenol	1	mg/kg	< 1	< 1	< 1	< 1
Pentachlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
Tetrachlorophenols - Total	10	mg/kg	< 10	< 10	< 10	< 10
Total Halogenated Phenol*	1	mg/kg	< 1	< 1	< 1	< 1
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	< 20	< 20	< 20	< 20
2-Methyl-4.6-dinitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
2-Nitrophenol	1	mg/kg	< 1	< 1	< 1	< 1
2.4-Dimethylphenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2.4-Dinitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
2-Methylphenol (o-Cresol)	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Total cresols*	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
4-Nitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
Dinoseb	20	mg/kg	< 20	< 20	< 20	< 20
Phenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenol-d6 (surr.)	1	%	103	86	102	89
Total Non-Halogenated Phenol*	20	mg/kg	< 20	< 20	< 20	< 20
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	< 100	< 100
Metals M8						
Arsenic	2	mg/kg	14	13	6.1	6.8
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	38	22	45	38
Copper	5	mg/kg	28	26	18	21
Lead	5	mg/kg	25	23	22	13
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	39	43	32	20
Zinc	5	mg/kg	120	150	73	56
% Moisture	1	%	14	15	15	20

Client Sample ID			**QC01**	**QC03**	**QC05**	**QC08**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**R23-Ja0033952**	**R23-Ja0033953**	**R23-Ja0033954**	**R23-Ja0033955**
Date Sampled			**Jan 20, 2023**	**Jan 20, 2023**	**Jan 21, 2023**	**Jan 21, 2023**
Test/Reference	LOR	Unit				
Per- and Polyfluoroalkyl Substances (PFASs) - Short						
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)^{N11}	10	ug/kg	< 10	< 10	< 10	< 10
13C2-6:2 FTSA (surr.)	1	%	98	106	107	105
Perfluorohexanesulfonic acid (PFHxS)^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
Perfluorooctanesulfonic acid (PFOS)^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
18O2-PFHxS (surr.)	1	%	115	119	121	117
13C8-PFOS (surr.)	1	%	115	117	117	119
Perfluorooctanoic acid (PFOA)^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
13C8-PFOA (surr.)	1	%	104	107	115	114
Sum (PFHxS + PFOS)*	5	ug/kg	< 5	< 5	< 5	< 5
Sum of US EPA PFAS (PFOS + PFOA)*	5	ug/kg	< 5	< 5	< 5	< 5
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	5	ug/kg	< 5	< 5	< 5	< 5

Client Sample ID			**QC09**	**QC06**
Sample Matrix			**Soil**	**Soil**
Eurofins Sample No.			**R23-Ja0033956**	**R23-Ja0033972**
Date Sampled			**Jan 21, 2023**	**Jan 21, 2023**
Test/Reference	LOR	Unit		
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				
TRH C6-C9	20	mg/kg	< 20	-
TRH C10-C14	20	mg/kg	< 20	-
TRH C15-C28	50	mg/kg	< 50	-
TRH C29-C36	50	mg/kg	< 50	-
TRH C10-C36 (Total)	50	mg/kg	< 50	-
BTEX				
Benzene	0.1	mg/kg	< 0.1	-
Toluene	0.1	mg/kg	< 0.1	-
Ethylbenzene	0.1	mg/kg	< 0.1	-
m&p-Xylenes	0.2	mg/kg	< 0.2	-
o-Xylene	0.1	mg/kg	< 0.1	-
Xylenes - Total*	0.3	mg/kg	< 0.3	-
4-Bromofluorobenzene (surr.)	1	%	79	-
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				
Naphthalene^{N02}	0.5	mg/kg	< 0.5	-
TRH >C10-C16 less Naphthalene (F2)^{N01}	50	mg/kg	< 50	-
TRH C6-C10	20	mg/kg	< 20	-
TRH C6-C10 less BTEX (F1)^{N04}	20	mg/kg	< 20	-
Polycyclic Aromatic Hydrocarbons				
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	-
Acenaphthene	0.5	mg/kg	< 0.5	-
Acenaphthylene	0.5	mg/kg	< 0.5	-
Anthracene	0.5	mg/kg	< 0.5	-
Benz(a)anthracene	0.5	mg/kg	< 0.5	-
Benzo(a)pyrene	0.5	mg/kg	< 0.5	-
Benzo(b&j)fluoranthene^{N07}	0.5	mg/kg	< 0.5	-
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	-

Client Sample ID **Sample Matrix** **Eurofins Sample No.** **Date Sampled** Test/Reference	LOR	Unit	**QC09** **Soil** **R23-Ja0033956** **Jan 21, 2023**	**QC06** **Soil** **R23-Ja0033972** **Jan 21, 2023**
Polycyclic Aromatic Hydrocarbons				
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	-
Chrysene	0.5	mg/kg	< 0.5	-
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	-
Fluoranthene	0.5	mg/kg	< 0.5	-
Fluorene	0.5	mg/kg	< 0.5	-
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	-
Naphthalene	0.5	mg/kg	< 0.5	-
Phenanthrene	0.5	mg/kg	< 0.5	-
Pyrene	0.5	mg/kg	< 0.5	-
Total PAH*	0.5	mg/kg	< 0.5	-
2-Fluorobiphenyl (surr.)	1	%	105	-
p-Terphenyl-d14 (surr.)	1	%	117	-
Organochlorine Pesticides				
Chlordanes - Total	0.1	mg/kg	< 0.1	-
4.4'-DDD	0.05	mg/kg	< 0.05	-
4.4'-DDE	0.05	mg/kg	< 0.05	-
4.4'-DDT	0.05	mg/kg	< 0.05	-
a-HCH	0.05	mg/kg	< 0.05	-
Aldrin	0.05	mg/kg	< 0.05	-
b-HCH	0.05	mg/kg	< 0.05	-
d-HCH	0.05	mg/kg	< 0.05	-
Dieldrin	0.05	mg/kg	< 0.05	-
Endosulfan I	0.05	mg/kg	< 0.05	-
Endosulfan II	0.05	mg/kg	< 0.05	-
Endosulfan sulphate	0.05	mg/kg	< 0.05	-
Endrin	0.05	mg/kg	< 0.05	-
Endrin aldehyde	0.05	mg/kg	< 0.05	-
Endrin ketone	0.05	mg/kg	< 0.05	-
g-HCH (Lindane)	0.05	mg/kg	< 0.05	-
Heptachlor	0.05	mg/kg	< 0.05	-
Heptachlor epoxide	0.05	mg/kg	< 0.05	-
Hexachlorobenzene	0.05	mg/kg	< 0.05	-
Methoxychlor	0.05	mg/kg	< 0.05	-
Toxaphene	0.5	mg/kg	< 0.5	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	-
Dibutylchlorendate (surr.)	1	%	116	-
Tetrachloro-m-xylene (surr.)	1	%	99	-
Polychlorinated Biphenyls				
Aroclor-1016	0.1	mg/kg	< 0.1	-
Aroclor-1221	0.1	mg/kg	< 0.1	-
Aroclor-1232	0.1	mg/kg	< 0.1	-
Aroclor-1242	0.1	mg/kg	< 0.1	-
Aroclor-1248	0.1	mg/kg	< 0.1	-
Aroclor-1254	0.1	mg/kg	< 0.1	-
Aroclor-1260	0.1	mg/kg	< 0.1	-
Total PCB*	0.1	mg/kg	< 0.1	-

Client Sample ID **Sample Matrix** **Eurofins Sample No.** **Date Sampled** Test/Reference	LOR	Unit	**QC09** **Soil** **R23-Ja0033956** **Jan 21, 2023**	**QC06** **Soil** **R23-Ja0033972** **Jan 21, 2023**
Polychlorinated Biphenyls				
Dibutylchlorendate (surr.)	1	%	116	-
Tetrachloro-m-xylene (surr.)	1	%	99	-
Phenols (Halogenated)				
2-Chlorophenol	0.5	mg/kg	< 0.5	-
2.4-Dichlorophenol	0.5	mg/kg	< 0.5	-
2.4.5-Trichlorophenol	1	mg/kg	< 1	-
2.4.6-Trichlorophenol	1	mg/kg	< 1	-
2.6-Dichlorophenol	0.5	mg/kg	< 0.5	-
4-Chloro-3-methylphenol	1	mg/kg	< 1	-
Pentachlorophenol	1	mg/kg	< 1	-
Tetrachlorophenols - Total	10	mg/kg	< 10	-
Total Halogenated Phenol*	1	mg/kg	< 1	-
Phenols (non-Halogenated)				
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	< 20	-
2-Methyl-4.6-dinitrophenol	5	mg/kg	< 5	-
2-Nitrophenol	1	mg/kg	< 1	-
2.4-Dimethylphenol	0.5	mg/kg	< 0.5	-
2.4-Dinitrophenol	5	mg/kg	< 5	-
2-Methylphenol (o-Cresol)	0.2	mg/kg	< 0.2	-
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	< 0.4	-
Total cresols*	0.5	mg/kg	< 0.5	-
4-Nitrophenol	5	mg/kg	< 5	-
Dinoseb	20	mg/kg	< 20	-
Phenol	0.5	mg/kg	< 0.5	-
Phenol-d6 (surr.)	1	%	81	-
Total Non-Halogenated Phenol*	20	mg/kg	< 20	-
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				
TRH >C10-C16	50	mg/kg	< 50	-
TRH >C16-C34	100	mg/kg	< 100	-
TRH >C34-C40	100	mg/kg	< 100	-
TRH >C10-C40 (total)*	100	mg/kg	< 100	-
Metals M8				
Arsenic	2	mg/kg	14	4.4
Cadmium	0.4	mg/kg	< 0.4	< 0.4
Chromium	5	mg/kg	36	37
Copper	5	mg/kg	25	19
Lead	5	mg/kg	22	12
Mercury	0.1	mg/kg	< 0.1	< 0.1
Nickel	5	mg/kg	43	16
Zinc	5	mg/kg	120	59
% Moisture	1	%	16	19
Per- and Polyfluoroalkyl Substances (PFASs) - Short				
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)^{N11}	10	ug/kg	< 10	-
13C2-6:2 FTSA (surr.)	1	%	103	-
Perfluorohexanesulfonic acid (PFHxS)^{N11}	5	ug/kg	< 5	-
Perfluorooctanesulfonic acid (PFOS)^{N11}	5	ug/kg	< 5	-
18O2-PFHxS (surr.)	1	%	118	-

Client Sample ID			**QC09**	**QC06**
Sample Matrix			**Soil**	**Soil**
Eurofins Sample No.			**R23-Ja0033956**	**R23-Ja0033972**
Date Sampled			**Jan 21, 2023**	**Jan 21, 2023**
Test/Reference	LOR	Unit		
Per- and Polyfluoroalkyl Substances (PFASs) - Short				
13C8-PFOS (surr.)	1	%	118	-
Perfluorooctanoic acid (PFOA)^{N11}	5	ug/kg	< 5	-
13C8-PFOA (surr.)	1	%	105	-
Sum (PFHxS + PFOS)*	5	ug/kg	< 5	-
Sum of US EPA PFAS (PFOS + PFOA)*	5	ug/kg	< 5	-
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	5	ug/kg	< 5	-

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 - Method: LTM-ORG-2010 TRH C6-C40	Sydney	Feb 01, 2023	14 Days
BTEX - Method: LTM-ORG-2010 BTEX and Volatile TRH	Sydney	Feb 01, 2023	14 Days
Total Recoverable Hydrocarbons - 2013 NEPM Fractions - Method: LTM-ORG-2010 TRH C6-C40	Sydney	Feb 01, 2023	14 Days
Polycyclic Aromatic Hydrocarbons - Method: LTM-ORG-2130 PAH and Phenols in Soil and Water	Sydney	Feb 01, 2023	14 Days
Phenols (Halogenated) - Method: LTM-ORG-2130 PAH and Phenols in Soil and Water	Sydney	Feb 01, 2023	14 Days
Phenols (non-Halogenated) - Method: LTM-ORG-2130 PAH and Phenols in Soil and Water	Sydney	Feb 01, 2023	14 Days
Total Recoverable Hydrocarbons - 2013 NEPM Fractions - Method: LTM-ORG-2010 TRH C6-C40	Sydney	Feb 01, 2023	14 Days
Metals M8 - Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS	Sydney	Feb 01, 2023	28 Days
Organochlorine Pesticides - Method: LTM-ORG-2220 OCP & PCB in Soil and Water	Sydney	Feb 01, 2023	14 Days
Polychlorinated Biphenyls - Method: LTM-ORG-2220 OCP & PCB in Soil and Water	Sydney	Feb 01, 2023	28 Days
% Moisture - Method: LTM-GEN-7080 Moisture	Sydney	Jan 25, 2023	14 Days
Per- and Polyfluoroalkyl Substances (PFASs) - Short - Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS)	Sydney	Feb 01, 2023	28 Days

Company Name: Agon Environmental Pty Ltd - ACT
Address: 68 Northbourne Ave
Canberra
ACT 2060

Project Name: WCP

Order No.:
Report #: 957950
Phone: 0419 170 791
Fax:

Received: Jan 24, 2023 2:15 PM
Due: Feb 1, 2023
Priority: 5 Day
Contact Name: John O Brien - ACT Manager

Eurofins Analytical Services Manager : Quinn Raw

Sample Detail						HOLD	Metals M8	Suite B13: OCP/PCB	Moisture Set	Eurofins Suite B7A	Per- and Polyfluoroalkyl Substances (PFASs) - Short
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X	X	X	X
External Laboratory											
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**						
1	BH01 - 0.1	Jan 20, 2023		Soil	R23-Ja0033880			X	X	X	X
2	BH01 - 0.5	Jan 20, 2023		Soil	R23-Ja0033881			X	X	X	X
3	BH01 - 1.0	Jan 20, 2023		Soil	R23-Ja0033882			X	X	X	
4	BH01 - 1.5	Jan 20, 2023		Soil	R23-Ja0033883			X	X	X	
5	BH02 - 0.1	Jan 20, 2023		Soil	R23-Ja0033884			X	X	X	X
6	BH02 - 0.5	Jan 20, 2023		Soil	R23-Ja0033885			X	X	X	
7	BH02 - 1.0	Jan 20, 2023		Soil	R23-Ja0033886			X	X	X	
8	BH02 - 1.5	Jan 20, 2023		Soil	R23-Ja0033887			X	X	X	
9	BH03 - 0.1	Jan 20, 2023		Soil	R23-Ja0033888			X	X	X	X
10	BH03 - 0.5	Jan 20, 2023		Soil	R23-Ja0033889			X	X	X	X
11	BH03 - 1.5	Jan 20, 2023		Soil	R23-Ja0033890			X	X	X	
12	BH04 - 0.1	Jan 20, 2023		Soil	R23-Ja0033891			X	X	X	
13	BH04 - 0.5	Jan 20, 2023		Soil	R23-Ja0033892			X	X	X	
14	BH04 - 1.0	Jan 20, 2023		Soil	R23-Ja0033893			X	X	X	X

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Received: Jan 24, 2023 2:15 PM
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Contact Name: John O Brien - ACT Manager

Eurofins Analytical Services Manager : Quinn Raw

Sample Detail						HOLD	Metals M8	Suite B13: OCP/PCB	Moisture Set	Eurofins Suite B7A	Per- and Polyfluoroalkyl Substances (PFASs) - Short
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X	X	X	X
15	BH04 - 1.5	Jan 20, 2023		Soil	R23-Ja0033894			X	X	X	
16	BH05 - 0.1	Jan 20, 2023		Soil	R23-Ja0033895			X	X	X	X
17	BH05 - 0.5	Jan 20, 2023		Soil	R23-Ja0033896			X	X	X	X
18	BH05 - 1.0	Jan 20, 2023		Soil	R23-Ja0033897			X	X	X	
19	BH05 - 1.5	Jan 20, 2023		Soil	R23-Ja0033898			X	X	X	
20	BH06 - 0.1	Jan 20, 2023		Soil	R23-Ja0033899			X	X	X	X
21	BH06 - 0.5	Jan 20, 2023		Soil	R23-Ja0033900				X		X
22	BH06 - 1.0	Jan 20, 2023		Soil	R23-Ja0033901			X	X	X	
23	BH06 - 1.5	Jan 20, 2023		Soil	R23-Ja0033902			X	X	X	
24	BH07 - 0.1	Jan 20, 2023		Soil	R23-Ja0033903			X	X	X	
25	BH07 - 0.5	Jan 20, 2023		Soil	R23-Ja0033904			X	X	X	X
26	BH07 - 1.5	Jan 20, 2023		Soil	R23-Ja0033905			X	X	X	
27	BH08 - 0.1	Jan 20, 2023		Soil	R23-Ja0033906			X	X	X	X
28	BH08 - 0.5	Jan 20, 2023		Soil	R23-Ja0033907			X	X	X	X
29	BH08 - 1.0	Jan 20, 2023		Soil	R23-Ja0033908			X	X	X	
30	BH08 - 1.5	Jan 20, 2023		Soil	R23-Ja0033909			X	X	X	

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		Phone:	0419 170 791	**Priority:**	5 Day
		Fax:		**Contact Name:**	John O Brien - ACT Manager
Project Name:	WCP				

Eurofins Analytical Services Manager : Quinn Raw

Sample Detail						HOLD	Metals M8	Suite B13: OCP/PCB	Moisture Set	Eurofins Suite B7A	Per- and Polyfluoroalkyl Substances (PFASs) - Short
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X	X	X	X
31	BH09 - 0.1	Jan 21, 2023		Soil	R23-Ja0033910			X	X	X	X
32	BH09 - 0.5	Jan 21, 2023		Soil	R23-Ja0033911			X	X	X	X
33	BH09 - 1.0	Jan 21, 2023		Soil	R23-Ja0033912			X	X	X	
34	BH10 - 0.1	Jan 21, 2023		Soil	R23-Ja0033913			X	X	X	X
35	BH10 - 0.5	Jan 21, 2023		Soil	R23-Ja0033914			X	X	X	X
36	B10 - 1.0	Jan 21, 2023		Soil	R23-Ja0033915			X	X	X	
37	BH10 - 1.5	Jan 21, 2023		Soil	R23-Ja0033916			X	X	X	
38	BH11 - 0.1	Jan 21, 2023		Soil	R23-Ja0033917			X	X	X	X
39	BH11 - 0.5	Jan 21, 2023		Soil	R23-Ja0033918				X		X
40	BH11 - 1.0	Jan 21, 2023		Soil	R23-Ja0033919			X	X	X	
41	BH11 - 1.5	Jan 21, 2023		Soil	R23-Ja0033920			X	X	X	X
42	BH12 - 0.1	Jan 21, 2023		Soil	R23-Ja0033921			X	X	X	X
43	BH12 - 0.5	Jan 21, 2023		Soil	R23-Ja0033922			X	X	X	X
44	BH12 - 1.5	Jan 21, 2023		Soil	R23-Ja0033923			X	X	X	
45	BH13 - 0.1	Jan 21, 2023		Soil	R23-Ja0033924			X	X	X	X
46	BH13 - 0.5	Jan 21, 2023		Soil	R23-Ja0033925			X	X	X	X

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Eurofins Analytical Services Manager : Quinn Raw

Sample Detail						HOLD	Metals M8	Suite B13: OCP/PCB	Moisture Set	Eurofins Suite B7A	Per- and Polyfluoroalkyl Substances (PFASs) - Short
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X	X	X	X
47	BH13 - 1.0	Jan 21, 2023		Soil	R23-Ja0033926			X	X	X	
48	BH13 - 1.5	Jan 21, 2023		Soil	R23-Ja0033927			X	X	X	
49	BH14 - 0.1	Jan 21, 2023		Soil	R23-Ja0033928				X		X
50	BH14 - 0.5	Jan 21, 2023		Soil	R23-Ja0033929			X	X	X	X
51	BH14 - 1.0	Jan 21, 2023		Soil	R23-Ja0033930			X	X	X	
52	BH14 - 2.0	Jan 21, 2023		Soil	R23-Ja0033931			X	X	X	
53	BH15 - 0.1	Jan 21, 2023		Soil	R23-Ja0033932			X	X	X	X
54	BH15 - 0.5	Jan 21, 2023		Soil	R23-Ja0033933				X		X
55	BH15 - 1.0	Jan 21, 2023		Soil	R23-Ja0033934			X	X	X	
56	BH15 - 1.5	Jan 21, 2023		Soil	R23-Ja0033935			X	X	X	
57	BH16 - 0.1	Jan 21, 2023		Soil	R23-Ja0033936			X	X	X	X
58	BH16 - 0.5	Jan 21, 2023		Soil	R23-Ja0033937			X	X	X	X
59	BH16 - 1.0	Jan 21, 2023		Soil	R23-Ja0033938			X	X	X	
60	BH17 - 0.1	Jan 21, 2023		Soil	R23-Ja0033939			X	X	X	X
61	BH17 - 0.5	Jan 21, 2023		Soil	R23-Ja0033940			X	X	X	X
62	BH17 - 1.0	Jan 21, 2023		Soil	R23-Ja0033941			X	X	X	

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Sample Detail						HOLD	Metals M8	Suite B13: OCP/PCB	Moisture Set	Eurofins Suite B7A	Per- and Polyfluoroalkyl Substances (PFASs) - Short
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X	X	X	X
63	BH18 - 0.1	Jan 21, 2023		Soil	R23-Ja0033942			X	X	X	X
64	BH18 - 0.5	Jan 21, 2023		Soil	R23-Ja0033943			X	X	X	X
65	BH18 - 1.0	Jan 21, 2023		Soil	R23-Ja0033944			X	X	X	X
66	BH19 - 0.1	Jan 21, 2023		Soil	R23-Ja0033945			X	X	X	X
67	BH19 - 0.5	Jan 21, 2023		Soil	R23-Ja0033946			X	X	X	X
68	BH19 - 1.0	Jan 21, 2023		Soil	R23-Ja0033947			X	X	X	
69	BH19 - 1.5	Jan 21, 2023		Soil	R23-Ja0033948			X	X	X	X
70	BH20 - 0.1	Jan 21, 2023		Soil	R23-Ja0033949			X	X	X	X
71	BH20 - 0.5	Jan 21, 2023		Soil	R23-Ja0033950			X	X	X	X
72	BH20- 1.0	Jan 21, 2023		Soil	R23-Ja0033951			X	X	X	X
73	QC01	Jan 20, 2023		Soil	R23-Ja0033952			X	X	X	X
74	QC03	Jan 20, 2023		Soil	R23-Ja0033953			X	X	X	X
75	QC05	Jan 21, 2023		Soil	R23-Ja0033954			X	X	X	X
76	QC08	Jan 21, 2023		Soil	R23-Ja0033955			X	X	X	X
77	QC09	Jan 21, 2023		Soil	R23-Ja0033956			X	X	X	X
78	RB01	Jan 20, 2023		Water	R23-Ja0033957						X

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Sample Detail						HOLD	Metals M8	Suite B13: OCP/PCB	Moisture Set	Eurofins Suite B7A	Per- and Polyfluoroalkyl Substances (PFASs) - Short
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X	X	X	X
79	RB02	Jan 21, 2023		Water	R23-Ja0033958						X
80	BH01 - 2.0	Jan 20, 2023		Soil	R23-Ja0033959	X					
81	BH03 - 1.0	Jan 20, 2023		Soil	R23-Ja0033960	X					
82	BH04 - 2.0	Jan 20, 2023		Soil	R23-Ja0033961	X					
83	BH07 - 1.0	Jan 20, 2023		Soil	R23-Ja0033962	X					
84	BH09 - 1.5	Jan 21, 2023		Soil	R23-Ja0033963	X					
85	BH12 - 1.0	Jan 21, 2023		Soil	R23-Ja0033964	X					
86	BH12 - 2.0	Jan 21, 2023		Soil	R23-Ja0033965	X					
87	BH14 - 1.5	Jan 21, 2023		Soil	R23-Ja0033966	X					
88	BH16 - 1.5	Jan 21, 2023		Soil	R23-Ja0033967	X					
89	BH17 - 1.5	Jan 21, 2023		Soil	R23-Ja0033968	X					
90	BH18 - 1.5	Jan 21, 2023		Soil	R23-Ja0033969	X					
91	BH19 - 2.0	Jan 21, 2023		Soil	R23-Ja0033970	X					
92	BH20 - 1.5	Jan 21, 2023		Soil	R23-Ja0033971	X					
93	QC06	Jan 21, 2023		Soil	R23-Ja0033972		X		X		
Test Counts						13	1	73	78	73	48

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 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	
Method Blank							
BTEX							
Benzene	mg/kg	< 0.1			0.1	Pass	
Toluene	mg/kg	< 0.1			0.1	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Xylenes - Total*	mg/kg	< 0.3			0.3	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/kg	< 0.5			0.5	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/kg	< 0.5			0.5	Pass	
Acenaphthylene	mg/kg	< 0.5			0.5	Pass	
Anthracene	mg/kg	< 0.5			0.5	Pass	
Benz(a)anthracene	mg/kg	< 0.5			0.5	Pass	
Benzo(a)pyrene	mg/kg	< 0.5			0.5	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.5			0.5	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Chrysene	mg/kg	< 0.5			0.5	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.5			0.5	Pass	
Fluoranthene	mg/kg	< 0.5			0.5	Pass	
Fluorene	mg/kg	< 0.5			0.5	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.5			0.5	Pass	
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Phenanthrene	mg/kg	< 0.5			0.5	Pass	
Pyrene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Organochlorine Pesticides							
Chlordanes - Total	mg/kg	< 0.1			0.1	Pass	
4.4'-DDD	mg/kg	< 0.05			0.05	Pass	
4.4'-DDE	mg/kg	< 0.05			0.05	Pass	
4.4'-DDT	mg/kg	< 0.05			0.05	Pass	
a-HCH	mg/kg	< 0.05			0.05	Pass	
Aldrin	mg/kg	< 0.05			0.05	Pass	
b-HCH	mg/kg	< 0.05			0.05	Pass	
d-HCH	mg/kg	< 0.05			0.05	Pass	
Dieldrin	mg/kg	< 0.05			0.05	Pass	
Endosulfan I	mg/kg	< 0.05			0.05	Pass	
Endosulfan II	mg/kg	< 0.05			0.05	Pass	
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	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Endrin ketone	mg/kg	< 0.05			0.05	Pass	
g-HCH (Lindane)	mg/kg	< 0.05			0.05	Pass	
Heptachlor	mg/kg	< 0.05			0.05	Pass	
Heptachlor epoxide	mg/kg	< 0.05			0.05	Pass	
Hexachlorobenzene	mg/kg	< 0.05			0.05	Pass	
Methoxychlor	mg/kg	< 0.05			0.05	Pass	
Toxaphene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
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							
Phenols (Halogenated)							
2-Chlorophenol	mg/kg	< 0.5			0.5	Pass	
2.4-Dichlorophenol	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	
4-Chloro-3-methylphenol	mg/kg	< 1			1	Pass	
Pentachlorophenol	mg/kg	< 1			1	Pass	
Tetrachlorophenols - Total	mg/kg	< 10			10	Pass	
Method Blank							
Phenols (non-Halogenated)							
2-Cyclohexyl-4.6-dinitrophenol	mg/kg	< 20			20	Pass	
2-Methyl-4.6-dinitrophenol	mg/kg	< 5			5	Pass	
2-Nitrophenol	mg/kg	< 1			1	Pass	
2.4-Dimethylphenol	mg/kg	< 0.5			0.5	Pass	
2.4-Dinitrophenol	mg/kg	< 5			5	Pass	
2-Methylphenol (o-Cresol)	mg/kg	< 0.2			0.2	Pass	
3&4-Methylphenol (m&p-Cresol)	mg/kg	< 0.4			0.4	Pass	
4-Nitrophenol	mg/kg	< 5			5	Pass	
Dinoseb	mg/kg	< 20			20	Pass	
Phenol	mg/kg	< 0.5			0.5	Pass	
Total Non-Halogenated Phenol*	mg/kg	< 0			20	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
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							
Metals M8							
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	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Zinc	mg/kg	< 5			5	Pass	
Method Blank							
Per- and Polyfluoroalkyl Substances (PFASs) - Short							
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	ug/kg	< 10			10	Pass	
Perfluorohexanesulfonic acid (PFHxS)	ug/kg	< 5			5	Pass	
Perfluorooctanesulfonic acid (PFOS)	ug/kg	< 5			5	Pass	
Perfluorooctanoic acid (PFOA)	ug/kg	< 5			5	Pass	
Sum of US EPA PFAS (PFOS + PFOA)*	ug/kg	< 5			5	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	%	96			70-130	Pass	
TRH C10-C14	%	70			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	89			70-130	Pass	
Toluene	%	94			70-130	Pass	
Ethylbenzene	%	86			70-130	Pass	
m&p-Xylenes	%	111			70-130	Pass	
o-Xylene	%	109			70-130	Pass	
Xylenes - Total*	%	110			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	89			70-130	Pass	
TRH C6-C10	%	97			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	96			70-130	Pass	
Acenaphthylene	%	101			70-130	Pass	
Anthracene	%	91			70-130	Pass	
Benz(a)anthracene	%	88			70-130	Pass	
Benzo(a)pyrene	%	95			70-130	Pass	
Benzo(b&j)fluoranthene	%	81			70-130	Pass	
Benzo(g.h.i)perylene	%	94			70-130	Pass	
Benzo(k)fluoranthene	%	94			70-130	Pass	
Chrysene	%	90			70-130	Pass	
Dibenz(a.h)anthracene	%	89			70-130	Pass	
Fluoranthene	%	95			70-130	Pass	
Fluorene	%	95			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	90			70-130	Pass	
Naphthalene	%	96			70-130	Pass	
Phenanthrene	%	91			70-130	Pass	
Pyrene	%	94			70-130	Pass	
LCS - % Recovery							
Organochlorine Pesticides							
Chlordanes - Total	%	101			70-130	Pass	
4.4'-DDD	%	106			70-130	Pass	
4.4'-DDE	%	97			70-130	Pass	
4.4'-DDT	%	91			70-130	Pass	
a-HCH	%	95			70-130	Pass	
Aldrin	%	101			70-130	Pass	
b-HCH	%	95			70-130	Pass	
d-HCH	%	92			70-130	Pass	
Dieldrin	%	91			70-130	Pass	
Endosulfan I	%	97			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Endosulfan II	%	92			70-130	Pass	
Endosulfan sulphate	%	86			70-130	Pass	
Endrin	%	86			70-130	Pass	
Endrin aldehyde	%	76			70-130	Pass	
Endrin ketone	%	86			70-130	Pass	
g-HCH (Lindane)	%	93			70-130	Pass	
Heptachlor	%	100			70-130	Pass	
Heptachlor epoxide	%	98			70-130	Pass	
Hexachlorobenzene	%	99			70-130	Pass	
Methoxychlor	%	121			70-130	Pass	
LCS - % Recovery							
Polychlorinated Biphenyls							
Aroclor-1016	%	96			70-130	Pass	
Aroclor-1260	%	100			70-130	Pass	
LCS - % Recovery							
Phenols (Halogenated)							
2-Chlorophenol	%	97			25-140	Pass	
2.4-Dichlorophenol	%	99			25-140	Pass	
2.4.5-Trichlorophenol	%	78			25-140	Pass	
2.4.6-Trichlorophenol	%	85			25-140	Pass	
2.6-Dichlorophenol	%	98			25-140	Pass	
4-Chloro-3-methylphenol	%	99			25-140	Pass	
Pentachlorophenol	%	73			25-140	Pass	
Tetrachlorophenols - Total	%	85			25-140	Pass	
LCS - % Recovery							
Phenols (non-Halogenated)							
2-Cyclohexyl-4.6-dinitrophenol	%	109			25-140	Pass	
2-Methyl-4.6-dinitrophenol	%	101			25-140	Pass	
2-Nitrophenol	%	109			25-140	Pass	
2.4-Dimethylphenol	%	99			25-140	Pass	
2.4-Dinitrophenol	%	103			25-140	Pass	
2-Methylphenol (o-Cresol)	%	93			25-140	Pass	
3&4-Methylphenol (m&p-Cresol)	%	88			25-140	Pass	
4-Nitrophenol	%	92			25-140	Pass	
Dinoseb	%	106			25-140	Pass	
Phenol	%	93			25-140	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
TRH >C10-C16	%	70			70-130	Pass	
LCS - % Recovery							
Metals M8							
Arsenic	%	109			80-120	Pass	
Cadmium	%	104			80-120	Pass	
Chromium	%	109			80-120	Pass	
Copper	%	114			80-120	Pass	
Lead	%	113			80-120	Pass	
Mercury	%	116			80-120	Pass	
Nickel	%	113			80-120	Pass	
Zinc	%	114			80-120	Pass	
LCS - % Recovery							
Per- and Polyfluoroalkyl Substances (PFASs) - Short							
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	%	111			50-150	Pass	
Perfluorohexanesulfonic acid (PFHxS)	%	98			50-150	Pass	
Perfluorooctanesulfonic acid (PFOS)	%	103			50-150	Pass	
Perfluorooctanoic acid (PFOA)	%	112			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 C6-C9	N23-Ja0040080	NCP	%	129			70-130	Pass	
TRH C10-C14	S23-Ja0032522	NCP	%	80			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	N23-Ja0040080	NCP	%	73			70-130	Pass	
Toluene	N23-Ja0040080	NCP	%	72			70-130	Pass	
Ethylbenzene	N23-Ja0040080	NCP	%	77			70-130	Pass	
m&p-Xylenes	N23-Ja0040080	NCP	%	105			70-130	Pass	
o-Xylene	N23-Ja0040080	NCP	%	106			70-130	Pass	
Xylenes - Total*	N23-Ja0040080	NCP	%	105			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	N23-Ja0040080	NCP	%	111			70-130	Pass	
TRH C6-C10	R23-Ja0033686	NCP	%	96			70-130	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthene	R23-Ja0033880	CP	%	115			70-130	Pass	
Acenaphthylene	R23-Ja0033880	CP	%	108			70-130	Pass	
Anthracene	R23-Ja0033880	CP	%	89			70-130	Pass	
Benz(a)anthracene	R23-Ja0033880	CP	%	85			70-130	Pass	
Benzo(a)pyrene	R23-Ja0033880	CP	%	80			70-130	Pass	
Benzo(b&j)fluoranthene	R23-Ja0033880	CP	%	70			70-130	Pass	
Benzo(g.h.i)perylene	R23-Ja0033880	CP	%	98			70-130	Pass	
Benzo(k)fluoranthene	R23-Ja0033880	CP	%	121			70-130	Pass	
Chrysene	R23-Ja0033880	CP	%	111			70-130	Pass	
Dibenz(a.h)anthracene	R23-Ja0033880	CP	%	80			70-130	Pass	
Fluoranthene	R23-Ja0033880	CP	%	87			70-130	Pass	
Fluorene	R23-Ja0033880	CP	%	109			70-130	Pass	
Indeno(1.2.3-cd)pyrene	R23-Ja0033880	CP	%	86			70-130	Pass	
Naphthalene	R23-Ja0033880	CP	%	113			70-130	Pass	
Phenanthrene	R23-Ja0033880	CP	%	90			70-130	Pass	
Pyrene	R23-Ja0033880	CP	%	105			70-130	Pass	
Spike - % Recovery									
Phenols (Halogenated)				Result 1					
2-Chlorophenol	R23-Ja0033880	CP	%	109			30-130	Pass	
2.4-Dichlorophenol	R23-Ja0033880	CP	%	94			30-130	Pass	
4-Chloro-3-methylphenol	R23-Ja0033880	CP	%	98			30-130	Pass	
Spike - % Recovery									
Phenols (non-Halogenated)				Result 1					
2-Nitrophenol	R23-Ja0033880	CP	%	98			30-130	Pass	
2.4-Dimethylphenol	R23-Ja0033880	CP	%	91			30-130	Pass	
Dinoseb	R23-Ja0033880	CP	%	82			30-130	Pass	
Phenol	R23-Ja0033880	CP	%	128			30-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
TRH >C10-C16	S23-Ja0032522	NCP	%	73			70-130	Pass	
Spike - % Recovery									
Per- and Polyfluoroalkyl Substances (PFASs) - Short				Result 1					
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	R23-Ja0033880	CP	%	121			50-150	Pass	
Perfluorohexanesulfonic acid (PFHxS)	R23-Ja0033880	CP	%	104			50-150	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Perfluorooctanoic acid (PFOA)	R23-Ja0033880	CP	%	112			50-150	Pass	
Spike - % Recovery									
Metals M8				Result 1					
Arsenic	R23-Ja0033889	CP	%	99			75-125	Pass	
Cadmium	R23-Ja0033889	CP	%	106			75-125	Pass	
Chromium	R23-Ja0033889	CP	%	112			75-125	Pass	
Copper	R23-Ja0033889	CP	%	98			75-125	Pass	
Lead	R23-Ja0033889	CP	%	109			75-125	Pass	
Mercury	R23-Ja0033889	CP	%	107			75-125	Pass	
Nickel	R23-Ja0033889	CP	%	89			75-125	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthene	R23-Ja0033890	CP	%	94			70-130	Pass	
Acenaphthylene	R23-Ja0033890	CP	%	95			70-130	Pass	
Anthracene	R23-Ja0033890	CP	%	96			70-130	Pass	
Benz(a)anthracene	R23-Ja0033890	CP	%	93			70-130	Pass	
Benzo(a)pyrene	R23-Ja0033890	CP	%	101			70-130	Pass	
Benzo(b&j)fluoranthene	R23-Ja0033890	CP	%	92			70-130	Pass	
Benzo(g.h.i)perylene	R23-Ja0033890	CP	%	102			70-130	Pass	
Benzo(k)fluoranthene	R23-Ja0033890	CP	%	103			70-130	Pass	
Chrysene	R23-Ja0033890	CP	%	102			70-130	Pass	
Dibenz(a.h)anthracene	R23-Ja0033890	CP	%	93			70-130	Pass	
Fluoranthene	R23-Ja0033890	CP	%	94			70-130	Pass	
Fluorene	R23-Ja0033890	CP	%	97			70-130	Pass	
Indeno(1.2.3-cd)pyrene	R23-Ja0033890	CP	%	97			70-130	Pass	
Naphthalene	R23-Ja0033890	CP	%	94			70-130	Pass	
Phenanthrene	R23-Ja0033890	CP	%	90			70-130	Pass	
Pyrene	R23-Ja0033890	CP	%	96			70-130	Pass	
Spike - % Recovery									
Phenols (Halogenated)				Result 1					
2-Chlorophenol	R23-Ja0033890	CP	%	92			30-130	Pass	
2.4-Dichlorophenol	R23-Ja0033890	CP	%	97			30-130	Pass	
2.4.5-Trichlorophenol	R23-Ja0033890	CP	%	88			30-130	Pass	
2.4.6-Trichlorophenol	R23-Ja0033890	CP	%	87			30-130	Pass	
2.6-Dichlorophenol	R23-Ja0033890	CP	%	103			30-130	Pass	
4-Chloro-3-methylphenol	R23-Ja0033890	CP	%	93			30-130	Pass	
Pentachlorophenol	R23-Ja0033890	CP	%	94			30-130	Pass	
Tetrachlorophenols - Total	R23-Ja0033890	CP	%	96			30-130	Pass	
Spike - % Recovery									
Phenols (non-Halogenated)				Result 1					
2-Cyclohexyl-4.6-dinitrophenol	R23-Ja0033890	CP	%	98			30-130	Pass	
2-Methyl-4.6-dinitrophenol	R23-Ja0033890	CP	%	92			30-130	Pass	
2-Nitrophenol	R23-Ja0033890	CP	%	115			30-130	Pass	
2.4-Dimethylphenol	R23-Ja0033890	CP	%	95			30-130	Pass	
2.4-Dinitrophenol	R23-Ja0033890	CP	%	95			70-130	Pass	
2-Methylphenol (o-Cresol)	R23-Ja0033890	CP	%	93			30-130	Pass	
3&4-Methylphenol (m&p-Cresol)	R23-Ja0033890	CP	%	93			30-130	Pass	
4-Nitrophenol	R23-Ja0033890	CP	%	101			30-130	Pass	
Dinoseb	R23-Ja0033890	CP	%	102			30-130	Pass	
Phenol	R23-Ja0033890	CP	%	88			30-130	Pass	
Spike - % Recovery									
Metals M8				Result 1					
Arsenic	R23-Ja0033899	CP	%	110			75-125	Pass	
Cadmium	R23-Ja0033899	CP	%	104			75-125	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Chromium	R23-Ja0033899	CP	%	105			75-125	Pass	
Copper	R23-Ja0033899	CP	%	104			75-125	Pass	
Lead	R23-Ja0033899	CP	%	104			75-125	Pass	
Mercury	R23-Ja0033899	CP	%	110			75-125	Pass	
Nickel	R23-Ja0033899	CP	%	104			75-125	Pass	
Zinc	R23-Ja0033899	CP	%	109			75-125	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthene	R23-Ja0033911	CP	%	105			70-130	Pass	
Acenaphthylene	R23-Ja0033911	CP	%	106			70-130	Pass	
Anthracene	R23-Ja0033911	CP	%	95			70-130	Pass	
Benz(a)anthracene	R23-Ja0033911	CP	%	90			70-130	Pass	
Benzo(a)pyrene	R23-Ja0033911	CP	%	102			70-130	Pass	
Benzo(b&j)fluoranthene	R23-Ja0033911	CP	%	90			70-130	Pass	
Benzo(g.h.i)perylene	R23-Ja0033911	CP	%	100			70-130	Pass	
Benzo(k)fluoranthene	R23-Ja0033911	CP	%	109			70-130	Pass	
Chrysene	R23-Ja0033911	CP	%	111			70-130	Pass	
Dibenz(a.h)anthracene	R23-Ja0033911	CP	%	109			70-130	Pass	
Fluoranthene	R23-Ja0033911	CP	%	101			70-130	Pass	
Fluorene	R23-Ja0033911	CP	%	103			70-130	Pass	
Indeno(1.2.3-cd)pyrene	R23-Ja0033911	CP	%	113			70-130	Pass	
Naphthalene	R23-Ja0033911	CP	%	103			70-130	Pass	
Phenanthrene	R23-Ja0033911	CP	%	85			70-130	Pass	
Pyrene	R23-Ja0033911	CP	%	102			70-130	Pass	
Spike - % Recovery									
Phenols (Halogenated)				Result 1					
2-Chlorophenol	R23-Ja0033911	CP	%	82			30-130	Pass	
2.4-Dichlorophenol	R23-Ja0033911	CP	%	108			30-130	Pass	
2.4.5-Trichlorophenol	R23-Ja0033911	CP	%	85			30-130	Pass	
2.4.6-Trichlorophenol	R23-Ja0033911	CP	%	82			30-130	Pass	
2.6-Dichlorophenol	R23-Ja0033911	CP	%	119			30-130	Pass	
4-Chloro-3-methylphenol	R23-Ja0033911	CP	%	93			30-130	Pass	
Pentachlorophenol	R23-Ja0033911	CP	%	85			30-130	Pass	
Tetrachlorophenols - Total	R23-Ja0033911	CP	%	110			30-130	Pass	
Spike - % Recovery									
Phenols (non-Halogenated)				Result 1					
2-Methyl-4.6-dinitrophenol	R23-Ja0033911	CP	%	103			30-130	Pass	
2.4-Dimethylphenol	R23-Ja0033911	CP	%	101			30-130	Pass	
2.4-Dinitrophenol	R23-Ja0033911	CP	%	108			70-130	Pass	
2-Methylphenol (o-Cresol)	R23-Ja0033911	CP	%	99			30-130	Pass	
3&4-Methylphenol (m&p-Cresol)	R23-Ja0033911	CP	%	101			30-130	Pass	
Dinoseb	R23-Ja0033911	CP	%	119			30-130	Pass	
Phenol	R23-Ja0033911	CP	%	90			30-130	Pass	
Spike - % Recovery									
Organochlorine Pesticides				Result 1					
Chlordanes - Total	R23-Ja0033916	CP	%	109			70-130	Pass	
4.4'-DDD	R23-Ja0033916	CP	%	106			70-130	Pass	
4.4'-DDE	R23-Ja0033916	CP	%	106			70-130	Pass	
4.4'-DDT	R23-Ja0033916	CP	%	95			70-130	Pass	
a-HCH	R23-Ja0033916	CP	%	94			70-130	Pass	
Aldrin	R23-Ja0033916	CP	%	109			70-130	Pass	
b-HCH	R23-Ja0033916	CP	%	74			70-130	Pass	
d-HCH	R23-Ja0033916	CP	%	85			70-130	Pass	
Dieldrin	R23-Ja0033916	CP	%	97			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Endosulfan I	R23-Ja0033916	CP	%	117			70-130	Pass	
Endosulfan II	R23-Ja0033916	CP	%	106			70-130	Pass	
Endosulfan sulphate	R23-Ja0033916	CP	%	98			70-130	Pass	
Endrin	R23-Ja0033916	CP	%	104			70-130	Pass	
Endrin aldehyde	R23-Ja0033916	CP	%	111			70-130	Pass	
Endrin ketone	R23-Ja0033916	CP	%	105			70-130	Pass	
g-HCH (Lindane)	R23-Ja0033916	CP	%	104			70-130	Pass	
Heptachlor	R23-Ja0033916	CP	%	109			70-130	Pass	
Heptachlor epoxide	R23-Ja0033916	CP	%	115			70-130	Pass	
Hexachlorobenzene	R23-Ja0033916	CP	%	95			70-130	Pass	
Methoxychlor	R23-Ja0033916	CP	%	100			70-130	Pass	
Spike - % Recovery									
Polychlorinated Biphenyls				Result 1					
Aroclor-1016	R23-Ja0033916	CP	%	96			70-130	Pass	
Aroclor-1260	R23-Ja0033916	CP	%	99			70-130	Pass	
Spike - % Recovery									
Per- and Polyfluoroalkyl Substances (PFASs) - Short				Result 1					
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	R23-Ja0033921	CP	%	109			50-150	Pass	
Perfluorohexanesulfonic acid (PFHxS)	R23-Ja0033921	CP	%	108			50-150	Pass	
Perfluorooctanoic acid (PFOA)	R23-Ja0033921	CP	%	110			50-150	Pass	
Spike - % Recovery									
Metals M8				Result 1					
Lead	R23-Ja0033922	CP	%	118			75-125	Pass	
Zinc	R23-Ja0033922	CP	%	119			75-125	Pass	
Spike - % Recovery									
Organochlorine Pesticides				Result 1					
Endrin aldehyde	R23-Ja0033923	CP	%	71			70-130	Pass	
Spike - % Recovery									
Organochlorine Pesticides				Result 1					
Chlordanes - Total	R23-Ja0033926	CP	%	102			70-130	Pass	
4.4'-DDD	R23-Ja0033926	CP	%	103			70-130	Pass	
4.4'-DDE	R23-Ja0033926	CP	%	103			70-130	Pass	
4.4'-DDT	R23-Ja0033926	CP	%	113			70-130	Pass	
a-HCH	R23-Ja0033926	CP	%	99			70-130	Pass	
Aldrin	R23-Ja0033926	CP	%	100			70-130	Pass	
b-HCH	R23-Ja0033926	CP	%	95			70-130	Pass	
d-HCH	R23-Ja0033926	CP	%	97			70-130	Pass	
Dieldrin	R23-Ja0033926	CP	%	103			70-130	Pass	
Endosulfan I	R23-Ja0033926	CP	%	106			70-130	Pass	
Endosulfan II	R23-Ja0033926	CP	%	102			70-130	Pass	
Endosulfan sulphate	R23-Ja0033926	CP	%	111			70-130	Pass	
Endrin	R23-Ja0033926	CP	%	100			70-130	Pass	
Endrin aldehyde	R23-Ja0033926	CP	%	104			70-130	Pass	
Endrin ketone	R23-Ja0033926	CP	%	111			70-130	Pass	
g-HCH (Lindane)	R23-Ja0033926	CP	%	110			70-130	Pass	
Heptachlor	R23-Ja0033926	CP	%	106			70-130	Pass	
Heptachlor epoxide	R23-Ja0033926	CP	%	106			70-130	Pass	
Hexachlorobenzene	R23-Ja0033926	CP	%	99			70-130	Pass	
Methoxychlor	R23-Ja0033926	CP	%	126			70-130	Pass	
Spike - % Recovery									
Polychlorinated Biphenyls				Result 1					
Aroclor-1016	R23-Ja0033926	CP	%	95			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Aroclor-1260	R23-Ja0033926	CP	%	100			70-130	Pass	
Spike - % Recovery									
Metals M8				Result 1					
Arsenic	R23-Ja0033934	CP	%	119			75-125	Pass	
Cadmium	R23-Ja0033934	CP	%	119			75-125	Pass	
Chromium	R23-Ja0033934	CP	%	113			75-125	Pass	
Copper	R23-Ja0033934	CP	%	108			75-125	Pass	
Lead	R23-Ja0033934	CP	%	101			75-125	Pass	
Mercury	R23-Ja0033934	CP	%	114			75-125	Pass	
Nickel	R23-Ja0033934	CP	%	111			75-125	Pass	
Zinc	R23-Ja0033934	CP	%	113			75-125	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1					
TRH C6-C9	R23-Ja0033935	CP	%	86			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	R23-Ja0033935	CP	%	89			70-130	Pass	
Toluene	R23-Ja0033935	CP	%	83			70-130	Pass	
Ethylbenzene	R23-Ja0033935	CP	%	92			70-130	Pass	
m&p-Xylenes	R23-Ja0033935	CP	%	94			70-130	Pass	
o-Xylene	R23-Ja0033935	CP	%	79			70-130	Pass	
Xylenes - Total*	R23-Ja0033935	CP	%	89			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	R23-Ja0033935	CP	%	77			70-130	Pass	
TRH C6-C10	R23-Ja0033935	CP	%	81			70-130	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthene	R23-Ja0033935	CP	%	107			70-130	Pass	
Acenaphthylene	R23-Ja0033935	CP	%	108			70-130	Pass	
Anthracene	R23-Ja0033935	CP	%	106			70-130	Pass	
Benz(a)anthracene	R23-Ja0033935	CP	%	103			70-130	Pass	
Benzo(a)pyrene	R23-Ja0033935	CP	%	109			70-130	Pass	
Benzo(b&j)fluoranthene	R23-Ja0033935	CP	%	104			70-130	Pass	
Benzo(g.h.i)perylene	R23-Ja0033935	CP	%	102			70-130	Pass	
Benzo(k)fluoranthene	R23-Ja0033935	CP	%	114			70-130	Pass	
Chrysene	R23-Ja0033935	CP	%	116			70-130	Pass	
Dibenz(a.h)anthracene	R23-Ja0033935	CP	%	100			70-130	Pass	
Fluoranthene	R23-Ja0033935	CP	%	108			70-130	Pass	
Fluorene	R23-Ja0033935	CP	%	105			70-130	Pass	
Indeno(1.2.3-cd)pyrene	R23-Ja0033935	CP	%	104			70-130	Pass	
Naphthalene	R23-Ja0033935	CP	%	104			70-130	Pass	
Phenanthrene	R23-Ja0033935	CP	%	104			70-130	Pass	
Pyrene	R23-Ja0033935	CP	%	108			70-130	Pass	
Spike - % Recovery									
Phenols (Halogenated)				Result 1					
2-Chlorophenol	R23-Ja0033935	CP	%	84			30-130	Pass	
2.4-Dichlorophenol	R23-Ja0033935	CP	%	108			30-130	Pass	
2.4.5-Trichlorophenol	R23-Ja0033935	CP	%	88			30-130	Pass	
2.4.6-Trichlorophenol	R23-Ja0033935	CP	%	102			30-130	Pass	
2.6-Dichlorophenol	R23-Ja0033935	CP	%	113			30-130	Pass	
4-Chloro-3-methylphenol	R23-Ja0033935	CP	%	105			30-130	Pass	
Pentachlorophenol	R23-Ja0033935	CP	%	72			30-130	Pass	
Tetrachlorophenols - Total	R23-Ja0033935	CP	%	108			30-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Phenols (non-Halogenated)				Result 1					
2-Cyclohexyl-4.6-dinitrophenol	R23-Ja0033935	CP	%	110			30-130	Pass	
2-Methyl-4.6-dinitrophenol	R23-Ja0033935	CP	%	89			30-130	Pass	
2-Nitrophenol	R23-Ja0033935	CP	%	121			30-130	Pass	
2.4-Dimethylphenol	R23-Ja0033935	CP	%	108			30-130	Pass	
2.4-Dinitrophenol	R23-Ja0033935	CP	%	82			70-130	Pass	
2-Methylphenol (o-Cresol)	R23-Ja0033935	CP	%	103			30-130	Pass	
3&4-Methylphenol (m&p-Cresol)	R23-Ja0033935	CP	%	99			30-130	Pass	
4-Nitrophenol	R23-Ja0033935	CP	%	89			30-130	Pass	
Dinoseb	R23-Ja0033935	CP	%	94			30-130	Pass	
Phenol	R23-Ja0033935	CP	%	89			30-130	Pass	
Spike - % Recovery									
Per- and Polyfluoroalkyl Substances (PFASs) - Short				Result 1					
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	R23-Ja0033940	CP	%	110			50-150	Pass	
Perfluorohexanesulfonic acid (PFHxS)	R23-Ja0033940	CP	%	108			50-150	Pass	
Perfluorooctanoic acid (PFOA)	R23-Ja0033940	CP	%	112			50-150	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthene	R23-Ja0033945	CP	%	105			70-130	Pass	
Acenaphthylene	R23-Ja0033945	CP	%	108			70-130	Pass	
Anthracene	R23-Ja0033945	CP	%	107			70-130	Pass	
Benz(a)anthracene	R23-Ja0033945	CP	%	98			70-130	Pass	
Benzo(a)pyrene	R23-Ja0033945	CP	%	121			70-130	Pass	
Benzo(b&j)fluoranthene	R23-Ja0033945	CP	%	91			70-130	Pass	
Benzo(g.h.i)perylene	R23-Ja0033945	CP	%	110			70-130	Pass	
Chrysene	R23-Ja0033945	CP	%	115			70-130	Pass	
Dibenz(a.h)anthracene	R23-Ja0033945	CP	%	91			70-130	Pass	
Fluoranthene	R23-Ja0033945	CP	%	100			70-130	Pass	
Fluorene	R23-Ja0033945	CP	%	105			70-130	Pass	
Indeno(1.2.3-cd)pyrene	R23-Ja0033945	CP	%	98			70-130	Pass	
Naphthalene	R23-Ja0033945	CP	%	104			70-130	Pass	
Phenanthrene	R23-Ja0033945	CP	%	85			70-130	Pass	
Pyrene	R23-Ja0033945	CP	%	101			70-130	Pass	
Spike - % Recovery									
Phenols (Halogenated)				Result 1					
2-Chlorophenol	R23-Ja0033945	CP	%	101			30-130	Pass	
2.4-Dichlorophenol	R23-Ja0033945	CP	%	119			30-130	Pass	
2.4.5-Trichlorophenol	R23-Ja0033945	CP	%	102			30-130	Pass	
2.4.6-Trichlorophenol	R23-Ja0033945	CP	%	93			30-130	Pass	
2.6-Dichlorophenol	R23-Ja0033945	CP	%	119			30-130	Pass	
4-Chloro-3-methylphenol	R23-Ja0033945	CP	%	123			30-130	Pass	
Tetrachlorophenols - Total	R23-Ja0033945	CP	%	100			30-130	Pass	
Spike - % Recovery									
Phenols (non-Halogenated)				Result 1					
2.4-Dimethylphenol	R23-Ja0033945	CP	%	107			30-130	Pass	
2-Methylphenol (o-Cresol)	R23-Ja0033945	CP	%	110			30-130	Pass	
3&4-Methylphenol (m&p-Cresol)	R23-Ja0033945	CP	%	112			30-130	Pass	
Phenol	R23-Ja0033945	CP	%	100			30-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Metals M8				Result 1	Result 2	RPD			
Arsenic	R23-Ja0033888	CP	mg/kg	2.3	2.0	14	30%	Pass	
Cadmium	R23-Ja0033888	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	R23-Ja0033888	CP	mg/kg	11	10	9.1	30%	Pass	
Copper	R23-Ja0033888	CP	mg/kg	8.7	11	27	30%	Pass	
Lead	R23-Ja0033888	CP	mg/kg	28	23	19	30%	Pass	
Mercury	R23-Ja0033888	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Nickel	R23-Ja0033888	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Zinc	R23-Ja0033888	CP	mg/kg	65	59	9.7	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
% Moisture	R23-Ja0033888	CP	%	2.5	3.4	29	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C6-C9	R23-Ja0033889	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	R23-Ja0033889	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	R23-Ja0033889	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	R23-Ja0033889	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	R23-Ja0033889	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	R23-Ja0033889	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	R23-Ja0033889	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	R23-Ja0033889	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
TRH C6-C10	R23-Ja0033889	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	R23-Ja0033889	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	R23-Ja0033889	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	R23-Ja0033889	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	R23-Ja0033889	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	R23-Ja0033889	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(b&j)fluoranthene	R23-Ja0033889	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g.h.i)perylene	R23-Ja0033889	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(k)fluoranthene	R23-Ja0033889	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	R23-Ja0033889	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a.h)anthracene	R23-Ja0033889	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	R23-Ja0033889	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluorene	R23-Ja0033889	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	R23-Ja0033889	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	R23-Ja0033889	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	R23-Ja0033889	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	R23-Ja0033889	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	R23-Ja0033889	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
4.4'-DDD	R23-Ja0033889	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDE	R23-Ja0033889	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDT	R23-Ja0033889	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
a-HCH	R23-Ja0033889	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Aldrin	R23-Ja0033889	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	

Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
b-HCH	R23-Ja0033889	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
d-HCH	R23-Ja0033889	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Dieldrin	R23-Ja0033889	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan I	R23-Ja0033889	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan II	R23-Ja0033889	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan sulphate	R23-Ja0033889	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin	R23-Ja0033889	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin aldehyde	R23-Ja0033889	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin ketone	R23-Ja0033889	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
g-HCH (Lindane)	R23-Ja0033889	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor	R23-Ja0033889	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor epoxide	R23-Ja0033889	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Hexachlorobenzene	R23-Ja0033889	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Methoxychlor	R23-Ja0033889	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Toxaphene	R23-Ja0033889	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Polychlorinated Biphenyls				Result 1	Result 2	RPD			
Aroclor-1016	R23-Ja0033889	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1221	R23-Ja0033889	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1232	R23-Ja0033889	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1242	R23-Ja0033889	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1248	R23-Ja0033889	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1254	R23-Ja0033889	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1260	R23-Ja0033889	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Total PCB*	R23-Ja0033889	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
Phenols (Halogenated)				Result 1	Result 2	RPD			
2-Chlorophenol	R23-Ja0033889	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dichlorophenol	R23-Ja0033889	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4.5-Trichlorophenol	R23-Ja0033889	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4.6-Trichlorophenol	R23-Ja0033889	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.6-Dichlorophenol	R23-Ja0033889	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
4-Chloro-3-methylphenol	R23-Ja0033889	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Pentachlorophenol	R23-Ja0033889	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Tetrachlorophenols - Total	R23-Ja0033889	CP	mg/kg	< 10	< 10	<1	30%	Pass	
Duplicate									
Phenols (non-Halogenated)				Result 1	Result 2	RPD			
2-Cyclohexyl-4.6-dinitrophenol	R23-Ja0033889	CP	mg/kg	< 20	< 20	<1	30%	Pass	
2-Methyl-4.6-dinitrophenol	R23-Ja0033889	CP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Nitrophenol	R23-Ja0033889	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4-Dimethylphenol	R23-Ja0033889	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dinitrophenol	R23-Ja0033889	CP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Methylphenol (o-Cresol)	R23-Ja0033889	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
3&4-Methylphenol (m&p-Cresol)	R23-Ja0033889	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
4-Nitrophenol	R23-Ja0033889	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Dinoseb	R23-Ja0033889	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Phenol	R23-Ja0033889	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	R23-Ja0033897	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	R23-Ja0033897	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	R23-Ja0033897	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	R23-Ja0033897	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	R23-Ja0033897	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	

Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Benzo(b&j)fluoranthene	R23-Ja0033897	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g.h.i)perylene	R23-Ja0033897	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(k)fluoranthene	R23-Ja0033897	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	R23-Ja0033897	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a.h)anthracene	R23-Ja0033897	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	R23-Ja0033897	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluorene	R23-Ja0033897	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	R23-Ja0033897	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	R23-Ja0033897	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	R23-Ja0033897	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	R23-Ja0033897	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	R23-Ja0033897	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
4.4'-DDD	R23-Ja0033897	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDE	R23-Ja0033897	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDT	R23-Ja0033897	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
a-HCH	R23-Ja0033897	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Aldrin	R23-Ja0033897	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
b-HCH	R23-Ja0033897	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
d-HCH	R23-Ja0033897	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Dieldrin	R23-Ja0033897	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan I	R23-Ja0033897	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan II	R23-Ja0033897	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan sulphate	R23-Ja0033897	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin	R23-Ja0033897	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin aldehyde	R23-Ja0033897	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin ketone	R23-Ja0033897	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
g-HCH (Lindane)	R23-Ja0033897	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor	R23-Ja0033897	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor epoxide	R23-Ja0033897	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Hexachlorobenzene	R23-Ja0033897	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Methoxychlor	R23-Ja0033897	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Toxaphene	R23-Ja0033897	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Polychlorinated Biphenyls				Result 1	Result 2	RPD			
Aroclor-1016	R23-Ja0033897	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1221	R23-Ja0033897	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1232	R23-Ja0033897	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1242	R23-Ja0033897	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1248	R23-Ja0033897	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1254	R23-Ja0033897	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1260	R23-Ja0033897	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Total PCB*	R23-Ja0033897	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
Phenols (Halogenated)				Result 1	Result 2	RPD			
2-Chlorophenol	R23-Ja0033897	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dichlorophenol	R23-Ja0033897	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4.5-Trichlorophenol	R23-Ja0033897	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4.6-Trichlorophenol	R23-Ja0033897	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.6-Dichlorophenol	R23-Ja0033897	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
4-Chloro-3-methylphenol	R23-Ja0033897	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Pentachlorophenol	R23-Ja0033897	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Tetrachlorophenols - Total	R23-Ja0033897	CP	mg/kg	< 10	< 10	<1	30%	Pass	

Duplicate									
Phenols (non-Halogenated)				Result 1	Result 2	RPD			
2-Cyclohexyl-4.6-dinitrophenol	R23-Ja0033897	CP	mg/kg	< 20	< 20	<1	30%	Pass	
2-Methyl-4.6-dinitrophenol	R23-Ja0033897	CP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Nitrophenol	R23-Ja0033897	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4-Dimethylphenol	R23-Ja0033897	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dinitrophenol	R23-Ja0033897	CP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Methylphenol (o-Cresol)	R23-Ja0033897	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
3&4-Methylphenol (m&p-Cresol)	R23-Ja0033897	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
4-Nitrophenol	R23-Ja0033897	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Dinoseb	R23-Ja0033897	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Phenol	R23-Ja0033897	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Metals M8				Result 1	Result 2	RPD			
Arsenic	R23-Ja0033898	CP	mg/kg	7.6	6.7	12	30%	Pass	
Cadmium	R23-Ja0033898	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	R23-Ja0033898	CP	mg/kg	63	45	34	30%	Fail	Q15
Copper	R23-Ja0033898	CP	mg/kg	21	18	11	30%	Pass	
Lead	R23-Ja0033898	CP	mg/kg	25	32	22	30%	Pass	
Mercury	R23-Ja0033898	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Nickel	R23-Ja0033898	CP	mg/kg	19	20	4.3	30%	Pass	
Zinc	R23-Ja0033898	CP	mg/kg	42	38	8.0	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
% Moisture	R23-Ja0033898	CP	%	15	15	2.6	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C6-C9	R23-Ja0033899	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	R23-Ja0033899	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	R23-Ja0033899	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	R23-Ja0033899	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	R23-Ja0033899	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	R23-Ja0033899	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	R23-Ja0033899	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	R23-Ja0033899	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
TRH C6-C10	R23-Ja0033899	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	R23-Ja0033899	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	R23-Ja0033899	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	R23-Ja0033899	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	R23-Ja0033899	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	R23-Ja0033899	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(b&j)fluoranthene	R23-Ja0033899	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g.h.i)perylene	R23-Ja0033899	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(k)fluoranthene	R23-Ja0033899	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	R23-Ja0033899	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a.h)anthracene	R23-Ja0033899	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	R23-Ja0033899	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluorene	R23-Ja0033899	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	R23-Ja0033899	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	R23-Ja0033899	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	

Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Phenanthrene	R23-Ja0033899	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	R23-Ja0033899	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	R23-Ja0033899	CP	mg/kg	< 1	< 1	<1	30%	Pass	
4.4'-DDD	R23-Ja0033899	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
4.4'-DDE	R23-Ja0033899	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
4.4'-DDT	R23-Ja0033899	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
a-HCH	R23-Ja0033899	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Aldrin	R23-Ja0033899	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
b-HCH	R23-Ja0033899	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
d-HCH	R23-Ja0033899	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dieldrin	R23-Ja0033899	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Endosulfan I	R23-Ja0033899	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Endosulfan II	R23-Ja0033899	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Endosulfan sulphate	R23-Ja0033899	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Endrin	R23-Ja0033899	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Endrin aldehyde	R23-Ja0033899	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Endrin ketone	R23-Ja0033899	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
g-HCH (Lindane)	R23-Ja0033899	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Heptachlor	R23-Ja0033899	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Heptachlor epoxide	R23-Ja0033899	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Hexachlorobenzene	R23-Ja0033899	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Methoxychlor	R23-Ja0033899	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Polychlorinated Biphenyls				Result 1	Result 2	RPD			
Aroclor-1016	R23-Ja0033899	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Aroclor-1221	R23-Ja0033899	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Aroclor-1232	R23-Ja0033899	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Aroclor-1242	R23-Ja0033899	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Aroclor-1248	R23-Ja0033899	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Aroclor-1254	R23-Ja0033899	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Aroclor-1260	R23-Ja0033899	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Duplicate									
Phenols (Halogenated)				Result 1	Result 2	RPD			
2-Chlorophenol	R23-Ja0033899	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dichlorophenol	R23-Ja0033899	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4.5-Trichlorophenol	R23-Ja0033899	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4.6-Trichlorophenol	R23-Ja0033899	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.6-Dichlorophenol	R23-Ja0033899	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
4-Chloro-3-methylphenol	R23-Ja0033899	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Pentachlorophenol	R23-Ja0033899	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Tetrachlorophenols - Total	R23-Ja0033899	CP	mg/kg	< 10	< 10	<1	30%	Pass	
Duplicate									
Phenols (non-Halogenated)				Result 1	Result 2	RPD			
2-Cyclohexyl-4.6-dinitrophenol	R23-Ja0033899	CP	mg/kg	< 20	< 20	<1	30%	Pass	
2-Methyl-4.6-dinitrophenol	R23-Ja0033899	CP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Nitrophenol	R23-Ja0033899	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4-Dimethylphenol	R23-Ja0033899	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dinitrophenol	R23-Ja0033899	CP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Methylphenol (o-Cresol)	R23-Ja0033899	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
3&4-Methylphenol (m&p-Cresol)	R23-Ja0033899	CP	mg/kg	3.1	3.8	21	30%	Pass	
4-Nitrophenol	R23-Ja0033899	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Dinoseb	R23-Ja0033899	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Phenol	R23-Ja0033899	CP	mg/kg	0.7	0.7	7.7	30%	Pass	

Duplicate									
Per- and Polyfluoroalkyl Substances (PFASs) - Short				Result 1	Result 2	RPD			
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	R23-Ja0033900	CP	ug/kg	< 10	< 10	<1	30%	Pass	
Perfluorooctanoic acid (PFOA)	R23-Ja0033900	CP	ug/kg	< 5	< 5	<1	30%	Pass	
Duplicate									
Per- and Polyfluoroalkyl Substances (PFASs) - Short				Result 1	Result 2	RPD			
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	R23-Ja0033904	CP	ug/kg	< 10	< 10	<1	30%	Pass	
Perfluorooctanoic acid (PFOA)	R23-Ja0033904	CP	ug/kg	< 5	< 5	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
% Moisture	R23-Ja0033908	CP	%	15	15	<1	30%	Pass	
Duplicate									
Metals M8				Result 1	Result 2	RPD			
Arsenic	R23-Ja0033909	CP	mg/kg	6.4	5.4	17	30%	Pass	
Cadmium	R23-Ja0033909	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	R23-Ja0033909	CP	mg/kg	45	40	12	30%	Pass	
Copper	R23-Ja0033909	CP	mg/kg	24	22	11	30%	Pass	
Lead	R23-Ja0033909	CP	mg/kg	12	11	11	30%	Pass	
Mercury	R23-Ja0033909	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Nickel	R23-Ja0033909	CP	mg/kg	31	24	24	30%	Pass	
Zinc	R23-Ja0033909	CP	mg/kg	54	46	16	30%	Pass	
Duplicate									
Metals M8				Result 1	Result 2	RPD			
Arsenic	R23-Ja0033910	CP	mg/kg	3.0	2.9	4.7	30%	Pass	
Cadmium	R23-Ja0033910	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	R23-Ja0033910	CP	mg/kg	11	9.8	13	30%	Pass	
Copper	R23-Ja0033910	CP	mg/kg	8.2	7.1	15	30%	Pass	
Lead	R23-Ja0033910	CP	mg/kg	28	25	13	30%	Pass	
Mercury	R23-Ja0033910	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Nickel	R23-Ja0033910	CP	mg/kg	6.7	5.9	13	30%	Pass	
Zinc	R23-Ja0033910	CP	mg/kg	76	68	12	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
% Moisture	R23-Ja0033918	CP	%	14	13	2.8	30%	Pass	
Duplicate									
Metals M8				Result 1	Result 2	RPD			
Arsenic	R23-Ja0033920	CP	mg/kg	8.0	8.0	<1	30%	Pass	
Cadmium	R23-Ja0033920	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	R23-Ja0033920	CP	mg/kg	60	56	7.8	30%	Pass	
Copper	R23-Ja0033920	CP	mg/kg	24	23	4.4	30%	Pass	
Lead	R23-Ja0033920	CP	mg/kg	42	35	17	30%	Pass	
Mercury	R23-Ja0033920	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Nickel	R23-Ja0033920	CP	mg/kg	35	40	14	30%	Pass	
Zinc	R23-Ja0033920	CP	mg/kg	88	100	12	30%	Pass	
Duplicate									
Per- and Polyfluoroalkyl Substances (PFASs) - Short				Result 1	Result 2	RPD			
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	R23-Ja0033920	CP	ug/kg	< 10	< 10	<1	30%	Pass	
Perfluorooctanoic acid (PFOA)	R23-Ja0033920	CP	ug/kg	< 5	< 5	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C6-C9	R23-Ja0033921	CP	mg/kg	< 20	< 20	<1	30%	Pass	

Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	R23-Ja0033921	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	R23-Ja0033921	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	R23-Ja0033921	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	R23-Ja0033921	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	R23-Ja0033921	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	R23-Ja0033921	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	R23-Ja0033921	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
TRH C6-C10	R23-Ja0033921	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C6-C9	R23-Ja0033922	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	R23-Ja0033922	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	R23-Ja0033922	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	R23-Ja0033922	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	R23-Ja0033922	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	R23-Ja0033922	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	R23-Ja0033922	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	R23-Ja0033922	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
TRH C6-C10	R23-Ja0033922	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
% Moisture	R23-Ja0033929	CP	%	14	14	3.3	30%	Pass	
Duplicate									
Metals M8				Result 1	Result 2	RPD			
Arsenic	R23-Ja0033932	CP	mg/kg	2.3	2.1	8.5	30%	Pass	
Cadmium	R23-Ja0033932	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	R23-Ja0033932	CP	mg/kg	9.6	10	4.5	30%	Pass	
Copper	R23-Ja0033932	CP	mg/kg	11	7.2	38	30%	Fail	Q15
Lead	R23-Ja0033932	CP	mg/kg	21	21	1.8	30%	Pass	
Mercury	R23-Ja0033932	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Nickel	R23-Ja0033932	CP	mg/kg	< 5	7.8	44	30%	Fail	Q15
Zinc	R23-Ja0033932	CP	mg/kg	45	45	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C6-C9	R23-Ja0033934	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	R23-Ja0033934	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	R23-Ja0033934	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	R23-Ja0033934	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	R23-Ja0033934	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	R23-Ja0033934	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	R23-Ja0033934	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	R23-Ja0033934	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
TRH C6-C10	R23-Ja0033934	CP	mg/kg	< 20	< 20	<1	30%	Pass	

Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	R23-Ja0033934	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	R23-Ja0033934	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	R23-Ja0033934	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	R23-Ja0033934	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	R23-Ja0033934	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(b&j)fluoranthene	R23-Ja0033934	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g.h.i)perylene	R23-Ja0033934	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(k)fluoranthene	R23-Ja0033934	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	R23-Ja0033934	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a.h)anthracene	R23-Ja0033934	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	R23-Ja0033934	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluorene	R23-Ja0033934	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	R23-Ja0033934	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	R23-Ja0033934	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	R23-Ja0033934	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	R23-Ja0033934	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	R23-Ja0033934	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
4.4'-DDD	R23-Ja0033934	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDE	R23-Ja0033934	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDT	R23-Ja0033934	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
a-HCH	R23-Ja0033934	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Aldrin	R23-Ja0033934	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
b-HCH	R23-Ja0033934	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
d-HCH	R23-Ja0033934	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Dieldrin	R23-Ja0033934	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan I	R23-Ja0033934	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan II	R23-Ja0033934	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan sulphate	R23-Ja0033934	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin	R23-Ja0033934	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin aldehyde	R23-Ja0033934	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin ketone	R23-Ja0033934	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
g-HCH (Lindane)	R23-Ja0033934	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor	R23-Ja0033934	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor epoxide	R23-Ja0033934	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Hexachlorobenzene	R23-Ja0033934	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Methoxychlor	R23-Ja0033934	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Duplicate									
Polychlorinated Biphenyls				Result 1	Result 2	RPD			
Aroclor-1016	R23-Ja0033934	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1221	R23-Ja0033934	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1232	R23-Ja0033934	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1242	R23-Ja0033934	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1248	R23-Ja0033934	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1254	R23-Ja0033934	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1260	R23-Ja0033934	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Total PCB*	R23-Ja0033934	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
Phenols (Halogenated)				Result 1	Result 2	RPD			
2-Chlorophenol	R23-Ja0033934	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dichlorophenol	R23-Ja0033934	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4.5-Trichlorophenol	R23-Ja0033934	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4.6-Trichlorophenol	R23-Ja0033934	CP	mg/kg	< 1	< 1	<1	30%	Pass	

Duplicate									
Phenols (Halogenated)				Result 1	Result 2	RPD			
2.6-Dichlorophenol	R23-Ja0033934	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
4-Chloro-3-methylphenol	R23-Ja0033934	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Pentachlorophenol	R23-Ja0033934	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Tetrachlorophenols - Total	R23-Ja0033934	CP	mg/kg	< 10	< 10	<1	30%	Pass	
Duplicate									
Phenols (non-Halogenated)				Result 1	Result 2	RPD			
2-Cyclohexyl-4.6-dinitrophenol	R23-Ja0033934	CP	mg/kg	< 20	< 20	<1	30%	Pass	
2-Methyl-4.6-dinitrophenol	R23-Ja0033934	CP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Nitrophenol	R23-Ja0033934	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4-Dimethylphenol	R23-Ja0033934	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dinitrophenol	R23-Ja0033934	CP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Methylphenol (o-Cresol)	R23-Ja0033934	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
3&4-Methylphenol (m&p-Cresol)	R23-Ja0033934	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
4-Nitrophenol	R23-Ja0033934	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Dinoseb	R23-Ja0033934	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Phenol	R23-Ja0033934	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	R23-Ja0033936	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	R23-Ja0033936	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	R23-Ja0033936	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	R23-Ja0033936	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	R23-Ja0033936	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(b&j)fluoranthene	R23-Ja0033936	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g.h.i)perylene	R23-Ja0033936	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(k)fluoranthene	R23-Ja0033936	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	R23-Ja0033936	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a.h)anthracene	R23-Ja0033936	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	R23-Ja0033936	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluorene	R23-Ja0033936	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	R23-Ja0033936	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	R23-Ja0033936	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	R23-Ja0033936	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	R23-Ja0033936	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	R23-Ja0033936	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
4.4'-DDD	R23-Ja0033936	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDE	R23-Ja0033936	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDT	R23-Ja0033936	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
a-HCH	R23-Ja0033936	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Aldrin	R23-Ja0033936	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
b-HCH	R23-Ja0033936	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
d-HCH	R23-Ja0033936	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Dieldrin	R23-Ja0033936	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan I	R23-Ja0033936	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan II	R23-Ja0033936	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan sulphate	R23-Ja0033936	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin	R23-Ja0033936	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin aldehyde	R23-Ja0033936	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin ketone	R23-Ja0033936	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
g-HCH (Lindane)	R23-Ja0033936	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor	R23-Ja0033936	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor epoxide	R23-Ja0033936	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	

Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Hexachlorobenzene	R23-Ja0033936	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Methoxychlor	R23-Ja0033936	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Duplicate									
Polychlorinated Biphenyls				Result 1	Result 2	RPD			
Aroclor-1016	R23-Ja0033936	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1221	R23-Ja0033936	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1232	R23-Ja0033936	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1242	R23-Ja0033936	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1248	R23-Ja0033936	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1254	R23-Ja0033936	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1260	R23-Ja0033936	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Total PCB*	R23-Ja0033936	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
Phenols (Halogenated)				Result 1	Result 2	RPD			
2-Chlorophenol	R23-Ja0033936	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dichlorophenol	R23-Ja0033936	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4.5-Trichlorophenol	R23-Ja0033936	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4.6-Trichlorophenol	R23-Ja0033936	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.6-Dichlorophenol	R23-Ja0033936	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
4-Chloro-3-methylphenol	R23-Ja0033936	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Pentachlorophenol	R23-Ja0033936	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Tetrachlorophenols - Total	R23-Ja0033936	CP	mg/kg	< 10	< 10	<1	30%	Pass	
Duplicate									
Phenols (non-Halogenated)				Result 1	Result 2	RPD			
2-Cyclohexyl-4.6-dinitrophenol	R23-Ja0033936	CP	mg/kg	< 20	< 20	<1	30%	Pass	
2-Methyl-4.6-dinitrophenol	R23-Ja0033936	CP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Nitrophenol	R23-Ja0033936	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4-Dimethylphenol	R23-Ja0033936	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dinitrophenol	R23-Ja0033936	CP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Methylphenol (o-Cresol)	R23-Ja0033936	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
3&4-Methylphenol (m&p-Cresol)	R23-Ja0033936	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
4-Nitrophenol	R23-Ja0033936	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Dinoseb	R23-Ja0033936	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Phenol	R23-Ja0033936	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C6-C9	R23-Ja0033939	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	R23-Ja0033939	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	R23-Ja0033939	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	R23-Ja0033939	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	R23-Ja0033939	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	R23-Ja0033939	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	R23-Ja0033939	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	R23-Ja0033939	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
TRH C6-C10	R23-Ja0033939	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
% Moisture	R23-Ja0033939	CP	%	4.4	3.9	11	30%	Pass	

Duplicate									
Per- and Polyfluoroalkyl Substances (PFASs) - Short				Result 1	Result 2	RPD			
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	R23-Ja0033939	CP	ug/kg	< 10	< 10	<1	30%	Pass	
Perfluorooctanoic acid (PFOA)	R23-Ja0033939	CP	ug/kg	< 5	< 5	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C6-C9	R23-Ja0033942	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	R23-Ja0033942	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	R23-Ja0033942	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	R23-Ja0033942	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	R23-Ja0033942	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	R23-Ja0033942	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	R23-Ja0033942	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	R23-Ja0033942	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
TRH C6-C10	R23-Ja0033942	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C6-C9	R23-Ja0033944	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C10-C14	R23-Ja0033944	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	R23-Ja0033944	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C29-C36	R23-Ja0033944	CP	mg/kg	< 50	< 50	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	R23-Ja0033944	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	R23-Ja0033944	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	R23-Ja0033944	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	R23-Ja0033944	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	R23-Ja0033944	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	R23-Ja0033944	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	R23-Ja0033944	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
TRH C6-C10	R23-Ja0033944	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	R23-Ja0033944	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	R23-Ja0033944	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	R23-Ja0033944	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	R23-Ja0033944	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	R23-Ja0033944	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(b&j)fluoranthene	R23-Ja0033944	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g.h.i)perylene	R23-Ja0033944	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(k)fluoranthene	R23-Ja0033944	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	R23-Ja0033944	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a.h)anthracene	R23-Ja0033944	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	R23-Ja0033944	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluorene	R23-Ja0033944	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	R23-Ja0033944	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	R23-Ja0033944	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	R23-Ja0033944	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	R23-Ja0033944	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	

Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	R23-Ja0033944	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
4.4'-DDD	R23-Ja0033944	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDE	R23-Ja0033944	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDT	R23-Ja0033944	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
a-HCH	R23-Ja0033944	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Aldrin	R23-Ja0033944	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
b-HCH	R23-Ja0033944	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
d-HCH	R23-Ja0033944	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Dieldrin	R23-Ja0033944	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan I	R23-Ja0033944	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan II	R23-Ja0033944	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan sulphate	R23-Ja0033944	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin	R23-Ja0033944	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin aldehyde	R23-Ja0033944	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin ketone	R23-Ja0033944	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
g-HCH (Lindane)	R23-Ja0033944	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor	R23-Ja0033944	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor epoxide	R23-Ja0033944	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Hexachlorobenzene	R23-Ja0033944	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Methoxychlor	R23-Ja0033944	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Toxaphene	R23-Ja0033944	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Polychlorinated Biphenyls				Result 1	Result 2	RPD			
Aroclor-1016	R23-Ja0033944	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1221	R23-Ja0033944	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1232	R23-Ja0033944	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1242	R23-Ja0033944	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1248	R23-Ja0033944	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1254	R23-Ja0033944	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1260	R23-Ja0033944	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Total PCB*	R23-Ja0033944	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
Phenols (Halogenated)				Result 1	Result 2	RPD			
2-Chlorophenol	R23-Ja0033944	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dichlorophenol	R23-Ja0033944	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4.5-Trichlorophenol	R23-Ja0033944	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4.6-Trichlorophenol	R23-Ja0033944	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.6-Dichlorophenol	R23-Ja0033944	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
4-Chloro-3-methylphenol	R23-Ja0033944	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Pentachlorophenol	R23-Ja0033944	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Tetrachlorophenols - Total	R23-Ja0033944	CP	mg/kg	< 10	< 10	<1	30%	Pass	
Duplicate									
Phenols (non-Halogenated)				Result 1	Result 2	RPD			
2-Cyclohexyl-4.6-dinitrophenol	R23-Ja0033944	CP	mg/kg	< 20	< 20	<1	30%	Pass	
2-Methyl-4.6-dinitrophenol	R23-Ja0033944	CP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Nitrophenol	R23-Ja0033944	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4-Dimethylphenol	R23-Ja0033944	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dinitrophenol	R23-Ja0033944	CP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Methylphenol (o-Cresol)	R23-Ja0033944	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
3&4-Methylphenol (m&p-Cresol)	R23-Ja0033944	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
4-Nitrophenol	R23-Ja0033944	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Dinoseb	R23-Ja0033944	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Phenol	R23-Ja0033944	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	

Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
TRH >C10-C16	R23-Ja0033944	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	R23-Ja0033944	CP	mg/kg	< 100	< 100	<1	30%	Pass	
TRH >C34-C40	R23-Ja0033944	CP	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	R23-Ja0033947	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	R23-Ja0033947	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	R23-Ja0033947	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	R23-Ja0033947	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	R23-Ja0033947	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(b&j)fluoranthene	R23-Ja0033947	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g.h.i)perylene	R23-Ja0033947	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(k)fluoranthene	R23-Ja0033947	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	R23-Ja0033947	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a.h)anthracene	R23-Ja0033947	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	R23-Ja0033947	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluorene	R23-Ja0033947	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	R23-Ja0033947	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	R23-Ja0033947	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	R23-Ja0033947	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	R23-Ja0033947	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	R23-Ja0033947	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
4.4'-DDD	R23-Ja0033947	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDE	R23-Ja0033947	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDT	R23-Ja0033947	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
a-HCH	R23-Ja0033947	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Aldrin	R23-Ja0033947	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
b-HCH	R23-Ja0033947	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
d-HCH	R23-Ja0033947	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Dieldrin	R23-Ja0033947	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan I	R23-Ja0033947	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan II	R23-Ja0033947	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan sulphate	R23-Ja0033947	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin	R23-Ja0033947	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin aldehyde	R23-Ja0033947	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin ketone	R23-Ja0033947	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
g-HCH (Lindane)	R23-Ja0033947	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor	R23-Ja0033947	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor epoxide	R23-Ja0033947	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Hexachlorobenzene	R23-Ja0033947	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Methoxychlor	R23-Ja0033947	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Duplicate									
Polychlorinated Biphenyls				Result 1	Result 2	RPD			
Aroclor-1016	R23-Ja0033947	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1221	R23-Ja0033947	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1232	R23-Ja0033947	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1242	R23-Ja0033947	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1248	R23-Ja0033947	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1254	R23-Ja0033947	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1260	R23-Ja0033947	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Total PCB*	R23-Ja0033947	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	

Duplicate									
Phenols (Halogenated)				Result 1	Result 2	RPD			
2-Chlorophenol	R23-Ja0033947	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dichlorophenol	R23-Ja0033947	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4.5-Trichlorophenol	R23-Ja0033947	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4.6-Trichlorophenol	R23-Ja0033947	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.6-Dichlorophenol	R23-Ja0033947	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
4-Chloro-3-methylphenol	R23-Ja0033947	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Pentachlorophenol	R23-Ja0033947	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Tetrachlorophenols - Total	R23-Ja0033947	CP	mg/kg	< 10	< 10	<1	30%	Pass	
Duplicate									
Phenols (non-Halogenated)				Result 1	Result 2	RPD			
2-Cyclohexyl-4.6-dinitrophenol	R23-Ja0033947	CP	mg/kg	< 20	< 20	<1	30%	Pass	
2-Methyl-4.6-dinitrophenol	R23-Ja0033947	CP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Nitrophenol	R23-Ja0033947	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4-Dimethylphenol	R23-Ja0033947	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dinitrophenol	R23-Ja0033947	CP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Methylphenol (o-Cresol)	R23-Ja0033947	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
3&4-Methylphenol (m&p-Cresol)	R23-Ja0033947	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
4-Nitrophenol	R23-Ja0033947	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Dinoseb	R23-Ja0033947	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Phenol	R23-Ja0033947	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
% Moisture	R23-Ja0033949	CP	%	2.8	2.3	23	30%	Pass	
Duplicate									
Per- and Polyfluoroalkyl Substances (PFASs) - Short				Result 1	Result 2	RPD			
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	R23-Ja0033951	CP	ug/kg	< 10	< 10	<1	30%	Pass	
Perfluorooctanoic acid (PFOA)	R23-Ja0033951	CP	ug/kg	< 5	< 5	<1	30%	Pass	
Duplicate									
Metals M8				Result 1	Result 2	RPD			
Arsenic	R23-Ja0033952	CP	mg/kg	14	14	3.7	30%	Pass	
Cadmium	R23-Ja0033952	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	R23-Ja0033952	CP	mg/kg	38	34	12	30%	Pass	
Copper	R23-Ja0033952	CP	mg/kg	28	27	1.7	30%	Pass	
Lead	R23-Ja0033952	CP	mg/kg	25	28	12	30%	Pass	
Mercury	R23-Ja0033952	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Nickel	R23-Ja0033952	CP	mg/kg	39	40	3.2	30%	Pass	
Zinc	R23-Ja0033952	CP	mg/kg	120	120	3.9	30%	Pass	
Duplicate									
Per- and Polyfluoroalkyl Substances (PFASs) - Short				Result 1	Result 2	RPD			
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	R23-Ja0033952	CP	ug/kg	< 10	< 10	<1	30%	Pass	
Perfluorooctanoic acid (PFOA)	R23-Ja0033952	CP	ug/kg	< 5	< 5	<1	30%	Pass	
Duplicate									
Metals M8				Result 1	Result 2	RPD			
Arsenic	R23-Ja0033953	CP	mg/kg	13	8.4	44	30%	Fail	Q15
Cadmium	R23-Ja0033953	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	R23-Ja0033953	CP	mg/kg	22	23	1.4	30%	Pass	
Copper	R23-Ja0033953	CP	mg/kg	26	14	57	30%	Fail	Q15
Lead	R23-Ja0033953	CP	mg/kg	23	16	34	30%	Fail	Q15
Mercury	R23-Ja0033953	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Nickel	R23-Ja0033953	CP	mg/kg	43	23	61	30%	Fail	Q15

Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C6-C9	R23-Ja0033954	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	R23-Ja0033954	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	R23-Ja0033954	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	R23-Ja0033954	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	R23-Ja0033954	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	R23-Ja0033954	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	R23-Ja0033954	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	R23-Ja0033954	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
TRH C6-C10	R23-Ja0033954	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	R23-Ja0033955	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	R23-Ja0033955	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	R23-Ja0033955	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	R23-Ja0033955	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	R23-Ja0033955	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(b&j)fluoranthene	R23-Ja0033955	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g.h.i)perylene	R23-Ja0033955	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(k)fluoranthene	R23-Ja0033955	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	R23-Ja0033955	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a.h)anthracene	R23-Ja0033955	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	R23-Ja0033955	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluorene	R23-Ja0033955	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	R23-Ja0033955	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	R23-Ja0033955	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	R23-Ja0033955	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	R23-Ja0033955	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	R23-Ja0033955	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
4.4'-DDD	R23-Ja0033955	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDE	R23-Ja0033955	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDT	R23-Ja0033955	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
a-HCH	R23-Ja0033955	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Aldrin	R23-Ja0033955	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
b-HCH	R23-Ja0033955	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
d-HCH	R23-Ja0033955	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Dieldrin	R23-Ja0033955	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan I	R23-Ja0033955	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan II	R23-Ja0033955	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan sulphate	R23-Ja0033955	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin	R23-Ja0033955	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin aldehyde	R23-Ja0033955	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin ketone	R23-Ja0033955	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
g-HCH (Lindane)	R23-Ja0033955	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor	R23-Ja0033955	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor epoxide	R23-Ja0033955	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Hexachlorobenzene	R23-Ja0033955	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Methoxychlor	R23-Ja0033955	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	

Duplicate									
Polychlorinated Biphenyls				Result 1	Result 2	RPD			
Aroclor-1016	R23-Ja0033955	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1221	R23-Ja0033955	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1232	R23-Ja0033955	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1242	R23-Ja0033955	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1248	R23-Ja0033955	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1254	R23-Ja0033955	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1260	R23-Ja0033955	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Total PCB*	R23-Ja0033955	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
Phenols (Halogenated)				Result 1	Result 2	RPD			
2-Chlorophenol	R23-Ja0033955	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dichlorophenol	R23-Ja0033955	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4.5-Trichlorophenol	R23-Ja0033955	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4.6-Trichlorophenol	R23-Ja0033955	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.6-Dichlorophenol	R23-Ja0033955	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
4-Chloro-3-methylphenol	R23-Ja0033955	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Pentachlorophenol	R23-Ja0033955	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Tetrachlorophenols - Total	R23-Ja0033955	CP	mg/kg	< 10	< 10	<1	30%	Pass	
Duplicate									
Phenols (non-Halogenated)				Result 1	Result 2	RPD			
2-Cyclohexyl-4.6-dinitrophenol	R23-Ja0033955	CP	mg/kg	< 20	< 20	<1	30%	Pass	
2-Methyl-4.6-dinitrophenol	R23-Ja0033955	CP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Nitrophenol	R23-Ja0033955	CP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4-Dimethylphenol	R23-Ja0033955	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dinitrophenol	R23-Ja0033955	CP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Methylphenol (o-Cresol)	R23-Ja0033955	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
3&4-Methylphenol (m&p-Cresol)	R23-Ja0033955	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
4-Nitrophenol	R23-Ja0033955	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Dinoseb	R23-Ja0033955	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Phenol	R23-Ja0033955	CP	mg/kg	< 0.5	< 0.5	<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
G01	The LORs have been raised due to matrix interference
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.
Q09	The Surrogate recovery is outside of the recommended acceptance criteria due to matrix interference. Acceptance criteria were met for all other QC
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:

Quinn Raw	Analytical Services Manager
Fang Yee Tan	Senior Analyst-Metal
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.

eurofins | Environment Testing

Certificate of Analysis

Agon Environmental Pty Ltd - ACT
68 Northbourne Ave
Canberra
ACT 2060

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:	**John O Brien - ACT Manager**
Report	**957950-W**
Project name	WCP
Received Date	Jan 24, 2023

Client Sample ID			**RB01**	**RB02**
Sample Matrix			**Water**	**Water**
Eurofins Sample No.			**R23-Ja0033957**	**R23-Ja0033958**
Date Sampled			**Jan 20, 2023**	**Jan 21, 2023**
Test/Reference	LOR	Unit		
Per- and Polyfluoroalkyl Substances (PFASs) - Short				
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)[N11]	0.05	ug/L	< 0.05	< 0.05
13C2-6:2 FTSA (surr.)	1	%	104	56
Perfluorohexanesulfonic acid (PFHxS)[N11]	0.01	ug/L	< 0.01	< 0.01
Perfluorooctanesulfonic acid (PFOS)[N11]	0.01	ug/L	0.02	0.01
18O2-PFHxS (surr.)	1	%	112	62
13C8-PFOS (surr.)	1	%	110	61
Perfluorooctanoic acid (PFOA)[N11]	0.01	ug/L	< 0.01	< 0.01
13C8-PFOA (surr.)	1	%	118	61
Sum (PFHxS + PFOS)*	0.01	ug/L	0.02	0.01
Sum of US EPA PFAS (PFOS + PFOA)*	0.01	ug/L	0.02	0.01
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	0.01	ug/L	0.02	0.01

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
Per- and Polyfluoroalkyl Substances (PFASs) - Short	Sydney	Jan 31, 2023	28 Days

- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS)

Company Name: Agon Environmental Pty Ltd - ACT
Address: 68 Northbourne Ave
Canberra
ACT 2060

Project Name: WCP

Order No.:
Report #: 957950
Phone: 0419 170 791
Fax:

Received: Jan 24, 2023 2:15 PM
Due: Feb 1, 2023
Priority: 5 Day
Contact Name: John O Brien - ACT Manager

Eurofins Analytical Services Manager : Quinn Raw

Sample Detail						HOLD	Metals M8	Suite B13: OCP/PCB	Moisture Set	Eurofins Suite B7A	Per- and Polyfluoroalkyl Substances (PFASs) - Short
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X	X	X	X
External Laboratory											
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**						
1	BH01 - 0.1	Jan 20, 2023		Soil	R23-Ja0033880			X	X	X	X
2	BH01 - 0.5	Jan 20, 2023		Soil	R23-Ja0033881			X	X	X	X
3	BH01 - 1.0	Jan 20, 2023		Soil	R23-Ja0033882			X	X	X	
4	BH01 - 1.5	Jan 20, 2023		Soil	R23-Ja0033883			X	X	X	
5	BH02 - 0.1	Jan 20, 2023		Soil	R23-Ja0033884			X	X	X	X
6	BH02 - 0.5	Jan 20, 2023		Soil	R23-Ja0033885			X	X	X	
7	BH02 - 1.0	Jan 20, 2023		Soil	R23-Ja0033886			X	X	X	
8	BH02 - 1.5	Jan 20, 2023		Soil	R23-Ja0033887			X	X	X	
9	BH03 - 0.1	Jan 20, 2023		Soil	R23-Ja0033888			X	X	X	X
10	BH03 - 0.5	Jan 20, 2023		Soil	R23-Ja0033889			X	X	X	X
11	BH03 - 1.5	Jan 20, 2023		Soil	R23-Ja0033890			X	X	X	
12	BH04 - 0.1	Jan 20, 2023		Soil	R23-Ja0033891			X	X	X	
13	BH04 - 0.5	Jan 20, 2023		Soil	R23-Ja0033892			X	X	X	
14	BH04 - 1.0	Jan 20, 2023		Soil	R23-Ja0033893			X	X	X	X

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Eurofins Analytical Services Manager : Quinn Raw

Sample Detail						HOLD	Metals M8	Suite B13: OCP/PCB	Moisture Set	Eurofins Suite B7A	Per- and Polyfluoroalkyl Substances (PFASs) - Short
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X	X	X	X
15	BH04 - 1.5	Jan 20, 2023		Soil	R23-Ja0033894			X	X	X	
16	BH05 - 0.1	Jan 20, 2023		Soil	R23-Ja0033895			X	X	X	X
17	BH05 - 0.5	Jan 20, 2023		Soil	R23-Ja0033896			X	X	X	X
18	BH05 - 1.0	Jan 20, 2023		Soil	R23-Ja0033897			X	X	X	
19	BH05 - 1.5	Jan 20, 2023		Soil	R23-Ja0033898			X	X	X	
20	BH06 - 0.1	Jan 20, 2023		Soil	R23-Ja0033899			X	X	X	X
21	BH06 - 0.5	Jan 20, 2023		Soil	R23-Ja0033900				X		X
22	BH06 - 1.0	Jan 20, 2023		Soil	R23-Ja0033901			X	X	X	
23	BH06 - 1.5	Jan 20, 2023		Soil	R23-Ja0033902			X	X	X	
24	BH07 - 0.1	Jan 20, 2023		Soil	R23-Ja0033903			X	X	X	
25	BH07 - 0.5	Jan 20, 2023		Soil	R23-Ja0033904			X	X	X	X
26	BH07 - 1.5	Jan 20, 2023		Soil	R23-Ja0033905			X	X	X	
27	BH08 - 0.1	Jan 20, 2023		Soil	R23-Ja0033906			X	X	X	X
28	BH08 - 0.5	Jan 20, 2023		Soil	R23-Ja0033907			X	X	X	X
29	BH08 - 1.0	Jan 20, 2023		Soil	R23-Ja0033908			X	X	X	
30	BH08 - 1.5	Jan 20, 2023		Soil	R23-Ja0033909			X	X	X	

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Sample Detail						HOLD	Metals M8	Suite B13: OCP/PCB	Moisture Set	Eurofins Suite B7A	Per- and Polyfluoroalkyl Substances (PFASs) - Short
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X	X	X	X
31	BH09 - 0.1	Jan 21, 2023		Soil	R23-Ja0033910			X	X	X	X
32	BH09 - 0.5	Jan 21, 2023		Soil	R23-Ja0033911			X	X	X	X
33	BH09 - 1.0	Jan 21, 2023		Soil	R23-Ja0033912			X	X	X	
34	BH10 - 0.1	Jan 21, 2023		Soil	R23-Ja0033913			X	X	X	X
35	BH10 - 0.5	Jan 21, 2023		Soil	R23-Ja0033914			X	X	X	X
36	B10 - 1.0	Jan 21, 2023		Soil	R23-Ja0033915			X	X	X	
37	BH10 - 1.5	Jan 21, 2023		Soil	R23-Ja0033916			X	X	X	
38	BH11 - 0.1	Jan 21, 2023		Soil	R23-Ja0033917			X	X	X	X
39	BH11 - 0.5	Jan 21, 2023		Soil	R23-Ja0033918				X		X
40	BH11 - 1.0	Jan 21, 2023		Soil	R23-Ja0033919			X	X	X	
41	BH11 - 1.5	Jan 21, 2023		Soil	R23-Ja0033920			X	X	X	X
42	BH12 - 0.1	Jan 21, 2023		Soil	R23-Ja0033921			X	X	X	X
43	BH12 - 0.5	Jan 21, 2023		Soil	R23-Ja0033922			X	X	X	X
44	BH12 - 1.5	Jan 21, 2023		Soil	R23-Ja0033923			X	X	X	
45	BH13 - 0.1	Jan 21, 2023		Soil	R23-Ja0033924			X	X	X	X
46	BH13 - 0.5	Jan 21, 2023		Soil	R23-Ja0033925			X	X	X	X

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Sample Detail						HOLD	Metals M8	Suite B13: OCP/PCB	Moisture Set	Eurofins Suite B7A	Per- and Polyfluoroalkyl Substances (PFASs) - Short
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X	X	X	X
47	BH13 - 1.0	Jan 21, 2023		Soil	R23-Ja0033926			X	X	X	
48	BH13 - 1.5	Jan 21, 2023		Soil	R23-Ja0033927			X	X	X	
49	BH14 - 0.1	Jan 21, 2023		Soil	R23-Ja0033928				X		X
50	BH14 - 0.5	Jan 21, 2023		Soil	R23-Ja0033929			X	X	X	X
51	BH14 - 1.0	Jan 21, 2023		Soil	R23-Ja0033930			X	X	X	
52	BH14 - 2.0	Jan 21, 2023		Soil	R23-Ja0033931			X	X	X	
53	BH15 - 0.1	Jan 21, 2023		Soil	R23-Ja0033932			X	X	X	X
54	BH15 - 0.5	Jan 21, 2023		Soil	R23-Ja0033933				X		X
55	BH15 - 1.0	Jan 21, 2023		Soil	R23-Ja0033934			X	X	X	
56	BH15 - 1.5	Jan 21, 2023		Soil	R23-Ja0033935			X	X	X	
57	BH16 - 0.1	Jan 21, 2023		Soil	R23-Ja0033936			X	X	X	X
58	BH16 - 0.5	Jan 21, 2023		Soil	R23-Ja0033937			X	X	X	X
59	BH16 - 1.0	Jan 21, 2023		Soil	R23-Ja0033938			X	X	X	
60	BH17 - 0.1	Jan 21, 2023		Soil	R23-Ja0033939			X	X	X	X
61	BH17 - 0.5	Jan 21, 2023		Soil	R23-Ja0033940			X	X	X	X
62	BH17 - 1.0	Jan 21, 2023		Soil	R23-Ja0033941			X	X	X	

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Sample Detail						HOLD	Metals M8	Suite B13: OCP/PCB	Moisture Set	Eurofins Suite B7A	Per- and Polyfluoroalkyl Substances (PFASs) - Short
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X	X	X	X
63	BH18 - 0.1	Jan 21, 2023		Soil	R23-Ja0033942			X	X	X	X
64	BH18 - 0.5	Jan 21, 2023		Soil	R23-Ja0033943			X	X	X	X
65	BH18 - 1.0	Jan 21, 2023		Soil	R23-Ja0033944			X	X	X	X
66	BH19 - 0.1	Jan 21, 2023		Soil	R23-Ja0033945			X	X	X	X
67	BH19 - 0.5	Jan 21, 2023		Soil	R23-Ja0033946			X	X	X	X
68	BH19 - 1.0	Jan 21, 2023		Soil	R23-Ja0033947			X	X	X	
69	BH19 - 1.5	Jan 21, 2023		Soil	R23-Ja0033948			X	X	X	X
70	BH20 - 0.1	Jan 21, 2023		Soil	R23-Ja0033949			X	X	X	X
71	BH20 - 0.5	Jan 21, 2023		Soil	R23-Ja0033950			X	X	X	X
72	BH20- 1.0	Jan 21, 2023		Soil	R23-Ja0033951			X	X	X	X
73	QC01	Jan 20, 2023		Soil	R23-Ja0033952			X	X	X	X
74	QC03	Jan 20, 2023		Soil	R23-Ja0033953			X	X	X	X
75	QC05	Jan 21, 2023		Soil	R23-Ja0033954			X	X	X	X
76	QC08	Jan 21, 2023		Soil	R23-Ja0033955			X	X	X	X
77	QC09	Jan 21, 2023		Soil	R23-Ja0033956			X	X	X	X
78	RB01	Jan 20, 2023		Water	R23-Ja0033957						X

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Sample Detail						HOLD	Metals M8	Suite B13: OCP/PCB	Moisture Set	Eurofins Suite B7A	Per- and Polyfluoroalkyl Substances (PFASs) - Short
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X	X	X	X
79	RB02	Jan 21, 2023		Water	R23-Ja0033958						X
80	BH01 - 2.0	Jan 20, 2023		Soil	R23-Ja0033959	X					
81	BH03 - 1.0	Jan 20, 2023		Soil	R23-Ja0033960	X					
82	BH04 - 2.0	Jan 20, 2023		Soil	R23-Ja0033961	X					
83	BH07 - 1.0	Jan 20, 2023		Soil	R23-Ja0033962	X					
84	BH09 - 1.5	Jan 21, 2023		Soil	R23-Ja0033963	X					
85	BH12 - 1.0	Jan 21, 2023		Soil	R23-Ja0033964	X					
86	BH12 - 2.0	Jan 21, 2023		Soil	R23-Ja0033965	X					
87	BH14 - 1.5	Jan 21, 2023		Soil	R23-Ja0033966	X					
88	BH16 - 1.5	Jan 21, 2023		Soil	R23-Ja0033967	X					
89	BH17 - 1.5	Jan 21, 2023		Soil	R23-Ja0033968	X					
90	BH18 - 1.5	Jan 21, 2023		Soil	R23-Ja0033969	X					
91	BH19 - 2.0	Jan 21, 2023		Soil	R23-Ja0033970	X					
92	BH20 - 1.5	Jan 21, 2023		Soil	R23-Ja0033971	X					
93	QC06	Jan 21, 2023		Soil	R23-Ja0033972		X		X		
Test Counts						13	1	73	78	73	48

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

ppm: parts per million

org/100 mL: Organisms per 100 millilitres

CFU: Colony forming unit

mg/L: milligrams per litre

ppb: parts per billion

NTU: Nephelometric Turbidity Units

µg/L: micrograms per litre

%: Percentage

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.

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									
Per- and Polyfluoroalkyl Substances (PFASs) - Short									
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)			ug/L	< 0.05			0.05	Pass	
Perfluorohexanesulfonic acid (PFHxS)			ug/L	< 0.01			0.01	Pass	
Perfluorooctanesulfonic acid (PFOS)			ug/L	< 0.01			0.01	Pass	
Perfluorooctanoic acid (PFOA)			ug/L	< 0.01			0.01	Pass	
Sum of US EPA PFAS (PFOS + PFOA)*			ug/L	-			0.01	N/A	
LCS - % Recovery									
Per- and Polyfluoroalkyl Substances (PFASs) - Short									
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)			%	123			50-150	Pass	
Perfluorohexanesulfonic acid (PFHxS)			%	98			50-150	Pass	
Perfluorooctanesulfonic acid (PFOS)			%	103			50-150	Pass	
Perfluorooctanoic acid (PFOA)			%	106			50-150	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Spike - % Recovery									
Per- and Polyfluoroalkyl Substances (PFASs) - Short				Result 1					
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	S23-Ja0046854	NCP	%	115			50-150	Pass	
Perfluorooctanesulfonic acid (PFOS)	S23-Ja0032907	NCP	%	102			50-150	Pass	
Perfluorooctanoic acid (PFOA)	S23-Ja0046854	NCP	%	115			50-150	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Per- and Polyfluoroalkyl Substances (PFASs) - Short				Result 1	Result 2	RPD			
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	S23-Ja0046853	NCP	ug/L	< 0.05	< 0.05	<1	30%	Pass	
Perfluorooctanoic acid (PFOA)	S23-Ja0046853	NCP	ug/L	0.02	0.03	<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
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.

Authorised by:

Quinn Raw	Analytical Services Manager

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.

ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order : **ES2302842**
Client : **AGON ENVIRONMENTAL PTY LTD**
Contact : JOHN O'BRIEN
Address : 4/10 KENNEDY STREET
KINGSTON 2604
Telephone : +61 08 8338 1009
Project : ----
Order number : ----
C-O-C number : ----
Sampler : ----
Site : ----
Quote number : EN/150/21
No. of samples received : 3
No. of samples analysed : 3

Page : 1 of 8
Laboratory : Environmental Division Sydney
Contact : Josh Alexander
Address : 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone : +61-2-8784 8555
Date Samples Received : 30-Jan-2023 13:11
Date Analysis Commenced : 03-Feb-2023
Issue Date : 06-Feb-2023 14:43

NATA
Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- 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
Sanjeshni Jyoti	Senior Chemist Volatiles	Sydney Organics, Smithfield, NSW

General Comments

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

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

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

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

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

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS 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.
- 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	**QC02**	**QC04**	**QC07**	**----**	**----**
			Sampling date / time	20-Jan-2023 00:00	21-Jan-2023 00:00	21-Jan-2023 00:00	----	----
Compound	*CAS Number*	*LOR*	*Unit*	**ES2302842-001**	**ES2302842-002**	**ES2302842-003**	**--------**	**--------**
				Result	Result	Result	----	----
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	**3.4**	**3.4**	**17.9**	----	----
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	<5	<5	<5	----	----
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	----	----
Chromium	7440-47-3	2	mg/kg	**8**	**8**	**37**	----	----
Copper	7440-50-8	5	mg/kg	**6**	**5**	**20**	----	----
Lead	7439-92-1	5	mg/kg	**19**	**21**	**14**	----	----
Nickel	7440-02-0	2	mg/kg	**4**	**4**	**17**	----	----
Zinc	7440-66-6	5	mg/kg	**45**	**49**	**36**	----	----
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	----	----
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	<0.1	----	----
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	<0.05	----	----
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**)			*Sample ID*	**QC02**	**QC04**	**QC07**	**----**	**----**
			Sampling date / time	20-Jan-2023 00:00	21-Jan-2023 00:00	21-Jan-2023 00:00	----	----
Compound	*CAS Number*	*LOR*	*Unit*	**ES2302842-001**	**ES2302842-002**	**ES2302842-003**	**--------**	**--------**
				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	----	----
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	<1	----	----
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	<2	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	<0.5	----	----

Analytical Results

Sub-Matrix: **SOIL**
(Matrix: **SOIL**)

			Sample ID	**QC02**	**QC04**	**QC07**	**----**	**----**
			Sampling date / time	20-Jan-2023 00:00	21-Jan-2023 00:00	21-Jan-2023 00:00	----	----
Compound	*CAS Number*	*LOR*	*Unit*	**ES2302842-001**	**ES2302842-002**	**ES2302842-003**	**--------**	**--------**
				Result	Result	Result	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
^ **Sum of polycyclic aromatic hydrocarbons**	----	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
^ **Benzo(a)pyrene TEQ (zero)**	----	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
^ **Benzo(a)pyrene TEQ (half LOR)**	----	0.5	mg/kg	**0.6**	**0.6**	**0.6**	----	----
^ **Benzo(a)pyrene TEQ (LOR)**	----	0.5	mg/kg	**1.2**	**1.2**	**1.2**	----	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	----	----
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	----	----
C15 - C28 Fraction	----	100	mg/kg	<100	<100	<100	----	----
C29 - C36 Fraction	----	100	mg/kg	<100	<100	<100	----	----
^ **C10 - C36 Fraction (sum)**	----	50	mg/kg	<50	<50	<50	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	<10	----	----
^ **C6 - C10 Fraction minus BTEX (F1)**	C6_C10-BTEX	10	mg/kg	<10	<10	<10	----	----
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	<50	----	----
>C16 - C34 Fraction	----	100	mg/kg	<100	<100	<100	----	----
>C34 - C40 Fraction	----	100	mg/kg	<100	<100	<100	----	----
^ **>C10 - C40 Fraction (sum)**	----	50	mg/kg	<50	<50	<50	----	----
^ **>C10 - C16 Fraction minus Naphthalene (F2)**	----	50	mg/kg	<50	<50	<50	----	----
EP080: BTEXN								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	----	----
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
^ **Sum of BTEX**	----	0.2	mg/kg	<0.2	<0.2	<0.2	----	----
^ **Total Xylenes**	----	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	----	----
EP231A: Perfluoroalkyl Sulfonic Acids								
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	<0.0002	**0.0004**	----	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)			*Sample ID*	**QC02**	**QC04**	**QC07**	**----**	**----**
			Sampling date / time	20-Jan-2023 00:00	21-Jan-2023 00:00	21-Jan-2023 00:00	----	----
Compound	*CAS Number*	*LOR*	*Unit*	**ES2302842-001**	**ES2302842-002**	**ES2302842-003**	**--------**	**--------**
				Result	Result	Result	----	----
EP231A: Perfluoroalkyl Sulfonic Acids - Continued								
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	----	----
EP231B: Perfluoroalkyl Carboxylic Acids								
Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	<0.001	<0.001	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	----	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids								
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	----	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	----	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	----	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	----	----
EP231P: PFAS Sums								
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg	<0.0002	<0.0002	**0.0004**	----	----
Sum of PFAS (WA DER List)	----	0.0002	mg/kg	<0.0002	<0.0002	**0.0004**	----	----
EP066S: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	**70.5**	**76.9**	**73.6**	----	----
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.05	%	**63.2**	**69.6**	**64.8**	----	----
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.05	%	**59.8**	**69.6**	**55.6**	----	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	**90.0**	**99.0**	**104**	----	----
2-Chlorophenol-D4	93951-73-6	0.5	%	**82.6**	**88.2**	**86.4**	----	----
2.4.6-Tribromophenol	118-79-6	0.5	%	**51.1**	**50.0**	**57.0**	----	----
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.5	%	**102**	**95.7**	**98.9**	----	----
Anthracene-d10	1719-06-8	0.5	%	**87.7**	**91.7**	**88.1**	----	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL)**			Sample ID	**QC02**	**QC04**	**QC07**	**----**	**----**
			Sampling date / time	20-Jan-2023 00:00	21-Jan-2023 00:00	21-Jan-2023 00:00	----	----
Compound	CAS Number	LOR	Unit	**ES2302842-001**	**ES2302842-002**	**ES2302842-003**	**--------**	**--------**
				Result	Result	Result	----	----
EP075(SIM)T: PAH Surrogates - Continued								
4-Terphenyl-d14	1718-51-0	0.5	%	**99.4**	**104**	**98.4**	**----**	**----**
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.2	%	**99.8**	**108**	**100.0**	**----**	**----**
Toluene-D8	2037-26-5	0.2	%	**102**	**105**	**104**	**----**	**----**
4-Bromofluorobenzene	460-00-4	0.2	%	**106**	**107**	**111**	**----**	**----**
EP231S: PFAS Surrogate								
13C4-PFOS	----	0.0002	%	**95.0**	**96.0**	**90.5**	**----**	**----**
13C8-PFOA	----	0.0002	%	**89.0**	**89.0**	**85.0**	**----**	**----**

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
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

QUALITY CONTROL REPORT

Work Order	: **ES2302842**	Page	: 1 of 10
Client	: **AGON ENVIRONMENTAL PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: JOHN O'BRIEN	Contact	: Josh Alexander
Address	: 4/10 KENNEDY STREET KINGSTON 2604	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: +61 08 8338 1009	Telephone	: +61-2-8784 8555
Project	: ----	Date Samples Received	: 30-Jan-2023
Order number	: ----	Date Analysis Commenced	: 03-Feb-2023
C-O-C number	: ----	Issue Date	: 06-Feb-2023
Sampler	: ----		
Site	: ----		
Quote number	: EN/150/21		
No. of samples received	: 3		
No. of samples analysed	: 3		

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
Sanjeshni Jyoti	Senior Chemist Volatiles	Sydney Organics, Smithfield, NSW

General Comments

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

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

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

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

Laboratory Duplicate (DUP) Report

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

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 4850186)									
ES2302609-001	Anonymous	EG005T: Cadmium	7440-43-9	1	mg/kg	4	<1	122	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	3	3	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	11	10	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	34	27	21.8	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	61	52	16.5	0% - 50%
		EG005T: Zinc	7440-66-6	5	mg/kg	221	187	16.8	0% - 20%
ES2303354-008	Anonymous	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	20	21	0.0	0% - 50%
		EG005T: Nickel	7440-02-0	2	mg/kg	17	11	44.3	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	33	19	51.3	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	10	10	0.0	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	63	54	16.1	0% - 50%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 4850191)									
ES2302734-001	Anonymous	EA055: Moisture Content	----	0.1	%	14.8	14.7	0.0	0% - 50%
ES2303406-002	Anonymous	EA055: Moisture Content	----	0.1	%	21.5	20.5	4.5	0% - 20%
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 4850187)									
--------		EG035T: Mercury	7439-97-6	0.1	mg/kg	----	<0.1	0.0	No Limit
ES2303354-008	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EP066: Polychlorinated Biphenyls (PCB) (QC Lot: 4842612)									
ES2302799-001	Anonymous	EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EP068A: Organochlorine Pesticides (OC) (QC Lot: 4842611)									

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: 4842611) - continued									
ES2302799-001	Anonymous	EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		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
EP075(SIM)A: Phenolic Compounds (QC Lot: 4842610)									
ES2302799-001	Anonymous	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4842610)									
ES2302799-001	Anonymous	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<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: 4842610) - continued									
ES2302799-001	Anonymous	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
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4842609)									
ES2302799-001	Anonymous	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4849709)									
ES2302734-001	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
ES2303354-006	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4842609)									
ES2302799-001	Anonymous	EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4849709)									
ES2302734-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
ES2303354-006	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
EP080: BTEXN (QC Lot: 4849709)									
ES2302734-001	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
ES2303354-006	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

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: 4849709) - continued									
ES2303354-006	Anonymous	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: 4852020)									
ES2302741-001	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
ES2302741-061	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 4852020)									
ES2302741-001	Anonymous	EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	<0.001	0.0	No Limit
ES2302741-061	Anonymous	EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	<0.001	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 4852020)									
ES2302741-001	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
ES2302741-061	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit

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

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

Sub-Matrix: **SOIL**

				Method 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: 4850186)								
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	103	70.0	130
EG005T: Chromium	7440-47-3	2	mg/kg	<2	19.6 mg/kg	119	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	102	82.0	119
EG005T: Nickel	7440-02-0	2	mg/kg	<2	15.3 mg/kg	106	80.0	120
EG005T: Zinc	7440-66-6	5	mg/kg	<5	139.3 mg/kg	96.6	66.0	133
EG035T: Total Recoverable Mercury by FIMS (QCLot: 4850187)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	0.087 mg/kg	89.1	70.0	125
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 4842612)								
EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	1 mg/kg	86.5	62.0	126
EP068A: Organochlorine Pesticides (OC) (QCLot: 4842611)								
EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	0.5 mg/kg	96.5	69.0	113
EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	0.5 mg/kg	99.4	65.0	117
EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	0.5 mg/kg	97.9	67.0	119
EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	0.5 mg/kg	101	68.0	116
EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	95.2	65.0	117
EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	0.5 mg/kg	98.3	67.0	115
EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	0.5 mg/kg	100	69.0	115
EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	0.5 mg/kg	104	62.0	118
EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	0.5 mg/kg	104	63.0	117
EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	0.5 mg/kg	105	66.0	116
EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	0.5 mg/kg	104	64.0	116
EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	0.5 mg/kg	99.7	66.0	116
EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	0.5 mg/kg	102	67.0	115
EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	0.5 mg/kg	107	67.0	123
EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	0.5 mg/kg	92.0	69.0	115
EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	0.5 mg/kg	102	69.0	121
EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	0.5 mg/kg	86.0	56.0	120
EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	0.5 mg/kg	106	62.0	124
EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	0.5 mg/kg	77.4	66.0	120
EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	0.5 mg/kg	102	64.0	122
EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	0.5 mg/kg	102	54.0	130
EP075(SIM)A: Phenolic Compounds (QCLot: 4842610)								

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*
EP075(SIM)A: Phenolic Compounds (QCLot: 4842610) - continued								
EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	6 mg/kg	91.7	71.0	125
EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	6 mg/kg	93.5	72.0	124
EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	6 mg/kg	89.5	71.0	123
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	12 mg/kg	93.2	67.0	127
EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	6 mg/kg	97.2	54.0	114
EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	6 mg/kg	94.9	68.0	126
EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	6 mg/kg	97.3	66.0	120
EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	6 mg/kg	93.1	70.0	120
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	6 mg/kg	98.2	70.0	116
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	6 mg/kg	96.3	54.0	114
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	6 mg/kg	99.8	60.0	114
EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	12 mg/kg	39.6	10.0	80.0
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4842610)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	6 mg/kg	93.3	77.0	125
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	6 mg/kg	101	72.0	124
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	6 mg/kg	102	73.0	127
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	6 mg/kg	99.9	72.0	126
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	6 mg/kg	103	75.0	127
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	6 mg/kg	95.5	77.0	127
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	6 mg/kg	96.8	73.0	127
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	6 mg/kg	96.1	74.0	128
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	6 mg/kg	97.9	69.0	123
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	6 mg/kg	99.7	75.0	127
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	6 mg/kg	96.6	68.0	116
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	6 mg/kg	107	74.0	126
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	6 mg/kg	99.9	70.0	126
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	6 mg/kg	93.6	61.0	121
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	6 mg/kg	86.5	62.0	118
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	6 mg/kg	82.5	63.0	121
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4842609)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	300 mg/kg	107	75.0	129
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	450 mg/kg	97.1	77.0	131
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	300 mg/kg	105	71.0	129
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4849709)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	26 mg/kg	99.1	68.4	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4842609)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	375 mg/kg	102	77.0	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
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4842609) - continued								
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	525 mg/kg	103	74.0	138
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	225 mg/kg	90.0	63.0	131
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4849709)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	31 mg/kg	98.9	68.4	128
EP080: BTEXN (QCLot: 4849709)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	110	62.0	116
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	104	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	103	66.0	118
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	106	68.0	120
EP080: Naphthalene	91-20-3	1	mg/kg	<1	1 mg/kg	98.9	63.0	119
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4852020)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	0.00125 mg/kg	93.6	72.0	128
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	0.00125 mg/kg	98.8	67.0	130
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	99.6	68.0	136
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4852020)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	0.00625 mg/kg	99.1	71.0	135
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	0.00125 mg/kg	119	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	104	71.0	131
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	106	69.0	133
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4852020)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	0.00125 mg/kg	80.4	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	96.4	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	93.6	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	SpikeRecovery(%)	Acceptable Limits (%)	
				Concentration	MS	Low	High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 4850186)							
ES2302609-001	Anonymous	EG005T: Arsenic	7440-38-2	50 mg/kg	107	70.0	130
		EG005T: Cadmium	7440-43-9	50 mg/kg	98.5	70.0	130

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 4850186) - continued							
ES2302609-001	Anonymous	EG005T: Chromium	7440-47-3	50 mg/kg	107	68.0	132
		EG005T: Copper	7440-50-8	250 mg/kg	105	70.0	130
		EG005T: Lead	7439-92-1	250 mg/kg	106	70.0	130
		EG005T: Nickel	7440-02-0	50 mg/kg	111	70.0	130
		EG005T: Zinc	7440-66-6	250 mg/kg	98.1	66.0	133
EG035T: Total Recoverable Mercury by FIMS (QCLot: 4850187)							
ES2302609-001	Anonymous	EG035T: Mercury	7439-97-6	5 mg/kg	80.0	70.0	130
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 4842612)							
ES2302799-001	Anonymous	EP066: Total Polychlorinated biphenyls	----	1 mg/kg	99.3	70.0	130
EP068A: Organochlorine Pesticides (OC) (QCLot: 4842611)							
ES2302799-001	Anonymous	EP068: gamma-BHC	58-89-9	0.5 mg/kg	82.4	70.0	130
		EP068: Heptachlor	76-44-8	0.5 mg/kg	81.1	70.0	130
		EP068: Aldrin	309-00-2	0.5 mg/kg	82.3	70.0	130
		EP068: Dieldrin	60-57-1	0.5 mg/kg	129	70.0	130
		EP068: Endrin	72-20-8	2 mg/kg	84.6	70.0	130
		EP068: 4.4`-DDT	50-29-3	2 mg/kg	72.7	70.0	130
EP075(SIM)A: Phenolic Compounds (QCLot: 4842610)							
ES2302799-001	Anonymous	EP075(SIM): Phenol	108-95-2	10 mg/kg	92.1	70.0	130
		EP075(SIM): 2-Chlorophenol	95-57-8	10 mg/kg	93.6	70.0	130
		EP075(SIM): 2-Nitrophenol	88-75-5	10 mg/kg	82.5	60.0	130
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	10 mg/kg	84.7	70.0	130
		EP075(SIM): Pentachlorophenol	87-86-5	10 mg/kg	48.9	20.0	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4842610)							
ES2302799-001	Anonymous	EP075(SIM): Acenaphthene	83-32-9	10 mg/kg	96.0	70.0	130
		EP075(SIM): Pyrene	129-00-0	10 mg/kg	100	70.0	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4842609)							
ES2302799-001	Anonymous	EP071: C10 - C14 Fraction	----	480 mg/kg	124	73.0	137
		EP071: C15 - C28 Fraction	----	3100 mg/kg	113	53.0	131
		EP071: C29 - C36 Fraction	----	2060 mg/kg	108	52.0	132
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4849709)							
ES2302734-001	Anonymous	EP080: C6 - C9 Fraction	----	32.5 mg/kg	73.9	70.0	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4842609)							
ES2302799-001	Anonymous	EP071: >C10 - C16 Fraction	----	860 mg/kg	125	73.0	137
		EP071: >C16 - C34 Fraction	----	4320 mg/kg	106	53.0	131
		EP071: >C34 - C40 Fraction	----	890 mg/kg	105	52.0	132
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4849709)							

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: 4849709) - continued							
ES2302734-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	37.5 mg/kg	74.7	70.0	130
EP080: BTEXN (QCLot: 4849709)							
ES2302734-001	Anonymous	EP080: Benzene	71-43-2	2.5 mg/kg	76.2	70.0	130
		EP080: Toluene	108-88-3	2.5 mg/kg	76.5	70.0	130
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	83.7	70.0	130
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2.5 mg/kg	78.8	70.0	130
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	84.6	70.0	130
		EP080: Naphthalene	91-20-3	2.5 mg/kg	75.8	70.0	130
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4852020)							
ES2302741-001	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.00125 mg/kg	98.0	72.0	128
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.00125 mg/kg	97.6	67.0	130
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.00125 mg/kg	98.8	68.0	136
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4852020)							
ES2302741-001	Anonymous	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.00625 mg/kg	107	71.0	135
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.00125 mg/kg	127	69.0	132
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.00125 mg/kg	118	70.0	132
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.00125 mg/kg	106	71.0	131
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.00125 mg/kg	99.2	69.0	133
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4852020)							
ES2302741-001	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.00125 mg/kg	89.2	62.0	145
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.00125 mg/kg	104	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	91.6	69.2	143

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **ES2302842**	Page	: 1 of 7
Client	: **AGON ENVIRONMENTAL PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: JOHN O'BRIEN	Telephone	: +61-2-8784 8555
Project	: ----	Date Samples Received	: 30-Jan-2023
Site	: ----	Issue Date	: 06-Feb-2023
Sampler	: ----	No. of samples received	: 3
Order number	: ----	No. of samples analysed	: 3

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*
EA055: Moisture Content (Dried @ 105-110°C)							
Soil Glass Jar - Unpreserved (EA055) QC02	**20-Jan-2023**	**----**	----	----	**03-Feb-2023**	03-Feb-2023	✓
Soil Glass Jar - Unpreserved (EA055) QC04, QC07	**21-Jan-2023**	**----**	----	----	**03-Feb-2023**	04-Feb-2023	✓
EG005(ED093)T: Total Metals by ICP-AES							
Soil Glass Jar - Unpreserved (EG005T) QC02	**20-Jan-2023**	**03-Feb-2023**	19-Jul-2023	✓	**06-Feb-2023**	19-Jul-2023	✓
Soil Glass Jar - Unpreserved (EG005T) QC04, QC07	**21-Jan-2023**	**03-Feb-2023**	20-Jul-2023	✓	**06-Feb-2023**	20-Jul-2023	✓
EG035T: Total Recoverable Mercury by FIMS							
Soil Glass Jar - Unpreserved (EG035T) QC02	**20-Jan-2023**	**03-Feb-2023**	17-Feb-2023	✓	**06-Feb-2023**	17-Feb-2023	✓
Soil Glass Jar - Unpreserved (EG035T) QC04, QC07	**21-Jan-2023**	**03-Feb-2023**	18-Feb-2023	✓	**06-Feb-2023**	18-Feb-2023	✓
EP066: Polychlorinated Biphenyls (PCB)							
Soil Glass Jar - Unpreserved (EP066) QC02	**20-Jan-2023**	**03-Feb-2023**	03-Feb-2023	✓	**05-Feb-2023**	15-Mar-2023	✓
Soil Glass Jar - Unpreserved (EP066) QC04, QC07	**21-Jan-2023**	**03-Feb-2023**	04-Feb-2023	✓	**05-Feb-2023**	15-Mar-2023	✓
EP068A: Organochlorine Pesticides (OC)							
Soil Glass Jar - Unpreserved (EP068) QC02	**20-Jan-2023**	**03-Feb-2023**	03-Feb-2023	✓	**04-Feb-2023**	15-Mar-2023	✓
Soil Glass Jar - Unpreserved (EP068) QC04, QC07	**21-Jan-2023**	**03-Feb-2023**	04-Feb-2023	✓	**05-Feb-2023**	15-Mar-2023	✓
EP075(SIM)A: Phenolic Compounds							
Soil Glass Jar - Unpreserved (EP075(SIM)) QC02	**20-Jan-2023**	**03-Feb-2023**	03-Feb-2023	✓	**04-Feb-2023**	15-Mar-2023	✓
Soil Glass Jar - Unpreserved (EP075(SIM)) QC04, QC07	**21-Jan-2023**	**03-Feb-2023**	04-Feb-2023	✓	**04-Feb-2023**	15-Mar-2023	✓

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*
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Soil Glass Jar - Unpreserved (EP075(SIM)) QC02	**20-Jan-2023**	**03-Feb-2023**	03-Feb-2023	✓	**04-Feb-2023**	15-Mar-2023	✓
Soil Glass Jar - Unpreserved (EP075(SIM)) QC04, QC07	**21-Jan-2023**	**03-Feb-2023**	04-Feb-2023	✓	**04-Feb-2023**	15-Mar-2023	✓
EP080/071: Total Petroleum Hydrocarbons							
Soil Glass Jar - Unpreserved (EP080) QC02	**20-Jan-2023**	**03-Feb-2023**	03-Feb-2023	✓	**03-Feb-2023**	03-Feb-2023	✓
Soil Glass Jar - Unpreserved (EP071) QC02	**20-Jan-2023**	**03-Feb-2023**	03-Feb-2023	✓	**04-Feb-2023**	15-Mar-2023	✓
Soil Glass Jar - Unpreserved (EP080) QC04, QC07	**21-Jan-2023**	**03-Feb-2023**	04-Feb-2023	✓	**03-Feb-2023**	04-Feb-2023	✓
Soil Glass Jar - Unpreserved (EP071) QC04, QC07	**21-Jan-2023**	**03-Feb-2023**	04-Feb-2023	✓	**04-Feb-2023**	15-Mar-2023	✓
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions							
Soil Glass Jar - Unpreserved (EP080) QC02	**20-Jan-2023**	**03-Feb-2023**	03-Feb-2023	✓	**03-Feb-2023**	03-Feb-2023	✓
Soil Glass Jar - Unpreserved (EP071) QC02	**20-Jan-2023**	**03-Feb-2023**	03-Feb-2023	✓	**04-Feb-2023**	15-Mar-2023	✓
Soil Glass Jar - Unpreserved (EP080) QC04, QC07	**21-Jan-2023**	**03-Feb-2023**	04-Feb-2023	✓	**03-Feb-2023**	04-Feb-2023	✓
Soil Glass Jar - Unpreserved (EP071) QC04, QC07	**21-Jan-2023**	**03-Feb-2023**	04-Feb-2023	✓	**04-Feb-2023**	15-Mar-2023	✓
EP080: BTEXN							
Soil Glass Jar - Unpreserved (EP080) QC02	**20-Jan-2023**	**03-Feb-2023**	03-Feb-2023	✓	**03-Feb-2023**	03-Feb-2023	✓
Soil Glass Jar - Unpreserved (EP080) QC04, QC07	**21-Jan-2023**	**03-Feb-2023**	04-Feb-2023	✓	**03-Feb-2023**	04-Feb-2023	✓
EP231A: Perfluoroalkyl Sulfonic Acids							
HDPE Soil Jar (EP231X) QC02	**20-Jan-2023**	**06-Feb-2023**	19-Jul-2023	✓	**06-Feb-2023**	18-Mar-2023	✓
HDPE Soil Jar (EP231X) QC04, QC07	**21-Jan-2023**	**06-Feb-2023**	20-Jul-2023	✓	**06-Feb-2023**	18-Mar-2023	✓
EP231B: Perfluoroalkyl Carboxylic Acids							
HDPE Soil Jar (EP231X) QC02	**20-Jan-2023**	**06-Feb-2023**	19-Jul-2023	✓	**06-Feb-2023**	18-Mar-2023	✓
HDPE Soil Jar (EP231X) QC04, QC07	**21-Jan-2023**	**06-Feb-2023**	20-Jul-2023	✓	**06-Feb-2023**	18-Mar-2023	✓
EP231D: (n:2) Fluorotelomer Sulfonic Acids							
HDPE Soil Jar (EP231X) QC02	**20-Jan-2023**	**06-Feb-2023**	19-Jul-2023	✓	**06-Feb-2023**	18-Mar-2023	✓
HDPE Soil Jar (EP231X) QC04, QC07	**21-Jan-2023**	**06-Feb-2023**	20-Jul-2023	✓	**06-Feb-2023**	18-Mar-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*
EP231P: PFAS Sums							
HDPE Soil Jar (EP231X) QC02	**20-Jan-2023**	**06-Feb-2023**	19-Jul-2023	✓	**06-Feb-2023**	18-Mar-2023	✓
HDPE Soil Jar (EP231X) QC04, QC07	**21-Jan-2023**	**06-Feb-2023**	20-Jul-2023	✓	**06-Feb-2023**	18-Mar-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	2	15	**13.33**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	1	7	**14.29**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	17	**11.76**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	5	**20.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	5	**20.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	2	16	**12.50**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	2	15	**13.33**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	9	**11.11**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
PAH/Phenols (SIM)	EP075(SIM)	1	7	**14.29**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	17	**5.88**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	5	**20.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	5	**20.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	16	**6.25**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	15	**6.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	9	**11.11**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
PAH/Phenols (SIM)	EP075(SIM)	1	7	**14.29**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	17	**5.88**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	5	**20.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	5	**20.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	16	**6.25**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	15	**6.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	9	**11.11**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
PAH/Phenols (SIM)	EP075(SIM)	1	7	**14.29**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	17	**5.88**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	5	**20.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	5	**20.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	16	**6.25**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	15	**6.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	9	**11.11**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	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).
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).
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*
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).

Preparation Methods	*Method*	*Matrix*	*Method Descriptions*
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.

CHAIN OF CUSTODY RECORD

[illegible]

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

sbane 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	Agon	Project Nº	-	Project Manager	JD
Address	68 Northbourne Ave, Canberra ACT 2600	Project Name	WCP	EDD Format (ESdat, EQuIS, Custom)	ESDAT
Contact Name	John O'Brien			Sampler(s)	KL
Phone Nº	0431582323			Handed over by	K.L
Special Directions	5 Day TAT			Email for Invoice	john.o'brien@agonenviro.com.au; finance@agonenviro.com.au;
Purchase Order				Email for Results	john.o'brien@agonenviro.com.au
Quote ID Nº	Quotation # 190129AEGA				

Turnaround Time (TAT) Requirements
Overnight (9am)*
1 Day*
2 Day*
3 Day*
✓ 5 Day
* Surcharges apply
Other ( )

COPY

	Nº	Client Sample ID	Sampled Date/Time (dd/mm/yy hh:mm)	Matrix (Solid (S) Water (W))		B7A	B13	PFAS Short Suite	8 Metals	Jar (Glass)	Jar (HDPE)	ENM Bag	Bag Acid Sulphate Soil	Metals plastic bottle	Vial (headspace)	PFAS Bottle	Amber bottle	Sample Comments / Dangerous Goods Hazard Warning
	1	BH13 - 0.1	21/01/23	S		X	X	X		1	1							
	2	BH13 - 0.5	21/01/23	S		X	X	X		1	1							
	3	BH13 - 1.0	21/01/23	S		X	X			1	1							
	4	BH13 - 1.5	21/01/23	S		X	X			1	1							
	4	BH14 - 0.1	21/01/23	S				X		1	1							
	5	BH14 - 0.5	21/01/23	S		X	X	X		1	1							
	6	BH14 - 1.0	21/01/23	S		X	X			1	1							
	7	BH14 - 1.5	21/01/23	S						1	1							
	8	BH14 - 2.0	21/01/23	S		X	X			1	1							
	9	BH15 - 0.1	21/01/23	S		X	X	X		1	1							
	10	BH15 - 0.5	21/01/23	S				X		1	1							
	11	BH15 - 1.0	21/01/23	S		X	X			1	1							
	12	BH15 - 1.5	21/01/23	S		X	X			1	1							
	13	BH16 - 0.1	21/01/23	S		X	X	X		1	1							
	14	BH16 - 0.5	21/01/23	S		X	X	X		1	1							
	15	BH16 - 1.0	21/01/23	S		X	X			1	1							
	16	BH16 - 1.5	21/01/23	S						1	1							
	17	BH17 - 0.1	21/01/23	S		X	X	X		1	1							
	18	BH17 - 0.5	21/01/23	S		X	X	X		1	1							
	19	BH17 - 1.0	21/01/23	S		X	X			1	1							
	20	BH17 - 1.5	21/01/23	S						1	1							
	21	BH18 - 0.1	21/01/23	S		X	X	X		1	1							
	22	BH18 - 0.5	21/01/23	S		X	X	X		1	1							
	23	BH18 - 1.0	21/01/23	S		X	X	X		1	1							
	24	BH18 - 1.5	21/01/23	S						1	1							
	25	BH19 - 0.1	21/01/23	S		X	X	X		1	1							
	26	BH19 - 0.5	21/01/23	S		X	X	X		1	1							
	27	BH19 - 1.0	21/01/23	S		X	X			1	1							
	28	BH19 - 1.5	21/01/23	S		X	X	X		1	1							
	29	BH19 - 2.0	21/01/23	S						1	1							
	30	BH20 - 0.1	21/01/23	S		X	X	X		1	1							
	31	BH20 - 0.5	21/01/23	S		X	X	X		1	1							
	32	BH20- 1.0	21/01/23	S		X	X	X		1	1							
	33	BH20 - 1.5	21/01/23	S						1	1							
	34	QC01	20/01/23	S		X	X	X		1	1							
1	35	QC02	20/01/23	S		X	X	X		1	1							Please FWD ALS
	36	QC03	20/01/23	S		X	X	X		1	1							
2	37	QC04	21/01/23	S		X	X	X		1	1							Please FWD ALS
	38	QC05	21/01/23	S		X	X	X		1	1							
	39	QC06	21/01/23	S					X	1	1							
3	40	QC07	21/01/23	S		X	X	X		1	1							Please FWD ALS
	41	QC08	21/01/23	S		X	X	X		1	1							
	42	QC09	21/01/23	S		X	X	X		1	1							
	43	RB01	20/01/23	W				X						1	2	1	1	
	44	RB02	21/01/23	W				X						1	2	1	1	
	45																	
	46																	
	47																	
	48																	
	49																	
		Total Counts			-	-	-	-										

Method of Shipment	Courier (#)	Hand Delivered	Postal	Name		Date	/ /	Time :
Eurofins | mgt Laboratory Use Only	Received By		SYD | BNE | MEL | PER | ADL | NTL | DRW	Date	/ /	Time	:	Temperature
	Received By		SYD | BNE | MEL | PER | ADL | NTL | DRW	Date	/ /	Time	:	Report Nº

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 Australia Pty Ltd trading as Eurofins | mgt

Environmental Division
Sydney
Work Order Reference
ES2302842

Telephone : + 61-2-8784 8555

Rec: Jack 30/01/23 1405

Capital Airport Group

Canberra Airport, ACT 2609

Unexpected Finds Protocol

Project No: 121543
June 2020

Prepared For:

Capital Airport Group Pty Ltd
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Plaza Offices – West
Canberra Airport

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Rev	Date	Details	Written	Reviewed	Approved
A	28/04/2020	CAG- Canberra Airport – Unexpected Finds Protocol	M.Gibbs (MG) – Environmental Scientist / S.Paleri (SP) – Associate Environment	SP	SP
B	01/05/2020	CAG- Canberra Airport – Unexpected Finds Protocol	MG/SP	SP	SP
0	04/05/2020	CAG- Canberra Airport – Unexpected Finds Protocol	MG/SP	SP	SP
1	29/05/2020	CAG- Canberra Airport – Unexpected Finds Protocol	MG/SP	SP	SP
2	25/06/2020	CAG- Canberra Airport – Unexpected Finds Protocol	MG/SP	SP	SP

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1 Introduction

1.1 Background

Meinhardt Infrastructure & Environment Pty Ltd (**Meinhardt**) was engaged by Capital Airport Group (**CAG**) to prepare this Unexpected Finds Protocol (**UFP**) for use at the Canberra Airport, ACT 2609 site (the **Airport**) during maintenance, earthworks and construction activities at the Airport.

Prior to development of land at Canberra Airport, CAG engages a range of consultants to provide advice on the feasibility and options available to CAG, a part of which includes the investigation of the land for chemical and hazardous material (where suspected or observed) contamination, to discern the suitability of the site for the proposed future use. These assessments include intrusive investigations of soil and (if present) groundwater to provide CAG with an understanding of the chemical and physical characteristics of the soils and waters at the development site, prior to earthworks or construction commencing.

Where soils are likely to be disturbed and required to be removed from the development site, CAG engages a Suitably Qualified and Experienced Environmental Consultant to prepare a Soil Waste Classification report to assess the suitability of the soil to be re-used (either onsite at the airport or offsite development) or transported to a licenced accepting facility for disposal, based on the level of chemical contamination encountered during intrusive investigations, in accordance with relevant Territory, State (NSW) and National guidance, including with respect to the recommended number of sampling points investigated as well as sampling frequencies.

However, during earthworks and construction, there is always a possibility that unexpected finds are identified. This UFP aims to provide guidance on the identification and management of unexpected finds in the event that they are encountered during site maintenance, earthworks or construction, with a focus on the potential for soil contamination. This document must be read in conjunction with the current Canberra Airport Construction Environmental Management Plan (**CEMP**)[1], which is used as an overarching document for all construction activities occurring at Canberra Airport.

1.2 Objectives and Purpose

Meinhardt understands that the objectives of conducting these works were as follows:

- To address the methods of identification and management of unexpected finds in soil during construction, with a focus on contamination risk posed to human health and the environment at Canberra Airport and immediate surrounds.

The purpose of conducting these works were as follows:

- To provide CAG with a procedure by which to manage unexpected finds during construction and maintenance work at Canberra Airport, including both airside and landside areas.

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[1] Canberra Airport, *Construction Environmental Management Plan for Airside Works (EPBC 2008 / 4170 and EPBC 2009 / 4748)*, February 2010.

2 Unexpected Finds

An unexpected find can be defined as any material that is unearthed that is not expected to be present in soils at the site based on previous investigations or knowledge. A generic list of unexpected finds includes:

- Buried waste materials including, but not limited to:
    - Putrescible waste (including household wastes, organic matter, etc);
    - Solid inert materials (plastics, glass, asphalt, ceramics, paper, cardboard, rubber, etc);
    - Building rubble / foundations (brick, concrete, wood, glass, asbestos); and
    - Industrial wastes (slag, ash, soot, metal shavings, chemical drums, etc.)
- Underground infrastructure such as:
    - Fuel storage tanks;
    - Grease traps / Triple Interceptor Pits; and
    - Redundant / Active buried pipe networks (sewerage, stormwater, water, gas, electricity);
- Odorous or discoloured soils (including stained soils);
- Rock or soil types not previously encountered or assessed at the site;
- Groundwater; and
- Artefacts/ Heritage Items (sharpened materials, fabrics, pottery, etc.)

While the above are typical types of unexpected finds, others may be identified and should be managed as detailed in this UFP document. Mismanagement of unexpected finds has the potential to increase development costs as a result of damage to important infrastructure, spread of potentially contaminated materials/ chemicals and changes in work methods, or destruction of historically or culturally significant items.

2.1 Historical Context – Canberra Airport

The Canberra Airport Estate was historically rural leased farmland, and used for agricultural purposes prior to being used for aviation purposes from 1926. In the early years of the airfield, aircraft took off and landed on the vast paddocks of the Majura Valley. The first building constructed at Canberra Airport was located at the northern end of the current terminal in 1936, with the Department of Defence constructing hangars and buildings on the opposite side of the airport, where they remain today. The airport runway was constructed after World War 2 and further small developments continued around the former terminal from the 1950s until 1970 at which point a larger terminal was constructed for civil aviation. This was later expanded in the late 1980s to allow for increased passenger loads into Canberra. In 1998, the airport was privatised, and CAG was formed to manage the operations of Canberra Airport. Since this time, the terminal buildings have been re-built and selected parcels of land around the periphery of the airfield have been developed for parking, shopping centres, offices and other retail outlets, including service stations. These final improvements to Canberra Airport have largely remained as built, and not changed since their construction. Where they have, appropriate assessments of individual sites have been completed by CAG.

On the opposite side of the airport to the main terminal building, parts of the Canberra Airport have also been used by the Department of Defence, initially as Royal Australian Air Force (**RAAF**) Station Fairbairn before being renamed RAAF Base Fairbairn. RAAF operations at the airfield have primarily been for defence and civil aviation purposes and currently operates the Prime Minister’s VIP fleet of aircraft. In addition to the RAAF, the airport has also had Aviation Rescue Fire Fighting (**ARFF**) units stationed on site as well as facilities for fire training purposes. These areas in the north eastern portion of the airport have historically seen the use of fuels and fire accelerants and application of firefighting foams in training activities. CAG is aware of these potentially contaminating activities and has developed processes for the assessment and understanding of the subsurface conditions in areas that have been used for ARFF activities.

As such, with the exception of the ARFF operating areas, the potential for unexpected anthropogenic or chemical finds at individual sites at the Canberra Airport is considered to be low, however there is the potential for unexpected soil types and rock to be encountered across the site, given the largely unpredictable nature of small-scale geological variation.

The following sections (***Section 2.2*** to ***Section 2.6***) describe the types of unexpected finds that are most commonly found during earthworks and construction, many of which may not apply to the Canberra Airport site.

2.2 Buried Waste Materials

Buried wastes are typically found on sites that have previously been developed or are on land historically owned by organisations or individuals who have worked on operations that led to the generation of wastes that needed to be managed. On sites where these materials are mismanaged, a common activity can include burial or dispersion of wastes, which can lead to contaminants existing in discrete areas or spread through layers of the soil profile.

Buried wastes are typically identified by visible fragments or items of non-natural origin throughout the soil profile. Inclusions may include household debris, material fragments of plastic, glass, concrete, brick, metal, wood, asbestos-containing cement sheet, tar-containing material or other foreign material or as distinct layers of materials such as ash or slag. Ash is relatively light in weight, and can be black, grey or white (ash) and fine-grained. Slag is also relatively light-weight and is typically black or grey and can have a blue-green tint and vesicles (appear bubbly).

Buried waste materials may or may not be odorous, but will often be visibly different to more natural or unimpacted soils. Larger objects may also be present in the soil profile, including items such as 44-gallon storage drums or other receptacles. Where buried wastes are present, other indicators of potential impact to the soil profile may include strong odours (chemical or other) as well as staining or discoloration (further discussed in Section ***2.4***).

2.3 Underground Infrastructure

Most developed sites or those that have been developed will have some form of underground infrastructure present, in the form of drains, conduits or networks of pipework that were used on-site when it was operational. This is in addition to stormwater, water, electricity, telecommunications and gas connections that feed into sites from a wider network.

Where underground infrastructure is present, and used to transport liquids, there is always a chance that these networks will leak through degradation in the subsurface. Where this occurs, the infrastructure may leak its contents (liquids) into the surrounding soils and give rise to soil contamination. In the case of grease traps and triple interceptor pits, these may be seen and should be identified at surface. Occasionally, this is not possible and may be inadvertently unearthed during construction. Other items such as underground storage tanks (**USTs**) and associated pipework may not be as obvious, especially if the site is cleared at the surface. Pipes and USTs used in the transport and storage of chemicals including fuels can be found on sites historically used for refuelling or chemical storage activities.

Trenches or pits filled with crushed rock, sands or other non-naturally occurring material (at the site) may be an indicator of the presence of such features. At surface, pipes entering the ground may suggest a wider underground network may be present. Where contamination is present, the soils surrounding the buried infrastructure can often be odorous and/or stained (see ***Section 2.4***), especially where the integrity of the infrastructure has been compromised. At times, the spread of contamination can be caused by damage to infrastructure during the earthworks/ construction phase, so due care should be taken at all times. The early identification of unexpected infrastructure can assist in the management of potential impacts to soils at the site.

2.4 Odorous / Discoloured Soils

Odorous or discoloured soils can exist where chemical contamination may have passed through those soils historically. Odorous soils can have a hydrocarbon, organic, sulphurous, septic, sweet or other chemical-type odour and may otherwise appear similar to those around them. Those working in the vicinity of the soils may begin to have their olfactory senses affected, and in some cases can lose the ability to perceive smell temporarily. Early identification of odours is critical in the management of these soils.

Discoloured soils are those that do not look natural and can be a range of colours, sometimes with a sheen or shiny tar-like appearance. They are often located adjacent to areas with some other form of unexpected find such as leaky pipe, tank, pit or chemical drum and may also be associated with odours.

It is important to note that not all odorous soils pose a risk to human health or the environment, including naturally organic-rich soils that may have a slightly offensive odour associated with decomposition of natural material. If unsure of the nature of the odour, advice should be sought prior to proceeding.

2.5 Rock/ Soil Not Previously Identified

Where preliminary investigations have not been able to investigate the entirety of a site, rock or soils that had not previously[2] been identified may be unearthed during earthworks and/or construction. These soils will often appear different to those above them and may contain inclusions (natural or non-natural) that were not identified previously at the site. Other Indicators of a change in soil type may include a visibly significant change in moisture, colour, consistency, odour, discolouration or absence or presence of inclusions (natural or non-natural). Soils that have previously not been identified in Environmental investigations have the potential for chemical contamination, and should not be disturbed if encountered.

2.6 Groundwater

Groundwater can be unexpectedly intersected on sites where previous investigations have not indicated its presence. This can occur where groundwater fluctuations have been caused by increased rainfall or where soils have been excavated to greater depths than originally anticipated. Typically, the presence groundwater can be identified by the excavation of soils with progressively increasing moisture with depth.

Soils that interact with groundwater and the groundwater itself may have the potential to be contaminated, and should not be mixed with other soils until properly assessed. The pumping of groundwater for dewatering should be avoided unless prior advice is provided by CAG.

2.7 Artefacts / Heritage Items

Unexpected artefacts / heritage items (both potential and actual) are items which may be of cultural or traditionally significant (Aboriginal objects), or items that have significance from a heritage perspective (e.g. historical structures, artwork, ceramics, etc). Heritage items can take many forms and be made of various materials, typically identified by unnatural symmetry, distinct differences to soils and items that are found with, presence of fabric or textiles and/or evidence of craftsmanship.

Where it is not immediately clear if items have significance, it is recommended that a conservative approach be taken and appropriate checks be completed prior to proceeding with works, upon consultation with CAG.

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[2] A contractor is expected to have an understanding of the soil profile likely to be encountered prior to earthworks commencing. CAG is able to provide guidance on the expected soil profile prior to breaking ground.

3 Unexpected Finds Procedure

Should there be unexpected finds unearthed during site earthworks or excavation as detailed in ***Section 2***, the following process should be observed:

1. Immediately cease working in the area affected. If safe to do so, flag off the area .
2. Immediately notify the Site Foreman/Manager.
3. Site Manager/ Foreman to notify CAG Project Manager / CAG Environmental Manager of unexpected find. CAG Project Manager / Environmental Manager should notify appropriate personnel by following the notification procedure detailed in the Canberra Airport, *Standard Operating Procedures #4 – Hazardous Materials Incident*, 2014 document (**CAG SOP4**).
4. No further work should continue in the area of the unexpected find until CAG provides written approval or further advice on the management of the unexpected find and the site.
5. If required, CAG should seek a Suitably Qualified and Experienced Professional for advice and /or guidance on appropriate assessment and management measures to deal with the unexpected find.
6. Following receipt of remedial advice or action from the CAG Project Manager/ CAG Environmental Manager, the Site Foreman/ Manager must provide CAG with a short Action Plan on how remedial actions will be undertaken and the estimated timeframe for those actions to be completed, making reference to other works on the site that may be occurring at the same time (if CAG has permitted other activities to continue).
7. Following approval of the Action Plan, ensure all remedial actions are completed to the satisfaction of CAG (and/or a nominated representative).
8. Any pertinent safe-working advice must be actioned and health and safety considerations broadcast (through amendments or additions to relevant Safe Work Method Statements (or equivalent) and induction documents) to any workers completing their duties at the site until the conclusion of the project.
9. Provide records of any measures taken to address the management and remediation of the unexpected finds to CAG, including but not limited to soil validation results, materials tracking and relevant assessment documentation.
10. Following completion of remedial actions in relation to the unexpected find, recommence all works (if prior approval was not provided by CAG), with any relevant safe-working advice maintained where there is a possibility of further similar unexpected finds being realised.

4 Responsibilities

Unexpected finds can be found and reported by anyone working on a site. It is imperative that all site staff are encouraged to report unexpected finds at the earliest instance to avoid the potential for the disturbance and spread of unexpected contamination as well as potential damage to structure, services or foreign objects which may lead to contaminants being released into soils and groundwater at the Site.

The responsibilities of key personnel in the UFP process are summarised in ***Table 1***.

Table 1 Roles and Responsibilities

Role	Responsibility
All Site Staff inducted to Site.	• Understand the expected soil profile at the site being worked on and the contents of the CEMP as well as this UFP document. • If unexpected finds are observed, follow the Unexpected Finds Procedure set out in ***Section 3*** of this document, including reporting unexpected finds as soon as they are realised.
Site Manager/ Foreman	• To induct all Site Staff to the CEMP and UFP documents. • To ensure all Site Staff have an understanding of the soil profile at the commencement of earthworks / construction. • To manage unexpected finds as per the Unexpected Finds Procedure set out in ***Section 3*** of this document, including removing access to the area around the unexpected find. • To notify CAG Environmental / Project Manager of unexpected find and follow safe-working or remedial advice. • To provide CAG with required documentation to support any remedial actions completed.
CAG Environmental Manager / Project Manager	• Induct Head Contractor/ Nominated Representative (Site Manager / Foreman) to CEMP and UFP • Notification of all relevant CAG stakeholders of unexpected find, consistent with CAG SOP4. • To provide remedial advice to Site Manager/ Foreman in relation to unexpected find. • To ensure Site Manager/ Foreman has actioned all remediation/ rectification items (as advised by a Suitably Qualified and Experienced Professional, where required) and provided necessary information on remediation/ rectification to CAG.
Suitably Qualified and Experienced Professional	• To investigate the nature of any unexpected find and provide CAG with pragmatic advice on the management of the unexpected find in accordance with all Territory and Federal legislation.

5 Limitations

This report has been prepared on behalf of the client for the benefit of the client only (the authorised recipient).

The report and the information contained within it are solely for the use of the authorised recipients and it may not be used, copied or reproduced in whole or in part for any purpose other than that for which it was supplied by Meinhardt. Meinhardt makes no representation, undertakes no duty and accepts no responsibility to any third party who may use or rely upon this report or the information contained within it.

6 Closing

This UFP document should be viewed as a dynamic document that is updated periodically (recommended every three (3) years) to incorporate changes in the way unexpected finds are managed, and incorporation of accepted best practice measures. Should common unexpected finds be discovered at multiple sites across the Canberra Airport, CAG may wish to include generic advice on that find (if easily transferrable to other sites at the Canberra Airport) within this document to streamline the UFP for future works at the Airport.

APPENDIX 1: Incident Report Form

SMS FORM

Aviation Incident Report

Upon completion forward to: aviation@canberraairport.com.au

CANBERRA AIRPORT

NATURE OF REPORT

☐ **Aviation Incident** *(Complete Parts 1 & 4)*	☐ **Diversion** *(Complete Parts 1 & 2)*	☐ **Environmental** *(Complete Parts 1 & 3)*	☐ **Medical Emergency** *(Complete Parts 1 & 4)*	☐ **Security** *(Complete Parts 1 & 4)*

PART 1 – Incident Details

Reporter's Name:

Company & Position:

Date of Report:

Reporter Contact Details *(email/phone)*:

Name of Person and/or Company Involved:

Date of Incident:

Time of Incident:

Notified by:

Time Notified:

Location of Incident:

Emergency Procedures Activated: ☐Yes ☐No

Notification including Time:

☐**AOO:**	☐ **Emergency Services:**	☐**ARFF:**	☐**Car Park:**	☐**Customs/Quarantine:**
☐**AFP:**	☐**CA Management** *(please specify)*:	☐**ATC:**	☐ **SNP:**	☐**Other** *(please specify)*:

Aircraft Details *(where applicable)*:

Aircraft Type:

Rego No:

Bay Position:

Flight No:

Photos Taken: ☐Yes ☐No ☐N/A

DAMP Test Requested: ☐Yes ☐No ☐N/A

PART 2 - Information required for DIVERSIONS only

Diversion Details:

ETA:	**People On Board:**	**Originated From:**	**No. Litres of Fuel:**
ETD:	**Pax Disembark:**	**Destination To:**	**Customs/Quarantine Attended:** ☐Yes ☐No

International Only:

Catering/bottled water taken on board: ☐Yes ☐No

Galley/cabin waste removed: ☐Yes ☐No

Reason for Diversion:

Additional comments *(i.e. if pax disembark)*:

PART 3 - Information required for ENVIRONMENTAL INCIDENTS only

Environmental Details:

Spill Material:	**Spill Quantity** *(litres)*:	**Affected Area** *(Square metres)*:
Vehicle Details *(if applicable)*:	**Vehicle AUA** *(if applicable)*:	

Clean Up Material Used:

Detergent & Litres Used:

Absorbent Material & Quantity Used:

Type of Incident:

☐ **Human Error**	☐ **Equipment Failure**	☐ **Accidental Occurrence**
☐ **Malicious Damage**	☐ **Other** *(please specify)*:	

SMS FORM

Aviation Incident Report

Upon completion forward to: aviation@canberraairport.com.au

CANBERRA AIRPORT

Details of Environmental Incident:

Additional comments *(if required)***:**

PART 4 - Additional Details of the Incident

Additional Incident Details *(where applicable)***:**	☐ **First Aid**	☐ **Near Miss**	☐ **Property Damage**	☐ **Car Park Incident**

Details of the Incident:

OFFICE USE ONLY

Received by:	**W Drive Location/s:**
Date received:	**Reference No/s:**

Incident allocated to (person/section):

Regulator notified (i.e. CASA/ATSB/OTS/WorkSafe ACT etc):

CCTV footage reviewed:	☐Yes ☐No ☐N/A	**CCTV footage saved:**	☐Yes ☐No ☐N/A

Assessment of Incident Causation (if applicable):	☐ **Human Error**	☐ **Equipment Failure**	☐ **Accidental Occurrence**
	☐ **Malicious Damage**	☐ **Other** **(please specify):**	

Additional Corrective / Preventive / Follow Up Actions taken:

Closed By:	**Close Out Date:**

APPENDIX 2: SOP 4 – Hazardous Materials Incident

Standard Operating Procedures (SOP)

4. HAZARDOUS MATERIALS INCIDENT

DEFINITION

A hazardous materials incident is defined as an incident where a hazardous material has been released, or a container holding a hazardous material has been broken or is suspected of being broken that could cause damage to persons, infrastructure and/or the environment.

Modern military aircraft in particular can contain a number of toxic and carcinogenic compounds that can be released or created during a post crash fire or break up. Many military jet aircraft are also fitted with ejection seats which contain explosive charges even after seat activation.

Emergencies and incidents involving the storage, transportation and handling of flammable, explosive, toxic, radioactive, infectious substances or substances otherwise hazardous to health, safety and environment, as defined, either singly, or in combination, under Work Health and Safety, Dangerous Goods, Ionising Radiation or Clinical Waste legislation, (Hazardous Materials, Hazardous Substances and Dangerous Goods) have the potential for creating emergency situations at Canberra Airport and surrounding areas.

INDEX

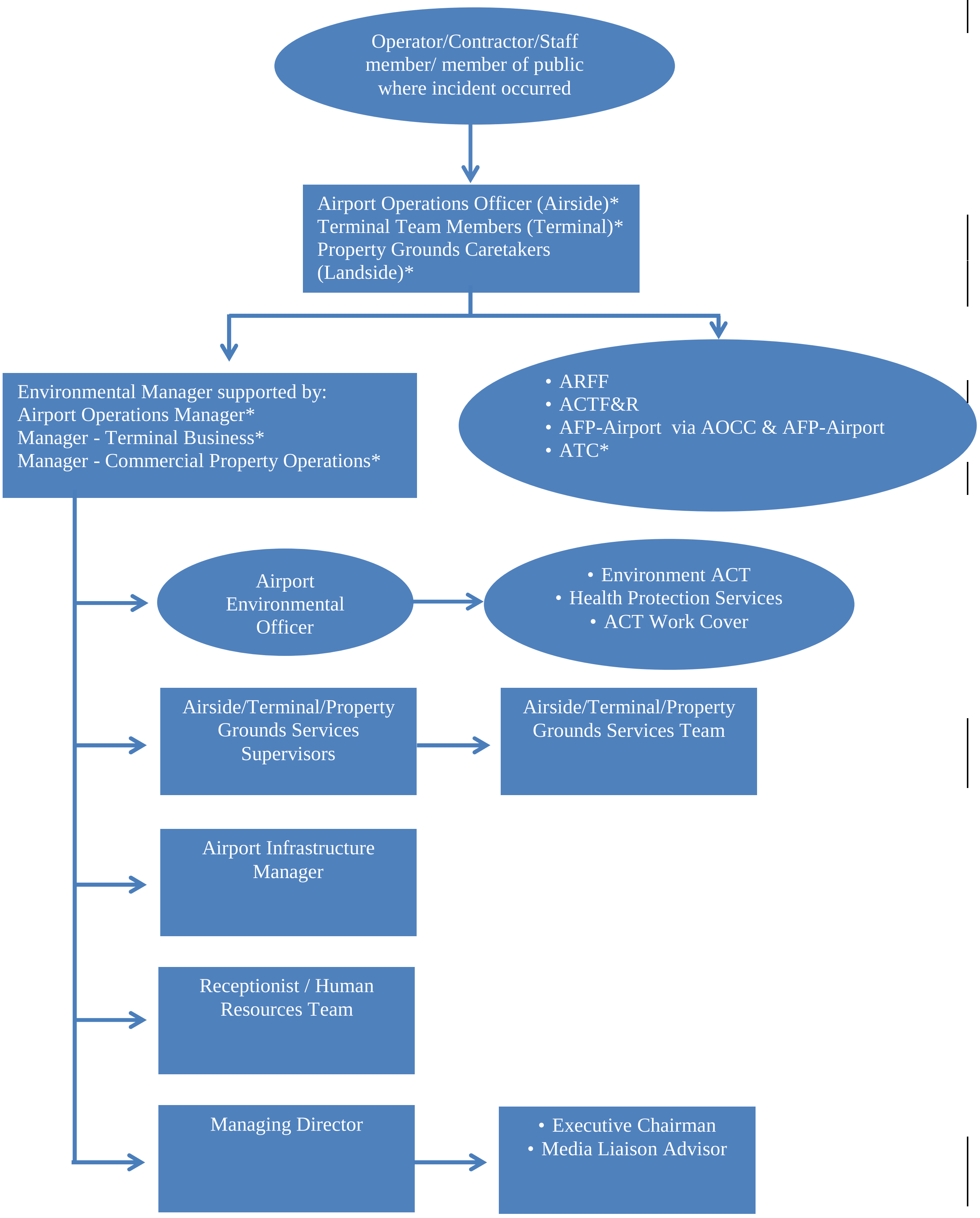
<u>Note</u>: Each SOP has the following item on the bottom of the page:
STAND-IN(S) FOR YOU:

i) If you are unavailable, then the person shown as a STAND-IN(S) FOR YOU is required to perform your role.

ii) <u>All staff</u> must ensure that they know which position(s) they are required to STAND-IN for, and that they are familiar with the SOP for such position(s).

HAZARDOUS MATERIAL INCIDENT FLOW CHART

AIRSIDE, TERMINAL OR LANDSIDE *contact where applicable



Note: Where the nominated person in the flow chart above is not available or not able to be contacted, contact their alternate as listed in the following pages

EMERGENCY/INCIDENT RUNNING SHEET

HAZARDOUS MATERIALS INCIDENT

TIME	ACTION

Signed: .... Date: ....

AIRPORT OPERATIONS OFFICER / TERMINAL TEAM MEMBERS / PROPERTY GROUNDS CARETAKERS

1.	**ROLE**	To provide initial response to minimise potential safety hazard and environmental degradation to area.
2.	**NOTIFIED BY**	Operator where incident occurred
3.	**NOTIFY**	(i) ARFF – 6243 2199 / ACT F&R - 000 (ii) AFP – Airport via AOCC - 131 237 (iii) Air Traffic Control – 6268 5850 (iv) Environment Manager 6275 2255 / 0410 697 637 / 6247 7252 and Airport Operations Manager 6275 2209 / 0412 966 541 OR Manager – Terminal Business 6275 2266 / 0419 162 001 OR Manager - Commercial Property Operations 6275 2242 / 0410 653 605
4.	**REPORT TO**	Environment Manager and Airport Operations Manager/Manager – Terminal Business/Manager – Commercial Property Operations
5.	**ACTIONS/ CONSIDERATIONS**	REFER – SOP 3 - Crash on Airport or SOP 6 – Handling Unattended Items/Unknown Substances where applicable NOTIFY (as per 3 above) DO NOT use mobile phone if fuel or explosive material is involved. Use non-ops radio to communicate COMMENCE Emergency/Incident running sheet and Environmental Incident Report Form on action taken AVOID contact at all times ISOLATE and EVACUATE to the immediate surrounding area. Maintain site supervision CONTAIN product spill if safe to do so LIAISE with ARFF/ACTF&R on the situation MOBILISE/DEPLOY CA resources including the Fuel Farm Spill Trailer, CA staff as required for incident response, escorts and clean up KEEP Environmental Manager and Airport Operations Manager/Manager – Terminal Business/Manager – Commercial Property Operations updated

IF HAZARDOUS MATERIAL INCIDENT OCCURS WITH AIRCRAFT CRASH, REFER TO SOP 3 - CRASH ON AIRPORT PROCEDURES

STAND-IN(S) FOR YOU	:	OTHER AOO/TERMINAL/PROPERTY TEAM MEMBERS
(in order)	:	AIRPORT INFRASTRUCTURE MANAGER

ENVIRONMENTAL MANAGER with support from respective precinct manager: AIRPORT OPERATIONS MANAGER / MANAGER – TERMINAL BUSINESS / MANAGER – COMMERCIAL PROPERTY OPERATIONS

1.	**ROLE**	To coordinate CA staff, oversee incident response and clean up procedures with combat agencies and support from the respective precinct managers.
2.	**NOTIFIED BY**	Airport Operations Officer / Terminal Team Members / Property Ground Caretakers
3.	**NOTIFY**	(i) Airport Environment Officer (AEO) – 6274 7640 / 0434 074 212 (ii) Airside Services Supervisor – 6275 2221 / 0410 544 265 OR Terminal Services Supervisor – 0438 231 260 OR Relevant Property Grounds Services Supervisor (iii) Airport Infrastructure Manager– 6275 2220 / 0417 651 472 (iv) Receptionist / Office Staff – 6275 2222
4.	**REPORT TO**	Managing Director and Environmental Manager
5.	**ACTIONS/ CONSIDERATIONS**	**If material unknown** USE SOP 6 – Handling Unattended Items/Unknown Substances and Hot Up risk assessment procedure REFER where applicable to SOP 3 – Crash on Airport or SOP 6 – Handling Unattended Items/Unknown Substance NOTIFY (as per 3 above) COMMENCE Emergency/Incident running sheet on action taken PROVIDE initial update to Managing Director PROCEED to incident scene if requested by Airport Operations Officer/ Terminal Team Members/Property Grounds Caretakers ESTABLISH contact with officer in charge of responding agencies LIAISE with operators to provide Material Safety Data Sheets and or freight manifest information LIAISE with Airport Environment Officer on clean up procedure MOBILISE additional resources as required ESTABLISH contact with Forward Commanders of Support Agencies CONSIDER: • Pumping out gross pollutant traps; • Provision of bunding to drains and swales; • Evacuating airport precincts DIRECT media enquiries to Managing Director or AFP Media Liaison Officer ENSURE recovery is complete before incident stand down KEEP Managing Director and Environmental Manager informed of situation progress

IF HAZARDOUS MATERIAL INCIDENT OCCURS WITH AIRCRAFT CRASH, REFER TO SOP 3 - CRASH ON AIRPORT PROCEDURES

STAND-IN(S) FOR YOU : ASSISTANT - ENVIRONMENT MANAGER
(in order) : ASSISTANT MANAGER – AERONAUTICAL BUSINESS/ TERMINAL BUSINESS/COMMERCIAL PROPERTY OPERATIONS

AIRSIDE/TERMINAL/PROPERTY GROUNDS SERVICES SUPERVISOR

1.	**ROLE**	To provide personnel and equipment support
2.	**NOTIFIED BY**	Environmental Manager / Airport Operations Manager / Manager – Terminal Business / Manager – Commercial Property Operations
3.	**NOTIFY**	Airside/Terminal/Property Grounds Services Team Members
4.	**REPORT TO**	Airport Operations Officer/Manager – Terminal Business/Manager – Commercial Property Operations
5.	**ACTIONS/ CONSIDERATIONS**	REFER where applicable to SOP 3 – Crash on Airport or SOP 6 – Handling Unattended Items/Unknown Substances DO NOT use mobile phone if suspected fuel or explosive material is involved STAND BY at a safe distance and be prepared to assist combat agency as required COMMENCE Emergency/Incident running sheet on action taken Where applicable ISOLATE and EVACUATE to immediate surrounding area MAINTAIN site supervision ASSIST/CONTAIN with spill and clean up, once safe clearance given by combat agency/Airport Environment Officer ASSIST with provision of power isolation or generating capacity at incident site ASSIST with provision of lighting resources ASSIST with labour resources (if available) PROVIDE escorts to incident site for combat agency ASSIST with any evacuations KEEP Environmental Manager/Airport Operations Manager/Manager – Terminal Business/Manager – Commercial Property Operations updated on the situation

IF HAZARDOUS MATERIAL INCIDENT OCCURS WITH AIRCRAFT CRASH, REFER TO SOP 3 - CRASH ON AIRPORT PROCEDURES

STAND-IN(S) FOR YOU : (in order)	AIRSIDE/TERMINAL/PROPERTY GROUNDS SERVICES TEAM MEMBERS

AIRSIDE/TERMINAL/PROPERTY GROUNDS SERVICES TEAM

1.	**ROLE**	Provide personnel and equipment to support airside response
2.	**NOTIFIED BY**	Airside/Terminal/Property Grounds Services Supervisor
3.	**NOTIFY**	Nil
4.	**REPORT TO**	Airside/Terminal/Property Grounds Services Supervisor
5.	**ACTIONS/ CONSIDERATIONS**	REFER where applicable to SOP 3 – Crash on Airport or SOP 6 – Handling Unattended Items/Unknown Substances COMMENCE Emergency/Incident running sheet on action taken PROCEED to Gate 5/Incident Site DUTIES as directed by Supervisor, and may include: • Assisting with security of airport/incident site • Plant/equipment operator • Escorts • Labouring ASSIST with clean up once safe clearance given by combat agency/Airport Environmental Officer

IF HAZARDOUS MATERIAL INCIDENT OCCURS WITH AIRCRAFT CRASH, REFER TO SOP 3 - CRASH ON AIRPORT PROCEDURES

STAND-IN(S) FOR YOU : AIRSIDE/TERMINAL/PROPERTY GROUNDS
(in order) : SERVICES TEAM MEMBERS

AIRPORT INFRASTRUCTURE MANAGER

1.	**ROLE**	To provide technical advice and infrastructure support to the CA Forward Commander
2.	**NOTIFIED BY**	Environmental Manager/Airport Operations Manager/Manager – Terminal Business/Manager – Commercial Property Operations
3.	**NOTIFY**	Nil
4.	**REPORT TO**	Environmental Manager and Airport Operations Manager/Manager – Terminal Business/Manager – Commercial Property Operations
5.	**ACTIONS/ CONSIDERATIONS**	REFER where applicable to SOP 3 – Crash on Airport or SOP 6 – Handling Unattended Items/Unknown Substances PROVIDE advice to Environmental Manager/Airport Operations Manager/Manager – Terminal Business/Manager – Commercial Property Operations on status on ground infrastructure i.e. storm water, swales and other in-ground services COMMENCE Emergency/Incident running sheet on action taken SEEK, if required, GSI mapping of in-ground infrastructure ARRANGE for separator pits and catchment basins to be pumped out as required

IF HAZARDOUS MATERIAL INCIDENT OCCURS WITH AIRCRAFT CRASH, REFER TO SOP 3 - CRASH ON AIRPORT PROCEDURES

STAND-IN(S) FOR YOU : GSI OFFICER
(in order) :

RECEPTIONIST / HUMAN RESOUCES TEAM

1.	**ROLE**	Maintain office procedures and provide administrative support
2.	**NOTIFIED BY**	Environmental Manager/Airport Operations Manager/Manager – Terminal Business/Manager – Commercial Property Operations
3.	**NOTIFY**	Nil
4.	**REPORT TO**	Environmental Manager and Airport Operations Manager/Manager – Terminal Business/Manager – Commercial Property Operations
5.	**ACTIONS/ CONSIDERATIONS**	MAINTAIN usual Canberra Airport office procedures REFER media/general enquiries to Managing Director or AFP Media Liaison Officer COMMENCE Emergency/Incident running sheet on action taken CONSIDER setting up CA Office Support Management Centre. REFER where applicable to SOP 3 – Crash on Airport or SOP 6 – Handling Unattended Items / Unknown Substances PROVIDE a brief situation report to the Property Team. For example, *“An hazardous materials incident has occurred in which standard operating procedures have been activated involving Airport Fire Brigade (ARFF) and Canberra Airport Staff”* If required, ESTABLISH location of CA off duty staff and be prepared to notify their availability

IF HAZARDOUS MATERIAL INCIDENT OCCURS WITH AIRCRAFT CRASH, REFER TO SOP 3 - CRASH ON AIRPORT PROCEDURES

STAND-IN(S) FOR YOU : HUMAN RESOURCES TEAM MEMBERS
(in order) :

APPENDIX 3: Unexpected Finds Protocol

Capital Airport Group

Canberra Airport, ACT 2609

Unexpected Finds Protocol

Project No: 121543
June 2020

Prepared For:

Capital Airport Group Pty Ltd
Level 4, 21 Terminal Avenue
Plaza Offices – West
Canberra Airport

Meinhardt Infrastructure & Environment

Level 12, 501 Swanston Street
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Disclaimer

Rev	Date	Details	Written	Reviewed	Approved
A	28/04/2020	CAG- Canberra Airport – Unexpected Finds Protocol	M.Gibbs (MG) – Environmental Scientist / S.Paleri (SP) – Associate Environment	SP	SP
B	01/05/2020	CAG- Canberra Airport – Unexpected Finds Protocol	MG/SP	SP	SP
0	04/05/2020	CAG- Canberra Airport – Unexpected Finds Protocol	MG/SP	SP	SP
1	29/05/2020	CAG- Canberra Airport – Unexpected Finds Protocol	MG/SP	SP	SP
2	25/06/2020	CAG- Canberra Airport – Unexpected Finds Protocol	MG/SP	SP	SP

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1 Introduction

1.1 Background

Meinhardt Infrastructure & Environment Pty Ltd (**Meinhardt**) was engaged by Capital Airport Group (**CAG**) to prepare this Unexpected Finds Protocol (**UFP**) for use at the Canberra Airport, ACT 2609 site (the **Airport**) during maintenance, earthworks and construction activities at the Airport.

Prior to development of land at Canberra Airport, CAG engages a range of consultants to provide advice on the feasibility and options available to CAG, a part of which includes the investigation of the land for chemical and hazardous material (where suspected or observed) contamination, to discern the suitability of the site for the proposed future use. These assessments include intrusive investigations of soil and (if present) groundwater to provide CAG with an understanding of the chemical and physical characteristics of the soils and waters at the development site, prior to earthworks or construction commencing.

Where soils are likely to be disturbed and required to be removed from the development site, CAG engages a Suitably Qualified and Experienced Environmental Consultant to prepare a Soil Waste Classification report to assess the suitability of the soil to be re-used (either onsite at the airport or offsite development) or transported to a licenced accepting facility for disposal, based on the level of chemical contamination encountered during intrusive investigations, in accordance with relevant Territory, State (NSW) and National guidance, including with respect to the recommended number of sampling points investigated as well as sampling frequencies.

However, during earthworks and construction, there is always a possibility that unexpected finds are identified. This UFP aims to provide guidance on the identification and management of unexpected finds in the event that they are encountered during site maintenance, earthworks or construction, with a focus on the potential for soil contamination. This document must be read in conjunction with the current Canberra Airport Construction Environmental Management Plan (**CEMP**)[1], which is used as an overarching document for all construction activities occurring at Canberra Airport.

1.2 Objectives and Purpose

Meinhardt understands that the objectives of conducting these works were as follows:

- To address the methods of identification and management of unexpected finds in soil during construction, with a focus on contamination risk posed to human health and the environment at Canberra Airport and immediate surrounds.

The purpose of conducting these works were as follows:

- To provide CAG with a procedure by which to manage unexpected finds during construction and maintenance work at Canberra Airport, including both airside and landside areas.

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[1] Canberra Airport, *Construction Environmental Management Plan for Airside Works (EPBC 2008 / 4170 and EPBC 2009 / 4748)*, February 2010.

2 Unexpected Finds

An unexpected find can be defined as any material that is unearthed that is not expected to be present in soils at the site based on previous investigations or knowledge. A generic list of unexpected finds includes:

- Buried waste materials including, but not limited to:
    - Putrescible waste (including household wastes, organic matter, etc);
    - Solid inert materials (plastics, glass, asphalt, ceramics, paper, cardboard, rubber, etc);
    - Building rubble / foundations (brick, concrete, wood, glass, asbestos); and
    - Industrial wastes (slag, ash, soot, metal shavings, chemical drums, etc.)
- Underground infrastructure such as:
    - Fuel storage tanks;
    - Grease traps / Triple Interceptor Pits; and
    - Redundant / Active buried pipe networks (sewerage, stormwater, water, gas, electricity);
- Odorous or discoloured soils (including stained soils);
- Rock or soil types not previously encountered or assessed at the site;
- Groundwater; and
- Artefacts/ Heritage Items (sharpened materials, fabrics, pottery, etc.)

While the above are typical types of unexpected finds, others may be identified and should be managed as detailed in this UFP document. Mismanagement of unexpected finds has the potential to increase development costs as a result of damage to important infrastructure, spread of potentially contaminated materials/ chemicals and changes in work methods, or destruction of historically or culturally significant items.

2.1 Historical Context – Canberra Airport

The Canberra Airport Estate was historically rural leased farmland, and used for agricultural purposes prior to being used for aviation purposes from 1926. In the early years of the airfield, aircraft took off and landed on the vast paddocks of the Majura Valley. The first building constructed at Canberra Airport was located at the northern end of the current terminal in 1936, with the Department of Defence constructing hangars and buildings on the opposite side of the airport, where they remain today. The airport runway was constructed after World War 2 and further small developments continued around the former terminal from the 1950s until 1970 at which point a larger terminal was constructed for civil aviation. This was later expanded in the late 1980s to allow for increased passenger loads into Canberra. In 1998, the airport was privatised, and CAG was formed to manage the operations of Canberra Airport. Since this time, the terminal buildings have been re-built and selected parcels of land around the periphery of the airfield have been developed for parking, shopping centres, offices and other retail outlets, including service stations. These final improvements to Canberra Airport have largely remained as built, and not changed since their construction. Where they have, appropriate assessments of individual sites have been completed by CAG.

On the opposite side of the airport to the main terminal building, parts of the Canberra Airport have also been used by the Department of Defence, initially as Royal Australian Air Force (**RAAF**) Station Fairbairn before being renamed RAAF Base Fairbairn. RAAF operations at the airfield have primarily been for defence and civil aviation purposes and currently operates the Prime Minister’s VIP fleet of aircraft. In addition to the RAAF, the airport has also had Aviation Rescue Fire Fighting (**ARFF**) units stationed on site as well as facilities for fire training purposes. These areas in the north eastern portion of the airport have historically seen the use of fuels and fire accelerants and application of firefighting foams in training activities. CAG is aware of these potentially contaminating activities and has developed processes for the assessment and understanding of the subsurface conditions in areas that have been used for ARFF activities.

As such, with the exception of the ARFF operating areas, the potential for unexpected anthropogenic or chemical finds at individual sites at the Canberra Airport is considered to be low, however there is the potential for unexpected soil types and rock to be encountered across the site, given the largely unpredictable nature of small-scale geological variation.

The following sections (***Section 2.2*** to ***Section 2.6***) describe the types of unexpected finds that are most commonly found during earthworks and construction, many of which may not apply to the Canberra Airport site.

2.2 Buried Waste Materials

Buried wastes are typically found on sites that have previously been developed or are on land historically owned by organisations or individuals who have worked on operations that led to the generation of wastes that needed to be managed. On sites where these materials are mismanaged, a common activity can include burial or dispersion of wastes, which can lead to contaminants existing in discrete areas or spread through layers of the soil profile.

Buried wastes are typically identified by visible fragments or items of non-natural origin throughout the soil profile. Inclusions may include household debris, material fragments of plastic, glass, concrete, brick, metal, wood, asbestos-containing cement sheet, tar-containing material or other foreign material or as distinct layers of materials such as ash or slag. Ash is relatively light in weight, and can be black, grey or white (ash) and fine-grained. Slag is also relatively light-weight and is typically black or grey and can have a blue-green tint and vesicles (appear bubbly).

Buried waste materials may or may not be odorous, but will often be visibly different to more natural or unimpacted soils. Larger objects may also be present in the soil profile, including items such as 44-gallon storage drums or other receptacles. Where buried wastes are present, other indicators of potential impact to the soil profile may include strong odours (chemical or other) as well as staining or discoloration (further discussed in Section ***2.4***).

2.3 Underground Infrastructure

Most developed sites or those that have been developed will have some form of underground infrastructure present, in the form of drains, conduits or networks of pipework that were used on-site when it was operational. This is in addition to stormwater, water, electricity, telecommunications and gas connections that feed into sites from a wider network.

Where underground infrastructure is present, and used to transport liquids, there is always a chance that these networks will leak through degradation in the subsurface. Where this occurs, the infrastructure may leak its contents (liquids) into the surrounding soils and give rise to soil contamination. In the case of grease traps and triple interceptor pits, these may be seen and should be identified at surface. Occasionally, this is not possible and may be inadvertently unearthed during construction. Other items such as underground storage tanks (**USTs**) and associated pipework may not be as obvious, especially if the site is cleared at the surface. Pipes and USTs used in the transport and storage of chemicals including fuels can be found on sites historically used for refuelling or chemical storage activities.

Trenches or pits filled with crushed rock, sands or other non-naturally occurring material (at the site) may be an indicator of the presence of such features. At surface, pipes entering the ground may suggest a wider underground network may be present. Where contamination is present, the soils surrounding the buried infrastructure can often be odorous and/or stained (see ***Section 2.4***), especially where the integrity of the infrastructure has been compromised. At times, the spread of contamination can be caused by damage to infrastructure during the earthworks/ construction phase, so due care should be taken at all times. The early identification of unexpected infrastructure can assist in the management of potential impacts to soils at the site.

2.4 Odorous / Discoloured Soils

Odorous or discoloured soils can exist where chemical contamination may have passed through those soils historically. Odorous soils can have a hydrocarbon, organic, sulphurous, septic, sweet or other chemical-type odour and may otherwise appear similar to those around them. Those working in the vicinity of the soils may begin to have their olfactory senses affected, and in some cases can lose the ability to perceive smell temporarily. Early identification of odours is critical in the management of these soils.

Discoloured soils are those that do not look natural and can be a range of colours, sometimes with a sheen or shiny tar-like appearance. They are often located adjacent to areas with some other form of unexpected find such as leaky pipe, tank, pit or chemical drum and may also be associated with odours.

It is important to note that not all odorous soils pose a risk to human health or the environment, including naturally organic-rich soils that may have a slightly offensive odour associated with decomposition of natural material. If unsure of the nature of the odour, advice should be sought prior to proceeding.

2.5 Rock/ Soil Not Previously Identified

Where preliminary investigations have not been able to investigate the entirety of a site, rock or soils that had not previously[2] been identified may be unearthed during earthworks and/or construction. These soils will often appear different to those above them and may contain inclusions (natural or non-natural) that were not identified previously at the site. Other Indicators of a change in soil type may include a visibly significant change in moisture, colour, consistency, odour, discolouration or absence or presence of inclusions (natural or non-natural). Soils that have previously not been identified in Environmental investigations have the potential for chemical contamination, and should not be disturbed if encountered.

2.6 Groundwater

Groundwater can be unexpectedly intersected on sites where previous investigations have not indicated its presence. This can occur where groundwater fluctuations have been caused by increased rainfall or where soils have been excavated to greater depths than originally anticipated. Typically, the presence groundwater can be identified by the excavation of soils with progressively increasing moisture with depth.

Soils that interact with groundwater and the groundwater itself may have the potential to be contaminated, and should not be mixed with other soils until properly assessed. The pumping of groundwater for dewatering should be avoided unless prior advice is provided by CAG.

2.7 Artefacts / Heritage Items

Unexpected artefacts / heritage items (both potential and actual) are items which may be of cultural or traditionally significant (Aboriginal objects), or items that have significance from a heritage perspective (e.g. historical structures, artwork, ceramics, etc). Heritage items can take many forms and be made of various materials, typically identified by unnatural symmetry, distinct differences to soils and items that are found with, presence of fabric or textiles and/or evidence of craftsmanship.

Where it is not immediately clear if items have significance, it is recommended that a conservative approach be taken and appropriate checks be completed prior to proceeding with works, upon consultation with CAG.

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[2] A contractor is expected to have an understanding of the soil profile likely to be encountered prior to earthworks commencing. CAG is able to provide guidance on the expected soil profile prior to breaking ground.

3 Unexpected Finds Procedure

Should there be unexpected finds unearthed during site earthworks or excavation as detailed in ***Section 2***, the following process should be observed:

1. Immediately cease working in the area affected. If safe to do so, flag off the area .
2. Immediately notify the Site Foreman/Manager.
3. Site Manager/ Foreman to notify CAG Project Manager / CAG Environmental Manager of unexpected find. CAG Project Manager / Environmental Manager should notify appropriate personnel by following the notification procedure detailed in the Canberra Airport, *Standard Operating Procedures #4 – Hazardous Materials Incident*, 2014 document (**CAG SOP4**).
4. No further work should continue in the area of the unexpected find until CAG provides written approval or further advice on the management of the unexpected find and the site.
5. If required, CAG should seek a Suitably Qualified and Experienced Professional for advice and /or guidance on appropriate assessment and management measures to deal with the unexpected find.
6. Following receipt of remedial advice or action from the CAG Project Manager/ CAG Environmental Manager, the Site Foreman/ Manager must provide CAG with a short Action Plan on how remedial actions will be undertaken and the estimated timeframe for those actions to be completed, making reference to other works on the site that may be occurring at the same time (if CAG has permitted other activities to continue).
7. Following approval of the Action Plan, ensure all remedial actions are completed to the satisfaction of CAG (and/or a nominated representative).
8. Any pertinent safe-working advice must be actioned and health and safety considerations broadcast (through amendments or additions to relevant Safe Work Method Statements (or equivalent) and induction documents) to any workers completing their duties at the site until the conclusion of the project.
9. Provide records of any measures taken to address the management and remediation of the unexpected finds to CAG, including but not limited to soil validation results, materials tracking and relevant assessment documentation.
10. Following completion of remedial actions in relation to the unexpected find, recommence all works (if prior approval was not provided by CAG), with any relevant safe-working advice maintained where there is a possibility of further similar unexpected finds being realised.

4 Responsibilities

Unexpected finds can be found and reported by anyone working on a site. It is imperative that all site staff are encouraged to report unexpected finds at the earliest instance to avoid the potential for the disturbance and spread of unexpected contamination as well as potential damage to structure, services or foreign objects which may lead to contaminants being released into soils and groundwater at the Site.

The responsibilities of key personnel in the UFP process are summarised in ***Table 1***.

Table 1 Roles and Responsibilities

Role	Responsibility
All Site Staff inducted to Site.	• Understand the expected soil profile at the site being worked on and the contents of the CEMP as well as this UFP document. • If unexpected finds are observed, follow the Unexpected Finds Procedure set out in ***Section 3*** of this document, including reporting unexpected finds as soon as they are realised.
Site Manager/ Foreman	• To induct all Site Staff to the CEMP and UFP documents. • To ensure all Site Staff have an understanding of the soil profile at the commencement of earthworks / construction. • To manage unexpected finds as per the Unexpected Finds Procedure set out in ***Section 3*** of this document, including removing access to the area around the unexpected find. • To notify CAG Environmental / Project Manager of unexpected find and follow safe-working or remedial advice. • To provide CAG with required documentation to support any remedial actions completed.
CAG Environmental Manager / Project Manager	• Induct Head Contractor/ Nominated Representative (Site Manager / Foreman) to CEMP and UFP • Notification of all relevant CAG stakeholders of unexpected find, consistent with CAG SOP4. • To provide remedial advice to Site Manager/ Foreman in relation to unexpected find. • To ensure Site Manager/ Foreman has actioned all remediation/ rectification items (as advised by a Suitably Qualified and Experienced Professional, where required) and provided necessary information on remediation/ rectification to CAG.
Suitably Qualified and Experienced Professional	• To investigate the nature of any unexpected find and provide CAG with pragmatic advice on the management of the unexpected find in accordance with all Territory and Federal legislation.

5 Limitations

This report has been prepared on behalf of the client for the benefit of the client only (the authorised recipient).

The report and the information contained within it are solely for the use of the authorised recipients and it may not be used, copied or reproduced in whole or in part for any purpose other than that for which it was supplied by Meinhardt. Meinhardt makes no representation, undertakes no duty and accepts no responsibility to any third party who may use or rely upon this report or the information contained within it.

6 Closing

This UFP document should be viewed as a dynamic document that is updated periodically (recommended every three (3) years) to incorporate changes in the way unexpected finds are managed, and incorporation of accepted best practice measures. Should common unexpected finds be discovered at multiple sites across the Canberra Airport, CAG may wish to include generic advice on that find (if easily transferrable to other sites at the Canberra Airport) within this document to streamline the UFP for future works at the Airport.

APPENDIX 4: Work, Health and Safety Guideline for PFAS

WORK HEALTH AND SAFETY GUIDELINE

Perfluorooctane Sulfonate (PFOS), Perfluorooctanoic Acid (PFOA) and Perfluorohexane Sulfonate (PFHxS) *'PFAS'*

Revised October 2020

1. Introduction

In 2019, the Department of Health (enHealth) released a revised *Health Based Guidance Values for PFAS - For use in site investigations in Australia* (**Attachment A** – *revised September 2019)*. Please note the recreational water guideline values have been increased as follows:

i) total PFOS and PFHxS from 0.7 µg/L up to 2.0 µg/L, and

ii) PFOA from 5.6 µg/L up to 10 µg/L.

It is important to note that whilst the Department of Health document provides criteria for drinking water and recreational water it does not provide criteria for stormwater or groundwater. Canberra Airport has therefore adopted a precautionary approach to provide this advice to staff and contractors to ensure the risk of exposure to PFAS in the workplace is minimised.

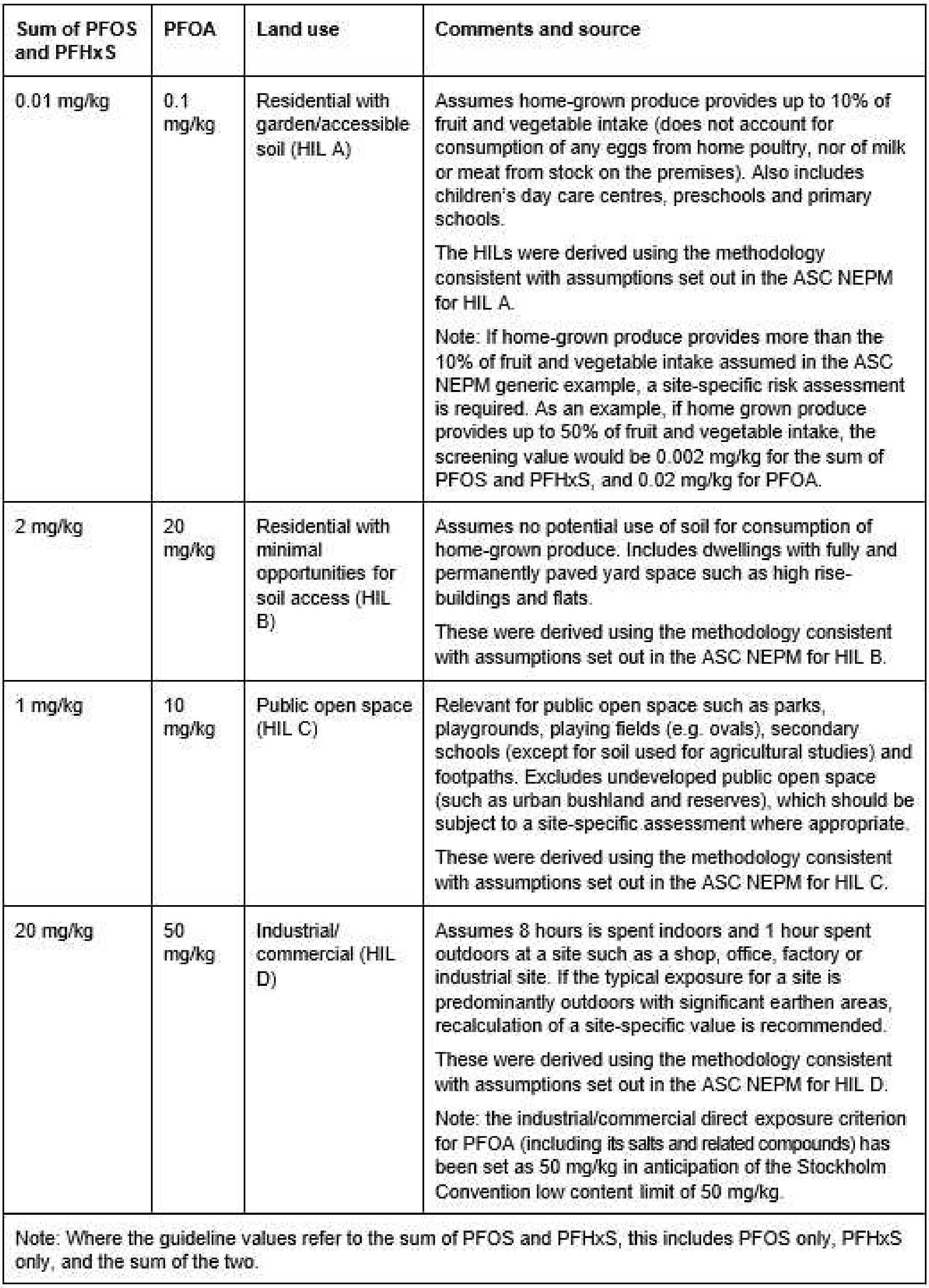
The PFAS National Environmental Management Plan, Version 2.0, (PFAS NEMP) was updated in January 2020 (released May 2020). The PFAS NEMP includes the same recreational water guideline values as those released by the Department of Health in 2019.

The PFAS NEMP also includes human health investigation levels for soil across four land uses:

- Residential with garden/accessible soil (Health Investigation Level [HIL] A);
- Residential with minimal opportunities for soil access (HIL B);
- Public open space (HIL C);
- Industrial/commercial (HIL D).

These land uses apply across the Airport site.

Table 2 Human health investigation levels for soil (PFAS NEMP 2.0)



Sum of PFOS and PFHxS	PFOA	Land use	Comments and source
0.01 mg/kg	0.1 mg/kg	Residential with garden/accessible soil (HIL A)	Assumes home-grown produce provides up to 10% of fruit and vegetable intake (does not account for consumption of any eggs from home poultry, nor of milk or meat from stock on the premises). Also includes children's day care centres, preschools and primary schools. The HILs were derived using the methodology consistent with assumptions set out in the ASC NEPM for HIL A. Note: If home-grown produce provides more than the 10% of fruit and vegetable intake assumed in the ASC NEPM generic example, a site-specific risk assessment is required. As an example, if home grown produce provides up to 50% of fruit and vegetable intake, the screening value would be 0.002 mg/kg for the sum of PFOS and PFHxS, and 0.02 mg/kg for PFOA.
2 mg/kg	20 mg/kg	Residential with minimal opportunities for soil access (HIL B)	Assumes no potential use of soil for consumption of home-grown produce. Includes dwellings with fully and permanently paved yard space such as high rise-buildings and flats. These were derived using the methodology consistent with assumptions set out in the ASC NEPM for HIL B.
1 mg/kg	10 mg/kg	Public open space (HIL C)	Relevant for public open space such as parks, playgrounds, playing fields (e.g. ovals), secondary schools (except for soil used for agricultural studies) and footpaths. Excludes undeveloped public open space (such as urban bushland and reserves), which should be subject to a site-specific assessment where appropriate. These were derived using the methodology consistent with assumptions set out in the ASC NEPM for HIL C.
20 mg/kg	50 mg/kg	Industrial/ commercial (HIL D)	Assumes 8 hours is spent indoors and 1 hour spent outdoors at a site such as a shop, office, factory or industrial site. If the typical exposure for a site is predominantly outdoors with significant earthen areas, recalculation of a site-specific value is recommended. These were derived using the methodology consistent with assumptions set out in the ASC NEPM for HIL D. Note: the industrial/commercial direct exposure criterion for PFOA (including its salts and related compounds) has been set as 50 mg/kg in anticipation of the Stockholm Convention low content limit of 50 mg/kg.
Note: Where the guideline values refer to the sum of PFOS and PFHxS, this includes PFOS only, PFHxS only, and the sum of the two.			

Canberra Airport will include this Guideline in its Staff and Contractor Induction Package as well as regular Toolbox Talks. The mitigation measures for PFAS stated in this Guideline will also reinforce Canberra Airport's current WHS work practices.

2. What is PFAS?

Per- and poly-fluoroalkyl substances, or “PFAS” (previously known as PFCs), are a class of manufactured chemicals that have been used since the 1950s to make products that resist heat, stains, grease and water.

Products that may contain PFAS include furniture and carpets treated for stain resistance, foams used for fire-fighting, fast food or packaged food containers, make up and personal care products and cleaning products. Other chemicals used in these applications may be precursors to PFAS, and the PFAS are formed when these chemicals are released into the environment.

PFAS are of concern around the world because they are not readily broken down in the environment and so can persist for a long time. Their widespread use and persistence mean that many types of PFAS are ubiquitous global contaminants.

The PFAS of most concern are perfluorooctane sulfonate (PFOS) and perfluorooctanoic acid (PFOA). Perfluorohexane sulfonate (PFHxS) is another chemical of the PFAS group and is present in some fire-fighting foams. PFHxS has also been used as a raw material or precursor to produce PFAS-based products. Many countries have phased-out, or are in the process of phasing-out, the use of PFOS and PFOA due to concerns about their persistence, bioaccumulation and potential toxicity of these chemicals.

Because of their widespread use, people in Australia commonly have some PFOS, PFOA and PFHxS in their body. PFOS, PFOA and PFHxS are readily absorbed through the gut, and once these chemicals are in a person’s body it takes about two to nine years, depending on the study, before those levels go down by half, even if no more is taken in.

3. Where are PFAS used?

Because of their unique physical and chemical properties, including heat and chemical resistance, PFAS have been used in:

- textiles and leather products
- metal plating
- food packaging
- fire-fighting foams
- floor polishes
- denture cleanser
- shampoos
- coatings and coating additives
- photographic and photolithographic processes
- medical devices
- hydraulic fluids

Three types of these chemicals, PFOS, PFOA and PFHxS, used to be common ingredients in fire-fighting foams. These foams were historically used at several Defence bases, airports, Fire and Rescue and Rural Fire Service sites.

While many essential uses of PFAS are still permitted, there are efforts both nationally and internationally to restrict non-essential uses and reduce use of the most hazardous PFAS compounds as a precautionary measure.

Canberra Airport's research indicates the global community use of PFAS is widespread, within and outside the home as well as in the workplace. Approximately 3% of PFAS produced was used in fire-fighting.

4. Canberra Airport

Aviation fire-fighting foam (AFFF) containing PFAS was used globally up until approximately 2010, including at Canberra Airport.

Canberra Airport continues to undertake soil, stormwater and groundwater investigations and in addition has been supplied with investigation reports from Airservices Australia (ASA).

The evidence to date suggests there are two 'hot spot' locations on Canberra Airport where extensive use of AFFF has occurred and where PFAS pollution is located. These two PFAS polluted 'hot spot' sites are on and nearby the ASA Aviation Rescue and Fire-Fighting Services (ARFFS) Fire Station and Fire Training Ground.

These widespread investigations have also identified other areas at Canberra Airport where a presence of PFAS has been detected at low levels in soil, stormwater and groundwater.

5. Potential Exposure to PFAS

The potential exposure of staff/contractors to PFAS arising from works or activities on Canberra Airport are:

- accidental ingestion of groundwater containing PFAS used for irrigation;
- accidental ingestion of stormwater in swales/stormwater drains containing PFAS near the ARFFS Fire Station and Fire Training Ground;
- accidental ingestion of soil containing PFAS on the ARFFS Fire Station or the Fire Training Ground;
- accidental cross-contamination of food following works around the ARFFS Fire Station or the Fire Training Ground involving PFAS contaminated water and/or soil.

The risk of PFAS exposure to staff/contractors through these pathways is minimal. Canberra Airport is aware that ASA has advised its fire-fighting staff that a splash on skin is not a health risk. The Department of Defence confirms that PFAS is not absorbed through the skin.

As already noted, over a lifetime people are likely to have been exposed to PFAS from many other sources including at home.

However, it is prudent that caution be exercised when:

- nearby and on the ARFFS Fire Station and the Fire Training Ground precincts, and
- working with stormwater and groundwater.

6. Suggested Mitigation Measures for work involving potential contact with Stormwater, Groundwater or Soils (nearby and on the ARFFS Fire Station and the Fire Training Ground precincts)

Staff should avoid;

- cutting vegetation in swales when stormwater levels are high;
- working on full pressured irrigation lines.

The Federal Government's Environmental Health Standing Committee (enHealth) released Guidance Statements that outline the potential human health risks and exposure pathways relating to PFAS (***Attachment B*** – revised June 2019). While there is no recommendation provided in the enHealth Guidance Statements regarding Personal Protective Equipment (PPE), Canberra Airport will provide the following PPE to staff when working with and around stormwater, groundwater or soils nearby and on the ARFFS Fire Station and the Fire Training Ground precincts:

- clean waterproof gloves, and
- protective safety eyewear.

Consistent with normal personal hygiene, hands should be thoroughly washed with soap before eating or smoking following any work in risk areas.

7. Works Activities

Some construction and maintenance activities on Canberra Airport may involve contact with stormwater, groundwater or soil. Where these activities are regulated under the *Airport (Building Control) Regulations 1996* (as amended), the Airport Lessee Company standard letter issued to the ABC articulates requirements in regard to PFAS assessment.

A PFAS Risk Assessment can also be used to determine the requirement for any WHS risk mitigation measures.

To establish if construction and/or maintenance activities may involve potential contact with stormwater, groundwater or contaminated soil, staff/contractors should consult with the Canberra Airport Environment and Planning Team.

8. Assessment of PFAS Risks and Controls

For the activities listed below, measures to minimise PFAS exposure risk will be implemented and, where necessary, included in risk assessments prior to commencement of any work.

Risk of PFAS exposure is required to be considered where:

- excavations extend to or below groundwater level;
- activities involve exposure to stormwater or bore/irrigation water;
- earthworks in soil known to have been potentially PFAS contaminated.

9. Background Information on Health Impacts

The enHealth Guidance Statements (2019) that outline the potential human health risks and exposure pathways relating to PFAS (***Attachment B***) state that *"As a precaution, enHealth recommends exposure to PFAS be minimised wherever possible whilst further research is undertaken on the potential health effects of PFAS exposure. This precautionary advice takes into account the uncertainties in the current scientific evidence (i.e. the lack of causation data on human health effects) and the ability of these chemicals to persist in humans and in the environment".*

10. General Exposure Risks

Information provided in the revised 2019 enHealth Guidance Statements *(**Attachment B**)* and research to date suggest the following PFAS human exposure pathways:

- ingestion of food and drinking water contaminated with PFAS to be the major human exposure pathways;
- inhalation of dust contaminated with PFAS and dermal (skin) contact with PFAS are considered to be minor exposure pathways.

Noel McCann
Director of Planning and Government Relations

ATTACHMENT A

September 2019

Health Based Guidance Values for PFAS

The Department of Health, Food Standards Australia New Zealand (FSANZ) and the National Medical Research Council (NHMRC) have developed health based guidance values for perfluorooctane sulfonate (PFOS), perfluorooctanoic acid (PFOA) and perfluorohexane sulfonate (PFHxS), which belong to a group of chemicals known as per- and poly-fluoroalkyl substances (PFAS).

These values aim to protect the general community from exposure to PFAS from food, drinking water and recreational water.

The guidance values are available in FSANZ's *Hazard Assessment Report – PFOS, PFOA and PFHxS,* NHMRC's *Australian Drinking Water Guidelines* (2011) and the *Guidelines for Managing Risks in Recreational Water* (2008).

The health based guidance values are protective of human health; are a precautionary measure for use when conducting site investigations; and are to assist in providing advice to affected communities on how to minimise exposure to PFAS.

What is a health based guidance value?

Health based guidance values indicate the amount of a chemical in food or drinking water that a person can consume on a regular basis over a lifetime without any significant risk to health. Health based guidance values can be expressed as a tolerable monthly intake (TMI), a tolerable weekly intake (TWI) or a tolerable daily intake (TDI). The choice of whether a TMI, TWI or TDI is set depends on the nature of the chemical.

Health based guidance values can also be used to calculate guideline values for certain exposure scenarios (such as those derived for drinking water or recreational water by NHMRC) to set a level or threshold of a substance that is protective of human health.

Health based guidance values for use in site investigations in Australia

FSANZ has recommended health based guidance values for PFOS and PFOA in the form of a tolerable daily intake. A tolerable daily intake is a level of daily oral exposure over a lifetime that is considered to be without significant health risk for humans.

Based on FSANZ's recommended tolerable daily intake, NHMRC has issued drinking water quality and recreational water quality guideline values for use in site investigations in Australia. These health based guideline values are levels at which the chemicals may be present in drinking or recreational water without presenting a risk to public health.

The health based guidance values for use in site investigations in Australia are:

Health based guidance value	Total PFOS+PFHxS	Total PFOS+PFHxS	PFOA	PFOA
	ng	*µg*	*ng*	*µg*
Tolerable daily intake (*ng* or *µg /kg bw/day*)	20	0.02	160	0.16
Drinking water quality guideline value (*ng* or *µg /L*)	70	0.07	560	0.56
Recreational water quality guideline value (*ng* or *µg /L*)	2,000	2.0	10,000	10.0

Note: bw = body weight, ng = nanograms, µg = micrograms

How did FSANZ determine the health based guidance values?

The tolerable daily intake for PFOS and PFOA are derived from the results of toxicity studies in laboratory animals. FSANZ concluded that the current available epidemiological data on human health is not suitable to support the derivation of tolerable daily intake levels for PFOS and PFOA.

A pharmacokinetic modelling approach was used to extrapolate data for humans, noting that animal physiology is not the same as human.

For PFHxS, FSANZ concluded that there was not enough toxicological and epidemiological information to justify establishing a tolerable daily intake. However, as a precaution, and for the purposes of site investigations, the PFOS tolerable daily intake should apply to PFHxS. In practice, this means that the level of PFHxS exposure should be added to the level of PFOS exposure; and this combined level be compared to the tolerable daily intake for PFOS.

The tolerable daily intakes include conservative assumptions to ensure the protection of public health.

FSANZ's report and recommended health based guidance values have been nationally and internationally peer reviewed.

How did NHMRC determine the guideline values?

NHMRC used the TDIs developed by FSANZ with the methodology outlined in Section 6.3.3 in the *Australian Drinking Water Guidelines* to calculate the health based guideline values for PFAS in drinking water. Please refer to the *Australian Drinking Water Guidelines* for more detail on the methodology used.

The health based guideline values for PFAS in recreational water were derived using the TDIs developed by FSANZ along with a new methodology that uses current Australian estimates of recreational water use. Please refer to NHMRC's *Guidance on per- and poly-fluoroalkyl substances (PFAS) in recreational water* for more information on the methodology used.

Recreational water guideline values vary from drinking water guideline values because when people are in contact with water for recreational purposes, for example swimming, they are less likely to consume the water in terms of volume and frequency. This decreases the risk of exposure to recreational water. The recreational water use takes into account current estimates on how often Australians use lakes, rivers and coastal water over the course of a year and how much water people might swallow when participating in these activities.

Both the recreational water and the drinking water guideline values are precautionary and protective of human health. The guideline values include a wide safety margin and are expected to be well below the level at which any negative effects could occur.

NHMRC developed this advice with the Water Quality Advisory Committee and in consultation with the Australian Government Environmental Health Standing Committee (enHealth).

How do health based guidance values impact communities affected by PFAS contamination?

Commonwealth agencies and other organisations that conduct site investigations for PFAS contamination can use the health based guidance values to assist in assessing human health risk. Agencies or organisations that have recently conducted human health risk assessments for PFAS contamination may review their assessments and advice based on the health based guidance values.

Advice on reducing exposure to PFAS will vary with each location so you should follow the most current advice provided by your state or territory government, and if available, the human health risk assessment for your area conducted by the investigating agency.

Where can I get further information?

For further information regarding health based guidance values and the Department of Health’s response to PFAS contamination, please visit the Department of Health website (health.gov.au/pfas)

For further information on PFAS related material from FSANZ, please visit FSANZ’s website here.

For further information on PFAS related material from the NHMRC, please visit NHMRC’s website here.

Alternatively you can contact the Department of Health by phone on 1800 941 180 or by email: health.pfas@health.gov.au

ATTACHMENT B

June 2019

enHEALTH
Environmental Health Standing Committee (enHealth) of the
Australian Health Protection Principal Committee

enHealth Guidance Statements on per- and poly-fluoroalkyl substances

Context:

Per- and poly-fluoroalkyl substances, or “PFAS”, are a class of manufactured chemicals that have been used since the 1950s to make products that resist heat, stains, grease and water.

Products that may contain PFAS include furniture and carpets treated for stain resistance, foams used for firefighting, fast food or packaged food containers, make up and personal care products and cleaning products. Other chemicals used in these applications may be precursors to PFAS, and the PFAS are formed when these chemicals are released into the environment.

PFAS are of concern around the world because they are not readily broken down in the environment and so can persist for a long time. Their widespread use and persistence means that many types of PFAS are ubiquitous global contaminants.

The PFAS of most concern are perfluorooctane sulfonate (PFOS) and perfluorooctanoic acid (PFOA). Perfluorohexane sulfonate (PFHxS) is another chemical of the PFAS group and is present in some firefighting foams. PFHxS has also been used as a raw material or precursor to produce PFAS-based products. Many countries have phased out, or are in the process of phasing out the use of PFOS and PFOA due to concerns about the persistence, bioaccumulation and potential toxicity of these chemicals.

Because of their widespread use, people in Australia commonly have some PFOS, PFOA and PFHxS in their body. PFOS, PFOA and PFHxS are readily absorbed through the gut, and once these chemicals are in a person’s body it takes about two to nine years, depending on the study, before those levels go down by half, even if no more is taken in.

The Australian Government has been working since 2002 to reduce the importation of some PFAS. In Australia and internationally, a general trend towards lower PFAS levels in people’s blood has been observed, following the implementation of actions to phase out use of some PFAS.

Outside the occupational setting, exposure to PFAS can occur from the air, indoor dust, food, water and various consumer products. For most people food is expected to be the primary source of exposure to these chemicals. Human breast milk may contribute to an infant’s exposure since some PFAS have been detected in human breast milk. However, as noted further in this guidance, the benefits of breastfeeding outweigh the potential risks associated with passing PFAS from mother to baby through breastmilk.

For some communities near facilities where PFAS have been extensively used, higher levels may be found in the surrounding environment and human exposure may occur through other means, including drinking water supplied from groundwater.

In chronic exposure studies on laboratory animals, research into PFOS and PFOA has shown adverse effects on the liver, gastrointestinal tract and thyroid hormones. However, the applicability of these studies to humans is not well established.

The existing limited studies on PFHxS suggest that this chemical can cause effects in laboratory animals similar to the effects caused by PFOS. However, based on available studies, PFHxS appears to be less potent in animal studies than PFOS.

In human studies, the Expert Health Panel for PFAS[1] found that a number of health effects (such as slightly high blood cholesterol) have been associated with PFAS exposure but these health effects are generally small and have not been shown to be clinically significant. More research is required before definitive statements can be made on causality or risk but, currently, there is no evidence of a significant impact on human health.

Although there is still uncertainty around the potential for PFAS exposure to cause significant adverse human health effects, we do know that some long chain PFAS, such as PFOS and PFOA, can persist for a long time both in the environment and in humans. Therefore, it is prudent to reduce exposure to PFAS as far as is practicable. Action should be taken to address the source of the exposure and interrupt known human exposure pathways. Determination of human exposure pathways is best achieved through a full human health risk assessment that examines all potential routes of exposure.

It is understandable that communities living in PFAS affected areas may want to know what their level of exposure to PFAS is and what this means for their health and the health of their families.

A blood test can measure the level of PFAS in a person's blood. If PFAS is detected, this tells a person that they have been exposed to PFAS. They could then compare their levels with the levels seen in the general Australian population or in other countries using published biomonitoring data. However, these tests are not routine and there is at present insufficient scientific evidence for a medical practitioner to be able to tell a person whether their blood level will make them sick now or later in life, or if any current health problems are related to the PFAS levels found in their blood.

As such, blood tests have no diagnostic or prognostic value and are not recommended for the purpose of determining whether an individual's medical condition is attributable to exposure to PFAS.

In the absence of any test, including a blood test, being definitive in informing individual risk and clinical management, exposure reduction is the key measure to reduce any possible risks posed by PFAS.

At a population level, blood tests can inform a community that they have been exposed to PFAS at a level above that of the general population. The monitoring of pooled community blood samples over time may help determine the success of exposure reduction measures.

Recognising the difficulty in assessing and communicating the risks posed by PFAS to the community, enHealth has developed these guidance statements on key health issues to support jurisdictional responses to incidents of environmental PFAS contamination.

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[1] http://www.health.gov.au/internet/main/publishing.nsf/Content/ohp-pfas-expert-panel.htm

Environmental Health Standing Committee (enHealth) Guidance Statements:

1. Health effects from exposure to PFAS – what is the evidence telling us?

The Expert Health Panel for PFAS found that although the scientific evidence in humans is limited, reviews and scientific research to date have provided fairly consistent reports of an association with several health effects as follows:

- increased levels of cholesterol in the blood;
- increased levels of uric acid in the blood;
- reduced kidney function;
- alterations in some indicators of immune function;
- altered levels of thyroid hormones and sex hormones;
- later age for starting menstruation (periods) in girls, and earlier menopause; and
- lower birth weight in babies.

The health effects reported in these associations are generally small and within normal ranges for the whole population. There is also limited to no evidence of human disease or other clinically significant harm resulting from PFAS exposure at this time.

An association means that there is a relationship between PFAS exposure and the above health effects; however, this does not necessarily mean that the PFAS exposure caused the health effect.

A causative relationship means that the thing measured, in this case PFAS exposure, directly causes a change in health status. A causative relationship between the above health effects and PFAS exposure has not been established.

However, the weaknesses in the scientific evidence mean that whilst early indications suggest that PFAS exposure has a minimal impact on human health, we also cannot definitively rule out other important health effects.

2. Health advice

As a precaution, enHealth recommends exposure to PFAS be minimised wherever possible whilst further research is undertaken on the potential health effects of PFAS exposure.

This precautionary advice takes into account the uncertainties in the current scientific evidence (i.e. the lack of causation data on human health effects) and the ability of these chemicals to persist in humans and in the environment.

If you live or work in a PFAS contaminated area, your State or Territory Health Department can provide you with local advice on how to minimise exposure to PFAS.

3. Human exposure pathways

enHealth considers ingestion of food and drinking water contaminated with PFAS to be the major human exposure pathways.

Inhalation of dust contaminated with PFAS and dermal (skin) contact with PFAS are considered to be minor exposure pathways.

4. Breast feeding

The significant health benefits of breast feeding are well established and far outweigh any potential health risks to an infant from any PFAS transferred through breast milk.

enHealth does not recommend that mothers living in or around sites contaminated with PFAS cease breast feeding.

5. Pregnancy

Foetuses can be exposed to PFAS when their mother's blood crosses the placenta during pregnancy. However, the scientific research to date does not indicate that PFAS exposure during pregnancy is a major contributor to poor health outcomes in pregnant women or their babies.

Nonetheless, enHealth recommends that pregnant women be considered a potentially sensitive population when investigating PFAS contaminated sites, with a view to minimising their exposure to PFAS as a precaution.

6. Reference values for PFOS, PFOA and PFHxS

On 3 April 2017, the Australian Government Department of Health published health-based guidance values, in the form of a tolerable daily intake (TDI), for use in site investigations across Australia for PFOS, PFOA and PFHxS.

These values replaced the interim human health reference values adopted by enHealth in June 2016 and are available at health.gov.au/internet/main/publishing.nsf/Content/ohp-pfas-hbgv.htm.

A TDI is an estimate of the amount of a chemical in food or drinking water, expressed on a body weight basis that can be ingested daily over a lifetime without appreciable health risk to the consumer.

TDIs are not useful for interpreting the level of PFAS in people's blood.

7. Blood tests

There is currently no accepted clinical treatment to reduce levels of PFAS in the human body.

Given the uncertainty that PFAS are directly linked to adverse health outcomes, blood tests cannot determine if the PFAS levels in a person's blood will make them sick now or later in life.

Therefore, blood tests are not recommended to determine whether any medical condition is attributable to exposure to PFAS and have no current value in informing clinical management, including diagnosis, treatment or prognosis in terms of increased risk of particular conditions over time.

It is noted that various organisations around the world, including Australia, have collected blood samples from people as part of ongoing investigations into PFAS contamination of soil and water. The purpose of these tests was either as part of a defined research program, including to measure the effectiveness of global restrictions under international treaties, or to determine how much of these chemicals may be entering a person's body. The value of blood testing is limited to assessing exposure, such as monitoring over time, which may help determine the success of exposure reduction measures. However, given the long biological half-life of PFAS, frequent blood monitoring is of limited value.

enHealth advises that:

- blood testing has no current value in informing clinical management; and
- the monitoring of pooled community blood samples over time can help determine the success of exposure reduction measures.

APPENDIX 5: Checklists

CONTROL MEASURES	**Applicable Y/N**		**Completed/ Comment**
Pre Construction			
Staff Awareness / Site Induction			
Ensure that all employees are aware of their environmental responsibilities, including protocols for PFAS Refer Appendix 4 – Canberra Airport Work, Health and Safety Guideline for PFAS	Y		
Ensure that all subcontractors are aware of their environmental responsibilities, including protocols for PFAS Refer Appendix 4 – Canberra Airport Work, Health and Safety Guideline for PFAS	Y		
Site Planning			
Mark limits of work site, storage and accesses to minimise the ground area affected by road maintenance activity	Y		
Plan order of work to minimise period of exposure of disturbed ground to weather	Y		
Locate services (including water, sewerage, electricity etc)	Y		
Identify site placement for work materials and fuel storage	Y		
Set up secure storage for fuel, oil or other chemicals on site and bunded around	Y		
Identify site placement for spoil, topsoil and waste (not under tree canopies)	Y		
Heritage / Archaeology / Flora and Fauna			
Locate sensitive areas and/or areas containing flora and fauna (e.g. particular trees) to be protected	Y		
Locate and remove noxious weeds	Y		
Install exclusion fences around trees and saplings to prevent damage from machinery or vehicles	Y		
Access and Traffic Management			
Prepare Traffic Management Plan	Y		
Set up traffic controls	Y		
Arrange parking for construction plant and employee vehicles so that through traffic is not impeded	Y		
Erosion and Sediment Controls			
Erosion and Sediment Plan approved by Airport Environment Officer	Y		
Identify drainage and slope to and from site	Y		

Correctly locate erosion control devices and structures, e.g. diversion drains, silt fences, hay bales, sandbags, detention basins	Y		
Deployment of sandbags, silt fencing etc to use if work is interrupted by rain	Y		
Is a concrete wash-out bay needed/installed?	Y		
Water Quality			
Provide spill kit in case of fuel or chemical spills	Y		
Noise Control			
Check that mufflers on plant meet the AEPR requirements	Y		
Install silencing devices or noise reducing barriers if necessary	Y		
Hazardous Materials			
Are hazardous materials (e.g. chemicals) being used?	Y		
Are appropriate environmental safeguards in place?	Y		
Waste Management and Disposal			
Identify wastes generated and method of disposal	Y		
Prepare Waste Management Plan	Y		
During Construction			
PFAS Management			
Implement PFAS Management Plan if required	Y		
Heritage/Archaeology/Flora and Fauna			
Implement controls to prevent weed dispersal	Y		
Monitor vehicles to ensure they only use designated tracks and roads	Y		
Check vehicle and plant tyres to minimise weed dispersal	Y		
Works to cease in the event a heritage or archaeological item is discovered and UFP activated (Appendix 3)	Y		
Community Liaison			
Maintain a register of complaints to include details of action taken to address a grievance	Y		
Access and Traffic Management			
Monitor traffic control measures implemented with a view to rectifying any problems identified	Y		

Maintain erosion control devices for duration of construction / works duration	Y		
Soil Impacts			
Stabilise stockpiled soil and separate topsoil	Y		
Minimise compaction of topsoil due to use of heavy machinery	Y		
Air Quality			
Do not use plant which exceeds 10 seconds of continuous visible smoke from exhaust	Y		
Keep loose surfaces on site damp in windy weather conditions	Y		
Dispose of excess soil/spoil promptly or cover stockpiles	Y		
Cover truck trays when transporting dry material	Y		
Do not burn off waste materials	Y		
Noise Control			
Restrict construction noise levels by using plant responsibly	Y		
Notify Canberra Airport if works outside normal hours are planned	Y		
Fire Control			
Ensure no cutting, welding or grinding on declared ‘fire ban’ days	Y		
Keep flammable materials in clearly identified (signage to be used), secure and bunded areas	Y		
Open fires are prohibited	Y		
Hazardous Materials			
Maintain a Hazardous Materials Register	Y		
Waste Management and Disposal			
Maintain a Waste Management Register to record the type, quantity and location of waste reused, recycled, stockpiled and disposed of to landfill	Y		
Maintain worksite in a clean, rubbish-free state	Y		
Inspect plant for fuel, oil or hydraulic fluid leaks. Repair leaks before using plant	Y		
On-site refueling and servicing is to occur within a bunded area at least 20m from natural or built drainage lines	Y		
Appropriately contain waste stored on site	Y		
Dispose of waste in accordance with regulatory requirements	Y		
Ensure waste is transported securely	Y		

Post-Construction			
Rehabilitation of Site			
Ensure soil is stabilised with attention to sloped terrain	Y		
Revegetate site in accordance with the Landscape Plan	Y		
Remove soil and erosion controls post soil stabilisation works	Y		
Remove all waste materials or liquids from site	Y		
Remove site sheds and amenities	Y		
....Contractor .... (date)			

APPENDIX 6: PFAS (Soil) Management Framework Checklists

The following checklist has been prepared to demonstrate the preferential evaluation of the reuse of soils within the Airport with offsite disposal being the last resort. This checklist is to be included in the Construction Environment Management Plan (CEMP) prepared for projects being completed at Canberra Airport. This checklist may also be used for smaller civil excavation projects as a guide to evaluate soil reuse/disposal options in consultation with CAG.

Consideration[1]	**Applicable Y/N**		**Comment**
STEP 1 – Soil characterisation and suitability for reuse Is the soil material suitable for the proposed reuse scenario? For example, the hypothetical reuse of soil as engineered sub-grade will need to be supported by geotechnical advice and testing. Another example may be is the soil suitable, from a landscaping and grass perspective, for general reuse within the Airport. If **YES**, proceed Step 2.		N	The site is on an existing carpark that contains imported fill. All subgrade from the existing carpark is to be reused were possible. Below the subgrade level is composed of gravely sandy clay and is unsuitable as engineering fill. No locations for general use are currently available at the Airport.
STEP 2 – Is localised and/or in situ reuse possible? Can the soil be reused within the same excavation or within the same environmental setting at the excavation location? If **YES**, proceed to Step 3a. If **NO** proceed to Step 3b.			

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[1] Any reuse of soil within the Airport must be consistent with provisions outlined in Canberra Airport 2020 Masterplan

STEP 3 – Onsite Reuse Step 3a – Reuse within the site specific works area screening risk assessment? If soil is PFAS-impacted complete a reuse screening risk assessment in accordance with Section 12 of the PFAS NEMP 2.0 (as amended from time to time) including Figure 5 Decision Tree for Reuse of Soil must be completed. If required, the reuse may need to be supported by a detailed risk assessment. The reuse screening risk assessment is subject to review and support by the Airport Environment Officer (AEO). If the AEO determines reuse of soil is acceptable, proceed by reusing soil within the local site-specific work area and/or project within the larger Canberra Airport block boundary. If required, the detailed risk assessment should be outlined in the CEMP and evidence provided. The receiving site should be demonstrated to have the same PFAS level (like for like) as the source site.			
STEP 3b – Airport wide (Outside Specific Works site withing Airport block boundary) short-term reuse opportunities? Is there opportunity to practically reuse the soils within the airport block boundary for general[2] or engineering[3] purposes over the next 12 months? **Note** – Reuse may occur within the airport block boundary provided the soil is tested and results confirm PFAS contamination is either absent or below the relevant guideline values. If **YES** reuse soil on Airport. If **NO** proceed to step 3c.			
STEP 3c – Airport wide (Outside Specific Works site withing Airport block boundary) longer term reuse opportunities? Is there any forecasted projects in the next 12-24 months that will require soil for general or engineering purposes? Is it feasible from a financial, operational and practical perspective to temporarily stockpile/store the soil until it can be reused?			
STEP 4 – Offsite (Outside Airport Block Boundary) disposal of PFAS-impacted soils. In the event reuse of soil within the Canberra Airport block boundary is not possible then offsite disposal of the soil is required. A suitably qualified environmental consultant is to be engaged to classify the soils for offsite disposal in accordance with: • ACT-EPA Information Sheet 4 Requirements for the reuse and disposal of contaminated soils in the ACT.	Y		The soil will be tested for off-site disposal by a qualified environmental consultant to a licensed facility.

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[2] General reuse may include application to land as topsoil and general landscaping purposes.

[3] Engineering reuse may include use a sub-grade for a carpark, swales, sound mounds etc.

- NSW-EPA Waste Classification Guidelines. Part 1. The offsite disposal of soil is subject to the following review/approval process. - ACT–EPA approval is required for the offsite disposal to Mugga Quarry 2. - NSW–Approval from the NSW licensed landfill facility is required before they will accept the disposal of soils from the Airport. Transportation should be undertaken in accordance with section 11 of the PFAS NEMP 2.0 (as amended from time to time) (using Hazardous Waste Code M270. Disposal to landfill is to be undertaken in accordance with section 14 of the PFAS NEMP 2.0 (as amended from time to time). Both disposal options will result in the generation of weighbridge dockets which are to be maintained and filed by CAG. Both disposal options will result in the generation of weigh bridge dockets which are to be maintained and filed by CAG.			